

Recording of Bewdley Bridge, Stourport Rd, Bewdley, Worcestershire



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Recording of Bewdley Bridge, Stourport Rd, Bewdley, Worcestershire

Tim Cornah

Illustrations by Carolyn Hunt

Summary

Building recording was required to meet a planning condition relating to the repair of a damaged section of Bewdley Bridge, Stourport Rd, Bewdley, Worcestershire.

The planning condition specified that the damaged element of bridge should be recorded to Historic England specified standards. This required photographing the building and annotating existing survey drawings. This produced an archive of the damaged section of bridge before repair.

An element of historical research and synthesis was also a condition of planning approval. Original records relating to the bridge were studied at Worcestershire Archives along with historic maps and documents provided by the client.

The current bridge was built in the late 1790s by Thomas Telford as replacement for a 15th century structure. The original specification drawings for this bridge relate closely to the surviving structure which a stone bridge of three arches spanning the Severn. The damaged section to be repaired was the parapet at the northern end of the bridge which consisted of balusters with intermediary pillars and capping stones above.

The documentary and physical evidence demonstrate that the damaged area was been at least entirely taken down and rebuilt in the second half of the 20th century as well as extensively repaired and replaced. None of the surviving elements are thought to be original to the 1797 bridge.

Report

1 Background

1.1 Reasons for the project

Recording of a historic structure was undertaken at Toll House Corner, Bewdley Bridge, Stourport Rd, Bewdley, Worcestershire (NGR SO 78755 75460). It was requested by Jacobs, on behalf of Worcestershire County Council (the Client), in advance of repair and reconstruction of a section of the bridge parapet after damage caused by a heavy goods vehicle.

The bridge is a designated heritage asset (Grade 1 listed building, List entry Number: 1100000) within the terms used by the National Planning Policy Framework. The building is also registered with the Worcestershire Historic Environment Record (HER; WSM 11174).

Discussions about the reconstruction were held between the Client, Historic England Inspector of Historic Buildings and Areas, and Wyre Forest District Council Conservation Officer (the Curator), documented in email correspondence between 27 April and 2 May 2018, in which it was confirmed that listed building consent was not required.

No brief was prepared by the Curator but project conforms to the model brief Requirements for Historic Building Recording as a Condition of Planning Consent (the Brief; Version 1.0; dated September 2014). This proposes repair of damaged balusters and replacement of missing balusters. It is considered by the Curator that the balusters should be recorded prior to this repair. A project proposal (including detailed specification) was produced (WA 2018).

The project also conforms to the *Standard and guidance for the archaeological investigation and recording of standing buildings or structures* (ClfA 2014), *Standards and guidelines for archaeological projects in Worcestershire* (WCC 2010).

2 Aims

The Chartered Institute for Archaeologists defines the aims of building recording as 'a programme of work intended to establish the character, history, dating, form and archaeological development of a specified building' (Standard and guidance for the archaeological investigation and recording of standing buildings or structures, ClfA 2014a).

The aims and scope of the project are as follows:

- To create a written, drawn and photograph record of the surviving damaged balusters and coping stones
- To determine if the stones have undergone previous phases of repair

All prior to repair and reinstallation of the stones back on the bridge

3 Methods

3.1 Personnel

The project was undertaken by Timothy Cornah (BA (hons.), MSc, ACIfA); who joined Worcestershire Archaeology in 2006. The project manager responsible for the quality of the project was Tom Vaughan (BA (hons. Dunelm); MA; ACIfA). Illustrations were prepared by Carolyn Hunt (BSc (hons.); PG Cert; MCIIfA); Laura Templeton (BA; PG Cert; MCIIfA).

3.2 Documentary research

Prior to fieldwork commencing a search was made of the Historic Environment Record (HER).

3.3 List of sources consulted

Cartographic sources

- 1883 1st Edition Ordnance Survey Map 1:10,560

- 1903 Ordnance Survey Map 1:10,560
- 1929 Ordnance Survey Map 1:10,560
- 1947 Ordnance Survey Map 1:10,560

Documentary sources

Published and grey literature sources are listed in the bibliography.

- Bridge plans 1797 (WRO BA3905 s250.1)
- Bridge plans 1965
- Bridge plans 1993

3.4 Fieldwork strategy

A detailed specification has been prepared by Worcestershire Archaeology (WA 2018).

Fieldwork was undertaken between 24 and 26 July 2018. The site reference number used by the Historic Environment Record to record archaeological "events", and site code used in the archive is WSM70504.

Building recording consisted of a photographic survey the structure, analysis of its original design and later repairs, annotation of existing survey drawings and measured survey. All photographs were taken with photographic scales visible in each shot where possible. The photographic survey was carried out with a Canon EOS 200D digital SLR camera. All photographs were recorded on a pro-forma Photographic Record Sheet. Annotation of existing elevations complemented the photographic record.

The project conformed to the specification for a level 3 survey as defined in the Historic England document *Understanding historic buildings: a guide to good recording practice* (HE 2016). This level of survey is described as 'an analytical record' comprising of 'an introductory description followed by a systematic account of the buildings origins, development and use' (*ibid.*). This required the following elements of survey.

Survey and drawings

- Plans of all main floors and elevations as existing.
- Measured drawings showing the form of any architectural or functional detail not more readily captured by photography.

Photography

- Overall appearance of rooms and circulation areas.
- Detailed coverage of the building's appearance.
- Any detail, structural or decorative, relevant to the building's design, development and use, which does not show on general photographs.

