



Department for
Digital, Culture
Media & Sport

4th Floor
100 Parliament Street
London SW1A 2BQ
T: 020 7211 6000
enquiries@culture.gsi.gov.uk
www.gov.uk/dcms

Dear Dr Rössler,

State of Conservation of the World Heritage Property “The Forth Bridge”

I am writing to report on the actions taken by the UK State Party in response to World Heritage Committee decision **41 COM 7B.57**. The report is structured in line with the template provided at Annex 13 of the *Operational Guidelines*. The relevant sections of the Committee decision are printed in *italics* for ease of reference.

The UK State Party is content for this report to be posted on the UNESCO World Heritage Centre website.

Kind regards,

Enid Williams
World Heritage Policy Advisor

STATE OF CONSERVATION REPORTS BY THE STATES PARTIES

(in compliance with Paragraph 169 of the *Operational Guidelines*)

STATE OF CONSERVATION OF THE FORTH BRIDGE (UNITED KINGDOM) (N1485)

In accordance with **41 COM 7B.57**, the State Party submits this report on the State of Conservation of the Forth Bridge World Heritage Site.

1. Executive Summary of the Report

Decision 39 COM 8B.33 approved the inscription of the property in 2015 under criteria (i) and (iv) and the State Party submitted a report as requested in 2016. The 41st session of UNESCO's World Heritage Committee in 2017 considered this report and in its Decision 41 COM 7B.57 requested a State of Conservation Report to be considered by the Committee at its 43rd session in 2019.

The Decision specifically asked for an update on the creation of key monitoring indicators that are more specific and relate more directly to the attributes that convey Outstanding Universal Value of the property, the extension of the Management Plan to include interpretation and tourism plans, and information on any proposed visitor centres on or adjacent to the property. The following report provides updates as requested by the committee in this decision.

The report is structured according to the format provided by the World Heritage Centre. The text of the Committee decision is given first, in italics. The response of the State Party does not use italics.

2. Response from the State Party to the World Heritage Committee's Decision 41 COM 7B.57

1. Having examined Document WHC/17/41.COM/7B,

2. Recalling Decision 39 COM 8B.33, adopted at its 39th session (Bonn, 2015),

3. Welcomes the progress made by the State Party in responding to the World Heritage Committee's recommendations, especially: a) The improvement of the protection policy by means of the identification of 10 key views of the property and associated protected view-cones, b) The reinforcement of the management system by the creation of the Forth Bridge World Heritage Management Group and specialized commissions for tourism development and communication;

4. Reiterates its previous recommendations to the State Party to consider the following:

a) Creating key monitoring indicators that are more specific and relate more directly to the attributes that convey Outstanding Universal Value, b) Extending the Management Plan of the property to include an interpretation and tourism plan, c) Submitting plans for any proposed visitor centre at the earliest possibility to the World Heritage Centre for review, in accordance with Paragraph 172 of the Operational Guidelines;

a) Creating key monitoring indicators that are more specific and relate more directly to the attributes that convey Outstanding Universal Value,

Condition of the Property

In discussion with the owners of the property, Network Rail, and its maintenance contractors, Balfour Beatty, a range of condition and maintenance indicators were agreed by Historic Environment Scotland drawing data from a number of sources, including the Civil Asset Register and electronic Reporting System (CARRS). The attributes of the property contributing to OUV are identified in sections 3.1.c

(Integrity) and 3.1.d (Authenticity) of the Nomination Document, and the detailed monitoring indicators below relate to specific attributes identified by page number and line in each section. Future revision of the Management Plan will provide an additional mechanism to review these processes.

- **Annual Investment – the monetary value of works on the Bridge**

Note that in the current five-year project period (CP5), the annual maintenance expenditure has been £1.2 million. The next project period (CP6) will soon begin, with £12 million allocated for April 2019 to March 2024, which represents an increase in investment and reflects the fact that the Bridge is operational, carrying over 200 trains per day. This guarantees maintenance funding and ensures that the property continues to perform the function for which it was originally built, thereby protecting its OUV. The Management Group will continue to monitor actual expenditure from year to year. (Attributes 46.15 and 50.4 –continued operational part of the national rail infrastructure, related to train crossings and passengers carried)

- **Dedicated Workforce – number of staff working on the maintenance of the Bridge**

In 2018, the Forth Bridge maintenance workforce comprises 22 full time and 13 part time staff, with specialist skills relating to the property. The existence of this team helps to maintain the condition of the property, thereby protecting its OUV. The Management Group will gather information on this indicator every year. (Attributes 46.11 -46.13 the Human Element)

