Application No: 3/17/9009
District: Eden

Applicant: Cumbria County Council Highways
Parkhouse Building
Kingmoor, Carlisle

Parish: Brougham

Received: 22 June 2017

PROPOSAL: Listed Building Consent for permanent repair work to Brougham Old Bridge to reinstate it to its pre-flood damaged appearance

LOCATION: Brougham Old Bridge, Brougham, Penrith, CA10 2AA
1.0 RECOMMENDATION

1.1 That Listed Building Consent be Granted subject to the conditions set out in Appendix 1 to this report.

2.0 THE PROPOSAL

2.1 Listed Building Consent is sought for various works to affect a permanent repair to the Grade II Listed Brougham Old Bridge so as to reinstate it to its form/appearance prior to its flood damage and consequent temporary stabilisation works. The proposed works are designed so as to enable the bridge to accept road traffic with the same weight restriction as that currently in place. The bridge has been closed to pedestrians and traffic since the 2015 Winter Storms. Approximately 8% of the original fabric of the bridge was lost as a result of the storm damage.

2.2 The permanent repair proposals comprise:

a) remedial work to the foundation of the northern pier,

b) retention and consolidation of the underwater concrete apron;

c) Further structural repair of pier footing including consolidation of the voided loosened core formation via grout injection, anchoring works, cross-stitching cracked bodies of ashlar facing masonry and stonework reinstatement;

d) Construction of a replacement cutwater, re-building of a third of the central arch barrel and provision of new super-structural spandrel masonry. It is proposed to use new local red sandstone cut to match the form/dimensions of the stonework of these existing elements. For the voussoir stones to the arch barrel it is proposed to be flush cut to intrados (the interior and lower line of the arch) while the external face would be stugged in two directions, changing at the mid-point of the width of the stone to create a herring bone effect. A part lime mortar with fine sand aggregate is proposed to be used for this stonework, with all pointing to be flush then stippled finished.

e) Reconstruction of a 15m span of the western parapet wall utilising the original salvaged sandstone masonry.

f) Miscellaneous Stone Fabric Repairs: Some remedial stone indent work is proposed where a small number of existing masonry units are crushed or decayed beyond retention. Deep-pack repointing is proposed in cracked areas resulting from structural movement.

g) Saddling of the central span in lightweight concrete. The full deck would be water-proofed and tarmac carriageway reinstated.

2.3 The application is supported by a Design, Access and Heritage Statement and a comprehensive updated photographic record of the bridge.

3.0 SITE DESCRIPTION (LOCATION, SURROUNDS & HERITAGE ASSET DESCRIPTION) & FLOOD DAMAGE

3.1 Brougham Old Bridge is located approximately 1km southeast of the settlement boundary of Penrith, just south of the A66 on the opposite side of the road to Eden District Council’s Frenchfield Sports Centre. Brougham Old Bridge provides
a motor-vehicular route over the River Eamont on the C3048 between the A66 and B6262 (which itself connects onto the A66 600m east of the C3048’s junction with the A66). The C3048 provides a local link between a small number of residential properties on the outskirts of Brougham and a link to Brougham Castle which is a popular local tourist attraction.

3.2 The land on the northern bank of the Brougham Old Bridge forms part of the wider grounds of residential properties. Land on the north east side is associated with Toll Bar Cottage and land on the north-west side is associated with the Brougham Mill complex of residential units. A small copse of deciduous trees is present on the south-western bank with land in agricultural use behind this. The land on the south-eastern bank is part of the grounds/setting of Brougham Castle. Brougham Castle forms an element of a Scheduled Ancient Monument – “Brougham Roman fort (Brocavum) and civil settlement and Brougham Castle” (SM NO. CU241 / Listing Entry No. 1007186). The Scheduled Ancient Monument comprises the upstanding and buried remains of Brougham Roman fort (Brocavum) and its associated civil settlement and Brougham medieval castle. The roman remains lie to the southern side of the castle.

3.3 Brougham Old Bridge was built as a turnpike bridge in approximately 1813. It consists of three segmental arches with recessed voussoirs and large monolithic piers with rounded cutwaters. The bridge also has a small arch for the mill race and a solid chamfered parapet. The bridge is faced with local red sandstone.