3.5 Building analysis

Analysis of the building was based on the study of the photographic record, and annotated drawings. It was also informed by the documentary sources listed above. This allowed plans to be drawn up showing the structural development of the building.

The building as recorded is depicted in Plates 1-19. Ground plans and elevations have been reproduced as Figures 1-3.

3.6 Statement of confidence in the methods and results

The methods adopted allow a high degree of confidence that the aims of the project have been achieved.

4 Context

The settlements of Bewdley and Wribbenhall are located in north Worcestershire and the bridge spans the river Severn between them, at a height of approximately 25m AOD.

The following information is taken from the Worcestershire Historic Environment Record data which was searched within a 500m radius of the site. In total the record holds data for 270 listed buildings records, 52 unlisted structures, 417 archaeological monuments and 53 archaeological events.

Bewdley, on the south-west side of the river, is thought to have been established by the 11th century with many of the surviving tenement positions and street positions originating at this point. The origins of Wribbenhall, on the northern side of the river, are less clear though it contains a remarkable domestic survival in the form of numbers 5-9 Stourport Road (WSM12760, WSM12761 and WSM12762) which is an early 14th century hall house. This is one of the earliest domestic buildings in the county.

It is likely that for much of their occupation, Bewdley and Wribbenhall were linked by no more than a ford as it was not until 1447 that the first bridge was built (WSM08161), and that is thought to have only been a foot bridge. This was itself replaced in the 1460s and then again with a much more substantial stone structure in 1483, located just to the south of the current bridge. This bridge was complete with a tollhouse at its centre as depicted in a surviving illustration. This bridge survived until the winter of 1794-5 when it was badly damaged by freezing temperatures and a sudden thaw, finally being demolished in 1800 after the current bridge was completed. The background to the current bridge is given within section 5.2 below.

5 The building

5.1 Building description

The National Heritage List for England (NHLE) gives the following description:

Bridge. 1798 by Thomas Telford. Ashlar and cast iron. Three arches over river, two towpath arches on south bank, 14 arches on north bank extending about 50 metres to south-east; balustrades on river part of stone, cast iron on land. South front: three segmental arches with rusticated voussoirs, triangular cutwaters with pyramidal caps, above which pilasters rise to the moulded cornice below the balustrade which has bulbous balusters; central pedimented tablet in balustrade bearing the arms of Bewdley. (Severn Bridge including flanking arches and balustrade, List Entry No. 1100000) <https://www.historicengland.org.uk/listing/the-list/list-entry/1100000>

5.2 Historical information

The Historic Environment Record gives the following background to the building.

The current Bewdley Bridge was designed by Thomas Telford. Built in 1798 out of local stone it has two side spans are each 52 feet, with the central span 60 feet. The central arch rises 18 feet. Smaller flood arches on the bank bridge the towpath. The bridge is 27 feet wide. It is Grade I Listed. The history of the previous bridges spanning the river are recorded in WSM08161.

The winter of 1794-5 was particularly severe in the Midlands and it damaged or destroyed a number of bridges. The old bridge (constructed in the late 1400s) was badly damaged and large parts of it were washed away in a sudden thaw in February 1795. The end finally came when the abutments were demolished sometime after 1795, and stonework salvaged from

the riverbed. By this time the town of Bewdley was very prosperous and it was decided to call the distinguished engineer Thomas Telford to design a new bridge. At first a single span iron bridge was suggested, but the Coalbrookdale Iron Company refused to undertake the work as they could not supply stone for the abutments. After a number of other setbacks the Bridge Commissioners decided on a three arched stone bridge. The stone was to come [from] Lord Valencia's estate at Arley. When that supply ran out further stone was ordered from Thomas Hazelwood at Billingsley Colliery. A further 2000 tonnes were supplied by Highley Colliery. The new bridge was built in line with Load Street and a number of properties were purchased to make way for its construction. Work commenced in spring 1798 and was completed about 4 months later at a cost of £11,000. The bridge was officially opened on 28th September 1798 by Mr Miles Andres MP. An integral part of the bridge was a Tollhouse on the Wribbenhall side. Tolls were taken until the bridge became free in 1834. Sadly, after WWII, cracks began to appear in the Tollhouse due to heavy wartime traffic and undermining by floods. Efforts were taken to try and save the building, but it ended up being demolish[ed] in 1960. (WSM 11174)

An original drawing of the bridge, tollhouse and abutments remain (Plate 3 to Plate 6) and are signed by Thomas Telford. These show the bridge broadly as remaining. The mapping also shows the bridge as remaining, though the 1883 Ordnance Survey map shows the toll house. Subsequent mapping up to 1947 does not show the toll house, despite it having been demolished in the 1960s.

Major repairs were carried out in 1947-50, including refurbishing the parapets and cornices, installing new stone facing on the downstream spandrels and piers above cutwater level, and replacing defective stonework on the upstream face (<http://www.engineering-timelines.com/scripts/engineeringItem.asp?id=317>). A photograph from 1950 shows entire the parapet along the north side of the bridge removed to the depth of the cornice and possibly below (Plate 7) (Bewdley Historical Research Group 2005). It is clear on the photograph the stone used for rebuilding the structure is un-weathered and therefore likely to be new material. Further plans drawings dated to 1965-7 and 1993 demonstrate that this section of the bridge has been repeatedly damaged repaired and replaced, as detailed below (Plate 8 and Plate 9) (Figures 4-5).

