



MEMORANDUM

Date 09 April 2015
Reference UA007705-19-ECV-MEM-HYD-1502 rev A01
From Toby Skeels
To Ian Grimes, Daniel Perez
Copies Richard Shimell, James Buckley, Tom Faith, Geoff Rowan
Subject Alton Station – Heritage Footbridge Condition Report

To Ian and Daniel,

Hyder Consulting Ltd were commissioned to undertake a visual condition survey of the heritage footbridge structure at Alton Station.

Following the construction of a new DDA station footbridge, Network Rail originally intended to demolish the heritage footbridge structure that is approaching the end of its design life and remove the ongoing associated maintenance costs.

However, the Stakeholder engagement process identified the Watercress Line owners and local community's desire to retain the footbridge as it:-

1. Provides a more direct link to the Watercress Heritage Railway Line from the station entrance and
2. Holds nostalgic value to regular station users and the wider community.

As such, Network Rail instructed a condition survey in order to ascertain the remaining design life of the structure, taking care to ensure the structure would be safe for short-term use while further stakeholder discussions are ongoing. The survey of the structure, remedial works required, conclusions and recommendations have been recorded within.

Kind regards,

A handwritten signature in black ink, appearing to read 'Toby Skeels', is positioned below the 'Kind regards,' text.

Toby Skeels

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Summary

This visual condition survey aims to identify the risk to station users posed by the heritage footbridge structure at Alton Station. The survey was conducted from platform level and through the footbridge using a camera to create photographic records. Defects, where present, were recorded and a course of action noted.

The heritage footbridge structure is a wooden through bridge supported from four post braced columns located on Platforms 1 and 2. The footbridge bottom chords are partially strengthened with steel T-sections from the supports to approximately one third span. The footbridge is fully enclosed with a semi-circular corrugated roof. The footbridge has handrails throughout and the treads and risers are in good condition. It is glazed throughout with only a few broken/missing panes. The survey identified some minor defects, some of which require reactive remedial action in the short-term to extend the structure's life into CP6:-

1. Some woodworm was identified in non-structural timber members.
2. Wet-rot and dry-rot of the large, four post, braced square column supports was identified. Areas where the roof drainage is leaking into the footbridge have also been noted.

At present the current level of section loss at the supports does not present a significant risk to the structure's integrity. It is recommended that specialist advice is sought on all areas of wet and dry rot of the footbridge to ensure appropriate remedial action is taken to agree appropriate surface treatment is performed to prevent further section loss. This intervention should be undertaken within the next 3 months. Minor repairs are required to some gutters, downpipes and window panes to ensure the safety of the footbridge.

The risk in retaining the heritage footbridge until CP6 is considered to be low. If the recommended repair works are carried out then the design life of the footbridge can reasonably be considered to continue for another 4 years. Maintenance recommendations contained herein should be adhered to in order to ensure the safety of the structure is maintained.

The complete list of stations under consideration in the study are shown in the table below.

Station	ELR	Mileage	Asset
Alton	PAA2	49m 13ch	Heritage Footbridge

Below, this memo goes into greater detail on the defects recorded, the remedial works required to ensure the ongoing safety of the structure as well as maintenance recommendations and conclusions.

- *The issue of this memo was delayed in order to incorporate an overview of the most recent structural assessment report against the findings herein. However, as an assessment report has yet to be obtained, Revision A01 of this memo is issued without this evaluation. Should the issue of a structural assessment be forthcoming in the near future, this memo will be revised and verified against the historical assessment data.*

Defects

Photographic records of defects and notes are shown below (see attached Plan):



Photo 1: Wet rot to lower connection of 4 post support column diagonal brace (Platform 1)



Photo 2: Dry rot to underside of 4 post support column diagonal brace (Platform 1)



Photo 3: Dry rot to vertical face of 4 post support column diagonal brace (Platform 1)



Photo 4: Minor spalling and corrosion of reinforcement at southernmost of 4 post column concrete base support (Platform 1)



Photo 5: Split in corrugated roof cladding at stair landing, causing leak into footbridge and water ingress at westernmost corner (Platform 2)



Photo 6: Roof leak above causing swelling and separation of stair corner joint (Platform 2)



Photo 7: Wet rot to top of vertical roof support timber directly below leak (Platform 2)



Photo 8: Wet rot of timber at steel T-section connection at westernmost corner directly below roof leak (Platform 2)



Photo 9: Wet rot of timber at steel T-section connection at westernmost corner directly below roof leak (Platform 2)



Photo 10: leaking gutter allowing water to spill onto country end face of the footbridge causing paint to peel and degrade timbers (Platform 2)



Photo 11: Swelling of timber cladding caused by rainfall. Cladding requires refixing to ensure it does not become dislodged in high winds (Platform 1)



Photo 12: Broken glazing pane in the centre glazing panel above the line. Replacement and repair required



Photo 13: Woodworm affected stair risers (Platform 1)

Remedial Work

The following is to be read in conjunction with Photo Location Plan provided with this memo.

