FAS HERITAGE

Bretton Hall Lantern

West Bretton

West Yorkshire

Archaeological Structural Watching Brief

Report

January 2022

ARCHAEOLOGICAL STRUCTURAL WATCHING BRIEF

BRETTON HALL LANTERN

WEST BRETTON

WEST YORKSHIRE

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Summary

This report presents the results of an archaeological structural watching brief, maintained prior to and during works to reinforce and conserve the glazed lantern within Bretton Hall, Wakefield, West Yorkshire. The fieldwork was undertaken by FAS Heritage on behalf of H. H. Smith & Sons Co Ltd. for Wakefield MDC, between March 2021 and April 2021.

The work involved photographic recording of the vestibule and lantern, and monitoring during the investigative and repair works undertaken as part of the conservation works to record any evidence for construction, date and materials.

The evidence from various dated plan drawings seems to conclusively identify the creation of the vestibule as part of Wyatt's work at Bretton Park in *c*.1811-1814. The base of the lantern, fully integrated with the original flat roof system, can therefore also be identified with this period. What is less clear is whether the original structure perhaps included a plaster-lined dome which was subsequently replaced by a lantern. A dome would have had greater architectural coherence with the architectural detailing of the vestibule and adjacent stair, while a lantern would have more practical coherence. Unfortunately, later repairs have severed the archaeological connection between the base and the upper part of the lantern and it is now difficult to be sure whether the structure was modified early in its history or not. The current cast-iron glazing in the lantern is of a generic design.

Evidence recorded during the structural watching brief indicates that repairs to the lantern can be dated to 1963 and 1983. On both occasions the repairs focussed on the lower part of the lantern, including the glazed panels.

The lower part of the lantern has a total of eight glazed, painted panels, and the watching brief provided the opportunity to consider the designs. Of the eight panels, five carry heraldic or symbolic designs, which relate to the families associated with Bretton Park – the Blackett, Wentworth and Beaumont families. The remaining three panels carry floral designs for which there appears to be no specific meaning.

Acknowledgements

FAS Heritage would like to thank David Hunter, WYAAS and the staff of H. H. Smith & Sons Co Ltd for their advice and support during the project.

1.0 INTRODUCTION

This report presents the results of an archaeological structural watching brief, maintained prior to and during works to reinforce and conserve the glazed lantern within Bretton Hall, Wakefield, West Yorkshire. The work was undertaken by FAS Heritage on behalf of H. H. Smith & Sons Co Ltd for Wakefield MDC, between March and April 2021.

1.1 LOCATION AND LAND USE

Bretton Hall is a 18th-century hall set within a designed landscape (part of which forms the Yorkshire Sculpture Park), *c*.9 miles southwest of Wakefield (NGR: SE 28375 12816; Figure 1 and Figure 2). Until 2007, the hall was in use as a college.

1.1.1 Statutory Designations

Bretton Hall is a Grade II* Listed Building (NHLE No 1184808)(see Appendix A for Listed Building description), and lies within the Grade II Registered Park and Garden.

Plate 1 General view of Bretton Hall, with the lantern covered

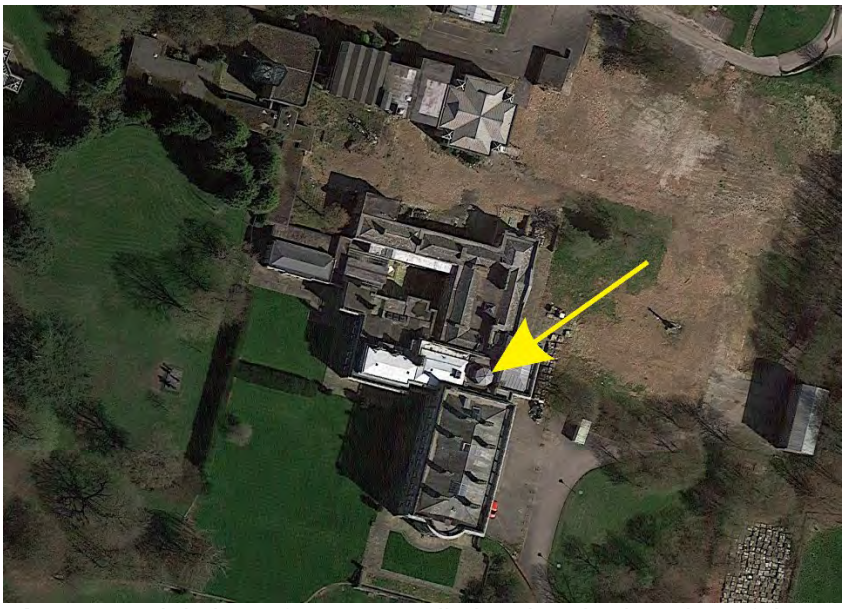
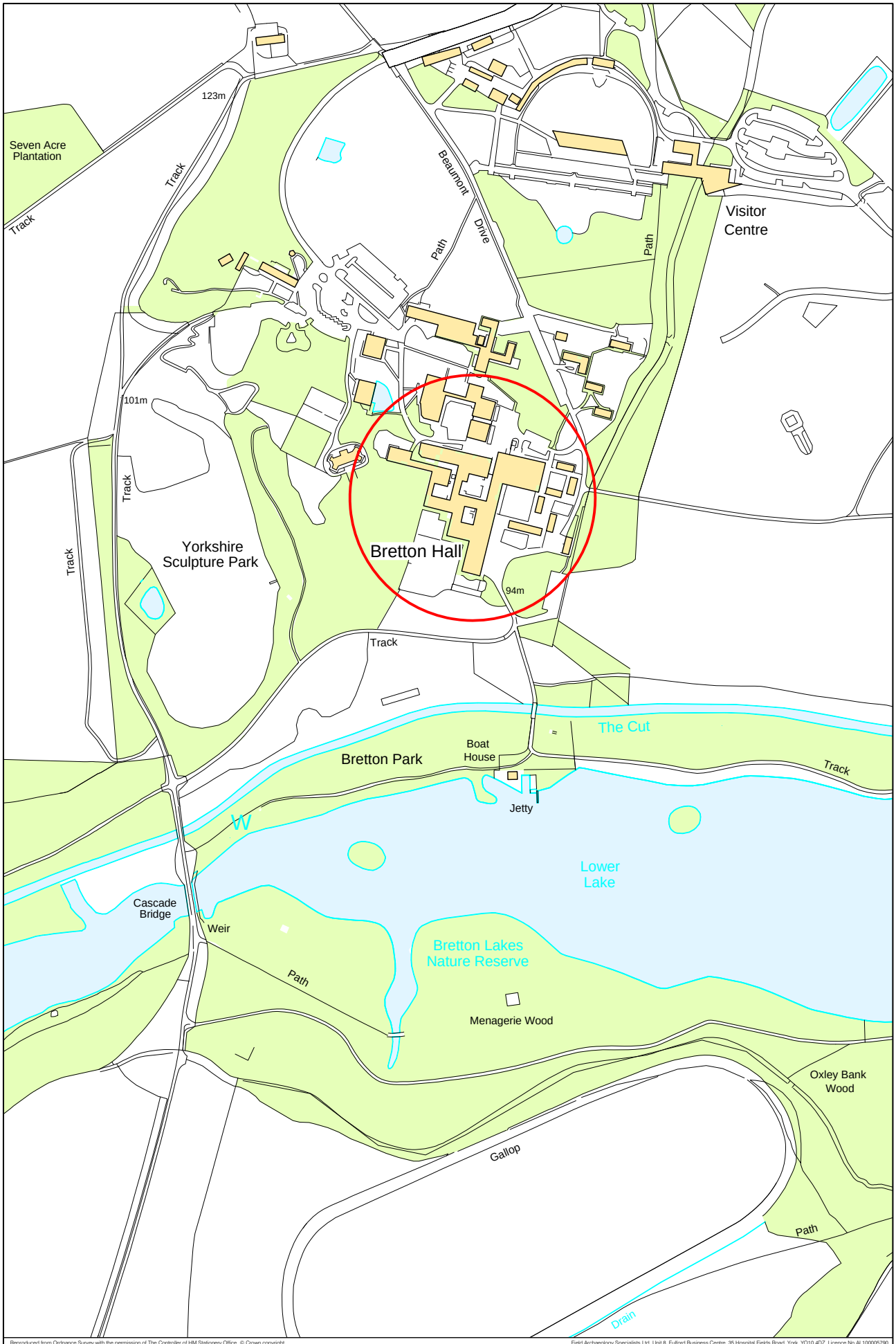


Plate 2 Aerial view of Bretton Hall showing the location of the lantern © Google Earth



Location map | Scale 1:5000 | Figure 1

Location of lantern and vestibule | Scale 1:500 | Figure 2

1.2 PLANNING CONTEXT

The structural watching brief was undertaken prior to and during works to reinforce and conserve the glazed lantern which lights the space within Bretton Hall known as the Vestibule or Painted Hall.

Listed Building Consent was obtained for this work (Planning Consent 20/00531/LBC), and the archaeological structural watching brief maintained in accordance with condition 4, which stated:

> 4. Works to repair and/or reinstate any part of the Lantern, surrounding roof and/or related decorative plasterwork shall not commence until a written scheme of archaeological investigation (WSI) has been submitted to and approved in writing by the Local Planning Authority. For the area included within the WSI, no works to repair and/or reinstate any part of the Lantern, surrounding roof and/or related decorative plasterwork shall take place other than in accordance with the agreed WSI, which shall include the statement of significance and research objectives, and
>
> - The programme and methodology of site investigation and recording and the nomination of a competent person(s) or organisation to undertake the agreed works.
> - The programme for post-investigation assessment and subsequent analysis, publication & dissemination and deposition of resulting material. This part of the condition shall not be discharged until these elements have been fulfilled in accordance with the programme set out in the WSI.
>
> Reason: In the interests of preserving the Grade II* Listed Building, in accordance with Local Development Framework Core Strategy Policy CS10, Section 16 of the National Planning Policy Framework, and having regard to Section 16(2) of the Planning (Listed Buildings & Conservation Areas) Act 1990.

A Specification for the work was prepared by West Yorkshire Archaeology Advisory Service (WYAAS)(Appendix B) and FAS Heritage were commissioned to undertake the work.

1.3 AIMS AND OBJECTIVES

The Specification sets out the following aim for the project:

> The aim of the proposed work is to identify and objectively record by means of photographs and selected drawings archaeological and architectural evidence for the means of construction, original and subsequent historical form of the Lantern, and to place this record in the public domain by depositing it with the West Yorkshire Historic Environment Record (West Yorkshire Archaeology Advisory Service , West Yorkshire Joint Service, Nepshaw Lane South, Morley, Leeds LS27 7JQ; email wyher@wyjs.org.uk).

2.0 METHODOLOGY

The archaeological structural brief was undertaken in accordance with a Specification prepared by WYAAS (Appendix B) and comprised photographic recording and structural watching brief.

2.1 GENERAL STANDARDS

FAS Heritage comply with the codes of conduct of the Chartered Institute for Archaeologists (CIfA).

The recording was carried out with reference to the following:

- Historic England 2016 *Understanding Historic Buildings: A Guide to Good Recording Practice*
- CIfA 2014 *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures*
- Historic England 2015 *Digital Image Capture and File Storage: Guidance for Best Practice*

2.2 PHOTOGRAPHIC RECORDING

Photographic recording was undertaken using high resolution digital photography, in accordance with section 8.8 of the Specification.

2.2.1 External photographs

The external photographic record includes:

- general views of the building in its setting;
- external views of the lantern and vestibule roof, including all external elevations.

2.2.2 Internal photographs

Detailed record shots were made of features of archaeological and architectural interest identified prior to and during the structural watching brief.

2.2.3 Procedure

Digital images were captured in RAW and JPEG format and are supplied in the archive as both a JPEG and a TIFF version.

2.2.4 Documentation

A photographic register (Appendix C) was prepared which includes:

- Details and location of each photograph
- Orientation and direction of each photograph
- Photograph number
- Description

A photographic location plan accompanies the photographic record (Appendix D).

2.3 STRUCTURAL WATCHING BRIEF

All exposed elements of the vestibule and lantern were examined, as far as health and safety would allow, in order to record means of construction, materials and evidence for development. Records were made of all features of archaeological interest.

2.3.1 Drawn record

The drawn record has been prepared using CAD in accordance with Historic England *Understanding Historic Buildings – A Guide to Good Recording Practice* (2016).

Existing survey drawings were used as a basis for the drawn record. These were enhanced by hand on site, and then used to create CAD drawings.

2.4 DOCUMENTARY RESEARCH

The following sources were consulted to inform understanding of the development of the hall and its context:

- West Yorkshire Historic Environment Record search
- The Landscape Agency. 2010. Historic Landscape Management Plan
- CoDA Conservation 2012. 'Heritage Statement: Bretton Park, Wakefield. Mansion, Stables and Camellia House'

The catalogues of the following were also consulted:

- West Yorkshire Archives
- RIBA (copies of material obtained as appropriate)
-

3.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The following draws on the detailed historical background presented in the Heritage Statement (CoDA 2012), the Specification (Appendix B) and a detailed article on the architectural development of the hall (Wright 2000).

Bretton Hall was built in the 1720s by Sir William Wentworth, replacing an existing medieval hall at the site. This work followed his marriage to heiress Diana Blackett. Sir William is known to have taken a lengthy Grand Tour, and his acquaintance with William Kent, Lord Raby and Lord Burlington meant he had educated taste, and oversaw construction of a Palladian influenced country house.

Sir William Wentworth died in 1736, and his son, Sir Thomas Wentworth inherited. Sir Thomas oversaw significant landscaping in the surrounding park, including creation of the upper and lower lakes in 1760 and 1774/5 respectively. In 1777, his wealth increased dramatically when he inherited

Blackett estates in Yorkshire, Northumberland and Durham; as a condition of the will he took on the Blackett name to become Sir Thomas Wentworth Blackett.

In the 1780s the house was expanded to designs by William Lindley, pupil and assistant to John Carr. This included a purpose-built service wing to the north of the original house.

In 1792, the estate passed to Colonel Thomas Richard Beaumont, who was married to Diana Wentworth, a daughter of Sir Thomas. During their ownership, extensive improvements were undertaken. In 1793, ground-floor spaces at the north end of the south range were remodelled to create the Library and Breakfast Room (changes attributed to John Carr). In 1803-7, William Atkinson added the portico, and added substantial extensions to the north and northwest (Museum, Dairy, Children's Dining Room, Orangery), much of which was replaced by the ensuing changes designed by Jeffry Wyatt (later known as Jeffry Wyatville).

Jeffry Wyatt's alterations, undertaken *c.*1811-14, saw removal or alteration of many of Atkinson's structures and included creation of the central connecting space, between the original hall, service wing, new Dining Room to the south and Anteroom to the north. This space, known as the Painted Hall or Vestibule was decorated with classical murals, and is now lit by the octagonal lantern that forms the focus of the current work. Phasing of the building by Wright (2000) uses plans by Wyatt held in the Bretton Estate Archive to assign the vestibule to this phase of work (references provided by Wright are BEA/C2/B40/21, 62, 159, 164). The RIBA archive includes a drawing catalogued as 'Design for additions to house, for Col. Thomas Richard Beaumont' and apparently dated 1815, which shows the vestibule, but unfortunately provides no evidence for the lantern.

In 1831, Diana died, and her son held a three-day auction selling off many of the estate assets. The Heritage Statement records a quotation that Sir Thomas Wentworth Beaumont was a

> Regency gentleman of volatile and intemperate views (who) nurtured a bitter hatred of his mother and all her works.

Plate 3 J P Neale's view of Bretton Hall, published c.1821, after Jeffry Wyatt's alterations

The sale apparently included the contents of the house including wine cellar, museum and stained glass, as well as the ‘far famed’ domed conservatory – the first glass house of its kind in the country and constructed at a cost of £15,000, which was eventually sold for £546.

Sir Thomas Beaumont then engaged George Basevi as architect for further alterations and additions. Among other changes, Wyatt’s Dining Room and bedrooms were wholly replaced. Sir Thomas died in 1848, and his successor Wentworth Blackett Beaumont is said not to have focussed attention on the estate.

The house was requisitioned in the Second World War by the War Office for use by the Army, and in 1948 was sold to West Riding County Council, the 2nd Viscount Allendale removing many internal features (fireplaces, overdoors, doors, carvings, panelling and other decorations). A WRCC survey plans of 1948 show many of the domestic room names.

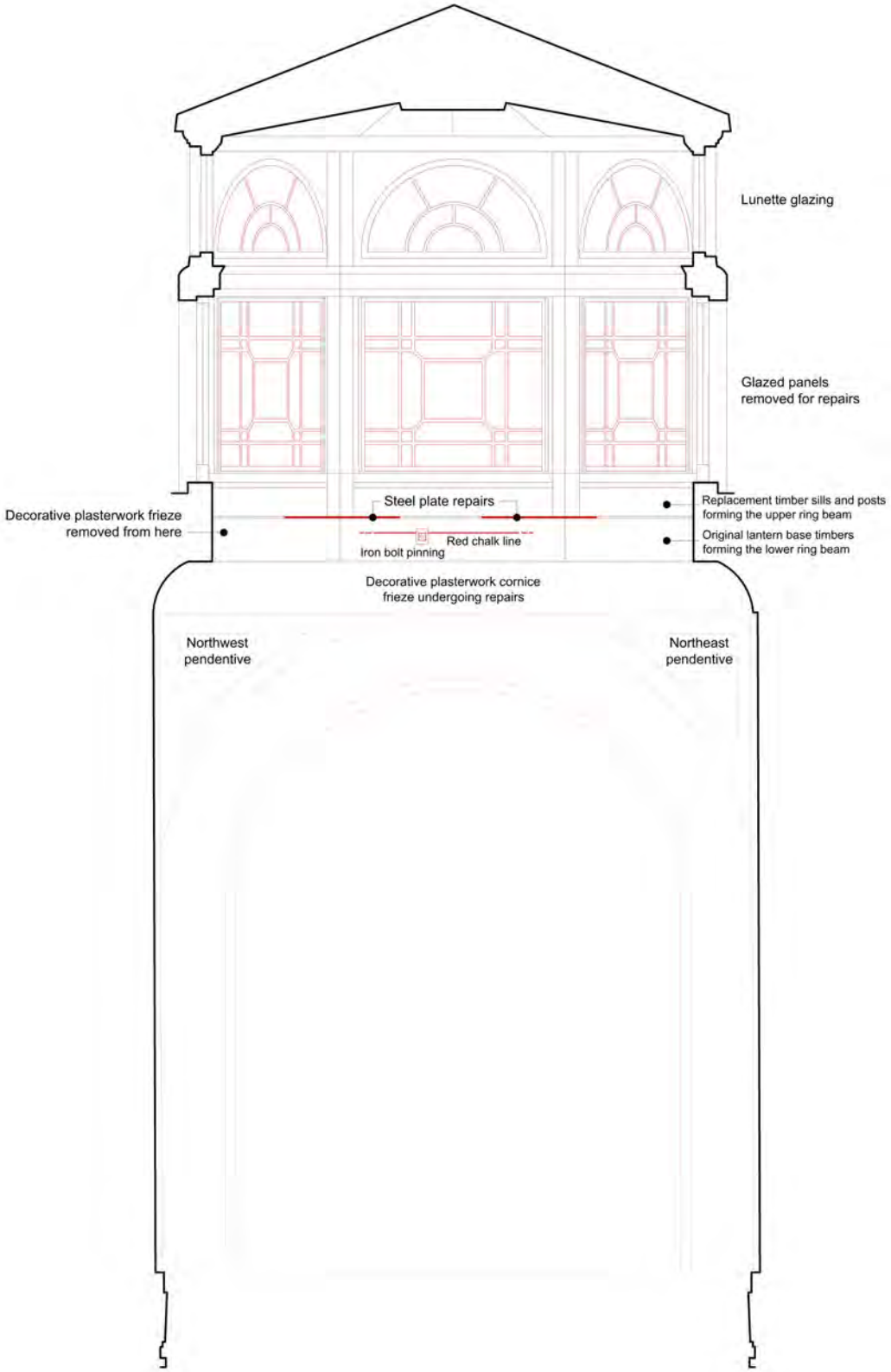
The property was then adapted for use as a Bretton Hall Teacher Training College, and it remained in use as an education facility until 2007 when the remaining staff and students transferred to Leeds University. During this time, in 1977, the Yorkshire Sculpture Park opened its inaugural exhibition.