The collision of the HGV had the effect of misaligning the pillar attached to the reconstructed elements of the toll house along with its capping, all of the rail stones within the first two bays were dislodged along with all except two of the ballusters, the latter of which survive at the south-west end. The stretch of wall which originally attached to the pillar was also dislodged, along with the curbing stones below this, though those below the ballusters remained (Plate 10 to Plate 14). The extent of the damage is shown on Figure 2.

5.3 Building development

Two phases were identified during the investigation of the building which are described as follows:-

- Phase 1: 1797
- Phase 2: Post 1947

5.4 Phase 1: 1797

The original bridge was constructed to closely match the plans, elevation and section as drawn in 1797 (Plate 3 to Plate 6). This is as described within the listing information as three arches over river, two towpath arches on south bank, 14 arches on north bank extending about 50 metres to south-east; balustrades on river part of stone, cast iron on land. South front: three segmental arches with rusticated voussoirs, triangular cutwaters with pyramidal caps, above which pilasters rise to the moulded cornice below the balustrade which has bulbous balusters; central pedimented tablet in balustrade bearing the arms of Bewdley.

In terms of the damaged area, no elements clearly relates to this phase, as will be outlined below. Certainly the cornice and fascia (Plate 11) retains a design close to that illustrated in 1797 (Plate 6) and may be original, though was not damaged by the HGV.

5.5 Phase 2: Post 1947

This period in the bridges history is a catalogue of damage, repair and replacement of the parapets, starting with an entire removal and replacement of the north parapet of the bridge to below road level in early 1950, probably to the depth of the cornice. Whether the parapet was damaged or simply degraded is not clear, but it is clear from the contemporary picture that it was entirely removed and rebuilt at least, all the way to the toll house. Un-weathered and fresh looking stone is visible within the rebuild, suggesting there was a high degree of replacement of the original materials (Plate 7) (Bewdley Historical Research Group 2005). The likely extent of the rebuild and probable replacement is shown on Figure 3.

A survey drawing of the northern parapet in 1965 (Plate 8) details replacement of two balusters with one of those scheduled for replacement shown on the left of plate (Plate 14), with those in the centre of the bay, and now damaged, to be "made good". It must be stated that this is an initial survey drawing and does not detail that which was actually removed or replaced, nor does it give the reasons for undertaking the works. The likely extent of the rebuild and probable replacement is shown on Figure 4.

A drawing of 1993 (Plate 9) details areas of damage to the northern and southern parapets at the eastern end of the bridge. The damage extended for the entire first bay of balusters, the second pillar and the first baluster of the second bay. The drawing is stated as indicative only but that some stone is re-usable, implying a high level of replacement. The section drawing shows that the parapet was replaced as far as, and including, the cornice as slate dowels grouted in cement mortar were added. The likely extent of the rebuild and probable replacement is shown on Figure 5.

The damaged stonework itself (Plate 16) showed significant evidence for repair and replacement, not only in the form of the slots for the slate dowels as specified in 1993 (Plate 18) but also with stainless steel rods between the stones, bonded with an acrylic resin (Plate 17). These bonded the balusters to the curb stone below and the capping stone above. There is no documentary evidence as to when this took place, but presumably after 1993. This work would have required the parapet to have been taken down from the cornice stone upwards and rebuilt.

The evidence for the method of stone cutting demonstrated that a circular saw at least 0.76m in diameter was used on the top rail and the pillars (Plate 19 and Plate 20). Whilst the first known patent for a circular saw to cut stone is known from 1777, the larger circular saws for cutting facing and edging were introduced in the last two decades of the 19th century (Jones and Simons 1961), so it is likely that these were cut in the 20th century and therefore replacements. In terms of the stone itself, damaged elements were of light grey sandstone with pinkish red banding consistent with the Halesowen Formation sandstone of the original bridge, though another origin for the stone cannot be ruled out.

6 Discussion

The current bridge was built in the late 1790s by Thomas Telford as replacement for a 15th century structure. The original specification drawings for this bridge relate closely to the surviving structure.

The documentary along with the physical evidence demonstrate that the damaged area has been at least entirely taken down and rebuilt in the second half of the 20th century as well as extensively repaired and replaced. None of the surviving elements can be clearly stated to be original to the 1797 bridge.

7 Publication summary

Worcestershire Archaeology has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, Worcestershire Archaeology intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

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8 Acknowledgements

Worcestershire Archaeology would like to thank the following for their kind assistance in the successful conclusion of this project, Chris Thomas and Holly Stokes of Jacobs.