- **Number of maintenance/ repair jobs (on any part of the property)**

The records system reveals that there have been 650 separate repair jobs over the current CP5 period (2014-18), protecting the original fabric of the structure. These vary in size, but reflect the extent of maintenance activity on the property and can be broken down to provide annual statistics. The impact of these jobs on the material integrity of the property can be gauged from the indicator below relating to tonnage of steel replaced. (Attribute 49.10- Materiality/ Substance, illustrated pp127-9. Section 6.a)

- **Tonnage of mild-steel replacement on the property**

The Forth Bridge was the first large engineering structure to be built from mild steel, and repairs are being carried out using the same material. Works data reveals that 4 tonnes of steel was replaced over the CP5 period, which equates to 0.007% of the structure. This replacement is like-for-like – replacing mild steel with mild steel, so the integrity of the Bridge is not compromised and its OUV is protected. It would take over 66,000 years to replace all the steel in the bridge at this rate. (Attribute 49.10- Materiality/ Substance)

- **Rivets/Bolts Replacement**

During the maintenance works, efforts are made to minimise the replacement of original rivets, which are an integral part of the property. In the current project period (CP5 2014-18), an estimated 200 rivets have been replaced, which is a very small proportion of the 6.5 million thought to be in the structure. The Management Group will monitor the rate of rivet replacement on an annual basis. (Attribute 49.10- Materiality/ Substance)

- **Litres of coatings/paint over CP5 period (2014-19)**

The repainting between 2000 and 2012 completely stripped back the original lead-based paint and replaced it with a less-toxic much more resilient glass-flake epoxy system which has greatly enhanced the appearance of the property whilst retaining its authentic red colour. Since then, the need for painting has been significantly reduced. Future painting activity, as measured by the quantity of paint applied in any one year, will reflect the scale of maintenance work protecting the property, and the performance of the new paint systems. 2,000 litres of paint were used over the CP5 (2014-18) period at an average of 400 litres per year. Again, consumption will be reported annually. (Attribute 45.11, “Forth Bridge Red” and 50.14 Reputation as a byword for an unending task)

Partnership Management Agreement (PMA) Indicators

To comply with the consent requirements stemming from the statutory designation of the property (Category A listed structure), the works programme is managed through an annual ‘Partnership Management Agreement’ and is overseen by Network Rail, Fife and City of Edinburgh Councils, and

Historic Environment Scotland. Each year, the PMA defines projects which fall into three separate categories:

- Category 1: Minor works – such as maintenance, like-for-like replacement and minor alterations –not requiring listed building consent
 - Category 2: Works requiring listed building consent, although such works are not expected to be of a significant nature. Historic Environment Scotland will not offer detailed advice for Category 2 Works, and OUV is not affected.
 - Category 3: Major works and substantial projects requiring listed building consent. In this category it is more likely that issues of OUV will arise. Historic Environment Scotland can provide detailed advice to the planning authorities (and to UNESCO) if required.
- As a measure of the different scales of activity in any one year, the Management Group will gather data on the number of projects falling into each category.

In 2018-19, the PMA reports the number of projects in each category to be as follows:

- Category 1: 7 – minor projects, no consent required
- Category 2: 2 – Survey and repairs to Inchgarvie Lighthouse (which is situated at the base of the central, Inchgarvie tower), and provision of access to navigation lights.
- Category 3: 2 - permanent access for maintenance to the North Approach Viaduct, and potential visitor access at the south end. Note that detailed proposals for both these projects have not yet been completed or submitted (see item 4 below)

Setting Indicators

The World Heritage Management Group monitors development pressure on the immediate setting (the ‘Bridgehead Zone’) and on the wider setting, defined by ten specific viewcones within a viewshed derived from land contour mapping. There have been no developments in the last two years affecting the setting or OUV of the property, either in the Bridgehead Zone or in any of the ten viewcones.

b) Extending the Management Plan of the property to include an interpretation and tourism plan,

Tourism

The Forth Bridges Tourism Project Group has been working with key partners on a Tourism Strategy that embraces all three Forth Bridges. Scottish Government ministers are encouraging the development of the area around the bridges as a new tourist destination, with the Forth Bridge World Heritage site at its heart. The final draft of the strategy, submitted to the WH Centre December 1, 2018, has been approved by all key partners and will be launched on 5th December 2018.

The next stage of the project is implementation, and will involve the development of an action plan, part of which will be devoted to the World Heritage Site. The World Heritage Co-ordinator will play a key role in this process, reporting to the World Heritage Management Group. The outcome of this work will feed directly into the revised Management Plan (2020-25) for the property, preparation of which will commence in 2019.