Some time between 1981 and 1993, the lantern ring-beam was restored, described in a paper by then College Principal John Taylor (2017):

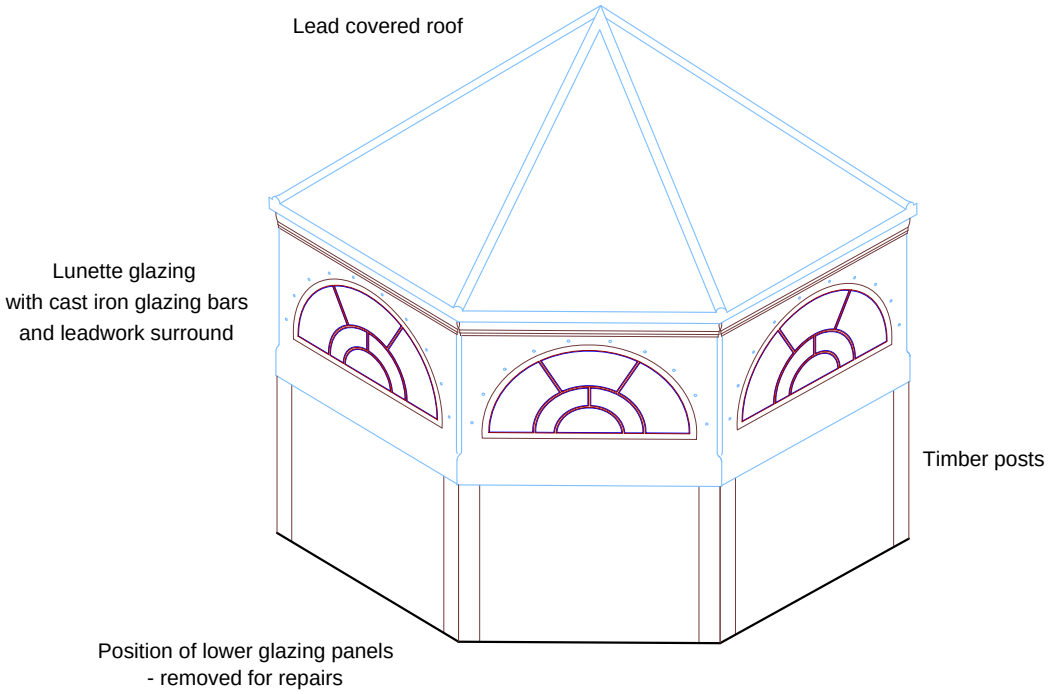
> **Wyatt's Mansion roof lantern and Pillar Hall fabric** were restored under an Historic Building Grant where the Principal qualified as the on-site architect. Many will be aware that the Pillar Hall murals had been attributed to Agostino Aglio and when, in 1947, Hans Feibusch cleaned and restored them, he and his V. & A. team praised their outstanding architectural fantasies. Our job was to replace the lantern ring beam and stop water penetrating from the ageing and long neglected roof. All, once again, with the co-operation of freely available external experts, co-ordinated by London's national galleries, directed by Professor Sir Roy Strong. To celebrate the restoration we hosted Professor Tom Wood's first Bretton Hall public exhibition in Pillar Hall. A seminal event, much enjoyed by many.

4.0 DESCRIPTION AND WATCHING BRIEF OBSERVATIONS

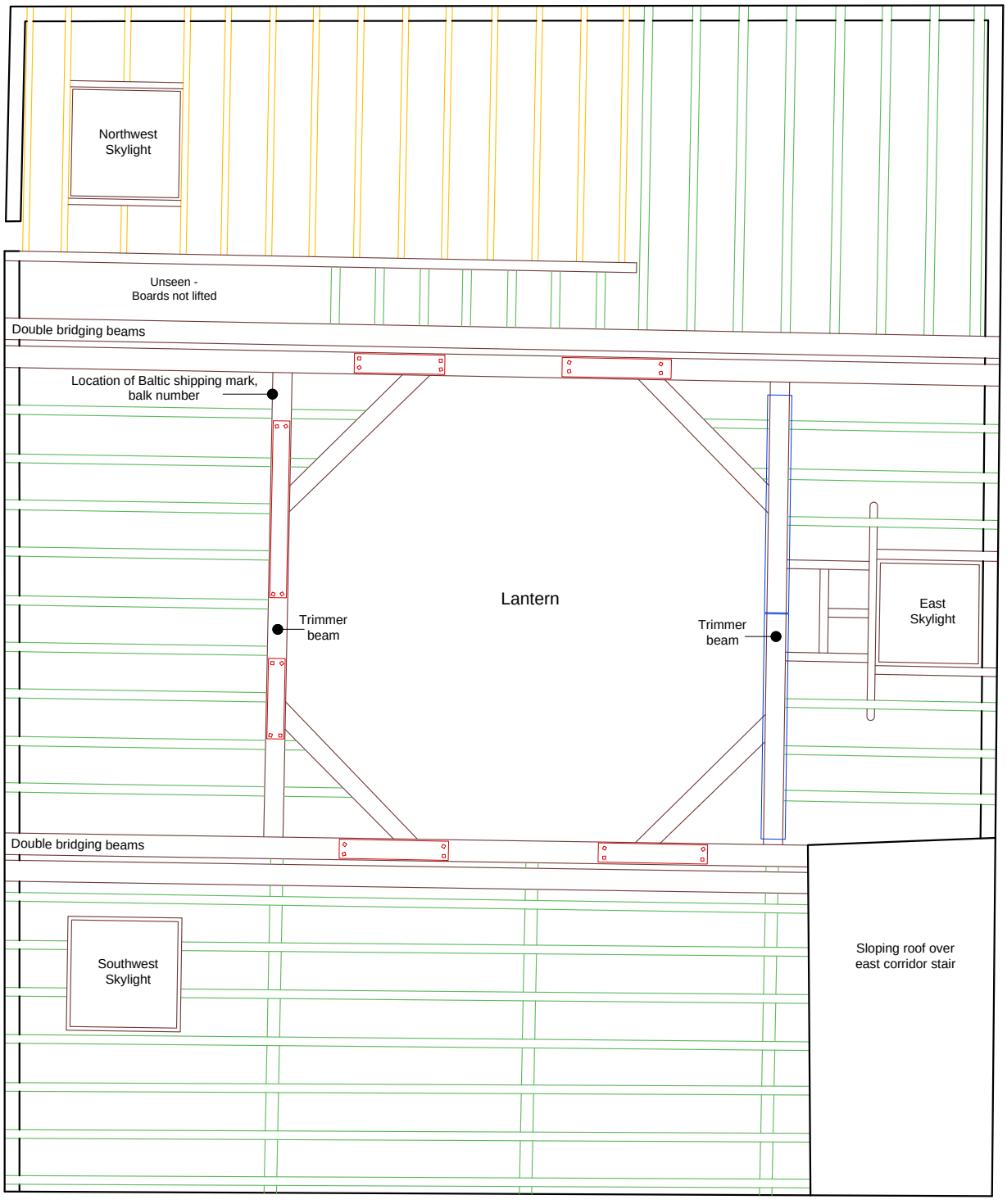
The following description includes cross-references to the photographic archive which is included as Appendix E (Plate E1 etc, with reference to their photographic references, BRH001 etc). The drawn record includes a section and isometric drawing of the lantern, and a plan of the roof (Figure 3; Figure 4; Figure 5).



Section drawing | Scale 1:50 | Figure 3



Isometric drawing	Scale 1:50	Figure 4



Key

Original joists

Replacement joists

Modern steel reinforcement

Steel plate repairs

Roof plan | Scale 1:50 | Figure 5

4.1 DESCRIPTION OF VESTIBULE

The vestibule is located within a link range between the southern (original) part of the house and additions made to the north (**Appendix E Plate E1-4**)(BRH001-4). Internally, it is located to the north of the main staircase, opening at the upper (first-floor) level from the stair. Both vestibule and stair are decorated with 18th-century style Italianate painted architectural fantasies and appear to be part of coherent scheme of alteration from the first half of the 19th century. The vestibule is a rectangular space, rising through three levels, before transitioning to a circular frieze via pendentives (**Appendix E Plate E5-19**)(BRH027-34; 043-9; 064). The richly decorated frieze is topped by an octagonal glazed lantern covered internally with a ribbed ceiling (**Appendix E Plate E21**)(BRH050).

Because of the current repair works, much of the interior of the vestibule was covered with plywood protection and the central area was filled with scaffolding in order to access the lantern – visual access was inevitably very limited in the circumstances (**Appendix E Plate E22-24**)(BRH200-2).

The floor appears to be parquet and probably of 20th-century date. Four Doric columns are located along the west and east sides of the vestibule which support the first-floor landing and stairs by bridging beams encased in decorative plaster. The columns were all boxed in during the inspection, but it is possible that they contain iron reinforcement. Some limited opening-up of the plasterwork covering the underside of the plastered bridging beams exposed timber and no iron (**Appendix E Plate E25**)(BRH203). While not completely conclusive, since the the upper part of the beam was not exposed, it does appear that they were largely, if not entirely, of timber.

The plastered sides of the bridging beams are decorated with a repeating plaster moulded pattern, and the undersides of the landings and stairs decorated with simple moulded rectangular panels (**Appendix E Plate E26-27**)(BRH204-5).

From first to second-floor levels the vestibule was comprehensively protected by coverings and boxing-in for the current work and there is little that can be described by direct observation. However, it is understood that at first-floor level there are three large paintings showing stylised Roman ruins, in addition to an open balcony to the stair landing (**Appendix E Plate E28-9**)(BRH206-207).

While the painted vestibule at first-floor level was largely unavailable for inspection, the archway from the adjacent stair was exposed. Within the soffit of the arch are three grisaille paintings (**Appendix E Plate E30-33**)(BRH208-11), while the sides of the arch have door openings with lunette over lights (**Appendix E Plate E34-35**)(BRH212-213). A further grisaille painting is located in the tympanum of the arch facing into the vestibule (**Appendix E Plate E36**)(BRH214).

The adjacent corridors, to the east and west of the vestibule, are covered by the same flat ceiling structure as supports the lantern. Secondary skylights, that catch light for these otherwise dark corridors, appear to have been largely inserted into the flat roof structure, although that to the east might be original (**Appendix E Plate E37-39**)(BRH215-217). Details of some of the flat roof structure could be glimpsed where sections of the ceiling had collapsed or been open up (**Appendix E Plate E40-47**)(BRH218-224).

4.2 DESCRIPTION OF THE LANTERN AND FLAT ROOF

4.2.1 Lantern structure

Exterior

The exterior of the lantern (protected under a sheeted scaffolding when inspected (**Appendix E Plate E48**)(BRH005) presents a simple octagonal form capped with a simple, low pitched, hipped pavilion roof that rises to a central point (**Appendix E Plate E49**)(BRH026). Each side of the octagon is of identical form and houses a rectangular iron-framed glazed panel in its lower half and a lunette shaped iron-framed window in its upper half (**Appendix E; Plate E50-61**)(BRH006-17). The lower glazed panels contain painted glass and, prior to the archaeological site survey and to facilitate the installation of access scaffolding, the highly fragile lower iron frames with their glass had been removed for safety; these are discussed below. The remaining elements in the lower part of the structure consist of the timber rebated posts that form the corners of the octagon and the vertical elements to house the iron frames; from internal evidence it apparent that these are modern replacements dating to 1983 and are of painted softwood.

The upper part of the octagon has been covered with lead leaving only the timber eaves moulding exposed. This arrangement is likely to be a modern attempt to make the structure more weatherproof; originally only the roof itself would have been covered with lead.

Lower part of the interior

The interior of the octagon was filled by a scaffold system which, although providing access, limited the overall view that was possible. Removal of the plasterwork from the lower part of the lantern exposed the structural arrangement on which the lantern was seated which consisted of a double ring-beam (**Appendix E Plate E62-77**)(BRH03-42; 052-9). The lower beam was original although much decayed in most areas, while the upper beam was a modern replacement. Original vertical laths (to take the plaster) remained in place spanning both original and replacement ring-beams and it was evident that the sections of upper beam had been replaced (in 1983) from the exterior side of the lantern, thus leaving the internal plasterwork undisturbed.

Further repairs are evident sandwiched between the two ring-beams. Thick steel plates had been inserted at some of the corners where the jointing in the lower ring-beam has decayed (**Appendix E Plate E78-80**)(BRH061-3 typical examples). These could have been inserted as part of the 1983 repairs or 1963 repairs (discussed below).

The advanced state of decay of the joints of the timbers forming lower ring-beam made determining their exact form challenging. However, it was clear that the joists and bridging beams that formed the structure of the flat roof, in which the lantern is set, also formed the perpendicular sides of the ring beam. The four angled sides of the octagon were formed by separate timbers that were then jointed onto the joists and bridging beams of the flat roof (**Appendix E Plate E81-110**)(BRH118-46; BRH073). Given this arrangement, it seems unlikely that the timbers forming the bottom of the octagon are secondary and that at least the lower part of the lantern was part of the original design. All original timbers appeared to be of softwood.

Iron bolt fixings, provided with tie plates, were located through the original north and south timbers (**Appendix E Plate E111-2**)(BRH051; BRH060); their purpose appears to have been to firmly lock the structure back into the main bridging beams of the flat roof. The nuts for these and further bolts of the same type were identified externally when the flat roof was opened up (**Appendix E Plate E113-117**)(BRH093; BRH160-163). All appear to be blacksmith-made, as opposed to machine-made, which would suggest they are part of the original arrangement.

The replacement of the upper ring-beam and the lower posts of the lantern has meant that any evidence for how these were originally jointed has been lost. However, helpfully, the joiner who replaced the timber has dated one of the posts with the inscription 'NEW POSTS AND CILLS MARCH 1983, B. SHEPHERD JOINER 93, HAIGHLANE, HAIGH' (**Appendix E Plate E118**)(BRH074); replaced timber from 1983 could be identified by the pink coloured primer paint where exposed.

Further evidence for repair was also found to the timber lintels of the lower glazed panels, as well as the cills. However, the primer employed on these replacement timbers was a different colour (a light blue/grey), and some evidence from the glazing panels themselves indicated that this might date to earlier repairs, in 1963.

As well as using a different coloured primer, the timbers forming part of the lintels had all been marked with Roman numerals (**Appendix E Plate E119-126**)(BRH065-72). The west side was marked 'I' running counter-clockwise to the northwest side which was marked 'VIII'. This numbering corresponds to the numbering on the timber surrounds of the frames evident on their removal (discussed below), evidently to ensure that the glazed panels were either installed or replaced in their correct positions. The relationship with the two phases of primer (pink and the earlier light blue/grey) would certainly suggest that the numerals pre-date the pink primer (from 1983) because some of the primer is over the top of the markings.

Upper part of interior

The upper part of the interior of the lantern carries the octagonal form to the apex (**Appendix E; Plate E127-130**) (BRH075-78). The internal faces of the lunette windows had been bordered over but the ceiling was fully exposed. The ceiling had timber moulded ribs, with sunk panels between, support a central roundel that contains a rose. All has been painted white, but it is possible that original details were picked out in different coloured paints.

4.2.2 Glazing

The lantern has eight painted glass panels; each panel comprises an outer timber frame containing a cast iron glazing frame (the glazing frames being identical on each panel) with a central leaded lozenge carrying painted armorial and floral designs. The designs on the lozenges are as follows:

North panel

The design on the central section of the north panel consists of a central ellipse set in a wide rectangular border (**Appendix E Plate E131-133**)(BRH169-171). The border carries margins of clear glass on the long sides, triangles of red glass to the corners and extensive floral decoration. The

central ellipse carries the heraldry of the piece and contains an angled shield set against a background of various flags and armour. The shield background is red with a white lion, rampant, surrounded by eight golden crescents arranged around the edge of the shield. A further small blue shield is on the top of the lion and carries a yellow chevron and three lions' heads.

Northeast panel

The outer timber frame of the northeast panel has carpenters' marks on the top and side of the frame identifying it as 'VI'; these could be original markings or additions made when the panels were taken out for repair (**Appendix E Plate E134-135**)(BRH175-176).

The design of the central section of the panel consists of central approximate ellipse shape with an additional decorative wave element (**Appendix E Plate E136-138**)(BRH172-174). The central section is set in a rectangular, wide border with yellow and clear vertical strips to the sides and dark blue areas to the top and bottom. In addition, there is a single roundel to the centre top and bottom, each containing a flower. The central ellipse contains a shield with a wave top edge and a heraldic griffin on top. The shield is quartered with two quarters containing a repeated design of a chevron with three lions' heads, and the other two quarters a chevron with scallop shell, and three stars. A small hand is located towards the top centre of the shield.

East panel

The central section of the east panel follows the pattern set by the north panel accept the central ellipse is decorated with a floral design rather than heraldic symbols (**Appendix E Plate E139-141**)(BRH177-179). The poor condition of the cast-iron glazing frame allows the two halves of the frame to be viewed in section showing how the edge of the glass is sandwiched between the two halves (**Appendix E Plate E142**)(BRH180).

Southeast panel

The central section of the southeast panel features a single painted scene with a patterned border (**Appendix E Plate E143-145**)(BRH181-183). The scene depicts a knight-in-armour stood adjacent to a tree, holding a lance in one hand and a shield in the other; the shield shows a chevron and three lions' heads. The style of the painting, particularly to the knight's face, is tending towards the naïve.

There is some evidence for previous repair to the outer timber frame of the southeast panel in the form of a splicing joint (**Appendix E Plate E146**)(BRH184).

South panel

The south panel is very similar to the east panel with a central floral design which is near identical (**Appendix E Plate E147-149**)(BRH185-187). However, the south panel does feature an additional floral border around the central ellipse.

The outer timber frame retains the evidence for the mortice jointing of the corners of the frame (**Appendix E Plate E150**)(BRH188).

Southwest panel

The central section of the southwest panel consists of a roundel containing the painting of a bull against a tree. The roundel is at the centre of a red cross design the whole surround by a yellow border (**Appendix E Plate E151-153**)(BRH189-191). Beneath this is the inscription 'VIRTUTE DUCE COMITE FORTUNA' (which can be translated as 'lead by valour, with fortune as companion').

On the outer wooden frame is of joiner's pencil inscription which reads - 'New posts fixed 1963 by Tony Lister & Eddy Leister', the timber on which this has been written has evidently sanded back. The pencil inscription is adjacent to a carpenters' mark 'II' which might be earlier (**Appendix E Plate E154**)(BRH192).

West panel

The central section of the west panel has an ellipse design with a central flower and further border of flowers around the ellipse (**Appendix E Plate E155-157**)(BRH193-195). The remainder of the panel follows the arrangement repeated on some of the other panels.

Northwest panel

The northwest panel also features a central ellipse but containing a shield (**Appendix E Plate E158-160**)(BRH196-198). The shield carries a pair of lions rampant each surrounded by eight crescents. The ellipse is surrounded by a border of flowers and further glass that repeats the pattern seen on several of the other panels. The damaged edge of the cast iron glazing provides for the profile of the glazing bars to be seen (**Appendix E Plate E161**)(BRH199).