9 Bibliography

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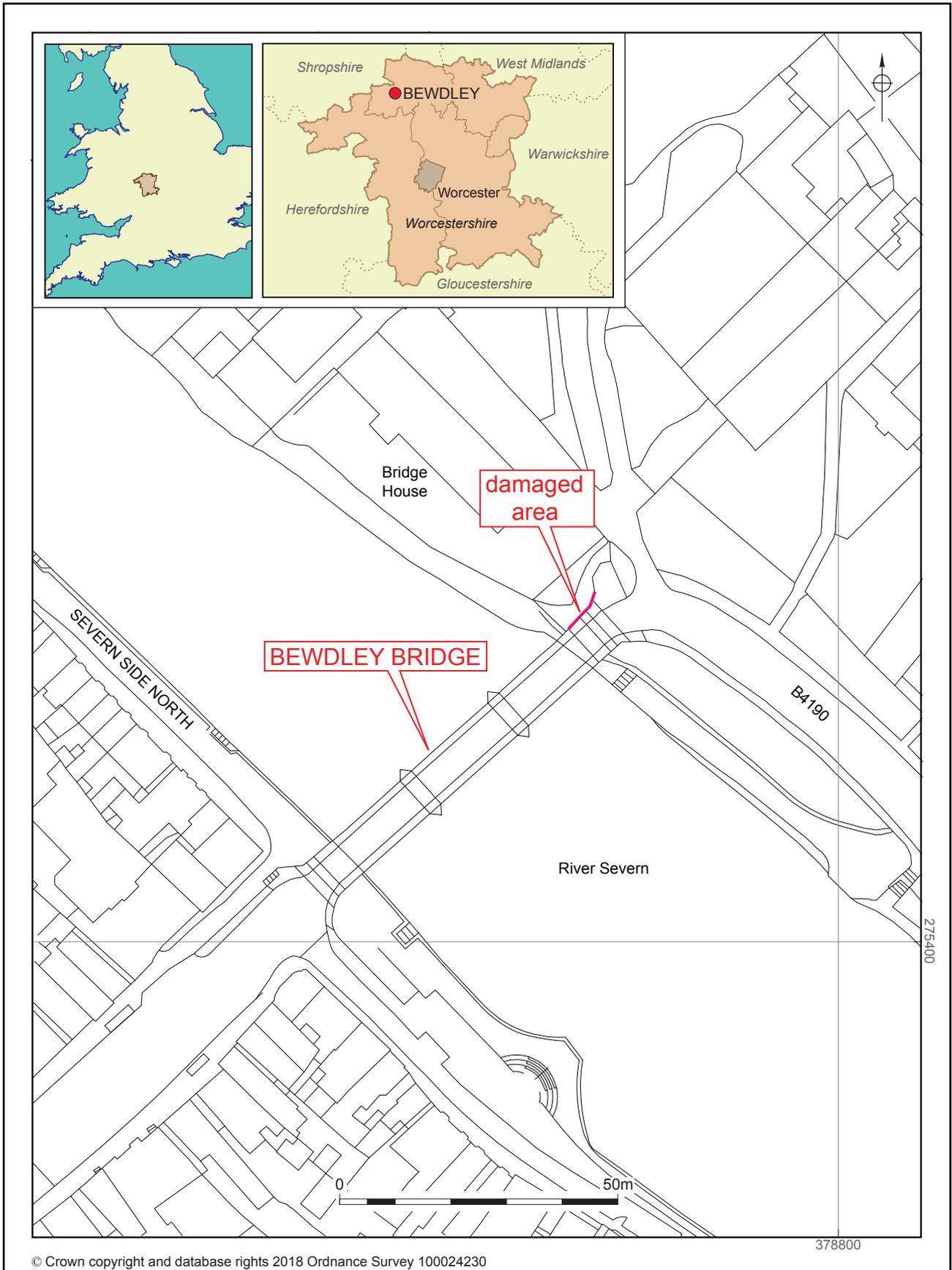
Jones, P d'A and Simons E N 1961 *The story of the Saw*

WA 2012 *Manual of service practice, recording manual*, Worcestershire Archaeology, Worcestershire County Council, report **1842**

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WCC 2010 *Standards and guidelines for archaeological projects in Worcestershire*, Planning Advisory Section, Worcestershire Archive and Archaeology Service, Worcestershire County Council unpublished report **604**, amended March 2016