3.4 Historic records indicate that the bridge was extensively repaired in 1899 whilst twentieth century highway records reveal the bridge was strengthened in 1967 with a concrete saddle being installed over the northern part of the bridge. Brougham Old Bridge is Grade II listed and appears to be covered by two separate listing entries (Refs. 1145132 and 1145357).

3.5 Brougham Old Bridge suffered from considerable scour damage during the December 2015 storm/flood events and was closed to all traffic. A bridge inspection undertaken on 15 December 2015 recorded a notable loss of masonry to the western (upstream) face of the northern pier including collapse of the cutwater as a result of scour undermining the foundation requiring substantial repair works. Ongoing inspections over spring 2016 established that the condition of the bridge had substantially deteriorated since it was initially assessed with further damage/loss evident to the spandrel wall and central span above it as a result of the cutwater collapse and further scour occurring beneath the pier in subsequent storm events. It was estimated that approximately 50% of the upstream half of the pier has been lost together with a roughly 2m wide section of the north half of the centre span. Where masonry has been lost from the face of the pier this revealed a core of weakly bound granular material. Further cracking continued to occur within the masonry to both sides of the bridge throughout May 2016. A photogrammetry survey subsequently undertaken indicated the pier had tilted approximately 100mm upstream confirming concerns about the bridge’s stability. This considerable deterioration meant the bridge was judged to be too precarious to carry out a conventional stabilisation works without undue risk to human life. Specialist expert engineering advice was subsequently obtained by the applicant.

4.0 SITE PLANNING HISTORY

4.1 Listed Building Consent was granted for temporary stabilisation works to Brougham Old Bridge by the Development Control and Regulation Committee on
16 November 2016. These works sought to stabilise and secure Brougham Old Bridge so as to prevent its’ collapse over the course of the oncoming winter.

4.2 These works included: i) underpinning the northern pier with underwater concrete to the mean water level using long reach machinery; ii) application of concrete infill to provide temporary support to the pier and weak concrete/grout to the face of the Ashlar masonry; iii) removal of cutwater debris and the piping in of further underwater concrete to the face of the pier; iv) erection of a retaining scaffold; v) Installation of a temporary cutwater using precast concrete mass “Lego blocks” with in-situ concrete infill as a semi-permanent shutter up to half the height of the pier; vi) round-off the pier foot with grout bags and dumpy bags; vii) shoring of available remaining voussoirs to mitigate local flexural stresses and to regulate bearing stress on the pier; ix) remote removal of a 15m span of the unsupported part of the western parapet wall over the north and central span to reduce the weight bearing down on the north pier and thereby reduce the risk of collapse (and retention of parapet wall masonry); x) installation of a concrete saddle on the southern span of the bridge to help further strengthen the structure as a whole.

5.0 PLANNING LEGISLATION

5.1 Listed buildings and structures are protected under planning law via the Planning (Listed Buildings and Conservation Areas) Act 1990. Listed building consent is required for any proposals to alter or extend a listed building in a way that affects its character or appearance as a building of special architectural or historic interest.

5.2 Section 66 of the Planning (Listed Buildings and Conservation Areas) Act 1990 imposes a legal obligation on Local Planning Authorities (LPAs) to have “special regard” to the desirability of preserving a listed building or its setting or any features of special architectural or historic interest which it possesses when considering applications.

5.3 All Listed Buildings are nationally designated. Grade II listed buildings are of special interest warranting every effort to preserve them. Grade II listed buildings/structures are generally of regional/local importance.

5.4 The Planning (Listed Buildings and Conservation Areas) (Amendment) (England) Regulations 2015 amended regulation 13 of The Planning (Listed Buildings and Conservation Areas) Regulations 1990 to allow LPAs to determine certain of their own applications for listed building consent. This application meets the necessary criteria to allow the County Council to determine the application.