4.2.3 Flat roof

As part of the works, and to check for further areas of decay, the surface covering of the flat roof around the lantern was stripped of its modern, bitumen finish and areas of the boarding (**Appendix E Plate E162-212**)(BRH018-25; 79-92; 94-117; 164-8). This allowed for a detailed inspection of the roof structure around the lantern and against the walls of the four walls of the vestibule.

Much of the structure appeared to be original with localised areas of repair using steel plates and replacement timber. There was no evidence that the central octagonal base was a later introduction, rather it had been carefully integrated with the pattern of bridging beams and joists which partly formed the bottom of the structure (**Appendix E Plate E81-97, E213-220**)(BRH118-154).

While most of the skylights appeared to be later additions, that to the eastern corridor appeared to be an original feature with one of the trimmer beams, forming one of the side of the skylight, jointed and pegged into the adjacent timbers (**Appendix E Plate E221**)(BRH159).

Of particular note was the presence of laying out marks consisting of red lines inscribed on the bridging beams (**Appendix E; Plate E222-223**)(BRH155-156 for example), which coincided with the joints for the joists into the beams. In addition, one possible Baltic shipping mark was identified (**Appendix E; Plate E224**)(BRH158).

5.0 DISCUSSION

5.1 CONSTRUCTION

The evidence from the fabric makes it clear that the lower part of the lantern is an integral part of the flat roof timber system. The lantern itself is constructed in timber with cast-iron glazing frames employed for the upper lunette windows and the lower glass panels. Further leadwork has been employed in the painted glass work. Unfortunately, no foundry marks were identified on the cast-iron frames making the rather generic design difficult to credit to a particular maker.

The octagonal roof is also of timber but with a (modern) lead covering. The remainder of the Vestibule's flat roof has a bitumen covering, although it is likely lead would have been used originally.

The timber employed in both the octagon (where the original survives) and the flat roof is a close-grained softwood and appears to be entirely Baltic pine, other than one area of modern replacement. One timber (a bridging beam) retained a mark that is probably part of a Baltic shipping mark, perhaps denoting the balk number as seen on timbers passing through a particular port - it is unfortunate that only part one mark was exposed.

The use of iron seems to more minimal than expected with only the use of large securing bolts being recorded; it remains unclear whether the Doric columns in the vestibule encase ironwork. However, it should be noted that Wyatt's slightly later work at Windsor Castle is notable for the absence of major iron components, although subsequent architects at Windsor made extensive use of the material.

5.2 MEANING OF THE GLAZING DESIGNS

The lower part of the lantern has a total of eight glazed painted panels of which five carry heraldic or symbolic designs; the remaining three panels carry floral designs for which there appears to be no specific meaning. The five heraldic panels all appear to make reference to the families associated with the Bretton Park estate; the Blackett, Wentworth and Beaumont families.

The north panel references the Beaumont arms which features a lion rampant surrounded by eight crescents, while the smaller shield references the Wentworth arms of lions with a chevron.

The northeast panel references the Wentworth arms, with lions' heads and a chevron, and the Blackett arms with chevron, stars and scallops. The panel may also reference the earlier Irish connections of the family through the hand of Ulster.

The southeast panel repeats the reference to the Wentworth family with the chevron and three lions' heads although the additional meaning of the knight is unclear.

The southwest panel may refer to the crest of the Viscounts Allendale which features a bull.

Finally, the northwest panel makes further reference to the Beaumont arms with the lion rampant and eight crescents repeated four times.

5.3 DATE AND DEVELOPMENT

The evidence from the various dated plan drawings seem to conclusively identify the creation of the vestibule as part of Wyatt's work at Bretton Park in *c*.1811-1814. The base of the lantern, fully integrated with the original flat roof system, can therefore also be identified with this period. What is less clear is whether the lantern was, perhaps, a plaster-lined dome subsequently replaced by a lantern. A dome would have had greater architectural coherence with the architectural detailing of the vestibule and adjacent stair, while a lantern would make more practical sense. Unfortunately, the repairs of 1963 and 1983 have completely severed the archaeological connection between the base and the upper part of the lantern and it is now difficult to be sure whether or not the structure was modified early in its history. The current cast-iron glazing in the lantern is of rather a generic pattern.

Subsequent repairs to the lantern can be identified with certainty to 1963 and 1983; on both occasions the repairs focussed on the lower part of the lantern, including the glazed panels. Undoubtedly, these repairs saved the structure from more significant loss but, at the same time, removed the evidence for the relationship between the octagonal superstructure of the lantern and the lower plaster-domed section.

6.0 ARCHIVE AND DEPOSITION

Digital copies of the report and the photographic archive will be deposited with the client, West Yorkshire Historic Environment Record Archives and the Archaeology Data Service (ADS). Deposition with ADS will be undertaken in line with the relevant guidance and will comply with ADS requirements for metadata (using the ADS template for raster data metadata).

A hard copy of the report will be provided to the West Yorkshire Historic Environment Record.

7.0 REFERENCES

Primary sources

RIBA SD33/WYJE 5 - Wyatville, Sir Jeffry, 1766-1840. Bretton Hall (Yorkshire): Design for additions to house, for Col. Thomas Richard Beaumont

Published and unpublished sources

CoDA Conservation 2012. 'Heritage Statement: Bretton Park, Wakefield. Mansion, Stables and Camellia House'

Taylor, J. 2017. *Recollections of People, Places and Projects: Bretton Hall Campus Developments 1981-1993* [Recollections-of-People.pdf (bretton-hall.com)]

Wright, S. 2000. 'History of the architecture of Bretton Hall near Wakefield' *Yorkshire Archaeological Journal* 72: 154-174

APPENDIX A LISTED BUILDING DESCRIPTION

Official list entry
Heritage Category: Listed Building
Grade: II*
List Entry Number: 1184808
Date first listed: 14-Feb-1952
Date of most recent amendment: 21-Jun-1990
Statutory Address 1: BRETTON HALL INCLUDING ATTACHED ORANGERY TO WEST, PARK LANE

The scope of legal protection for listed buildings
This List entry helps identify the building designated at this address for its special architectural or historic interest.

Unless the List entry states otherwise, it includes both the structure itself and any object or structure fixed to it (whether inside or outside) as well as any object or structure within the curtilage of the building.

For these purposes, to be included within the curtilage of the building, the object or structure must have formed part of the land since before 1st July 1948.

Location
Statutory Address: BRETTON HALL INCLUDING ATTACHED ORANGERY TO WEST, PARK LANE
The building or site itself may lie within the boundary of more than one authority.

District: Wakefield (Metropolitan Authority)
Parish: West Bretton
National Grid Reference: SE 28366 12779

Details
SE21SE WEST BRETTON PARK ROAD (south side, off)

8/82 14.2.52 Bretton Hall including attached orangery to west. GV II*

Large country house, now college. Circa 1720, 1780s, 1811-14 and c.1852. The south range c.1720 by Sir William Wentworth and Col. James Moyser for Sir William Wentworth himself. The north range 1780s by William Lindley of Doncaster, the linking block and remodelling of the south range (ie the south bow and the east portico) 1811-14 by Jeffry Wyatt for Col. Thomas Richard and Diana Beaumont, the projecting dining room on the east front added c.1852 probably by Thomas Richardson for Thomas Blackett Beaumont. Ashlar, the roof hidden behind parapet. 9-bay by 5-bay main, south range with a 3-bay link block to north which extends westwards and terminates in the orangery, and a 7-bay north range. The main elevations face east. 3-storey main range, the rest 2 storeys. The south range: symmetrical front with central, Greek Doric tetrastyle portico, 12-pane ground and 1st-floor sashes, the former with triangular pediments, the latter with small cornices. Short 2nd floor windows with later casements. Plinth and bands to lower floors. Two ornamental rainwater heads bearing the Wentworth shield. Modillion eaves cornice, and balustraded parapet. Eight tall, broad, symmetrically placed ashlar ornamental stacks. The south front has a 3-bay bow which has taller ground-floor windows the centre one formerly a doorway up 4 steps. The rear is similar to the front but more plain. The link block to the north is in keeping but with taller ground-floor windows and is separated by a recessed single bay. The north range: symmetrical front, the centre 3 bays marked by giant pilasters which support a pediment. Central, 8-panel double door, 12- pane sashes to ground floor 9-pane sashes to 1st floor. Frieze, cornice and

blocking course. The tympanum has an enriched shield with the motto "FIDE SED CUI VIDE". The orangery at the rear, on a 2-step podium, is of 7 bays, the centre 3 breaking forward slightly, divided by square Tuscan piers supporting the frieze, moulded cornice and blocking course. Interior of south range: the entrance hall has a groin vaulted passage at the rear separated by 3 arches and the piers and walls have grisaille paintings of figures and trophies. The main staircase to the north of the hall has a fine wrought-iron handrail of 1920. To the west of this is the former billiard room and to east (front) the former breakfast room, both with Adam- style ceilings of c.1770. Interior of link range: excellent entrance vestibule with 4 piers (apparently encased cast-iron) supporting a glazed dome on pendentives. The walls are painted with C18-style Italianate architectural fantasies. The vestibule opens, at upper level, onto the half-landing of the main staircase (south range) whose walls have similar paintings. To the west of the vestibule is the former drawing room or tapestry room, with a heavy baroque ceiling with pendant bosses probably of c.1852. To the far west is the former library and the music room both in Regency style of c.1811-14. The latter has an apse for an organ and a delicate gently coved ceiling with rinceau decoration, panels, pilaster strips and a delicate marble fireplace with a huge mirror. The library is mainly altered. To the east of the vestibule is the former dining room (now conference room) in a heavy Rococo style of c.1852. The end walls are divided into 3 by Composite pilasters with a niche to each side and a central panel. Very elaborate marble fireplace decorated with vines and a central eagle with spread wings. Elaborate frieze with foliage, animals and Classical figures. The ceiling has panels with musical instruments. The buildings became used as Bretton College in 1947. N. Pevsner. The Buildings of England. 1967. D. Linstrum. West Yorkshire Architects and Architecture. 1978. Bretton College Archive. Country Life. May 21st 1938 p.530, May 28th 1938 p.554.

Listing NGR: SE2836612779

Legacy
The contents of this record have been generated from a legacy data system.

Legacy System number: 342578
Legacy System: LBS

Sources
Books and journals
Linstrum, D, West Yorkshire Architects and Architecture, (1978)
Pevsner, N, Radcliffe, E, The Buildings of England: Yorkshire: The West Riding, (1967)
'Country Life' in 28 May, (1938), 554
'Country Life' in 21 May, (1938), 530

Other
Register of Parks and Gardens of Special Historic Interest in England, Part 45 West Yorkshire,

Legal
This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.

End of official list entry

APPENDIX B SPECIFICATION (WYAAS)

SPECIFICATION FOR AN ARCHAEOLOGICAL STRUCTURAL WATCHING BRIEF ON WORK TO THE LANTERN, WEST BRETTON HALL, WEST BRETON, WEST YORKSHIRE

SE 28375 12816

This specification is prepared on behalf of Wakefield Metropolitan District Council at the request of Mr Simon Green of Severn Architecture. It details the requirements for an archaeological structural watching brief (targeted archaeological and architectural photographic and drawn recording) prior to and during works to reinforce and conserve the glazed lantern which lights an area within the West Bretton Hall known as the Vestibule or Painted Hall (planning consent 20/00531/LBC).

1. Summary

1.1. This specification covers the requirements for targeted photographic building recording and a structural watching brief (drawn and photographic record) during Works to repair and secure the lantern at West Bretton Hall.

1.2. This specification has been prepared by the West Yorkshire Archaeology Advisory Service, the holders of the WY Historic Environment Record

1.3. Failure to fully comply with the terms of this specification will be treated as a breach of planning consent by WYAAS.

1.4. Please note that a hard copy of the final report must be submitted to the West Yorkshire Historic Environment Record to enable the results of fieldwork to be made publically accessible as required by the National Planning Policy Framework. The WYAAS will only recommend discharge of any archaeological planning condition once a report been received and found to be satisfactory..

NOTE: The requirements detailed in paragraphs 7.2, 7.3 and 7.4 are to be met by the archaeological contractor **prior** to the commencement of fieldwork by supplying confirmation details in writing to the WY Archaeology Advisory Service.

2. Background

2.1. In response to the proposed conservation work to the lantern the WYAAS recommend that the structure is recorded along with any evidence of the means and methods of its construction.

2.2. This specification has been prepared by the WYAAS at the request of Mr Simon Green of Severn Architecture (Unit 1.3, Waulk Mill, Bengal Street Manchester M4 6LN Tel.: 0161 236 5655) to detail what is required and to allow an archaeological contractor to provide a quotation.

3. Archaeological / Architectural Interest

3.1. Bretton hall was built as an early example of a paladin inspired country house in the 1720s by Sir William Wentworth and is listed Grade II* (National Heritage List for England No. 1184808 and West Yorkshire Historic Environment Record 1526). By the late 18th century the role of the house had changed and expanded. This new scale of activity was supported by a large a purpose built service wing built to the north of the original house in the 1780s. Further expansion perpendicular to this north south axis took place in the early 19th century and created a suite of polite rooms to the north-west and a large dining room to its north-east.

3.2. This work was carried out by William Wyatt who specialised in the design of improvements to large houses. He went on to carryout extensive works at Windsor Castle, changed his name to *Wyattville* and received knighthood.

3.3. Wyatt linked the four elements of the house described above with a circulation space and grand staircase. This area is known as the Painted Hall or Vestibule because its walls were decorated with murals of classical ruins. The Vestibule comprises a triple height rectangular space transitioning via *pendentives* ("triangular" segments of a sphere) to a richly decorated circular frieze topped by an octagonal light well or lantern (se figs 2 and 3). The first floor level of the Vestibule is supported on Doric columns permitting a larger floor area to be provided at ground level than is enclosed by the space above (see Country Life Archive Vestibule). The Vestibule provides plentiful light to this busy area of the house and also illuminates the murals.

3.4. The structure of the Vestibule as described in the listing description is intriguing. This states "*Interior of link range: excellent entrance vestibule with 4 piers (apparently encased cast-iron) supporting a glazed dome on pendentives. The walls are painted with C18-style Italianate architectural fantasies. The vestibule opens, at upper level, onto the half-landing of the main staircase (south range) whose walls have similar paintings.*".

3.5. The WYAAS are not aware of any evidence that a "dome" was fitted to the Vestibule although a glazed domed skylight is present in a mezzanine floor's roof.

3.6. Limited investigation of the Vestibule's roof and lantern suggest it is a traditional timber structure despite its architectural sophistication and the suggestion that Wyatt used structural iron in its lower parts.

3.7. The lantern is believed to be supported by substantial timber grillage structure. The lantern itself is constructed in timber with cast iron glazing bars and an octagonal lead roof. The remainder of the Vestibule's flat roof has bitumen covering although it is likely lead would have been provided originally.

3.8. The lantern has 8 painted glass panels; these comprise armorial and floral designs. These should be recorded and their significance and intended meaning researched.

3.9. By the early 19th century imported softwood was employed in many West Yorkshire buildings to support ever larger roofs. Establishing the timber spices and other materials used at Bretton hall will give an important insight into the "state of the art" in elite building projects and, potentially, the extent of trade networks supplying the building trade. The origin of materials such as softwoods may potentially be revealed through Baltic marks on larger members while archive research may reveal where the iron window glazing was manufactured.

3.10. The style of carpentry and any fixings used in both the Vestibule roof and lantern structures is important evidence of the various trades involved in its construction. The speculation that iron was used in high stress locations noted above should be born in mind when recording these structures.

3.11. Evidence of historic repairs and the materials used should also be recorded as evidence of the design's weaknesses and historic measures taken to preserve the structure.

4. Aims

4.1. The aim of the proposed work is to identify and objectively record by means of photographs and selected drawings archaeological and architectural evidence for the means of construction, original and subsequent historical form of the Lantern, and to place this record in the public domain by depositing it with the West Yorkshire Historic Environment Record (West Yorkshire Archaeology Advisory Service , West Yorkshire Joint Service, Nepshaw Lane South, Morley, Leeds LS27 7JQ; email wyher@wyjs.org.uk).

5. Photographic Recording

5.1. External Record

5.1.1. An external photographic record should be made of the Lantern and Vestibule roof. This external record should be taken from various vantage points to record all external elevations. Using medium format monochrome film (see a fully digital option described in section 8.8 below). These photographs should be as nearly parallel to the elevation being photographed as is possible within the constraints of the site; this may require photographs from a number of vantage points.

5.1.2. A general external photographic record should also be made which includes a number of oblique general views of the elevations from all sides, showing the house, lantern, scaffolding etc. as a whole in its setting.

5.1.3. In addition, a 35mm general colour-slide or good quality colour digital survey of the Lantern should also be provided (using a variety of wide-angle, medium and long-distance lenses). While it is not necessary to duplicate every black-and-white shot, this colour record should be

sufficiently comprehensive to provide a good picture of the form and general appearance of the lantern.

5.1.4. This "colour" record may be compiled using digital photography in place of transparency film, see section 8S.6 covering the deposition of these images with the WYAAS.

5.2. Internal photographs

5.2.1. An internal photographic record should be made of the Vestibule and lantern given the present supporting scaffolding. General views should be taken of each room or discrete internal space from a sufficient number of vantage points to adequately record its form, general appearance and decoration. In areas which are wholly modern in appearance, character and materials, a single shot to record current appearance will suffice.

6. The Structural Watching Brief

6.1. As safe opportunity and access allows, the archaeologist should examine any exposed elements of the Vestibule and lantern's structures, to record its means of construction, the materials used and any evidence of its development.

6.2. Any features/structures of archaeological interest should be accurately located on a site plan and recorded by photographs, scale drawings and written descriptions sufficient to permit the preparation of a report. Section/elevation drawings should be made at a minimum scale of 1:20 and plans (at a minimum scale of 1:50).

6.3. The survey may be executed either by hand or by means of reflector less EDM as appropriate or from digital rectified photography.

6.4. In accordance with national guidelines1, drawings executed on site should be made either on polyester-based film (minimum thickness 150 microns) with polymer-bonded leads of an appropriate thickness and density, or on acid-free or rag paper. If finished drawings are generated by means of CAD or a similar proven graphics package, recorders should ensure that the software employed is sufficiently advanced to provide different line-weight (point-size); this feature should then be used to articulate the depth of the drawings. CAD repeats or cloning of features should not be used. What is required as an end product of the survey is a well-modelled and clear drawing; ambiguous flat-line drawings should be avoided. Drawing conventions should conform to English Heritage guidelines as laid out in English Heritage 2006, Understanding Historic Buildings – a guide to good recording practice, and the WYAAS would recommend that the CAD layering protocol detailed in the same volume (8.3, Table 2) should be adhered to The survey may be executed either by hand or by means of reflectorless EDM as appropriate. In accordance with national guidelines , drawings executed on site should be made either on polyester-based film (minimum thickness 150 microns) with polymer-bonded leads of an appropriate thickness and density, or on acid-

[1] English Heritage 2006, *Understanding Historic Buildings – a guide to good recording practice*, 7.1.1ff

free or rag paper. If finished drawings are generated by means of CAD or a similar proven graphics package, recorders should ensure that the software employed is sufficiently advanced to provide different line-weight (point-size); this feature should then be used to articulate the depth of the drawings. CAD repeats or cloning of features should not be used. What is required as an end product of the survey is a well-modelled and clear drawing; ambiguous flat-line drawings should be avoided. Drawing conventions should conform to English Heritage guidelines as laid out in English Heritage 2006, Understanding Historic Buildings – a guide to good recording practice, and the WYAAS would recommend that the CAD layering protocol detailed in the same volume (8.3, Table 2) should be adhered to.