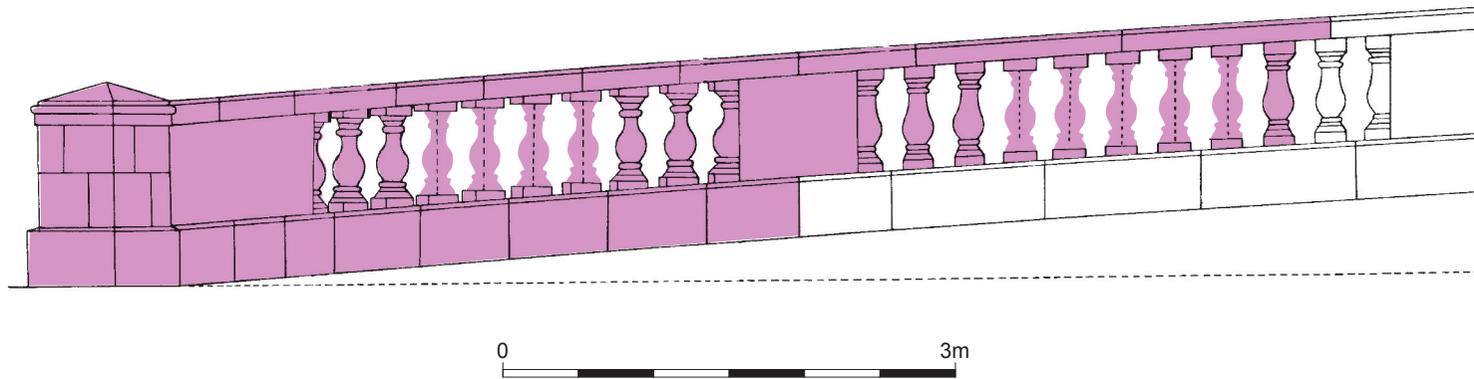
Figures



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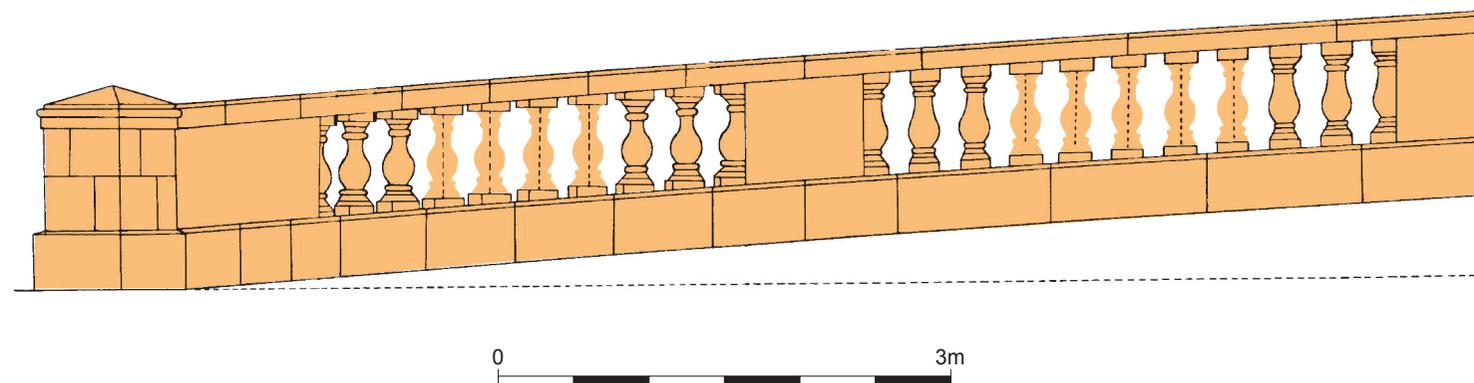
Location of the site

Figure 1



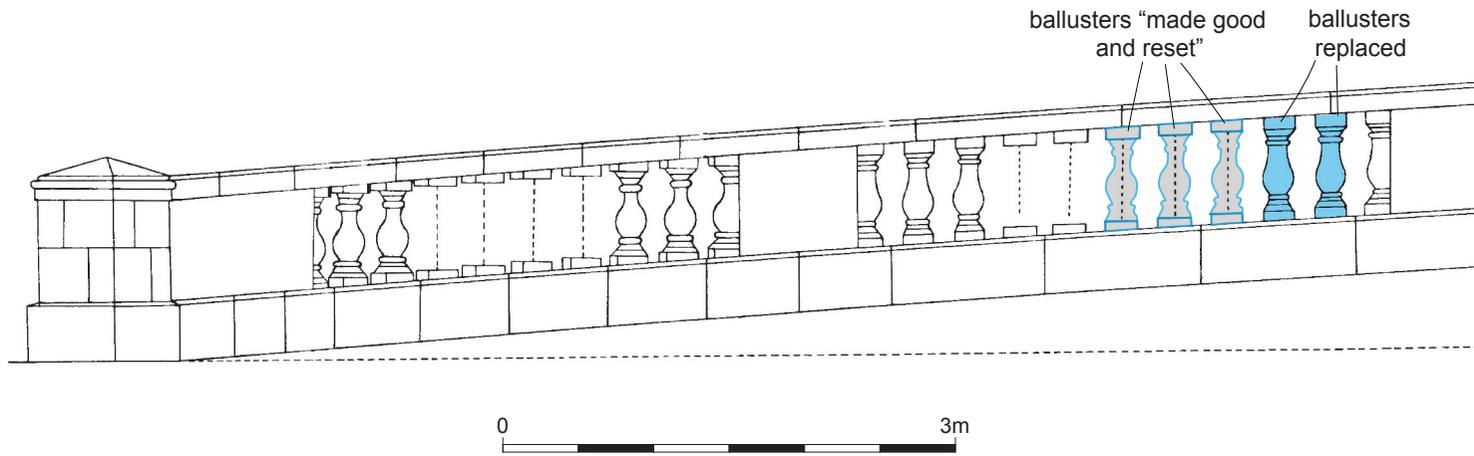
Extent of modern damage (based upon Dr Martyn Heyes Drg No.82182/48)

Figure 2



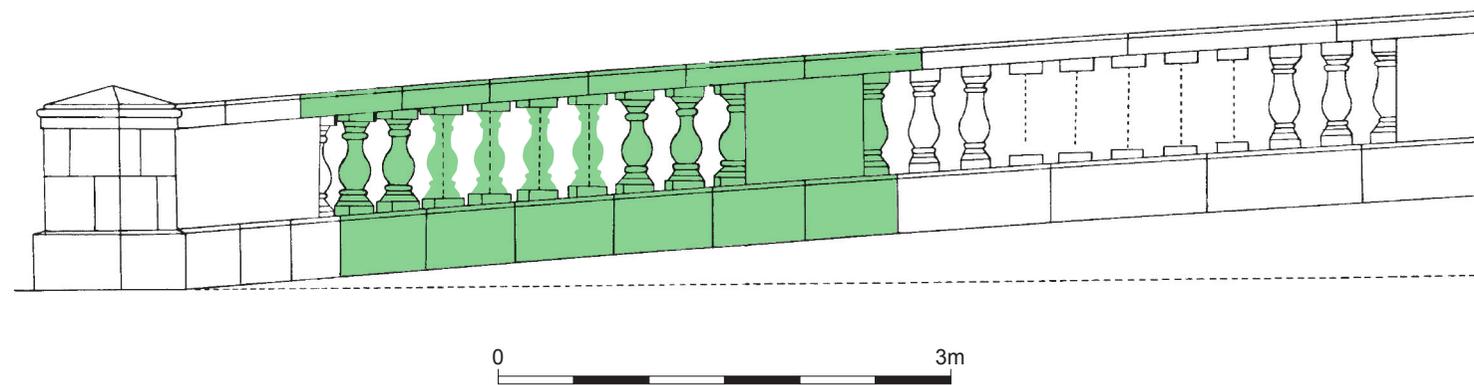
Extent of 1950 replacement and repair (based upon Dr Martyn Heyes Drg No.82182/48)