6.0 PLANNING POLICY


- Policy CS1 - Sustainable Development Principles
- Policy CS5 - Transport and Accessibility
- Policy CS17 - Principles for the Built (Historic) Environment

6.2 None of the saved policies of the Eden District Council Local Plan (Adopted December 1996) are considered relevant to the determination of this application.
6.3 Eden District Council is currently consulting on a Main Modifications Draft of the *Eden Local Plan 2014 to 2032*. The consultation period closes on Monday 21 August 2017 after which the Planning Inspector will consider the responses received. Due to the substantial progress of this document, policies which are not subject to challenge can be attributed significant weight. The emerging policies relevant to this application are considered to be:

- Policy ENV1 - Protection and Enhancement of the Natural Environment, Biodiversity and Geodiversity
- Policy ENV2 - Protection and Enhancements of Landscapes and Trees
- Policy ENV5 - Environmentally Sustainable Design
- Policy ENV10 - The Historic Environment

6.4 No Neighbourhood Plans have been published or consulted upon in relation to the land relating to this proposal.

6.5 The *National Planning Policy Framework* (NPPF) is material considerations in the determination of applications.

- Paragraphs 11-14 - The presumption in favour of sustainable development
- Delivering Sustainable Development
  - Section 10 - Meeting the challenge of climate change, flooding and coastal change;
  - Section 12 - Conserving and enhancing the historic environment

7.0 CONSULTATIONS AND REPRESENTATIONS

7.1 Eden District Council Planning Department: No response received.

7.2 Brougham Parish Council: No response received.

7.3 Penrith Town Council: No response received.

7.4 Historic England: Support the application on heritage grounds. Observe that the repair proposals have been designed following extensive investigation of the damaged structure and its foundations. Consider the proposed works should be beneficial for the long-term preservation of the bridge, providing mitigation for a number of historic structural defects, particularly the defective foundations of the north pier. Whilst there will be some intervention into historic fabric, on completion of the works the bridge would be restored to its historic appearance. Conclude that approval of the application would be entirely in line with the statutory duty placed upon local authorities by section 16(2) of the Planning (Listed Buildings and Conservation Areas) Act 1990 to have special regard to the desirability of preserving listed buildings or their setting or any features of special architectural or historic interest which they possess. Highlights that Scheduled Monument Consent will be required for any work on the south-western bank of the river and requests that an informative is included in respect of this on any decision issued.

7.5 CCC Historic Environment Officer: No objection. Advises that agreement should be reached, either as part of the application or via a condition attached to any consent that may be issued, prior to works commencing on the type of new stone that is proposed for the construction of the cutwater and the arch. Notes that the southern bank of the River Eden, located to the south west of the bridge, is legally protected as a Scheduled Monument, so any ground works here will
7.6 Environment Agency: No objection. Highlight that they are regulating the proposed work through the Environmental Permitting Regulations (England and Wales) 2016 and have registered a bespoke permit application for Flood Risk Activities on 13 July 2017 (Ref. EPR/MB3458PT) and that the application is currently being determined.

7.7 Natural England: No objection. Initially requested further information in respect of protected species and construction method statement. Natural England were satisfied with the further information submitted by the applicant in respect of these matters. Note that the Environment Agency have prepared an Assessment of Likely Significant Effect under the Habitat Regulations for the required flood risk permit and report that Natural England have agreed that there is unlikely to be a significant effect on the River Eden Special Area of Conservation (SAC) provided all the proposed mitigation is carried out including fish /crayfish rescues.

7.8 The Highway Authority: No objection. Consider the layout details to be satisfactory from a highway perspective.

7.9 Cumbria Fire & Rescue Service: No comment.

7.10 British Telecom: No response received.

7.11 Electricity North-West: No objection. Consider the proposal not to impact on their Electricity Distribution System infrastructure or other assets.

7.12 Northern Gas Networks: No objection.

7.13 United Utilities: No response received.

7.14 Eden Rivers Trust: No response received.

7.15 The application has been advertised in the local press and by site notices either side of the bridge. Neighbouring properties and the local county councillors have also been notified. No representations have been received.

8.0 APPRAISAL

Significance of the Heritage Asset

8.1 The NPPF requires Local Planning Authorities to identify and assess the “significance” of Heritage Assets – i.e. the value of a heritage asset to this and future generations because of its heritage interest. The NPPF states that interest may be archaeological, architectural, artistic or historic; and observes that significance derives not only from a heritage asset’s physical presence, but also from its setting. Historic England guidance considers that significance is derived from an assets’ aesthetic, communal, evidential and/or historical value.