6.5. It is not the intention of the watching brief to unduly delay the work of other contractors on site, however, a degree of flexibility is also expected of the developer in order that the archaeologist can fulfil the terms of this specification. The archaeologist shall not excavate any area beyond those scheduled for destruction by the development.

6.6. If, in the professional judgement of the archaeologist on site, the watching brief reveals below-ground conditions which indicate that potentially archaeological levels are absent, the archaeologist should contact WYAAS to discuss reducing or curtailing the requirements. The work may only be curtailed with the prior agreement of WYAAS and written confirmation will be provided by WYAAS.

7. General Instructions

7.1. Health and Safety

7.1.1. The building recorder on site will naturally operate with due regard for Health and Safety regulations. Prior to the commencement of any work on site the building recorder will need to carry out a Risk Assessment on the building / structure in accordance with the Health and Safety at Work Regulations. The building recorder should identify any hazards and contaminants which constitute potential Health and Safety risks and make arrangements with the owner / developer for decontamination/making safe as necessary and appropriate. The WY Archaeology Advisory Service and its officers cannot be held responsible for any accidents or injuries which may occur to outside contractors engaged to undertake this survey while attempting to conform to this specification.

7.2. Confirmation of Adherence to Specification

7.2.1. The contractor should confirm in writing to WYAAS in advance of commencement of work, their adherence to the issued specification. Unauthorised variations are made at the sole risk of the building recorder. Proposed modifications presented in the form of a re-written specification/project design will not be considered. For technical queries see para. 14.

7.3. Confirmation of Timetable and Contractors' Qualifications

7.3.1. Prior to the commencement of any work, the building recorder must provide the local planning authority and WYAAS in writing with:

- a projected timetable for the site work
- details of the staff structure and numbers
- names and *CVs* of key project members (the project manager, site supervisor, any proposed specialists, sub-contractors *etc.*)

7.3.2. All project staff provided by the building recorder must be suitably qualified and experienced for their roles. In particular, staff involved in building recording should have proven expertise in the recording and analysis of comparable buildings.

7.3.3. The timetable should be adequate to allow the work to be undertaken to the appropriate professional standard.

7.4. Notification and Monitoring

7.4.1. WYAAS should receive at least one week's notice in writing of the intention to start fieldwork.

8. Recording Methodology

8.1. Site preparation

8.1.1. Prior to the commencement of work on site the building recorder should identify all removable modern material which may significantly obscure areas requiring a photographic record, and should contact the developer in order to make arrangements for its removal. It is not the intention of this specification that large-scale removal of material of this type should take place with the building recorder's manpower or at that contractor's expense.

8.2. Documentary research

8.2.1. The existing heritage statement produced for Bretton Investment Partnership Ltd. in 2012 should be used to inform the interpretation of any evidence revealed. A copy of this document is held by the WYHER (PRN 1526).

8.2.2. A search should be made of all relevant archives for information on the architect, his contemporary projects and any primary archives relating to West Bretton Hall and this phase of its development. Sources should include the RIBA library, Country Life Archive and West Yorkshire Archive service's Wakefield office (WYAS, Wakefield Office West Yorkshire History Centre 127 Kirkgate Wakefield WF1 1JG Email: wakefield@wyjs.org.uk (0)113 5350142). Please note, the architect Jeffry Wyatt's office was known for its production of detailed drawings however the location of any drawings related to Bretton Hall have not, to the WYAAS' knowledge, been identified.

8.2.3. Prior to the commencement of fieldwork, the HER should be visited by either the project manager or the site supervisor, in order to gain an overview of the archaeological/historical background of the site and environs. Please note that the HER makes a charge for consultations of a commercial nature.

8.2.4. At the time of writing, the HER is shut to external visitors due to the Covid-19 pandemic. The contractor should check with David Hunter (contact details at the end of this document) if the HER has opened, if not any relevant information will be provided digitally if possible.

8.3. Site/building plans

8.3.1. Previous plans & elevations have been produced by Seven and may be used for any annotation relative to the photographic record (permission of the copyright holder must be sought).

8.4. Drawn Record

8.4.1. Drawings should be made at the scales given in section 6.2. Drawings should include:

- Plan of roof structure as is showing location of joints, fastenings decay and any marks or graffiti
- Sectional elevation of lantern and vestibule roof structure as is showing location of joints, fastenings decay and any marks or graffiti
- Isometric view of the lantern and Vestibule roof structure
- Detained drawings of any selected / unusual timber joints

8.5. Photographic Record

8.5.1. Detailed record shots should be made of all exterior and interior elevations of the lantern and the supporting Vestibule.

8.5.2. All features of archaeological and architectural interest identified during the process of the structural watching brief should be recorded. Items of interest would include:

- All original structural elements, columns, roof structures / trusses and method of construction
- Use of materials, e.g. wood and iron
- Wood species should if possible be identified
- Any inscriptions, dedications or date stones
- Any carpenters' marks, laying out marks, Baltic marks, graffiti, tally marks etc.
- Evidence of structural carpentry, including:

- Scantlings used
- Timber joints employed
- Iron or other fixings / local reinforcements employed
- Evidence of repairs
- Evidence of damage

- Evidence of original access arrangements for maintenance and cleaning
- Decoration both applied to the lantern structure and the glazing
- Any apotropaic or commemorative deposits
- Painted Glass

But this list should not be treated as exhaustive. The building recorder on site should also identify and note:

- any significant changes in construction material – this is intended to include significant changes in stone/brick type and size
- evidence for phasing, and for historical additions or alterations to the building.

8.5.3. Elements for which multiple examples exist (e.g. each type of roof truss, column or window frame) may be recorded by means of a single representative illustration. N.B. Detail photographs must be taken at medium-to-close range and be framed in such a way as to ensure that the element being photographed clearly constitutes the principal feature of the photograph.

Equipment

8.5.4. **General photographs** should be taken with a Large Format monorail camera (5" x 4" or 10" x 8"), or with a Medium Format camera that has perspective control, using a tripod. The contractor must have proven expertise in this type of work. Any detail photographs of structural elements should if possible be taken with a camera with perspective control. Other detail photographs may be taken with either a Medium Format or a 35mm camera. All detail photographs must contain a graduated photographic scale of appropriate dimensions (measuring tapes and surveying staffs are not considered to be acceptable scales in this context). A 2-metre ranging-rod, discretely positioned, should be included in a selection of general shots, sufficient to independently establish the scale of all elements of the structure.

8.6. Digital photography

8.6.1. **Digital photography: as an alternative for colour slide photography**, good quality digital photography may be supplied, using cameras with a minimum resolution of 10 megapixels. Digital photography

should follow the guidance given by Historic England in Digital Image Capture and File Storage: Guidelines for Best Practice, July 2015. Note that conventional black and white print photography is still required and constitutes the permanent record. Digital images will only be acceptable as an alternative to colour slide photography if each image is supplied as both a JPEG and a TIFF versions. The latter as an uncompressed 8-bits per channel TIFF version 6 file of not less than 25Mbs (See section 2.3 of the Historic England guidance). The contractor must include metadata embedded in the TIFF file. The metadata must include the following: the commonly used name for the site being photographed, the relevant centred OS grid coordinates for the site to at least six figures, the relevant township name (**West Bretton**), the date of photograph, the subject of the photograph, the direction of the shot and the name of the organisation taking the photograph. Any digital images are to be supplied to WYAAS on gold "archive quality" CDs by the archaeological contractor accompanying the hard copy of the report.

8.7. Film stock

8.7.1. All record photographs to be black and white, using conventional (not chromogenic) silver-based film only, such as Ilford FP4 or HP5, or Delta 400 Pro that is replacing HP5 in certain film sizes (such as 220). Dye-based films such as Ilford XP2 and Kodak T40CN are unacceptable due to poor archiving qualities.

8.8. Use of Digital Archiving in Place of Film

8.8.1. In response to the mounting costs and decreasing numbers of practitioners offering professional photographic building recording on large and medium format chemical film the WYAAS have investigated other means to secure the long term preservation of photographic images. The WYAAS are satisfied that it is now feasible to employ digital photography for building recording as an alternative to monochrome photography as specified above.

8.8.2. The long-term archiving and curation of image captured during building recording will be carried out by the Archaeological Data Service (ADS). For smaller or targeted projects it may be possible to archive photographs and drawings via OASIS Images :

https://oasis.ac.uk/pages/wiki/HELP#section-HELP HowDoISubmitOASISImages

8.8.3. The ADS charge for this service and it is the contractor's responsibility to pay for this long term curation. See Oasis Images and :

http:/archaeologydataservice.ac.uk/easy/costing

8.8.4. Larger, long running projects may need bespoke costing from the ADS Collections Development Manager (collections@ADS.ac.uk).

8.8.5. The buildings archaeologist should follow the ADS' polices and requirements for metadata accompanying digital files. Comprehensive guidance can be found on the ADS website dealing with planning for the creation of a digital archive, collecting data, selection and discard policies, file structures, licencing and the transfer of material to the ADS.

8.9. Equipment

8.9.1. A digital SLR with a resolution of at least 10 megapixel should be employed. Cameras with an FX sensor, which is close to equivalency with 35mm film, are preferable to DX sensor equipped cameras. A variety of lenses should be used to best capture the subject and its setting

8.9.2. Care should be taken to ensure sharply focused well composed photographs are taken and when appropriate the camera should be set up and levelled on a tripod, e.g. when recording facades and larger interior spaces. The use of perspective shift lenses or pan and tilt adaptors may be necessary in some situations to achieve an acceptable image. Alternatively lens distortion may be removed post-capture by software but this must be recorded in the photographic catalogue and details of the software used given in the report. Original pre-correction images should be included in the site archive.

8.9.3. Photographs should be taken with a low ISO setting to reduce noise in the images captured and RAW format used before archiving in tiff format.

8.9.4. The camera should also be Exchange Image File (EXIF) compliant and accurate time, date and, where applicable, GPS information and other metadata set up prior to commencing recording work on site. Further requirements relating to metadata are described below.

8.10. Archiving Digital Photographs

8.10.1. Photographs and reports should be archived with using the ADS. Smaller projects (fewer than 300 files and of less than 10MB each) may be submitted online using the ADS-e Easy online service. (http://archaeologydataservice.ac.uk/easy/home). Larger project will require 'traditional' submission using either CD/DVD/USB device or a drop-off service. An estimate of the cost to archive digital images and reports using the ADS Easy service can be obtained from the ADS website:

http://archaeologydataservice.ac.uk/easy/costing

8.10.2. Grey Literature reports may be archived using the OASIS System free of charge, reports and oasis records can later be linked to an ADS-easy photography submission.

http://archaeologydataservice.ac.uk/easy/costing

8.10.3. The buildings archaeologist should follow the ADS' polices and requirements for metadata accompanying digital files. Comprehensive

guidance can be found on the ADS website dealing with planning for the creation of a digital archive, collecting data, selection and discard policies, file structures and naming conventions, licencing and the transfer of material to the ADS

http://archaeologydataservice.ac.uk/advice/guidelinesForDepositors.xhtml

8.10.4. Meta data: The contractor should create Project-level meta data, this is used to populate the ADS systems (enables users to search for collections, and populates the ADS webpage for the project. The 'coverage' field in this document or online submission should include the historic township (**West Bretton**), site name and grid reference of the site:

(http://archaeologydataservice.ac.uk/advice/DatasetlevelMetadata.xhtml#Collection-level Metadata Requirements).

8.10.5. A raster data meta data file, cataloguing the digital photographs, should also be prepared. A template for this spreadsheet is available to download from the ADS (a template & examples of the latter are available from the ADS at:

http://archaeologydataservice.ac.uk/advice/FilelevelMetadata.xhtml

8.10.6. The contractor is responsible for notifying WYAAS of the release of the collection on the ADS website. The forwarding of an email containing the collection Digital Object Identifier (DOI) to wyher@wyjs.org.uk will suffice.

8.10.7. The WYAAS will only recommend the discharge of planning conditions upon notification that the ADS have accepted or the receipt of the digital object identifier (DOI) allocated by the ADS.

8.10.8. Please note the WYAAS still require hard copy of the report accompanied by laser prints (cross referenced plates) of the photographs on archivally stable paper and a facsimile copy of the report in PDF (ISO 1005-1 compliant (PDF/A) format and the images on a "gold" archive quality CD.

8.11. Rectified Digital Photography

8.11.1. As an adjunct to hand drawn elevations and plans the recording of significant and complex built structures, may be carried out using digital rectified photography to provide orthophotographic images at the scales given in section 5.2,2 above. Photographs must be taken at a resolution adequate to allow the creation of images at these scales. The collection and archiving of digital photographs used to create orthophotographs must follow and comply with Historic England's guidance contained in "Measured and Drawn: Techniques and practice for the metric survey of historic buildings (2nd edition)", English Heritage 2009" and Photogrammetric Applications for Cultural Heritage, Guidance for Good Practice, Historic England 2017.

8.11.2. In general photographs must be taken parallel or near parallel to the subject's main surface, sufficient photographs must be taken from additional viewpoints to capture any changes in level or concealed areas; photographs must have sufficient overlap (60%-80%) to ensure good interpolation by the software used; targets or scales must be used and the resulting image must be checked against the subject/archaeological features before their destruction. Ortho-photographs or copies should be annotated with relevant context numbers (and feature boundaries when not obvious) and be cross referenced in the descriptive and interpretive text in the site report.

8.12. Printing

8.12.1. Record photographs should be printed at a minimum of 5" x 7" .In addition a small selection of photographs (the best of the exterior setting shots and interior shots with important detail) should be printed at 10" x 8". Bracketed shots of identical viewpoints need not be reproduced, but all viewpoints must be represented within the report.

8.12.2. Prints may be executed digitally from scanned versions of the film negatives, and may be manipulated to improve print quality (but not in a manner which alters detail or perspective). All digital prints must be made on paper and with inks which are certified against fading or other deterioration for a period of 75 years or more when used in combination. If digital printing is employed, the contractor must supply details of the paper/inks used in writing to the local authority with supporting documentation indicating their archival stability/durability.

8.13. Documentation

8.13.1. A photographic register and photo location plan are required. The photographic register should (as a minimum) include location, direction and subject of shot must accompany the photographic record; a separate photographic register should be supplied for any colour slides and digital photographs. Position and direction of each photograph and slide should be noted on a scaled copy of the building plan (minimum acceptable scale 1:100), which should also be marked with a north pointer. Separate plans should be annotated for each floor of the building/ structure. (See also para. 5.3 above.).

8.14. Drawn Record

8.14.1. Drawings should be made at an appropriate scale (not smaller than 1:50 for plans; not smaller than 1:20 for sections).

8.15. Dimensional accuracy

8.15.1. Dimensional accuracy should accord with the normal requirements of the English Heritage Architecture and Survey Branch (at 1:20, measurements should be accurate to at least 10mm; at 1:50, to at least 20mm; at 1:100, to at least 50mm).

9. Post-Recording Work and Report Preparation

9.1. Report Preparation, Report format and content

A written report should be produced. This should include:

- an executive summary including dates of fieldwork, name of commissioning body, planning application reference and condition number and a brief summary of the results including details of any significant findings
- an introduction outlining the reasons for the structural watching brief
- a brief architectural description of Bretton Hall and Wyaat's additions presented in a logical manner, starting with setting, then progressing to the affected area covered by the structural watching brief
- a discussion placing the lantern and its means of construction in its functional and historical contexts.

The architectural and technical and analytical description and discussion should be fully cross-referenced to the photographic record, sufficient to illustrate the major features of the lantern and the major points raised.

9.2. Report Illustrations

Illustrations should include:

- a location map at a scale sufficient to allow clear identification of the lantern in relation to other elements of the hall
- a complete set of site drawings at a legible scale, on which position and direction of each photograph has been listed in section 9 including an isometric drawing of the lantern and support structure
- a complete set of good-quality laser copies of selected photographs. All photographs should be accompanied by detailed captions clearly locating and identifying any pertinent features.

The latter should be bound into the report, appropriately labelled (numbered, and captioned in full) and fully referenced within the report. When captioning, contractors should identify the individual photographs by means of a running sequence of numbers (e.g. Plate no. 1; Plate no. 2), and it is this numbering system which should be used in cross-referencing throughout the report and on the photographic plans. However, the relevant original film and frame number should be included in brackets at the end of each caption.

9.3. Report deposition

A hard copy of the full report (plus a digital copy on on "archive" quality gold disk in ISO 10005-1 compliant (PDF/A) format) will be submitted directly to the WY Archaeology Advisory Service within twelve weeks of completion of the fieldwork. The report will then assessed by WYAAS to establish whether or not it is suitable for accession into the WY Historic Environment Record. A copy of the final report (in .pdf format) shall also be supplied to Historic England's Science Advisor (Dr Andy Hammon

(Andy.Hammon@HistoricEngland.org.uk). Any comments made by WYAAS in response to the submission of an unsatisfactory report will be taken into account and will result in the reissue of a suitably edited report to all parties, within a timescale which has been agreed with WYAAS. Completion of this project and a recommendation from WYAAS for the full discharge of the archaeological condition is dependent upon receipt by WYAAS of a satisfactory full report. The report will become publicly accessible once deposited with the West Yorkshire Historic Environment Record, unless confidentiality is explicitly requested, in which case it will become publicly accessible six months after deposit.

9.4. The West Yorkshire HER supports the Online Access to Index of Archaeological Investigations (OASIS) project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. The building recorder must therefore complete the online OASIS form at http://ads.ahds.ac.uk/project/oasis/. Contractors are advised to contact the West Yorkshire HER officer prior to completing the form. Once a report has become a public document by submission to or incorporation into the HER, the West Yorkshire HER may place the information on a web-site. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the case officer at the West Yorkshire HER.

9.5. A note on the fieldwork should be prepared for inclusion in Post Medieval fieldwork in Britain, Ireland and the Channel Islands which is published annually in Post-Medieval Archaeology by the Society for Post-Medieval Archaeology. A similar note or longer article should also be supplied to the Council for British Archaeology's Yorkshire Forum publication (please contact the editor or CBA's website for more information associate.editor@cba-yorkshire.org.uk.

10. Deposition of Building Recording Archive with WYAAS (as holders of the West Yorkshire Historic Environment Record)

10.1. The report copy supplied to the WY Archaeology Advisory Service (see address at the base of this document) should also be accompanied by both the photographic negatives and a complete set of labelled photographic prints (mounted in KENRO display pockets or similar, and arranged in such a way that labelling is readily visible) bound in a form which will fit readily into a standard filing cabinet suspension file (not using hard-backed ring-binders). Labelling should be on the back of the print in pencil giving film and frame number only (taking care not to damage the print) and on applied printed labels stuck on the front of the relevant photographic sleeve and which should include:

- film and frame number
- date recorded and photographer's name
- name and address of building
- national grid reference

- specific subject of photograph.

10.2. Negatives should be supplied in archivally stable mounts (KENRO display pockets or similar), and each page of negatives should be clearly labelled with the following:

- national grid reference
- Site name and address
- Date of photographs (month/year)
- Name of archaeological contractor
- Film number

10.3. Colour slides should be mounted, and the mounts suitably marked with the 'site name' at the top of the slide; grid reference at the bottom; date of photograph at the right hand side of the mount; subject of photograph at the left hand side of the mount. Subject labelling may take the form of a numbered reference to the relevant photographic register. The slides should be supplied to the WY Archaeology Advisory Service in an appropriate, archivally stable slide hanger (for storage in a filing cabinet). In all other respects, standards for archive compilation and transfer should conform to those outlined in Archaeological Archives – a guide to best practice in creation, compilation, transfer and curation (Archaeological Archives Forum, 2011).

11. Copyright

11.1. Please note that by depositing this report, the contractor gives permission for the material presented within the document to be used by the WYAAS, in perpetuity, although The Contractor retains the right to be identified as the author of all project documentation and reports as specified in the Copyright, Designs and Patents Act 1988 (chapter IV, section 79). The permission will allow the WYAAS to reproduce material, including for commercial use by third parties, with the copyright owner suitably acknowledged.

