

ATKINS



Special Inspection - BIBURY SWAN HOTEL - 97

Grid Reference: 411460 206889

Inspection Completed: 24-05-2024 By: Eden Wood



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Executive summary

The structure was inspected on May 8, 2024. Bibury Swan Hotel is a 3 span masonry arch bridge. This special inspection focused on the downstream spandrel wall of the central span. Since the previous general inspection in November 2023, three stones were found to have moved. One stone, directly above the arch on the downstream end, has moved significantly, is loose, and has missing pointing below it. Compared to the November 2023 General Inspection, this stone has moved approximately 50mm. The other two stones exhibit less movement but still show noticeable displacement compared to the November 2023 general inspection.

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General details

Three span stone arch on stone abutments and piers with spandrels and parapets. 17 T limit imposed in 1990. Span 1 1.29m headroom x 3m span. Span 2 1.4m headroom x 3.6m span. Span 3 1.2m headroom x 3m span.

Inspection Findings

No.	Description	Est. Cost	Comments
10	Spandrel wall/head wall		<p>Area of calcite staining on the upstream spandrel stonework. Three stones identified that have moved since previous inspection in Nov 2023. Stone directly above the arch on the downstream end has moved significantly, is loose and missing pointing below. Compared to previous GI in Nov 2023 the stone has moved approx. 50mm. The other two stones have less movement but clearly visible movement when compared with GI from Nov 2023.</p> <p>GI - Nov 2023 - Minor displacement in the downstream spandrel and east pilaster causing cracking, bulging and leaning. There are no apparent signs of any impact to the parapet which may have caused it. Displaced areas need to rebuilt. Minor pointing loss in the stonework on the upstream and downstream spandrels</p>

Options for Repair

The parapet/spandrel wall should be rebuilt using existing masonry. Masonry should be reset and repointed during rebuild. A road closure will be required, potential difficulties with the diversion route. Estimated cost for repair () should be budgeted for the design of the repair with additional budget allowed for ecological and environmental surveys, this may vary depending on the initial survey findings.

Recommendations

Take down and rebuild the section of the parapet/spandrel wall. The masonry should be reset and repointed during the reconstruction. The specific section to be rebuilt is estimated to be 2.5m in total although this will be determined as part of the design.

Investigate the current weight restriction and whether it is being adhered to. Further actions will depend on the outcomes of this investigation.

Monitor the structure monthly until the work is completed.

Work Priority

Code	Ranking	Priority/ Work required
I	Immediate action	
A	Urgent within 28 days	
B	Works required within 12 months	Rebuild of parapet/spandrel wall. Investigations into weight restriction.
C	Works required within 24 months	
D	Monitor	3 Monthly Monitoring.
E	No action required	

Access comments:

Park in parking area by bridge. Access from Hotel grounds on upstream east embankment by small weir or downstream west embankment by footbridge. Water was too deep and fast flowing to walk through arches. Undersides were visually inspected from the entrances.

Appendices

Appendix A. Photos





1000m

Bridge