Figure 3



Extent of 1967 repair and replacement (based upon Dr Martyn Heyes Drg No.82182/48)

Figure 4



Extent of damage in 1993 (based upon Dr Martyn Heyes Drg No.82182/48)

Figure 5

Plates



Plate 1 Bewdley Bridge, looking west



Plate 2 Bewdley Bridge with the footings of the former toll house in the fore ground, looking south-west



Plate 3 1797 illustration of the original bridge (WRO BA3905 s250.1)

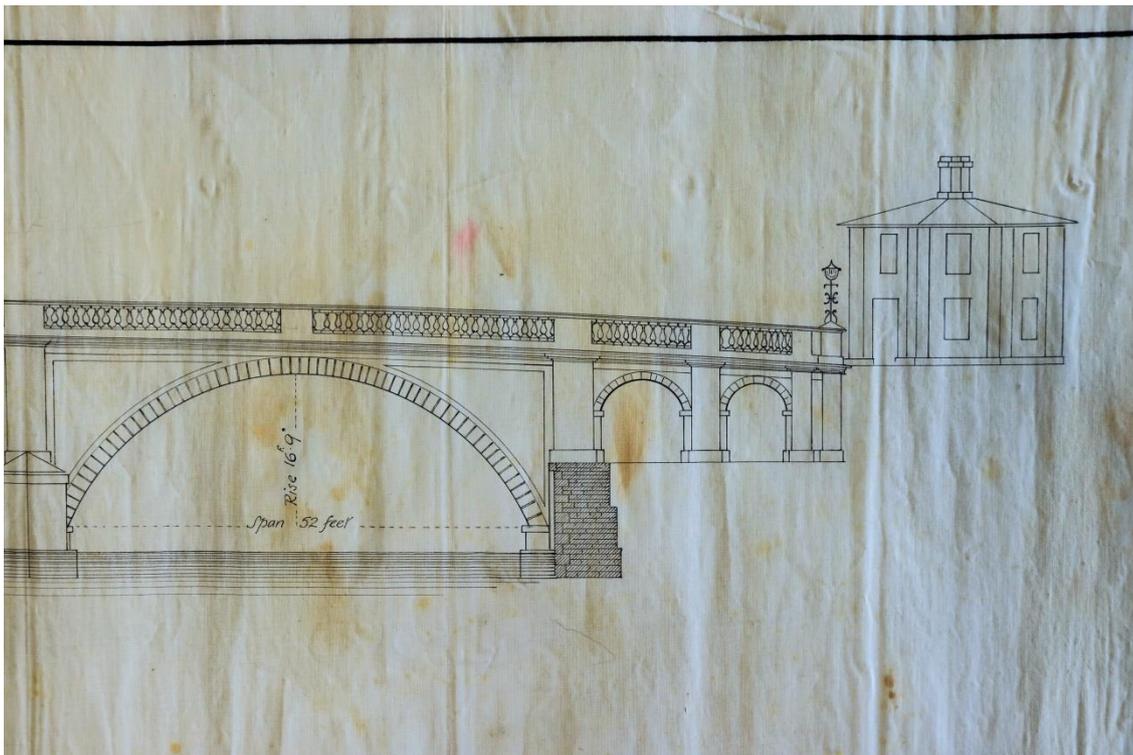


Plate 4 1797 illustration of the bridge original (WRO BA3905 s250.1)