12. Technical Queries

12.1. Any technical queries arising from the specification detailed above, should be addressed to WYAAS without delay.

13. Valid Period of Specification

13.1. This specification is valid for a period of one year and may need to be reviewed to comply with current best practice, knowledge and changes in techniques.

West Yorkshire Archaeology Advisory Service **September 2020**
West Yorkshire Joint Service,

Nepshaw Lane South,
Morley,
Leeds
LS27 7JQ

Telephone: 0113 535 0171
E-mail: David.Hunter@wys.org.uk

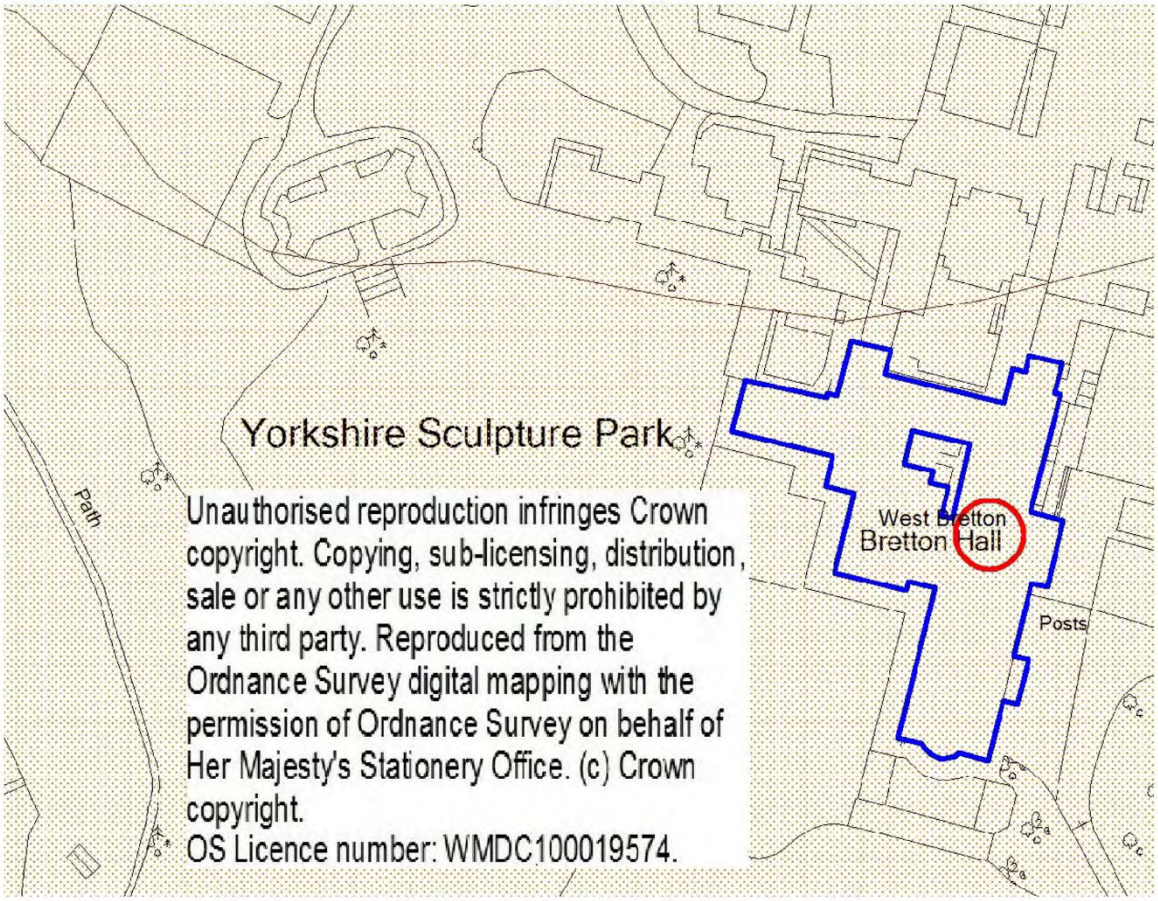


Figure 1 Location Plan

Figure 2 External view of the lantern © David Hunter/WYAAS

Figure 3 Internal view of the lantern © David Hunter /WYAAS

APPENDIX C PHOTOGRAPHIC INDEX

CAMERA	Nikon D750							
FRAME	LENS	SCALE	DIRECTION	BUILDING	ELEVATION	DESCRIPTION	DATE	INITIALS
1	Z	-	SW	Bretton Hall	N and E	General view of hall looking southwest, showing location of lantern beneath sheeted scaffolding	03/21	RJ
2	Z	-	SW	Bretton Hall	N and E	General view of hall looking southwest, showing location of lantern beneath sheeted scaffolding	03/21	RJ
3	Z	-	NW	Bretton Hall	E	General view of hall looking northwest	03/21	RJ
4	Z	-	S	Bretton Hall	N	General view of hall looking south, showing location of lantern beneath sheeted scaffolding	03/21	RJ
5	Z	-	W	Lantern	-	View of sheeted scaffold covering lantern	03/21	RJ
6	Z	1m	SW	Lantern	NE	General view of lantern looking SW during works	03/21	RJ
7	Z	1m	SE	Lantern	NW	General view of lantern looking SE during works	03/21	RJ
8	Z	1m	NE	Lantern	SW	General view of lantern looking NE during works	03/21	RJ
9	Z	1m	S	Lantern	N	N elevation with painted glass panel removed	03/21	RJ
10	Z	1m	SW	Lantern	NE	NE elevation with painted glass panel removed	03/21	RJ
11	Z	1m	SW	Lantern	E	E elevation with painted glass panel removed	03/21	RJ
12	Z	1m	NW	Lantern	E	E elevation with painted glass panel removed	03/21	RJ
13	Z	1m	NW	Lantern	SE	SE elevation with painted glass panel removed	03/21	RJ
14	Z	1m	N	Lantern	S	S elevation with painted glass panel removed	03/21	RJ
15	Z	1m	NE	Lantern	SW	SW elevation with painted glass panel removed	03/21	RJ
16	Z	1m	E	Lantern	W	W elevation with painted glass panel removed	03/21	RJ
17	Z	1m	SE	Lantern	NW	NW elevation with painted glass panel removed	03/21	RJ
18	Z	-	W	Vestibule	-	Vestibule flat roof and SW skylight before works	03/21	RJ
19	Z	-	N	Vestibule	-	Vestibule flat roof and E skylight before works	03/21	RJ
20	Z	-	E	Vestibule	-	General view vestibule roof S of lantern	03/21	RJ
21	Z	-	N	Vestibule	-	General view vestibule roof W of lantern	03/21	RJ
22	Z	-	S	Vestibule	-	General view vestibule roof W of lantern	03/21	RJ
23	Z	-	E	Vestibule	-	General view vestibule roof N of lantern	03/21	RJ
24	Z	-	W	Vestibule	-	General view vestibule roof and NW skylight, N of lantern	03/21	RJ
25	Z	-	S	Vestibule	-	General view vestibule roof and E skylight, E of lantern	03/21	RJ
26	Z	-	NW	Lantern	SE	View of lantern roof structure	03/21	RJ
27	Z	1m	N	Lantern	N	Interior view of decorative plasterwork frieze	03/21	RJ
28	Z	1m	NE	Lantern	NE	Interior view of decorative plasterwork frieze	03/21	RJ
29	Z	1m	E	Lantern	E	Interior view of decorative plasterwork frieze	03/21	RJ
30	Z	1m	SE	Lantern	SE	Interior view of decorative plasterwork frieze	03/21	RJ
31	Z	1m	S	Lantern	S	Interior view of decorative plasterwork frieze	03/21	RJ
32	Z	1m	SW	Lantern	SW	Interior view of decorative plasterwork frieze	03/21	RJ

CAMERA	Nikon D750							
FRAME	LENS	SCALE	DIRECTION	BUILDING	ELEVATION	DESCRIPTION	DATE	INITIALS
33	Z	1m	W	Lantern	W	Interior view of decorative plasterwork frieze	03/21	RJ
34	Z	1m	NW	Lantern	NW	Interior view of decorative plasterwork frieze	03/21	RJ
35	Z	0.50m	N	Lantern	N	Interior view, exposed timbers of lantern base	03/21	RJ
36	Z	0.50m	NE	Lantern	NE	Interior view, exposed timbers of lantern base	03/21	RJ
37	Z	0.50m	E	Lantern	E	Interior view, exposed timbers of lantern base	03/21	RJ
38	Z	0.50m	SE	Lantern	SE	Interior view, exposed timbers of lantern base	03/21	RJ
39	Z	0.50m	S	Lantern	S	Interior view, exposed timbers of lantern base	03/21	RJ
40	Z	0.50m	SW	Lantern	SW	Interior view, exposed timbers of lantern base	03/21	RJ
41	Z	0.50m	W	Lantern	W	Interior view, exposed timbers of lantern base	03/21	RJ
42	Z	0.50m	NW	Lantern	NW	Interior view, exposed timbers of lantern base	03/21	RJ
43	Z	0.10m	N	Lantern	N	Detail of decorative plasterwork frieze	03/21	RJ
44	Z	0.10m	N	Lantern	N	Detail of decorative plasterwork frieze	03/21	RJ
45	Z	0.10m	N	Lantern	N	Detail of decorative plasterwork frieze	03/21	RJ
46	Z	0.50m	NW	Lantern	NW	Detail of decorative plasterwork on the NW pendentive	03/21	RJ
47	Z	-	NE	Lantern	NE	Detail of decorative plasterwork on the NE pendentive	03/21	RJ
48	Z	-	SE	Lantern	SE	Detail of decorative plasterwork on the SE pendentive	03/21	RJ
49	Z	-	SW	Lantern	SW	Detail of decorative plasterwork on the SW pendentive	03/21	RJ
50	Z	-	-	Lantern	-	Detail of lantern ceiling	03/21	RJ
51	Z	0.05m	N	Lantern	N	Detail – Ironwork bolt fastening through timber base of lantern, N elevation	03/21	RJ
52	Z	0.50m	NW	Lantern	N and NW	Detail – Exposed timberwork of lantern base at junction between N and NW elevations showing decay	03/21	RJ
53	Z	0.50m	NE	Lantern	N and NE	Detail – Exposed timberwork of lantern base at junction between N and NE elevations showing decay	03/21	RJ
54	Z	0.50m	NE	Lantern	NE and E	Detail – Exposed timberwork of lantern base at junction between NE and E elevations showing decay	03/21	RJ
55	Z	0.50m	SE	Lantern	E	Detail – Lantern base E elevation showing later steel reinforcement and extent of wood decay	03/21	RJ
56	Z	-	SE	Lantern	E and SE	Detail – Exposed timberwork of lantern base at junction between E and SE elevations showing decay	03/21	RJ
57	Z	0.10m	S	Lantern	SE and S	Detail – Exposed timberwork of lantern base at junction between SE and S elevations showing decay	03/21	RJ
58	Z	0.10m	SE	Lantern	SE	Detail – Removal of decorative plasterwork reveals keying pattern beneath	03/21	RJ

CAMERA	Nikon D750							
FRAME	LENS	SCALE	DIRECTION	BUILDING	ELEVATION	DESCRIPTION	DATE	INITIALS
59	Z	0.10m	S	Lantern	S	Detail – Plaster removal reveals lathwork beneath	03/21	RJ
60	Z	0.10m	S	Lantern	S	Detail – Ironwork bolt fastening through timber base of lantern, S elevation	03/21	RJ
61	Z	0.50m	SW	Lantern	S and SW	Detail – Exposed timberwork of lantern base at junction between S and SW elevations	03/21	RJ
62	Z	0.05m	SW	Lantern	SW	Detail – Possible chisel marks and red chalk setting-out line	03/21	RJ
63	Z	0.50m	W	Lantern	W and NW	Detail – Exposed timberwork of lantern base at junction between W and NW elevations showing wood decay and later steel plate reinforcement	03/21	RJ
64	Z	-	-	Lantern	-	View of deteriorated decorative plasterwork from frieze	03/21	RJ
65	Z	-	-	Lantern	W	Lantern W elevation – Carpenters' mark inside top of window frame = I	03/21	RJ
66	Z	-	-	Lantern	SW	Lantern SW elevation – Carpenters' mark inside top of window frame = II	03/21	RJ
67	Z	-	-	Lantern	S	Lantern S elevation – Carpenters' mark inside top of window frame = III	03/21	RJ
68	Z	-	-	Lantern	SE	Lantern SE elevation – Carpenters' mark inside top of window frame = IIII	03/21	RJ
69	Z	-	-	Lantern	E	Lantern E elevation – Carpenters' mark inside top of window frame = V	03/21	RJ
70	Z	-	-	Lantern	NE	Lantern NE elevation – Carpenters' mark inside top of window frame = VI	03/21	RJ
71	Z	-	-	Lantern	N	Lantern N elevation – Carpenters' mark inside top of window frame = VII	03/21	RJ
72	Z	-	-	Lantern	NW	Lantern NW elevation – Carpenters' mark inside top of window frame = VIII	03/21	RJ
73	Z	0.50m	NE	Lantern	SE	External window frame upright timber showing decay	03/21	RJ
74	Z	-	SW	Lantern	S	S elevation window frame upright timber with joiner's pencil inscription reads - 'NEW POSTS AND CILLS MARCH 1983 B SHEPHERD 93 HAIGH LANE HAIGH JOINER'	03/21	RJ
75	Z	-	N	Lantern	N	View into the lantern ceiling space looking N	03/21	RJ
76	Z	-	E	Lantern	E	View into the lantern ceiling space looking E	03/21	RJ
77	Z	-	S	Lantern	S	View into the lantern ceiling space looking S	03/21	RJ
78	Z	-	W	Lantern	W	View into the lantern ceiling space looking W	03/21	RJ
79	Z	1m	W	Vestibule	-	Flat-roof boards after removal of felt/bitumen, N side	04/21	RJ
80	Z	1m	SW	Vestibule	-	View into roof space following board lift showing modern steel repairs	04/21	RJ
81	Z	1m	S	Vestibule	-	View into roof space following board lift showing modern steel repairs	04/21	RJ

CAMERA	Nikon D750							
FRAME	LENS	SCALE	DIRECTION	BUILDING	ELEVATION	DESCRIPTION	DATE	INITIALS
82	Z	2m	W	Vestibule	-	View of roof joists and tie beam following board lift	04/21	RJ
83	Z	1m	S	Vestibule	-	Lantern base, tie beams and roof joists, N side	04/21	RJ
84	Z	2m	E	Vestibule	-	View of roof joists and tie beam following board lift	04/21	RJ
85	Z	1m	SE	Vestibule	-	Lantern base, tie beams and roof joists, NW side	04/21	RJ
86	Z	2m	S	Vestibule	-	View of roof joists following board lift	04/21	RJ
87	Z	1m	E	Vestibule	-	Flat-roof boards after removal of felt/bitumen, N side	04/21	RJ
88	Z	0.50m	W	Vestibule	-	Flat-roof N of NW skylight showing timber decay	04/21	RJ
89	Z	0.50m	W	Lantern	E	External window frame upright timber showing decay	04/21	RJ
90	Z	0.10m	W	Lantern	-	Detail of steel plate repair	04/21	RJ
91	Z	0.50m	S	Vestibule	-	Detail of modern steel and steel plate repairs	04/21	RJ
92	Z	-	SW	Vestibule	-	View into roof space overlying the NE pendentive illustrating construction	04/21	RJ
93	Z	0.10m	S	Vestibule	-	Detail – Ironwork bolt fastening through double tie beams to the northwest of the lantern	04/21	RJ
94	Z	0.50m	S	Vestibule	-	Lantern base, tie beam and roof joists, NE side	04/21	RJ
95	Z	0.50m	S	Vestibule	-	Lantern base, tie beam and roof joists, NW side	04/21	RJ
96	Z	0.50m	E	Vestibule	-	Lantern base, tie beam and roof joists, NW side	04/21	RJ
97	Z	1m	E	Vestibule	-	Lantern base, tie beam and roof joists, W side	04/21	RJ
98	Z	0.50m	E	Vestibule	-	Lantern base, tie beam and roof joists, SW side	04/21	RJ
99	Z	1m	S	Vestibule	-	Flat-roof boards after removal of felt/bitumen, W side	04/21	RJ
100	Z	1m	N	Vestibule	-	Flat-roof boards after removal of felt/bitumen, W side	04/21	RJ
101	Z	0.50m	N	Vestibule	-	Lantern base, tie beam and roof joists, SW side	04/21	RJ
102	Z	0.50m	N	Vestibule	-	Lantern base, tie beam and roof joists, SE side	04/21	RJ
103	Z	0.50m	N	Vestibule	-	Lantern base, tie beam and roof joists, S side	04/21	RJ
104	Z	1m	E	Vestibule	-	Flat-roof boards after removal of felt/bitumen, S side	04/21	RJ
105	Z	1m	W	Vestibule	-	Flat-roof boards after removal of felt/bitumen, S side	04/21	RJ
106	Z	-	W	Vestibule	-	Flat-roof boards after removal of felt/bitumen, N side	04/21	RJ
107	Z	-	W	Vestibule	-	Flat-roof boards after removal of felt/bitumen, N side	04/21	RJ
108	Z	-	E	Vestibule	-	Flat-roof boards after removal of felt/bitumen, NE side	04/21	RJ
109	Z	-	SW	Vestibule	-	Flat-roof boards after removal of felt/bitumen, NW side	04/21	RJ

CAMERA	Nikon D750							
FRAME	LENS	SCALE	DIRECTION	BUILDING	ELEVATION	DESCRIPTION	DATE	INITIALS
110	Z	-	SE	Vestibule	-	Flat-roof boards after removal of felt/bitumen, SW side	04/21	RJ
111	Z	-	NW	Vestibule	-	Flat-roof boards after removal of felt/bitumen, SW side	04/21	RJ
112	Z	-	NE	Vestibule	-	Flat-roof boards after removal of felt/bitumen, NW side	04/21	RJ
113	Z	-	NE	Vestibule	-	Flat-roof boards after removal of felt/bitumen, N side	04/21	RJ
114	Z	-	E	Vestibule	-	View into roof space showing arch construction	04/21	RJ
115	Z	-	N	Vestibule	-	Flat-roof boards after removal of felt/bitumen, E side	04/21	RJ
116	Z	-	W	Vestibule	-	Flat-roof boards after removal of felt/bitumen, S side	04/21	RJ
117	Z	1m	W	Vestibule	-	Roof construction following board lift, S side	04/21	RJ
118	Z	-	N	Lantern	S	View of lantern following removal of rotten timbers	04/21	RJ
119	Z	1m	NW	Vestibule	-	Roof construction following board lift, SW side	04/21	RJ
120	Z	1m	N	Vestibule	-	Roof construction following board lift, W side	04/21	RJ
121	Z	1m	NE	Vestibule	-	Roof construction following board lift, NW side	04/21	RJ
122	Z	1m	N	Vestibule	-	Roof construction following board lift, NW side	04/21	RJ
123	Z	1m	SE	Vestibule	-	Roof construction following board lift, E side	04/21	RJ
124	Z	1m	S	Vestibule	-	Roof construction following board lift, E side	04/21	RJ
125	Z	1m	NW	Vestibule	-	Roof construction following board lift, NE side	04/21	RJ
126	Z	1m	W	Vestibule	-	Roof construction following board lift, N side	04/21	RJ
127	Z	1m	W	Vestibule	-	Roof construction following board lift, N side	04/21	RJ
128	Z	1m	SW	Vestibule	-	Roof construction following board lift, W side	04/21	RJ
129	Z	1m	S	Vestibule	-	Roof construction following board lift, W side	04/21	RJ
130	Z	1m	SE	Vestibule	-	Roof construction following board lift, SW side	04/21	RJ
131	Z	1m	S	Lantern	N	N elevation lantern base and vestibule roof construction	04/21	RJ
132	Z	1m	SW	Lantern	NE	NE elev. lantern base and vestibule roof construction	04/21	RJ
133	Z	1m	W	Lantern	E	E elevation lantern base and vestibule roof construction	04/21	RJ
134	Z	1m	NW	Lantern	SE	SE elev. lantern base and vestibule roof construction	04/21	RJ
135	Z	1m	N	Lantern	S	S elevation lantern base and vestibule roof construction	04/21	RJ
136	Z	1m	NE	Lantern	SW	SW elev. lantern base and vestibule roof construction	04/21	RJ
137	Z	1m	E	Lantern	W	W elevation lantern base and vestibule roof construction	04/21	RJ