8.2 It is considered that Brougham Old Bridge’s significance at a national/regional level derives principally from its historic value as a fine example of a turnpike bridge of the early 19th Century. However it also has strong architectural, aesthetic and communal significance and value from a local perspective. It’s architectural and aesthetic significance lie in its form, with its segmental arches, voussoirs and jutting cut-waters presenting appealing design features. The aesthetic value of the bridge is enhanced by its historic and rural setting as it is
predominantly seen in views combining the river valley and Brougham Castle. Indeed, the bridge is prominent in the setting of Brougham Castle, and features in tourist leaflets, postcards, photographs and the memories of visitors to the Castle. In this respect it also has a reasonably strong communal value. Its value and significance is thus intertwined with the historical development of the local area and its prominent location in the setting of the Brougham Castle scheduled monument.

Effect of Flood Damage and Temporary Stabilisation Works on Significance

8.3 The storm damage inflicted on the bridge (which resulted in the loss of key parts of the masonry fabric of the northern pier and cutwater and the central barrel arch and spandrel wall above this) reduced some of the aesthetic and evidential value of the bridge - affecting key elements of its special architectural interest such as its voussoir stones and resulting in the loss of irreplaceable historic fabric. The temporary stabilisation works altered part of the fabric of the bridge by incorporating cement and blockwork to fill the voids of the northern pier and its' spandrel and also resulted in the temporary removal of a 15m length/span of the western parapet wall. These measures further eroded the aesthetic and evidential value of the bridge but were considered justified on a temporary basis in order to preserve the structure as a whole.

Proposed Works – Justification, Effect on Significance and Acceptability

8.4 The applicant has submitted a technical note providing an updated assessment of the condition of the bridge by a structural engineer following the autumn 2016 emergency temporary stabilisation works. These works served to underpin the apparent spread foundation and rectify the thrust of the bridge and forward-lean risk of the pier. The note observes that the temporary stabilisation works have arrested the significant deterioration in the structural condition with the overall crack pattern remaining as per Summer 2016, though it does note that some isolated structural defects appear to have slightly magnified. The report concludes that the bridge appears to be stable and that vibration under execution work is not considered to be an issue which would compromise structural stability. The current understanding of the structural condition of the bridge has informed the interventions proposed to fully repair it.

8.5 The submitted Design, Access and Heritage Statement provides detailed justification for each of the permanent structural repair works proposed. It is noted that these interventions have been carefully designed to be both robust and discrete. Where these involve modern materials/techniques it is also noted that these have been fully justified in structural terms and that none of these would be externally visible. Consequently they would not affect the aesthetic value of the bridge though they would inevitably reduce some of its evidential value.

8.6 The proposed repair work would result in direct physical and visual changes to this listed heritage asset, primarily by introducing new masonry. It is accepted that it is necessary to use newly quarried stone in order for the masonry to be cut and dressed to as closely replicate the form/dimensions of the stonework of the existing/remaining cutwater, spandrels and voussoirs so as to maintain the original architectural style of the bridge. The Permian era red Lazonby/Penrith Sandstone proposed to be used represents a geological match for the existing masonry. Samples of this have been submitted and are considered acceptable in principle. The use of new masonry will inevitably stand-out against the existing
aged and weathered fabric, especially in dry weather conditions, in the short to medium term. However it is considered that a heavily sand-blasted finish to the masonry would help lend it a more worn and weathered appearance and that over time this would darken and weather so as to blend-in better with its surrounds. It is also observed that tooling finishes seem to be present on a significant part of the masonry of the original structure but that erosion has diluted this effect over the years. This tooling is most apparent on the external face of the voussoir stones which has stugging in two directions, changing at the mid-point of the width of the stone to create a herring bone effect. It is proposed to replicate this effect on the proposed new voussoir masonry. The tooling on the existing cut-water and spandrels appears more subtle and is largely lost visually as a result of erosion. Consequently the proposal to heavily sandblast and selectively lightly tool elements of the other new stone-work is considered appropriate in light of the current appearance of the bridge. Whilst the new masonry would introduce some detectable visual change from the existing historic fabric, the current condition of the bridge necessitates this work and the proposed masonry it would be in-keeping with the bridge’s overall aesthetic and materiality - restoring the form of the bridge to its historic profile. As such it is considered the proposals would not harm the character of the bridge or its significance as a heritage asset.

8.7 The retention and re-use of the original parapet wall masonry to reinstate the western parapet wall is noted and supported. A Conservation Architect has specified mortar mixes and pointing finishes that are in-keeping with those of the existing structure.