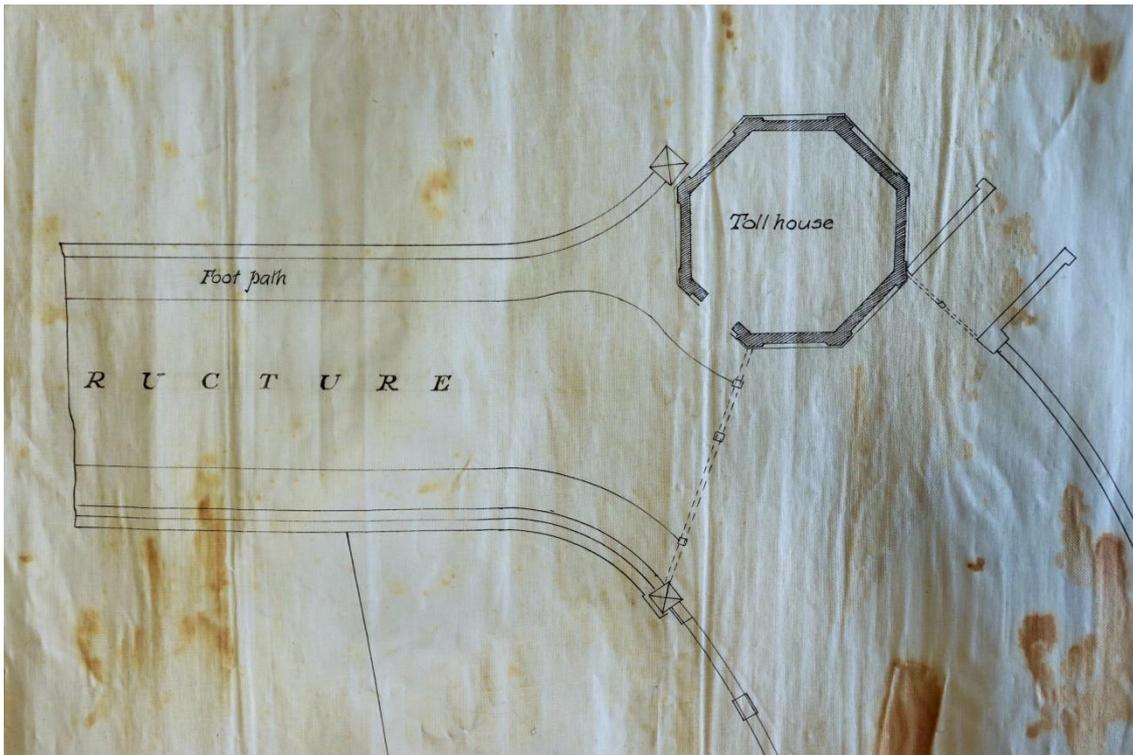


Plate 5 1797 illustration of the original bridge (WRO BA3905 s250.1)

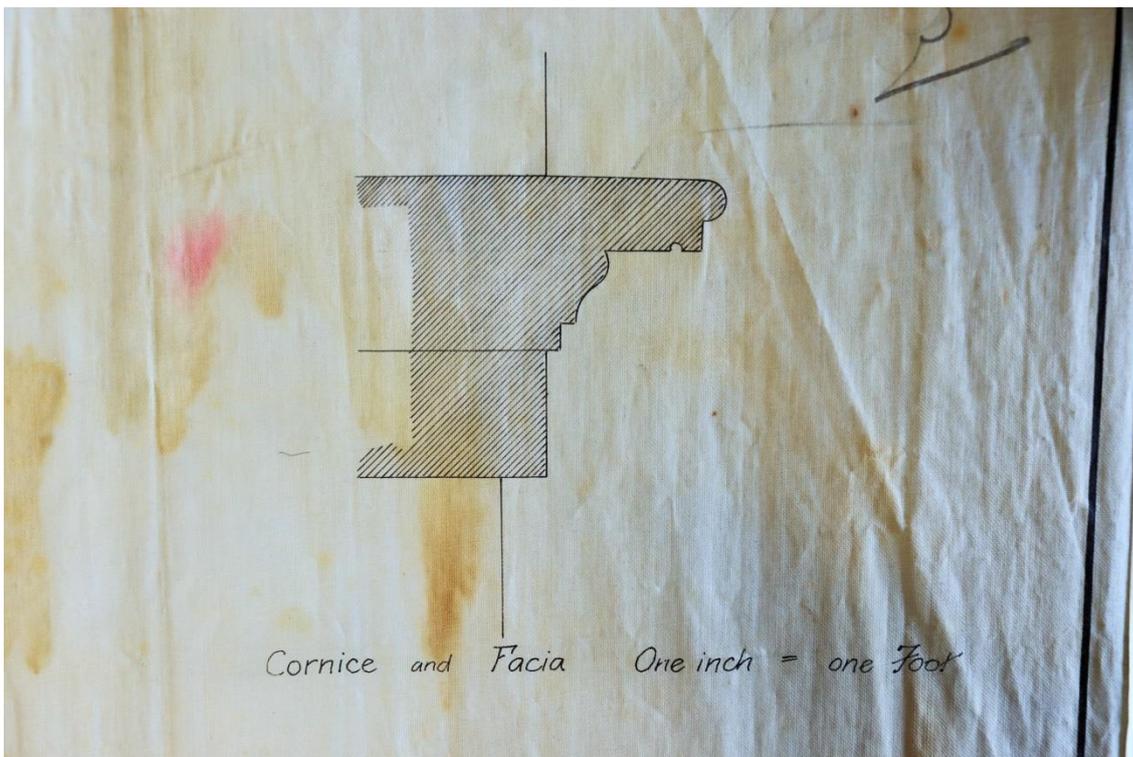


Plate 6 1797 illustration of the of the original bridge (WRO BA3905 s250.1)



Plate 7 Entire removal and possible complete replacement of the north parapet of the bridge as photographed in 1950. New stone is clearly being used for the reinstatement (Bewdley Historical Research Group 2005)