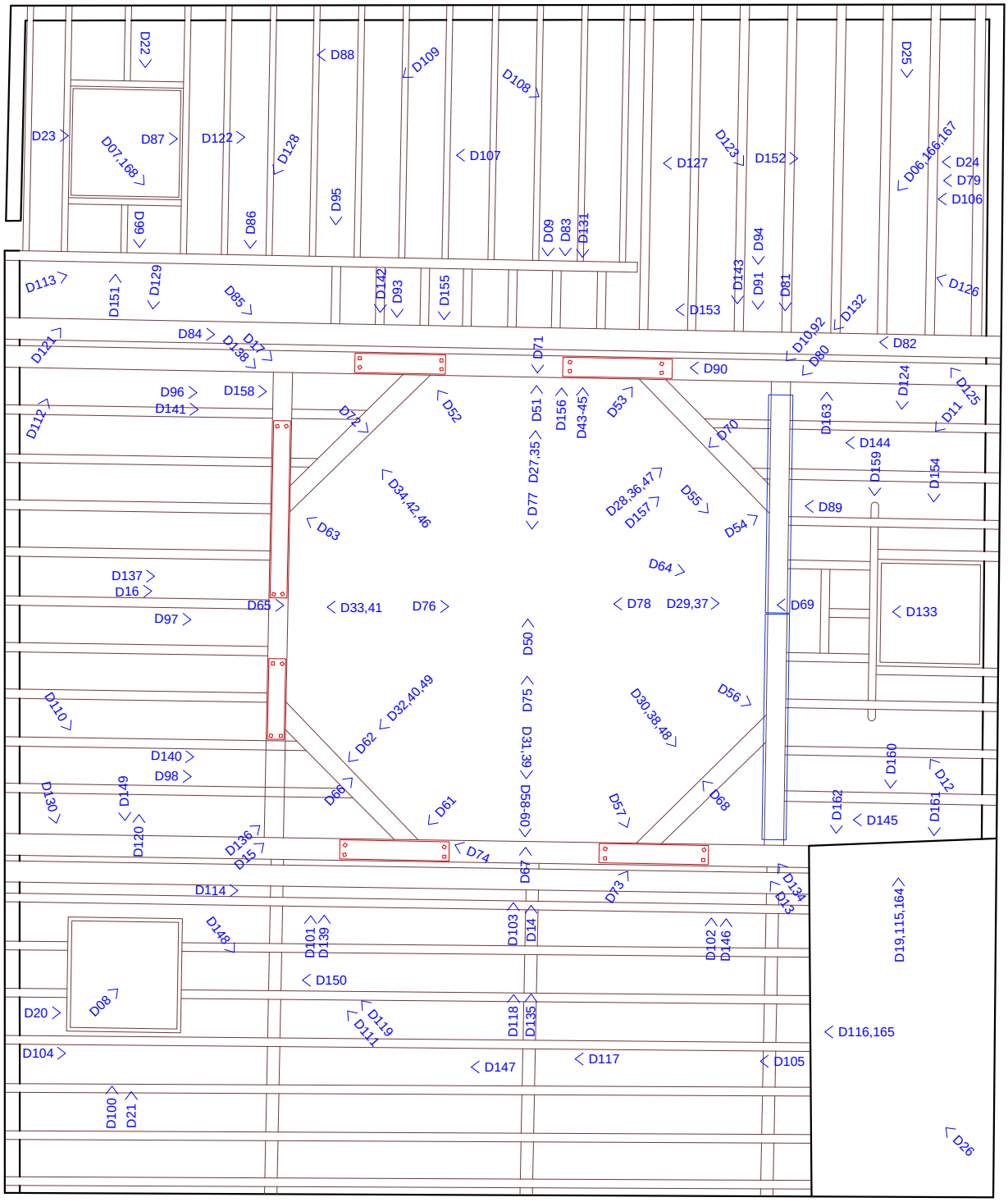
CAMERA	Nikon D750							
FRAME	LENS	SCALE	DIRECTION	BUILDING	ELEVATION	DESCRIPTION	DATE	INITIALS
138	Z	1m	SE	Lantern	NW	NW elev. lantern base and vestibule roof construction	04/21	RJ
139	Z	0.50m	N	Vestibule	-	View showing roof construction SW pendentive	04/21	RJ
140	Z	0.50m	E	Vestibule	-	View showing roof construction SW pendentive	04/21	RJ
141	Z	0.50m	E	Vestibule	-	View showing roof construction NW pendentive	04/21	RJ
142	Z	0.50m	S	Vestibule	-	View showing roof construction NW pendentive	04/21	RJ
143	Z	0.50m	S	Vestibule	-	View showing roof construction NE pendentive	04/21	RJ
144	Z	0.50m	W	Vestibule	-	View showing roof construction NE pendentive	04/21	RJ
145	Z	0.50m	W	Vestibule	-	View showing roof construction SE pendentive	04/21	RJ
146	Z	0.50m	N	Vestibule	-	View showing roof construction SE pendentive	04/21	RJ
147	Z	-	W	Vestibule	-	View into roof space overlying arch connecting vestibule with the staircase	04/21	RJ
148	Z	-	SE	Vestibule	-	View into roof space overlying arch connecting vestibule with the staircase	04/21	RJ
149	Z	0.50m	S	Vestibule	-	SW skylight following opening-up works	04/21	RJ
150	Z	0.50m	W	Vestibule	-	SW skylight following opening-up works	04/21	RJ
151	Z	0.50m	N	Vestibule	-	NW skylight following opening-up works	04/21	RJ
152	Z	0.50m	E	Vestibule	-	Joists in the NE corner of the vestibule roof with white chalk setting-out marks and numbering	04/21	RJ
153	Z	-	W	Vestibule	-	Joists to the immediate N of the lantern with white chalk setting-out marks	04/21	RJ
154	Z	0.50m	S	Vestibule	-	Eastern skylight following opening-up works	04/21	RJ
155	Z	0.10m	S	Vestibule	-	Red chalk setting-out line on tie-beam to N of lantern	04/21	RJ
156	Z	0.20m	N	Lantern	N	Red chalk setting-out line on lantern base, N elevation	04/21	RJ
157	Z	-	NE	Lantern	NE	NE pendentive following removal of decorative plasterwork showing keying patterns and lathwork	04/21	RJ
158	Z	0.10m	E	Vestibule	-	Carpenters' mark on tie-beam to NW of lantern	04/21	RJ
159	Z	0.10m	S	Vestibule	-	Eastern skylight construction form	04/21	RJ
160	Z	0.50m	S	Vestibule	-	Iron bolt fastenings through double tie-beam in SE corner of the vestibule roof space	04/21	RJ
161	Z	-	S	Vestibule	-	Detail of iron bolt fastening in S tie-beam	04/21	RJ
162	Z	-	S	Vestibule	-	Detail of iron bolt fastening in S tie-beam	04/21	RJ
163	Z	-	N	Vestibule	-	Detail of iron bolt fastening in N tie-beam	04/21	RJ
164	Z	-	N	Vestibule	-	General view of flat roof following opening-up works	04/21	RJ
165	Z	-	W	Vestibule	-	General view of flat roof following opening-up works	04/21	RJ
166	Z	-	SW	Lantern	NE	View of lantern and vestibule roof during works	04/21	RJ

CAMERA	Nikon D750							
FRAME	LENS	SCALE	DIRECTION	BUILDING	ELEVATION	DESCRIPTION	DATE	INITIALS
167	Z	-	SW	Lantern	NE	View of lantern and vestibule roof during works	04/21	RJ
168	Z	-	SE	Lantern	NW	View of lantern and vestibule roof during works	04/21	RJ
169	Z	1.0m	-	Lantern	N	Window panel removed from the lantern's N elevation, interior view	03/21	RJ
170	Z	-	-	Lantern	N	Detail of central stained-glass panel	03/21	RJ
171	Z	1.0m	-	Lantern	N	Window panel removed from the lantern's N elevation, exterior view	03/21	RJ
172	Z	1.0m	-	Lantern	NE	Window panel removed from the lantern's NE elevation, exterior view	03/21	RJ
173	Z	-	-	Lantern	NE	Detail of central stained-glass panel	03/21	RJ
174	Z	1.0m	-	Lantern	NE	Window panel removed from the lantern's NE elevation, interior view	03/21	RJ
175	Z	-	-	Lantern	NE	Detail of carpenters' mark on top of panel frame = VI	03/21	RJ
176	Z	-	-	Lantern	NE	Detail of carpenters' mark on side of panel frame = VI	03/21	RJ
177	Z	1.0m	-	Lantern	E	Window panel removed from the lantern's E elevation, exterior view	03/21	RJ
178	Z	-	-	Lantern	E	Detail of central stained-glass panel	03/21	RJ
179	Z	1.0m	-	Lantern	E	Window panel removed from the lantern's E elevation, interior view	03/21	RJ
180	Z	-	-	Lantern	E	Detail if cast iron glazing bar	03/21	RJ
181	Z	1.0m	-	Lantern	SE	Window panel removed from the lantern's SE elevation, interior view	03/21	RJ
182	Z	-	-	Lantern	SE	Detail of central stained-glass panel	03/21	RJ
183	Z	1.0m	-	Lantern	SE	Window panel removed from the lantern's SE elevation, exterior view	03/21	RJ
184	Z	-	-	Lantern	SE	Detail of spliced repair in timber window frame	03/21	RJ
185	Z	1.0m	-	Lantern	S	Window panel removed from the lantern's S elevation, interior view	03/21	RJ
186	Z	-	-	Lantern	S	Detail of central stained-glass panel	03/21	RJ
187	Z	1.0m	-	Lantern	S	Window panel removed from the lantern's S elevation, exterior view	03/21	RJ
188	Z	-	-	Lantern	S	Detail of mortice joint in timber window frame	03/21	RJ
189	Z	1.0m	-	Lantern	SW	Window panel removed from the lantern's SW elevation, exterior view	03/21	RJ
190	Z	-	-	Lantern	SW	Detail of central stained-glass panel	03/21	RJ
191	Z	1.0m	-	Lantern	SW	Window panel removed from the lantern's SW elevation, interior view	03/21	RJ
192	Z	-	-	Lantern	SW	Detail of joiner's pencil inscription reads - 'New posts fixed 1963 by Tony Lister & Eddy Leister'. Also shows carpenters' mark = II	03/21	RJ

CAMERA	Nikon D750							
FRAME	LENS	SCALE	DIRECTION	BUILDING	ELEVATION	DESCRIPTION	DATE	INITIALS
193	Z	1.0m	-	Lantern	W	Window panel removed from the lantern's W elevation, exterior view	03/21	RJ
194	Z	-	-	Lantern	W	Detail of central stained-glass panel	03/21	RJ
195	Z	1.0m	-	Lantern	W	Window panel removed from the lantern's W elevation, interior view	03/21	RJ
196	Z	1.0m	-	Lantern	NW	Window panel removed from the lantern's NW elevation, interior view	03/21	RJ
197	Z	-	-	Lantern	NW	Detail of central stained-glass panel	03/21	RJ
198	Z	1.0m	-	Lantern	NW	Window panel removed from the lantern's NW elevation, exterior view	03/21	RJ
199	Z	-	-	Lantern	NW	Detail if cast iron glazing bar	03/21	RJ
200	Z	2.0m	N	Vestibule	N and E	General view, ground floor of vestibule during works	03/21	RJ
201	Z	2.0m	S	Vestibule	S and E	General view, ground floor of vestibule during works	03/21	RJ
202	Z	-	S	Vestibule	-	View of scaffold tower accessing lantern interior	03/21	RJ
203	Z	-	E	Vestibule	S and E	Detail of ground floor ceiling opening-up works	04/21	RJ
204	Z	-	W	Vestibule	W	Detail of vestibule decorative plasterwork frieze	03/21	RJ
205	Z	-	W	Vestibule	W	Detail of vestibule decorative plasterwork frieze	03/21	RJ
206	Z	2.0m	N	Vestibule	-	General view into vestibule from staircase at first floor level during works	03/21	RJ
207	Z	2.0m	N	Vestibule	-	General view into vestibule from staircase at first floor level during works	03/21	RJ
208	Z	-	N	Vestibule	-	View of vestibule arch from staircase with three painted panels	03/21	RJ
209	Z	-	E	Vestibule	-	Vestibule arch detail of eastern painted panel	04/21	RJ
210	Z	-	N	Vestibule	-	Vestibule arch detail of central painted panel	04/21	RJ
211	Z	-	W	Vestibule	-	Vestibule arch detail of western painted panel	04/21	RJ
212	Z	2.0m	E	Vestibule	E	Vestibule passage from staircase, E elevation	04/21	RJ
213	Z	2.0m	W	Vestibule	W	Vestibule passage from staircase, W elevation	04/21	RJ
214	Z	-	S	Vestibule	S	Vestibule passage arch head painted panel	04/21	RJ
215	Z	-	-	Vestibule	-	Internal view of vestibule roof SW skylight from the west corridor	04/21	RJ
216	Z	-	S	Vestibule	-	Internal view of vestibule roof SW skylight from the west corridor	04/21	RJ
217	Z	-	N	Vestibule	-	Internal view of vestibule roof NW skylight from the north corridor	04/21	RJ
218	Z	-	E	Vestibule	-	Internal view into vestibule roof space from north corridor at second floor level showing ironwork bolt pinning the tie-beams	04/21	RJ
219	Z	-	S	Vestibule	-	Internal view into vestibule roof space from north corridor at second floor level showing ironwork bolt pinning the tie-beams	04/21	RJ

CAMERA	Nikon D750							
FRAME	LENS	SCALE	DIRECTION	BUILDING	ELEVATION	DESCRIPTION	DATE	INITIALS
220	Z	-	S	Vestibule	-	Internal view into vestibule roof space from east corridor at second floor level showing joists, tie-beam and E skylight	04/21	RJ
221	Z	-	N	Vestibule	-	Internal view into vestibule roof space from east corridor at second floor level showing ironwork bolt pinning the tie-beams	04/21	RJ
222	Z	-	S	Vestibule	-	Internal view into vestibule roof space from east corridor at second floor level showing E skylight construction	04/21	RJ
223	Z	-	S	Vestibule	-	Internal view into vestibule roof space from east corridor at second floor level, detail of E skylight construction	04/21	RJ
224	Z	-	N	Vestibule	-	Internal view of vestibule roof E skylight from east corridor at second floor level	04/21	RJ

APPENDIX D PHOTOGRAPHIC LOCATION PLAN



Photographic location plan	Scale 1:50		Appendix D

APPENDIX E PHOTOGRAPHIC ARCHIVE REFERENCE IMAGES

Plate E1 General view of hall looking southwest, showing location of lantern beneath sheeted scaffolding (BRH001)

Plate E2 General view of hall looking southwest, showing location of lantern beneath sheeted scaffolding (BRH002)

Plate E3 General view of hall looking northwest (BRH003)

Plate E4 General view of hall looking south, showing location of lantern beneath sheeted scaffolding (BRH004)

Plate E5 Interior view of decorative plasterwork frieze, looking N, scale 1.0m (BRH027)

Plate E6 Interior view of decorative plasterwork frieze, looking NE, scale 1.0m (BRH028)

Plate E7 Interior view of decorative plasterwork frieze, looking E, scale 1.0m (BRH029)

Plate E8 Interior view of decorative plasterwork frieze, looking SE, scale 1.0m (BRH030)

Plate E9 Interior view of decorative plasterwork frieze, looking S, scale 1.0m (BRH031)

Plate E10 Interior view of decorative plasterwork frieze, looking SW, scale 1.0m (BRH032)

Plate E11 Interior view of decorative plasterwork frieze, looking W, scale 1.0m (BRH033)

Plate E12 Interior view of decorative plasterwork frieze, looking NW, scale 1.0m (BRH034)

Plate E13 Detail of decorative plasterwork frieze, looking N, scale 10cm (BRH043)

Plate E14 Detail of decorative plasterwork frieze, looking N scale 10cm (BRH044)

Plate E15 Detail of decorative plasterwork frieze, looking N, scale 10cm (BRH045)

Plate E16 Detail of decorative plasterwork on the NW pendentive, looking NW, scale 50cm (BRH046)

Plate E17 Detail of decorative plasterwork on the NE pendentive, looking NE (BRH047)

Plate E18 Detail of decorative plasterwork on the SE pendentive, looking SE (BRH048)

Plate E19 Detail of decorative plasterwork on the SW pendentive, looking SW (BRH049)

Plate E20 View of deteriorated decorative plasterwork from frieze (BRH064)

Plate E21 Detail of lantern ceiling (BRH050)

Plate E22 General view, ground floor of vestibule during works, looking N, scale 1.0m (BRH200)

Plate E23 General view, ground floor of vestibule during works, looking S (BRH201)

Plate E24 View of scaffold tower accessing lantern interior, looking S (BRH202)

Plate E25 Detail of ground floor ceiling opening-up works, looking E (BRH203)

Plate E26 Detail of vestibule decorative plasterwork frieze, looking W (BRH204)

Plate E27 Detail of vestibule decorative plasterwork frieze, looking W (BRH205)

Plate E28 General view into vestibule from staircase at first floor level during works, looking N, scale 2.0m (BRH206)

Plate E29 General view into vestibule from staircase at first floor level during works, looking N (BRH207)

Plate E30 View of vestibule arch from staircase with three painted panels, looking N (BRH208)

Plate E31 Vestibule arch detail of eastern painted panel, looking E (BRH209)

Plate E32 Vestibule arch detail of central painted panel, looking N (BRH210)

Plate E33 Vestibule arch detail of western painted panel, looking W (BRH211)

Plate E34 Vestibule passage from staircase, E elevation, looking E, scale 2.0m (BRH212)

Plate E35 Vestibule passage from staircase, W elevation, looking W, scale 2.0m (BRH213)

Plate E36 Vestibule passage arch head painted panel, looking S (BRH214)

Plate E37 Internal view of vestibule roof SW skylight from the west corridor (BRH215)

Plate E38 Internal view of vestibule roof SW skylight from the west corridor, looking S (BRH216)

Plate E39 Internal view of vestibule roof NW skylight from the north corridor, looking N (BRH217)

Plate E40 Internal view into vestibule roof space from north corridor at second floor level showing ironwork bolt pinning the tie-beams, looking E (BRH218)

Plate E41 Internal view into vestibule roof space from north corridor at second floor level showing ironwork bolt pinning the tie-beams, looking S (BRH219)

Plate E42 Internal view into vestibule roof space from east corridor at second floor level showing joists, tie-beam and E skylight, looking S (BRH220)

Plate E43 Internal view into vestibule roof space from east corridor at second floor level showing ironwork bolt pinning the tie-beams, looking N (BRH221)

Plate E44 Internal view into vestibule roof space from east corridor at second floor level showing E skylight construction, looking S (BRH222)

Plate E45 Internal view into vestibule roof space from east corridor at second floor level, detail of E skylight construction, looking S (BRH223)