Photo	Defect	Repair	Time frame for action
1	Wet rot causing loss of section	It is recommended that where rot (wet and dry) is present that specialist advice is sought to ensure appropriate remedial action is taken to agree a surface treatment is performed to prevent further section loss	3 Months
2	Dry rot causing loss of section	It is recommended that where rot (wet and dry) is present that specialist advice is sought to ensure appropriate remedial action is taken to agree a surface treatment is performed to prevent further section loss	3 Months
3	Dry rot causing loss of section	It is recommended that where rot (wet and dry) is present that specialist advice is sought to ensure appropriate remedial action is taken to agree a surface treatment is performed to prevent further section loss	3 Months
4	Minor spalling and corrosion of concrete base upstand reinforcement	Small concrete patch repair with associated preparation of area to be repaired.	To be monitored
5	Crack and hole in corrugated roofing causing leak into the footbridge and water ingress at corner location	Repair crack and hole in roof cladding or replace defective corrugated element. Repair timeframe to be aligned with timber repair to ensure the structure is watertight prior to treatment of areas affected by rot.	3 Months
6	Swelling of wood causing separation at corner location	No immediate action Area to be monitored at regular maintenance intervals	N/A
7	Wet rot causing loss of section	It is recommended that where rot (wet and dry) is present that specialist advice is sought to ensure appropriate remedial action is taken to agree a surface treatment is performed to prevent further section loss	3 Months
8 & 9	Wet rot causing loss of section	It is recommended that where rot (wet and dry) is present that specialist advice is sought to ensure appropriate remedial action is taken to agree a surface treatment is performed to prevent further section loss	3 Months

Photo	Defect	Repair	Time frame for action
10	Staining and peeling/loss of paint due to overrunning drainage	Locate source of drainage overrun and take remedial action. Ensure timbers are in good condition, if so re-treat and repaint accordingly.	3 Months
11	Swelling of timber boards due to water ingress	At locations above the platform – repair existing timbers where possible and re-fix to footbridge structure.	6 Months
		At locations above the railway – timber panels are to be monitored during regular inspection – not perceived to be a risk to general public but may cause damage to passing trains.	N/A
12	Broken pane of glass	Replace pane of glass and make good pane mount. All other panes should be checked during future inspections.	3 Months
13	Minor woodworm to stair risers	Treat accordingly to prevent further spread of woodworm	12 Months

Recommendations

Remedial Works:-

Initially it is recommended that the remedial works outlined above are undertaken at the earliest convenience to prevent the spread of the rot and the woodworm.

Maintenance activities:-

It is recommended that to ensure that the footbridge structure is safe for use until the beginning of the CP6 period that regular maintenance surveys are undertaken. It is proposed that following the remedial works recommended above that the footbridge then be inspected on a 6-monthly basis to confirm that its integrity is ensured.

Should any further drainage leaks be identified during the regular maintenance checks, it is advised that these be dealt with swiftly as the water ingress has the ability to have a grossly detrimental effect on the structure.

Conclusion

Subject to the completion of the remedial works and maintenance advice contained within this memo, it is considered that:-

- The risk presented to the public by the continued use of the heritage footbridge into the CP6 funding period is low,
- The structure retains sufficient design life to support delaying its decommissioning until CP6.