8.7.1 In consideration of this application special regard has been paid to the desirability of preserving this listed building and its setting and the features of special architectural and/or historic interest that it possesses in accordance with the Local Authority’s statutory duties set out in section 16 (2) and 66 (1) of the Planning (Listed Buildings and Conservation Areas) Act 1990. The proposed repair works have been sympathetically designed in order to retain the overall character and replicate the architectural appearance of this Grade II Listed Building/Structure. Moreover the proposed works would be beneficial for the long-term preservation of the bridge. It is considered that the proposed works would sustain, and enhance the listed building in terms of its current condition and as such complies with the statutory duty to preserve listed buildings.

8.8 The proposed works would reinforce and improve the flood resilience of Brougham Old Bridge whilst also reinstating this locally valued motor-vehicular and recreational route and preserving the existence of its remaining original fabric in recognition of its cultural, historic and archaeological significance to the area. As such the proposed works are considered to provide notable public benefits and are considered to conform with the policies of the Eden’s Core Strategy and emerging new Local Plan.

Other Miscellaneous Matters

8.9 The main temporary construction compound is located on the highway on the closed section of road leading up to the bridge; whilst there may be some minor impact associated with this it would only be present for a limited period and is justified to undertake works to a listed structure.

8.10 The proposed package of works associated with the reinstatement of the bridge include repair of a significant scour hole which has undermined the south-eastern
river bank which relates to part of the wing-wall of the bridge. This land forms part of Brougham Castle & Brocavum Scheduled Ancient Monument. The applicant is currently seeking Scheduled Monument Consent for these works from Historic England. The use of rock armour and rip-rap to protect the embankment would not adversely affect the setting of this listed building.

8.11 The applicant has secured an Environmental Permit (Ref. EPR/MB3458PT) for the proposed works from the Environment Agency. The Environment Agency has prepared an Assessment of Likely Significant Effect under the Habitat Regulations and Natural England has found this to be acceptable.

8.12 No Convention Rights as set out in the Human Rights Act 1998 would be affected by this proposal.

9.0 CONCLUSION

9.1 The proposed repair works are sympathetic to the Listed Building’s architectural aesthetic and historic profile and makes use of appropriate traditional external materials. As such it they would be in-keeping with the character and appearance of the bridge. Moreover the proposed repair works would sustain this listed bridge, enabling its long-term preservation for future generations. In reaching this conclusion special regard has been taken of the desirability of preserving this listed building in accordance with the Planning (Listed Buildings and Conservation Areas) Act 1990. As such the proposal is considered to comply with the LPAs’ legal duties, the NPPF and the relevant local development plan polices covering the Eden District Council area in respect of heritage assets. In summary, it is considered that the proposed works are in accordance with the development plan, there are no material considerations that indicate the decision should be made otherwise. It is therefore recommend that listed building consent be granted subject to the conditions set out in Appendix 1.

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Background Papers: Planning Application File Reference No. 3/17/9009

Electoral Division Identification: Penrith Rural ED - Mr David Whipp
PROPOSED CONDITIONS

Time Limit for Implementation
1. The works to which this consent relates must have begun before the expiration period of three years from the date of this consent.

Reason: To comply with Section 18 of the Planning (Listed Building and Conservation Area) Act 1990.

Approved Scheme
2. The works shall be carried out in accordance with the following:
   a. The submitted Listed Building Consent Application Form – dated 21 June 2017;
   d. Specification: Mortar for Building, Repair and Repointing Work – dated 26 June 2017;
   e. Plans numbered and named:
      i) 065178-CUR-00-XX-M2-C-97125-Rev.P3 - Location Plan;
      ii) 065178-CUR-00-XX-M2-C-97127 - Site Plan;
      iii) 065178-CUR-00-XX-M2-C-97117- Fabric Repair;
      iv) 065178-CUR-00-XX-M2-C-97122 - General Arrangement of Rehabilitation Works;
      v) 065178-CUR-00-XX-M2-C-97123 - Stabilised – Bridge Post Completion Summer 2016;
      vi) 065178-CUR-00-XX-M2-C-97124 - Proposed Elevations.

Reason: To ensure the development is carried out to an approved appropriate standard and to avoid confusion as to what comprises the approved scheme.

Informative

Scheduled Monument Consent needs to be obtained from Historic England before any work can take place on the river bank to the south-western side of the bridge.