Plate E46 Internal view of vestibule roof E skylight from east corridor at second floor level, looking N (BRH224)

Plate E47 NE pendentive following removal of decorative plasterwork showing keying patterns and lathwork, looking NE (BRH157)

Plate E48 View of sheeted scaffold covering lantern, looking W (BRH005)

Plate E49 View of lantern roof structure, looking NW (BRH026)

Plate E50 General view of lantern looking SW during works, looking SW, scale 1.0m (BRH006)

Plate E51 General view of lantern looking SE during works, looking SE, scale 1.0m (BRH007)

Plate E52 General view of lantern looking NE during works, looking NE, scale 1.0m (BRH008)

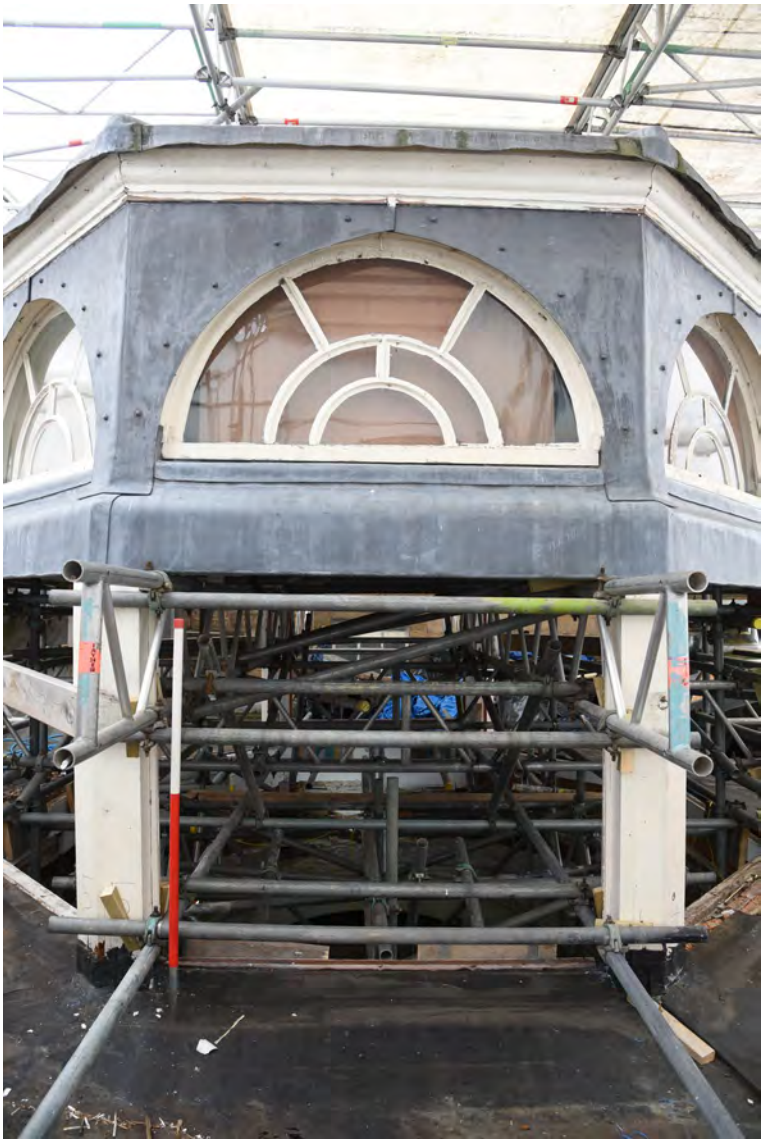


Plate E53 N elevation with painted glass panel removed, looking S, scale 1.0m (BRH009)

Plate E54 NE elevation with painted glass panel removed, looking SW, scale 1.0m (BRH010)

Plate E55 E elevation with painted glass panel removed, looking SW, scale 1.0m (BRH011)

Plate E56 E elevation with painted glass panel removed, looking NW, scale 1.0m (BRH012)

Plate E57 SE elevation with painted glass panel removed, looking NW, scale 1.0m (BRH013)

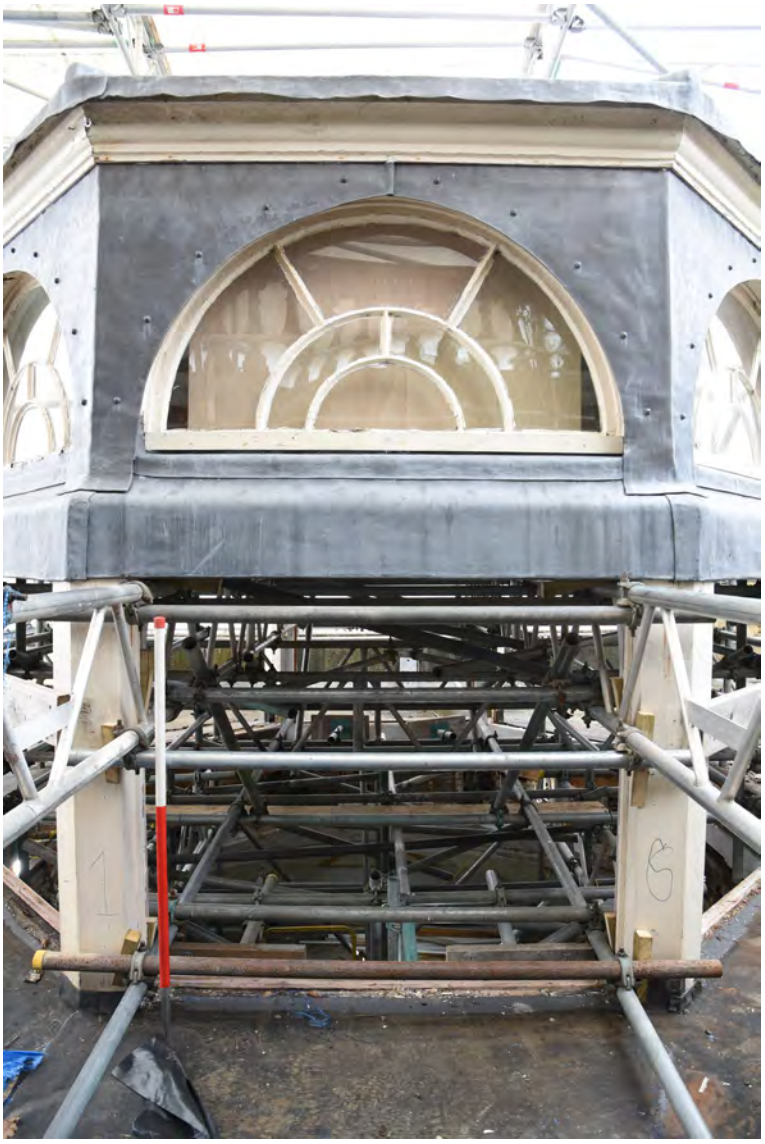


Plate E58 S elevation with painted glass panel removed, looking N, scale 1.0m (BRH014)

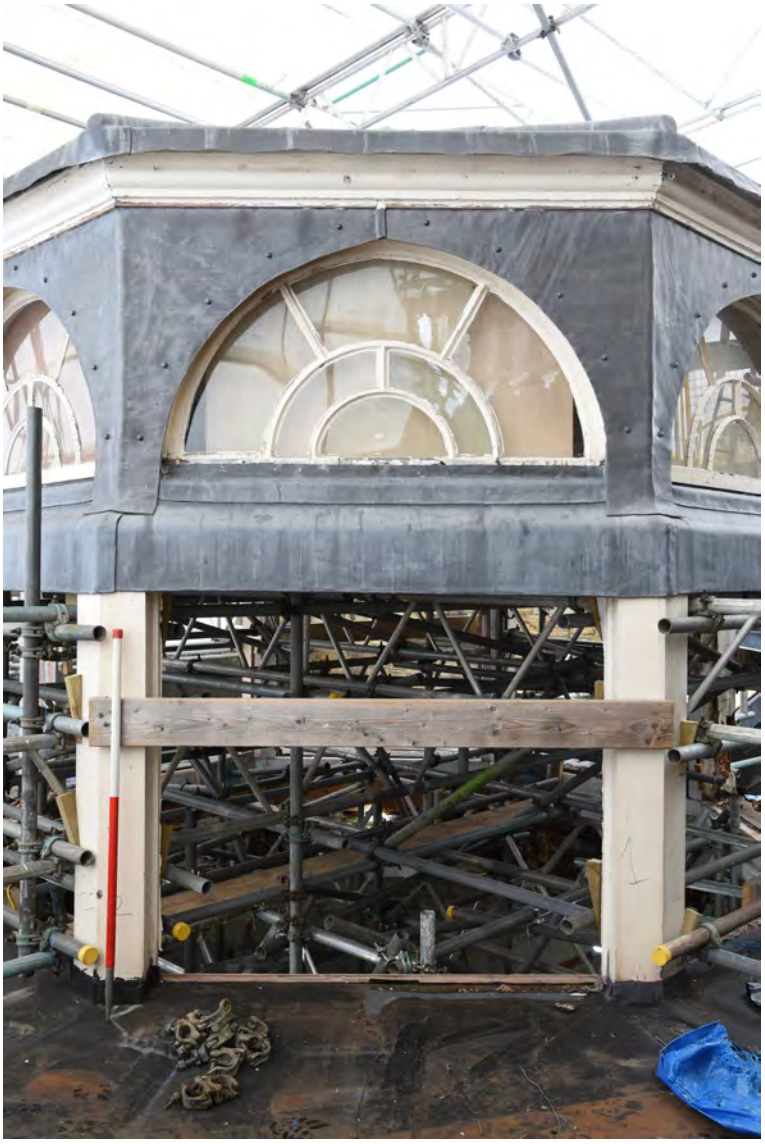


Plate E59 SW elevation with painted glass panel removed, looking NE, scale 1.0m (BRH015)

Plate E60 W elevation with painted glass panel removed, looking E, scale 1.0m (BRH016)

Plate E61 NW elevation with painted glass panel removed, looking SE, scale 1.0m (BRH017)

Plate E62 Interior view, exposed timbers of lantern base, looking N, scale 50cm (BRH035)

Plate E63 Interior view, exposed timbers of lantern base, looking NE, scale 50cm (BRH036)

Plate E64 Interior view, exposed timbers of lantern base, looking E, scale 50cm (BRH037)

Plate E65 Interior view, exposed timbers of lantern base, looking SE, scale 50cm (BRH038)

Plate E66 Interior view, exposed timbers of lantern base, looking S, scale 50cm (BRH039)

Plate E67 Interior view, exposed timbers of lantern base, looking SW, scale 50cm (BRH040)

Plate E68 Interior view, exposed timbers of lantern base, looking W, scale 50cm (BRH041)

Plate E69 Interior view, exposed timbers of lantern base, looking NW, scale 50cm (BRH042)

Plate E70 Detail of exposed timberwork of lantern base at junction between N and NW elevations showing decay, looking NW, scale 50cm (BRH052)

Plate E71 Detail of exposed timberwork of lantern base at junction between N and NE elevations showing decay, looking NE, scale 50cm (BRH053)

Plate E72 Detail of exposed timberwork of lantern base at junction between NE and E elevations showing decay, looking NE, scale 50cm (BRH054)

Plate E73 Detail of lantern base E elevation showing later steel reinforcement and extent of wood decay, looking SE, scale 50cm (BRH055)

Plate E74 Detail of exposed timberwork of lantern base at junction between E and SE elevations showing decay, looking SE (BRH056)

Plate E75 Detail of exposed timberwork of lantern base at junction between SE and S elevations showing decay, looking S, scale 10cm (BRH057)

Plate E76 Detail - Removal of decorative plasterwork revealing keying pattern beneath, looking SE, scale 10cm (BRH058)

Plate E77 Detail – Plaster removal reveals lathwork beneath, looking S, scale 10cm (BRH059)

Plate E78 Detail – Exposed timberwork of lantern base at junction between S and SW elevations, looking SW, scale 50cm (BRH061)

Plate E79 Detail – Possible chisel marks and red chalk setting-out line, looking SW, scale (BRH062)

Plate E80 Detail – Exposed timberwork of lantern base at junction between W and NW elevations showing wood decay and later steel plate reinforcement, looking W, scale 50cm (BRH063)

Plate E81 View of lantern following removal of rotten timbers, looking N (BRH118)

Plate E82 Roof construction following board lift, SW side, looking NW, scale 1.0m (BRH119)

Plate E83 Roof construction following board lift, W side, looking N, scale 1.0m (BRH120)

Plate E84 Roof construction following board lift, NW side, looking NE, scale 1.0m (BRH121)

Plate E85 Roof construction following board lift, NW side, looking N, scale 1.0m (BRH122)

Plate E86 Roof construction following board lift, E side, looking SE, scale 1.0m (BRH123)

Plate E87 Roof construction following board lift, E side, looking S, scale 1.0m (BRH124)

Plate E88 Roof construction following board lift, NE side, looking NW, scale 1.0m (BRH125)

Plate E89 Roof construction following board lift, N side, looking W, scale 1.0m (BRH126)

Plate E90 Roof construction following board lift, N side, looking W, scale 1.0m (BRH127)

Plate E91 Roof construction following board lift, W side, looking SW, scale 1.0m (BRH128)

Plate E92 Roof construction following board lift, W side, looking S, scale 1.0m (BRH129)

Plate E93 Roof construction following board lift, SW side, looking SE, scale 1.0m (BRH130)

Plate E94 N elevation lantern base and vestibule roof construction, looking S, scale 1.0m (BRH131)

Plate E95 NE elev. lantern base and vestibule roof construction, looking SW, scale 1.0m (BRH132)

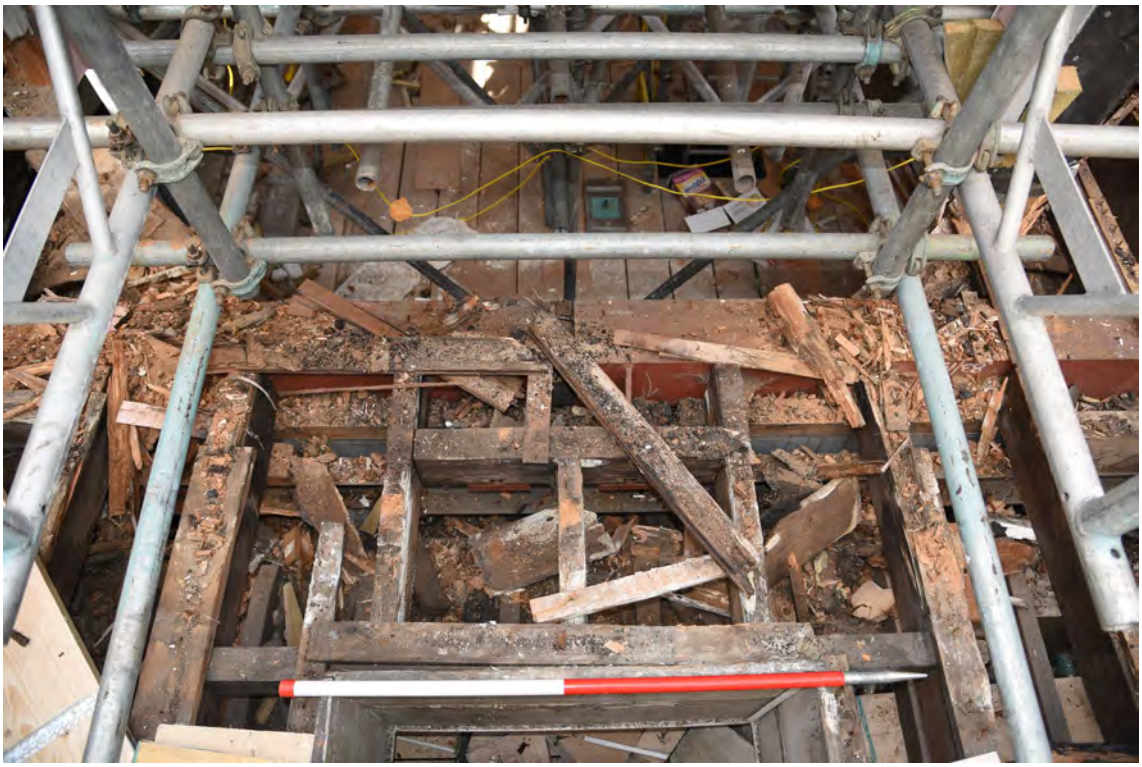


Plate E96 E elevation lantern base and vestibule roof construction, looking W, scale 1.0m (BRH133)

Plate E97 SE elev. lantern base and vestibule roof construction, looking NW, scale 1.0m (BRH134)

Plate E98 S elevation lantern base and vestibule roof construction, looking N, scale 1.0m (BRH135)

Plate E99 SW elevation lantern base and vestibule roof construction, looking NE, scale 1.0m (BRH136)

Plate E100 W elevation lantern base and vestibule roof construction, looking E, scale 1.0m (BRH137)

Plate E101 NW elevation lantern base and vestibule roof construction, looking SE, scale 1.0m (BRH138)

Plate E102 View showing roof construction SW pendentive, looking N (BRH139)

Plate E103 View showing roof construction SW pendentive, looking E, scale 50cm (BRH140)

Plate E104 View showing roof construction NW pendentive, looking E, scale 50cm (BRH141)

Plate E105 View showing roof construction NW pendentive, looking S, scale 50cm (BRH142)

Plate E106 View showing roof construction NE pendentive, looking S, scale 50cm (BRH143)

Plate E107 View showing roof construction NE pendentive, looking W, scale 50cm (BRH144)

Plate E108 View showing roof construction SE pendentive, looking W, scale 50cm (BRH145)

Plate E109 View showing roof construction SE pendentive, looking N, scale 50cm (BRH146)

Plate E110 External window frame upright timber showing decay, looking NE, scale 50cm (BRH073)

Plate E111 Detail – Ironwork bolt fastening through timber base of lantern, N elevation, looking N, scale 5cm (BRH051)

Plate E112 Detail – Ironwork bolt fastening through timber base of lantern, S elevation, looking S, scale 10cm (BRH060)

Plate E113 Detail – Ironwork bolt fastening through double tie beams to the northwest of the lantern, looking S, scale 10cm (BRH093)

Plate E114 Iron bolt fastenings through double tie-beam in SE corner of the vestibule roof space, looking S, scale 50cm (BRH160)

Plate E115 Detail of iron bolt fastening in S tie-beam, looking S (BRH161)

Plate E116 Detail of iron bolt fastening in S tie-beam, looking S (BRH162)

Plate E117 Detail of iron bolt fastening in N tie-beam, looking N (BRH163)

Plate E118 S elevation window frame upright timber with joiner's pencil inscription reads - 'NEW POSTS AND CILLS MARCH 1983 B SHEPHERD 93 HAIGH LANE HAIGH JOINER', looking SW (BRH074)

Plate E119 Lantern W elevation – Carpenters' mark inside top of window frame = I (BRH065)

Plate E120 Lantern SW elevation – Carpenters' mark inside top of window frame = II (BRH066)

Plate E121 Lantern S elevation – Carpenters' mark inside top of window frame = III (BRH067)

Plate E122 Lantern SE elevation – Carpenters' mark inside top of window frame = IIII (BRH068)

Plate E123 Lantern E elevation – Carpenters' mark inside top of window frame = V (BRH069)

Plate E124 Lantern NE elevation – Carpenters' mark inside top of window frame = VI, looking - (BRH070)

Plate E125 Lantern N elevation – Carpenters' mark inside top of window frame = VII (BRH071)

Plate E126 Lantern NW elevation – Carpenters' mark inside top of window frame = VIII (BRH072)

Plate E127 View into the lantern ceiling space looking N, looking N (BRH075)

Plate E128 View into the lantern ceiling space looking E, looking E (BRH076)

Plate E129 View into the lantern ceiling space looking S, looking S (BRH077)