Interpretation

There are three clear strands of interpretation activity, all supporting actions already identified in the current Management Plan. The first is centred on an orientation, interpretation and signing strategy by The Paul Hogarth Company for North and South Queensferry, produced with the support of the Forth Bridges Forum for ‘Queensferry Ambition’, a ‘Business Improvement District’ (BID). This is included with this report submitted to the World Heritage Centre December 1, 2018.

The second strand of activity has been the use of the digital model recently generated by a comprehensive laser-scan survey of the entire property (funded by the Scottish Government) to develop ‘Go Forth Learning Resources’. These have been made available to all schools in Scotland, and have

been released via Education Scotland's 'Glow' network. One of the main aims of these resources is to use the attributes of the property to attract girls and boys to Science, Technology, Engineering and Mathematics (STEM) subjects, and to provide teacher guidance that ensures alignment to the priorities of the national curriculum. These resources complement very well the daily sessions on bridge engineering hosted by Transport Scotland at the Forth Bridges Contact and Education Centre. A summary of the digital resources that are now available can be found at <https://www.theforthbridges.org/visit/go-forth/>.

Third is the formation by the Management Group of a **Forth Bridge Collections Group**, which brings together institutions, including archives, libraries and museums who have significant holdings relating to the property. The group ranges from local organisations to national and international institutions, an important example of the latter being the Canadian Centre for Architecture in Montreal. As the work of the group gathers pace, it will be exciting to see what resources exist beyond the best known collections, and there will be potential for research projects which will further promote the World Heritage Site.

In 2019, the Forth Bridge World Heritage Co-ordinator will progress these and the other actions relating to interpretation already included in the Management Plan, incorporating them into the new plan, which is due to commence in 2020.

Other significant progress

Substantial progress has been made with many of the actions defined in the Management Plan, some of which have relevance to the Tourism and Interpretation initiatives mentioned above. These include:

- Funding has been secured from Transport Scotland and Historic Environment Scotland to support the appointment of a World Heritage Co-ordinator for the Forth Bridge. The post will be filled in 2019 in time to prepare the renewal of the Management Plan (2020-25)
- A highly accurate 3D digital model of the property has been created using data from an extensive laser-scan survey completed in 2016. The new education and interpretation resources that it has generated (see above) have already demonstrated the digital model to be a major asset, both as a means of promoting understanding and transmission of the OUV, and of nurturing an interest in engineering and science more generally. In addition, it is a reliable baseline record and will have a variety of uses in the future, not least in proposed virtual and on-site tourism projects.
- New guidebooks and leaflets have been developed that have been designed to comply with the style established for all Scotland's world heritage sites by Historic Environment Scotland's World Heritage team
- A new website has been established for the Forth Bridge:
<https://www.theforthbridges.org/forth-bridge/>
- Seven bronze plaques have been cast containing the World Heritage and UNESCO emblems, and two are now in place at North and South Queensferry. Work continues with the local communities to install the remaining plaques at agreed locations that can best promote the values of UNESCO.
- Collaboration has commenced on the development of a UNESCO Trail led by Visit Scotland, linking together Scotland's World Heritage sites with other UNESCO sites, including Geoparks and Biospheres.

c) Submitting plans for any proposed visitor centre at the earliest possibility to the World Heritage Centre for review, in accordance with Paragraph 172 of the Operational Guidelines;

Property owners, Network Rail, are in the process of preparing potential designs for a visitor access at each end of the Bridge. This supports the action described as PRES-2 (p69) in the Management Plan, and the first project is flagged in the current Partnership Management Agreement. However, detailed proposals have been delayed because of changes of governance and amended funding procedures relating to Network Rail, but it is expected that plans will be put forward for consultation within the

next year. This will involve a Paragraph 172 submission to the World Heritage Committee at the earliest opportunity and the management group looks forward to receiving advice on this from the World Heritage Centre.

5. Requests the State Party to submit to the World Heritage Centre, by 1 December 2018, an updated report on the state of conservation of the property and the implementation of the above.

This report is submitted in response to this recommendation.

3. Other current conservation issues identified by the State Party which may have an impact on the property's Outstanding Universal Value

None

4. Notification of proposed developments under Paragraph 172 of the Operational Guidelines

None

5. This report can be uploaded to the World Heritage Centre's State of conservation Information System for public access (<http://whc.unesco.org/en/soc>).

6. Signature of the Authority

A handwritten signature in dark ink, appearing to read 'Enid Williams', with a long horizontal flourish extending to the right.

Ms Enid Williams
World Heritage Policy Advisor