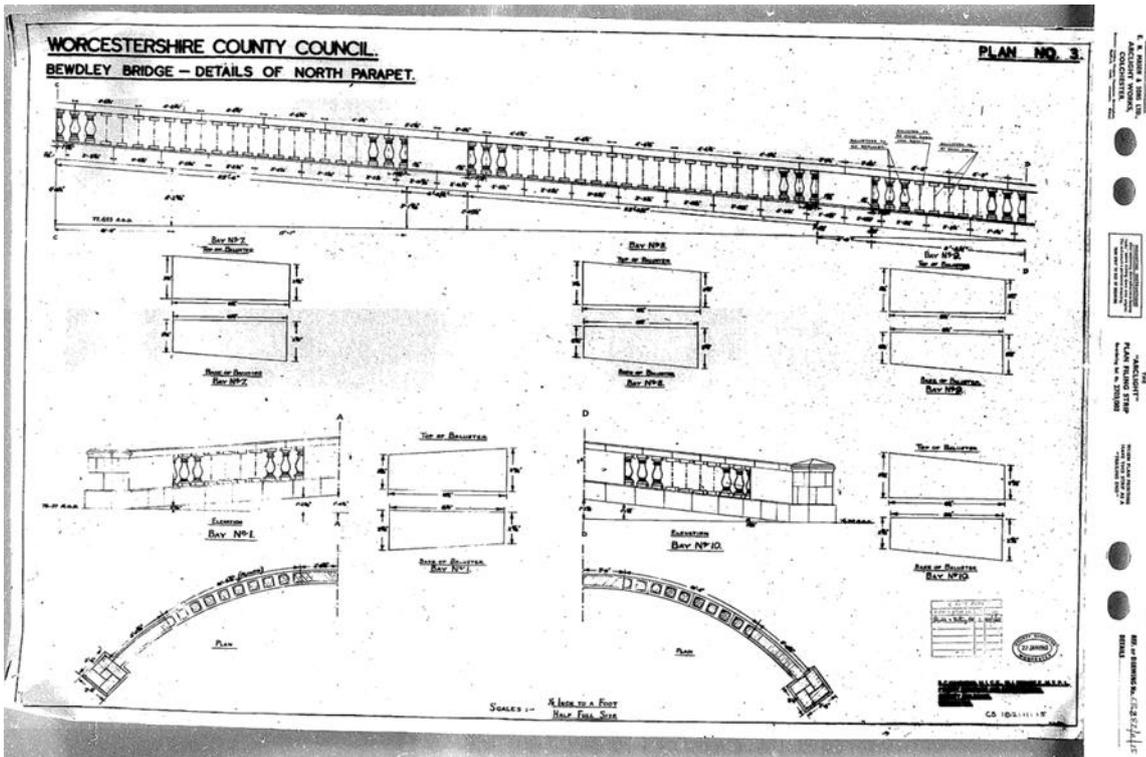


Plate 8 1965 plan of the north parapet, scheduling some replacement.

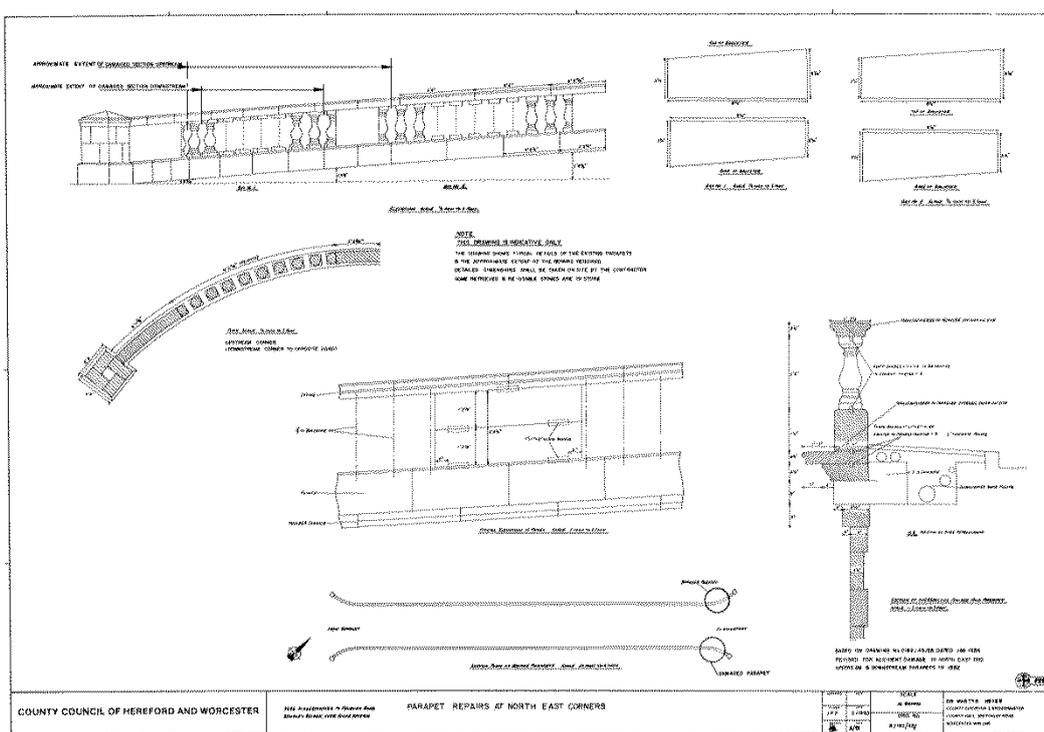


Plate 9 1993 plan of the north parapet, scheduling some replacement and detailing the area of damage.



Plate 10 Damaged area of the north parapet, looking south, scale 1m



Plate 11 Damaged area of the north parapet, looking north



Plate 12 Damaged area of the north parapet, looking north



Plate 13 Damaged area of the north parapet, looking north



Plate 14 Damaged area of the north parapet, baluster detail, looking east



Plate 15 Damaged area of the north parapet, rail detail with central drill hole for a stainless steel dowel and acrylic resin bonding, looking south-west



Plate 16 Damaged elements of recovered stonework



Plate 17 Damaged baluster stainless steel dowel and acrylic resin bonding



Plate 18 Mortise for a slate dowel as specified in the drawings reapiers of 1993



Plate 19 Pillar stone with evidence of circular saw conversion



Plate 20 Rail stone underside with evidence of circular saw conversion with drill holes for a stainless steel dowel and acrylic resin bonding

Appendix 1 Technical information

The archive (site code: WSM70504)

The archive consists of:

- 1 Field progress reports AS2
- 2 Photographic records AS3
- 97 Digital photographs
- 1 Copy of this report (bound hard copy)

The project archive is intended to be placed at:

Worcestershire County Museum
Museums Worcestershire
Hartlebury Castle
Hartlebury
Near Kidderminster
Worcestershire DY11 7XZ
Tel Hartlebury (01299) 250416