Plate E130 View into the lantern ceiling space looking W, looking W (BRH078)

Plate E131 Window panel removed from the lantern's N elevation, interior view (BRH169)

Plate E132 Detail of central stained-glass panel (BRH170)

Plate E133 Window panel removed from the lantern's N elevation, exterior view (BRH171)

Plate E134 Detail of carpenters' mark on top of panel frame = VI (BRH175)

Plate E135 Detail of carpenters' mark on side of panel frame = VI (BRH176)

Plate E136 Window panel removed from the lantern's NE elevation, exterior view (BRH172)

Plate E137 Detail of central stained-glass panel (BRH173)

Plate E138 Window panel removed from the lantern's NE elevation, interior view (BRH174)

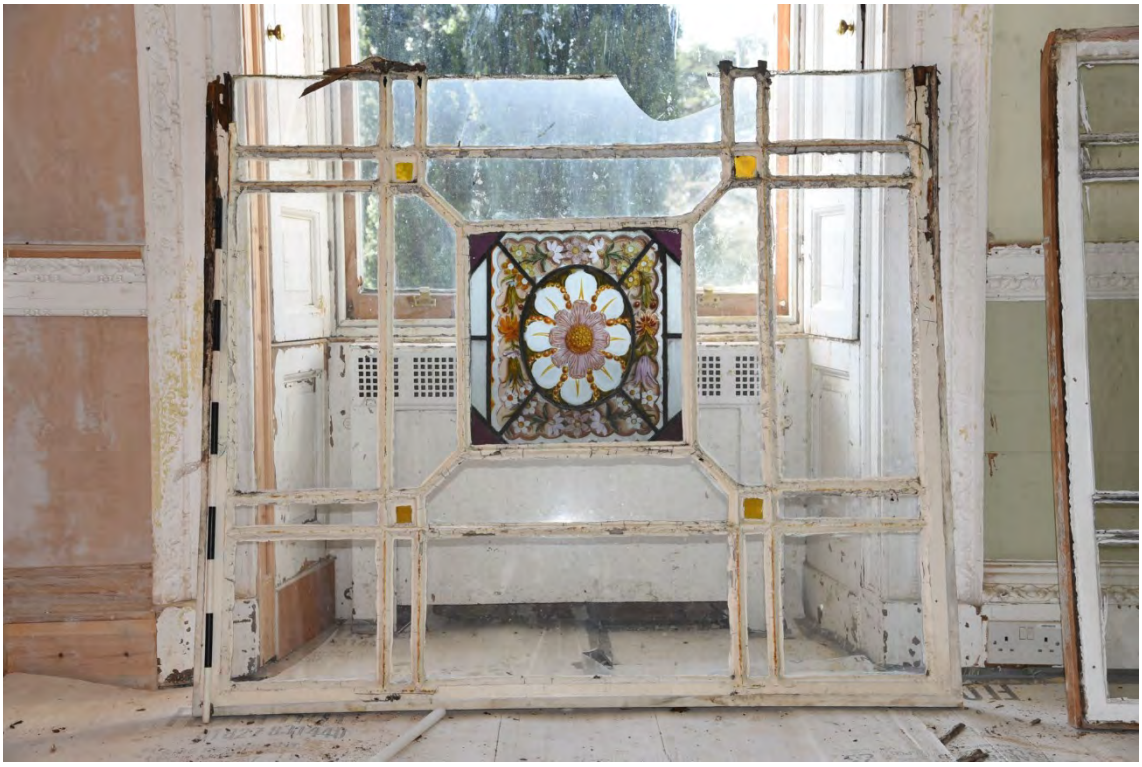


Plate E139 Window panel removed from the lantern's E elevation, exterior view (BRH177)

Plate E140 Detail of central stained-glass panel (BRH178)

Plate E141 Window panel removed from the lantern's E elevation, interior view (BRH179)

Plate E142 Detail of cast iron glazing bar (BRH180)

Plate E143 Window panel removed from the lantern's SE elevation, interior view, looking - (BRH181)

Plate E144 Detail of central stained-glass panel (BRH182)

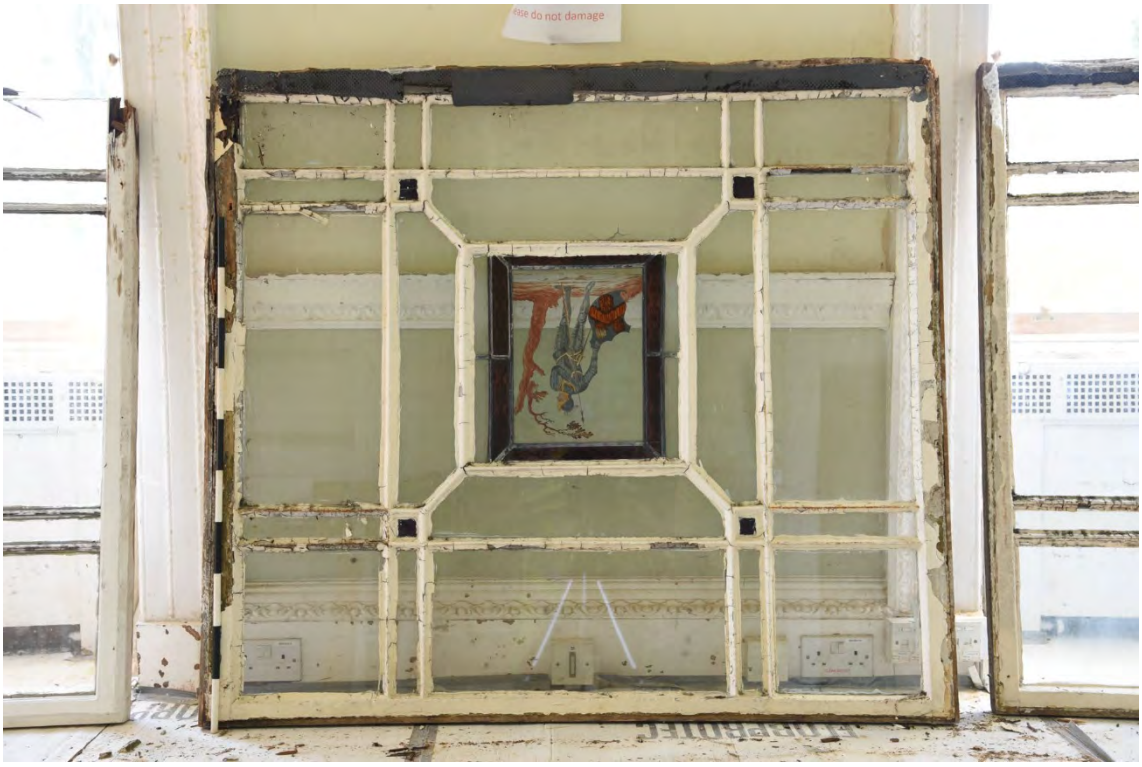


Plate E145 Window panel removed from the lantern's SE elevation, exterior view (BRH183)

Plate E146 Detail of spliced repair in timber window frame (BRH184)

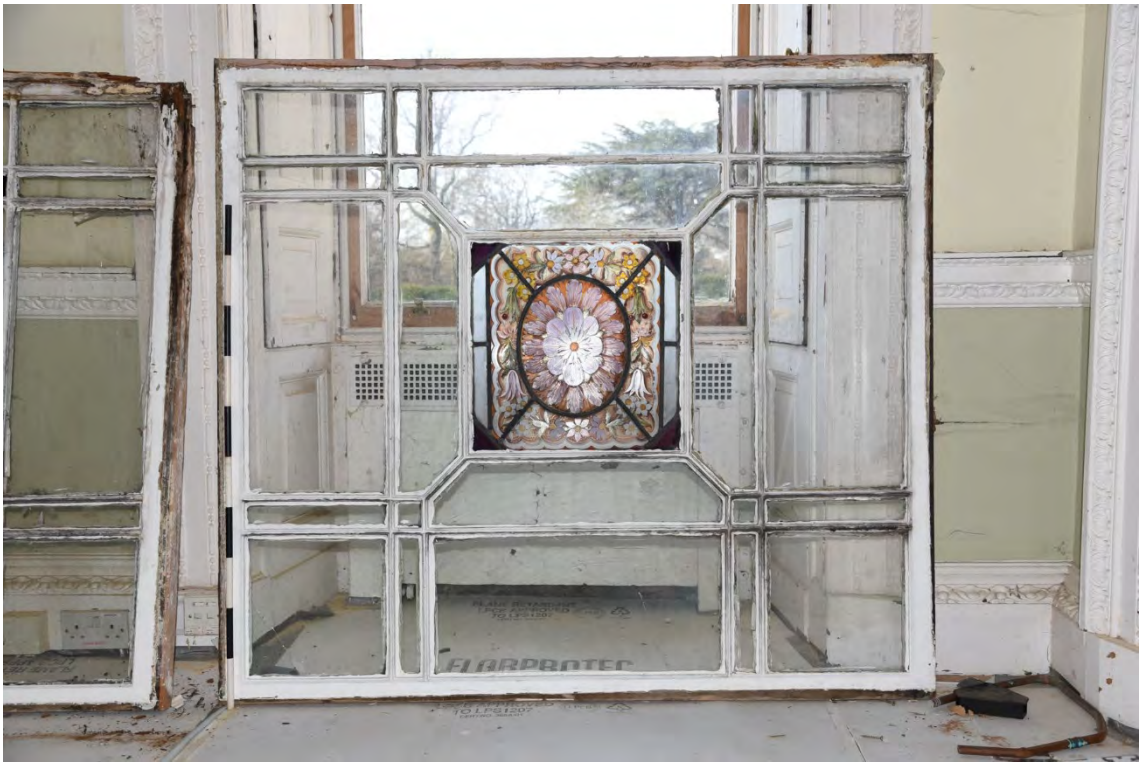


Plate E147 Window panel removed from the lantern's S elevation, interior view (BRH185)

Plate E148 Detail of central stained-glass panel (BRH186)

Plate E149 Window panel removed from the lantern's S elevation, exterior view, looking - (BRH187)

Plate E150 Detail of mortice joint in timber window frame (BRH188)

Plate E151 Window panel removed from the lantern's SW elevation, exterior view (BRH189)

Plate E152 Detail of central stained-glass panel (BRH190)

Plate E153 Window panel removed from the lantern's SW elevation, interior view (BRH191)

Plate E154 Detail of joiner's pencil inscription reads - 'New posts fixed 1963 by Tony Lister & Eddy Leister'. Also shows carpenters' mark = II (BRH192)

Plate E155 Window panel removed from the lantern's W elevation, exterior view (BRH193)

Plate E156 Detail of central stained-glass panel (BRH194)

Plate E157 Window panel removed from the lantern's W elevation, interior view (BRH195)

Plate E158 Window panel removed from the lantern's NW elevation, interior view (BRH196)

Plate E159 Detail of central stained-glass panel (BRH197)

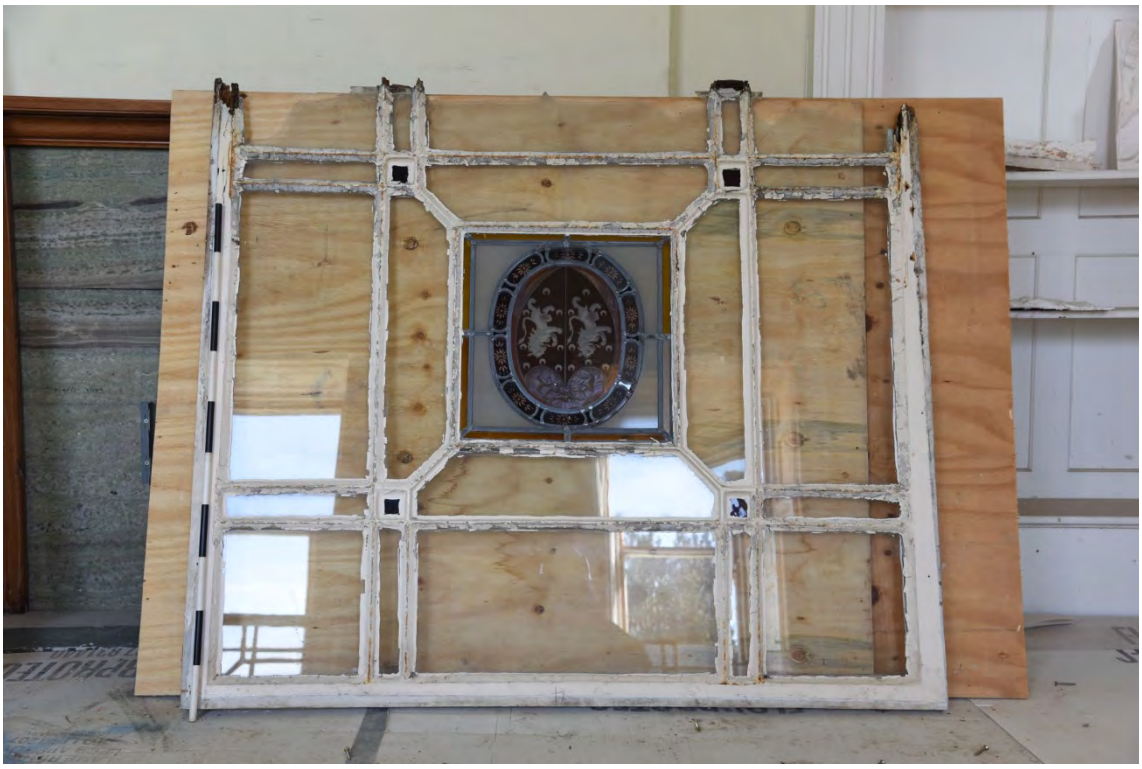


Plate E160 Window panel removed from the lantern's NW elevation, exterior view (BRH198)

Plate E161 Detail of cast iron glazing bar (BRH199)

Plate E162 Vestibule flat roof and SW skylight before works, looking W (BRH018)

Plate E163 Vestibule flat roof and E skylight before works, looking N (BRH019)

Plate E164 General view vestibule roof S of lantern, looking E (BRH020)

Plate E165 General view vestibule roof W of lantern, looking N (BRH021)

Plate E166 General view vestibule roof W of lantern, looking S (BRH022)

Plate E167 General view vestibule roof N of lantern, looking E (BRH023)

Plate E168 General view vestibule roof and NW skylight, N of lantern, looking W (BRH024)

Plate E169 General view vestibule roof and E skylight, E of lantern, looking S (BRH025)

Plate E170 Flat-roof boards after removal of felt/bitumen, N side, looking W, scale 1.0m (BRH079)

Plate E171 View into roof space following board lift showing modern steel repairs, looking SW, scale 1.0m (BRH080)

Plate E172 View into roof space following board lift showing modern steel repairs, looking S, scale 1.0m (BRH081)

Plate E173 View of roof joists and tie beam following board lift, looking W, scale 1.0m (BRH082)

Plate E174 Lantern base, tie beams and roof joists, N side, looking S, scale 1.0m (BRH083)

Plate E175 View of roof joists and tie beam following board lift, looking E, scale 1.0m (BRH084)

Plate E176 Lantern base, tie beams and roof joists, NW side, looking SE, scale 1.0m (BRH085)

Plate E177 View of roof joists following board lift, looking S, scale 2.0m (BRH086)

Plate E178 Flat-roof boards after removal of felt/bitumen, N side, looking E, scale 1.0m (BRH087)

Plate E179 Flat-roof N of NW skylight showing timber decay, looking W, scale 1.0m (BRH088)

Plate E180 External window frame upright timber showing decay, looking W, scale 50cm (BRH089)

Plate E181 Detail of steel plate repair, looking W, scale 10cm (BRH090)

Plate E182 Detail of modern steel and steel plate repairs, looking S, scale 50cm (BRH091)

Plate E183 View into roof space overlying the NE pendentive illustrating construction, looking SW (BRH092)

Plate E184 Lantern base, tie beam and roof joists, NE side, looking S, scale 50cm (BRH094)

Plate E185 Lantern base, tie beam and roof joists, NW side, looking S, scale 50cm (BRH095)

Plate E186 Lantern base, tie beam and roof joists, NW side, looking E, scale 50cm (BRH096)

Plate E187 Lantern base, tie beam and roof joists, W side, looking E, scale 1.0m (BRH097)

Plate E188 Lantern base, tie beam and roof joists, SW side, looking E, scale 50cm (BRH098)

Plate E189 Flat-roof boards after removal of felt/bitumen, W side, looking S, scale 1.0m (BRH099)

Plate E190 Flat-roof boards after removal of felt/bitumen, W side, looking N, scale 1.0m (BRH100)

Plate E191 Lantern base, tie beam and roof joists, SW side, looking N, scale 50cm (BRH101)

Plate E192 Lantern base, tie beam and roof joists, SE side, looking N (BRH102)

Plate E193 Lantern base, tie beam and roof joists, S side, looking N, scale 50cm (BRH103)

Plate E194 Flat-roof boards after removal of felt/bitumen, S side, looking E, scale 1.0m (BRH104)

Plate E195 Flat-roof boards after removal of felt/bitumen, S side, looking W, scale 1.0m (BRH105)

Plate E196 Flat-roof boards after removal of felt/bitumen, N side, looking W (BRH106)

Plate E197 Flat-roof boards after removal of felt/bitumen, N side, looking W (BRH107)

Plate E198 Flat-roof boards after removal of felt/bitumen, NE side, looking E (BRH108)

Plate E199 Flat-roof boards after removal of felt/bitumen, NW side, looking SW (BRH109)

Plate E200 Flat-roof boards after removal of felt/bitumen, SW side, looking SE (BRH110)

Plate E201 Flat-roof boards after removal of felt/bitumen, SW side, looking NW (BRH111)

Plate E202 Flat-roof boards after removal of felt/bitumen, NW side, looking NE (BRH112)

Plate E203 Flat-roof boards after removal of felt/bitumen, N side, looking NE (BRH113)

Plate E204 View into roof space showing arch construction, looking E (BRH114)

Plate E205 Flat-roof boards after removal of felt/bitumen, E side, looking N (BRH115)

Plate E206 Flat-roof boards after removal of felt/bitumen, S side, looking W (BRH116)

Plate E207 Roof construction following board lift, S side, looking W, scale 1.0m (BRH117)

Plate E208 General view of flat roof following opening-up works, looking N (BRH164)

Plate E209 General view of flat roof following opening-up works, looking W (BRH165)

Plate E210 View of lantern and vestibule roof during works, looking SW (BRH166)

Plate E211 View of lantern and vestibule roof during works, looking SW (BRH167)

Plate E212 View of lantern and vestibule roof during works, looking SE (BRH168)

Plate E213 View into roof space overlying arch connecting vestibule with the staircase, looking W (BRH147)

Plate E214 View into roof space overlying arch connecting vestibule with the staircase, looking SE (BRH148)

Plate E215 SW skylight following opening-up works, looking S, scale 50cm (BRH149)

Plate E216 SW skylight following opening-up works, looking W, scale 50cm (BRH150)

Plate E217 NW skylight following opening-up works, looking N, scale 50cm (BRH151)

Plate E218 Joists in the NE corner of the vestibule roof with white chalk setting-out marks and numbering, looking E, scale 50cm (BRH152)

Plate E219 Joists to the immediate N of the lantern with white chalk setting-out marks, looking W (BRH153)

Plate E220 Eastern skylight following opening-up works, looking S, scale 50cm (BRH154)

Plate E221 Eastern skylight construction form, looking S, scale 10cm (BRH159)

Plate E222 Red chalk setting-out line on tie-beam to N of lantern, looking S, scale 10cm (BRH155)

Plate E223 Red chalk setting-out line on lantern base, N elevation, looking N, scale 10cm (BRH156)

Plate E224 Carpenters' mark on tie-beam to NW of lantern, looking E, scale 10cm (BRH158)