L & S.W.R.
ALTON STATION

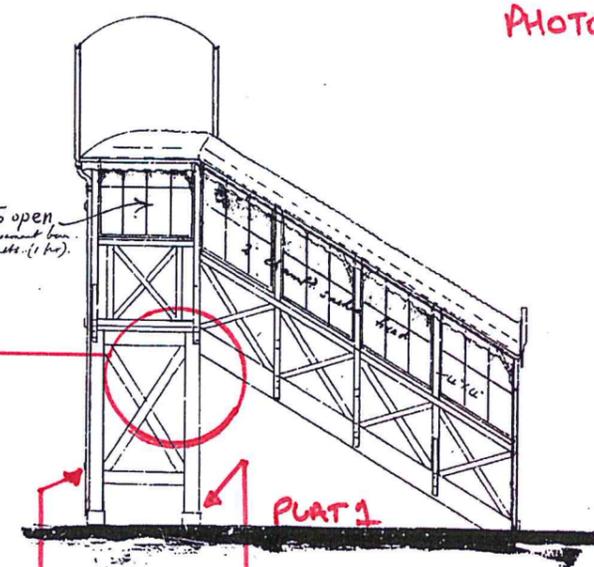
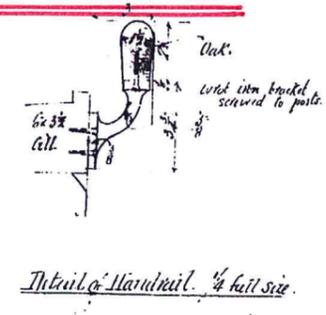
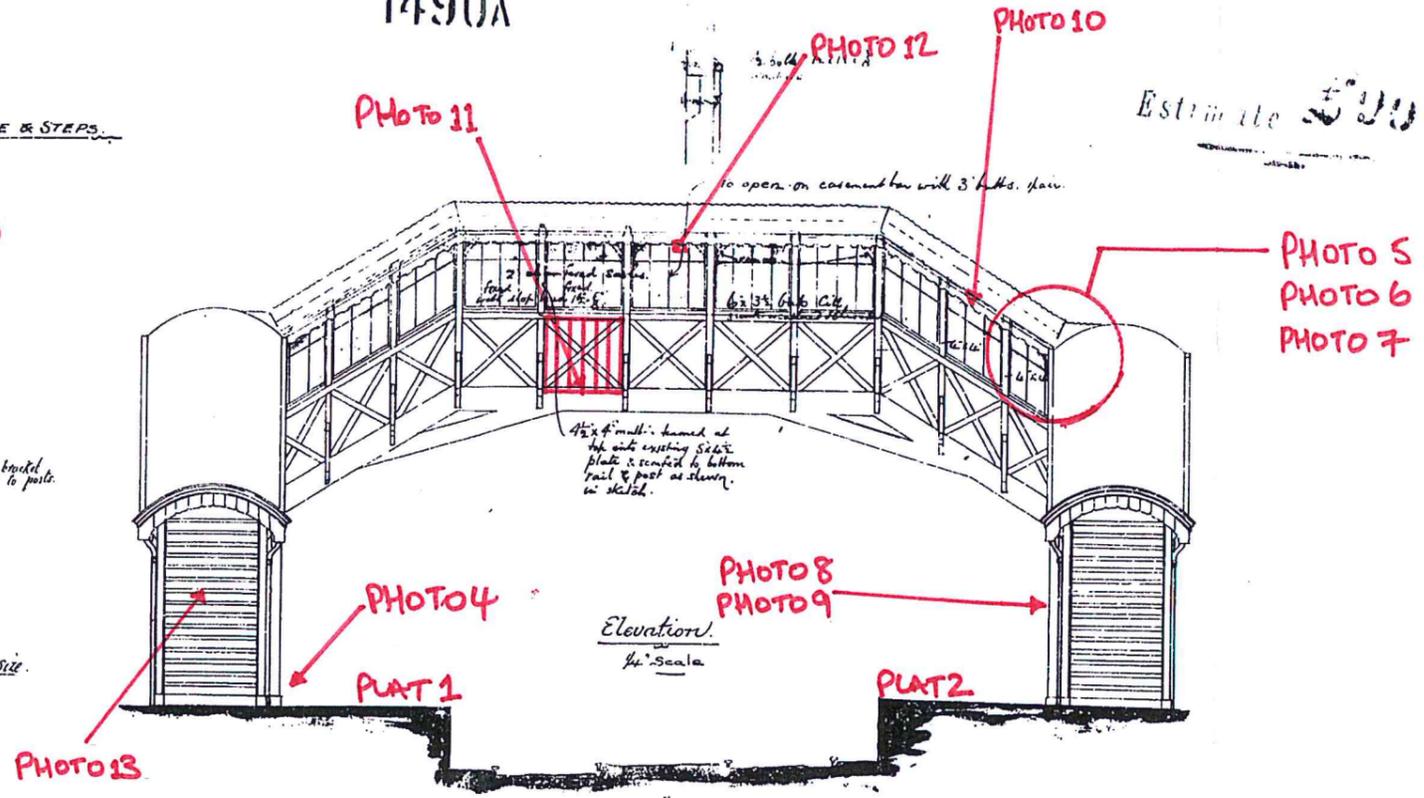
PROPOSED GLAZING TO SIDES OF FOOTBRIDGE & STEPS

DEFECT RECORD PHOTO
PLAN - ALTON STATION
HERITAGE FOOTBRIDGE

06/03/15

1490A

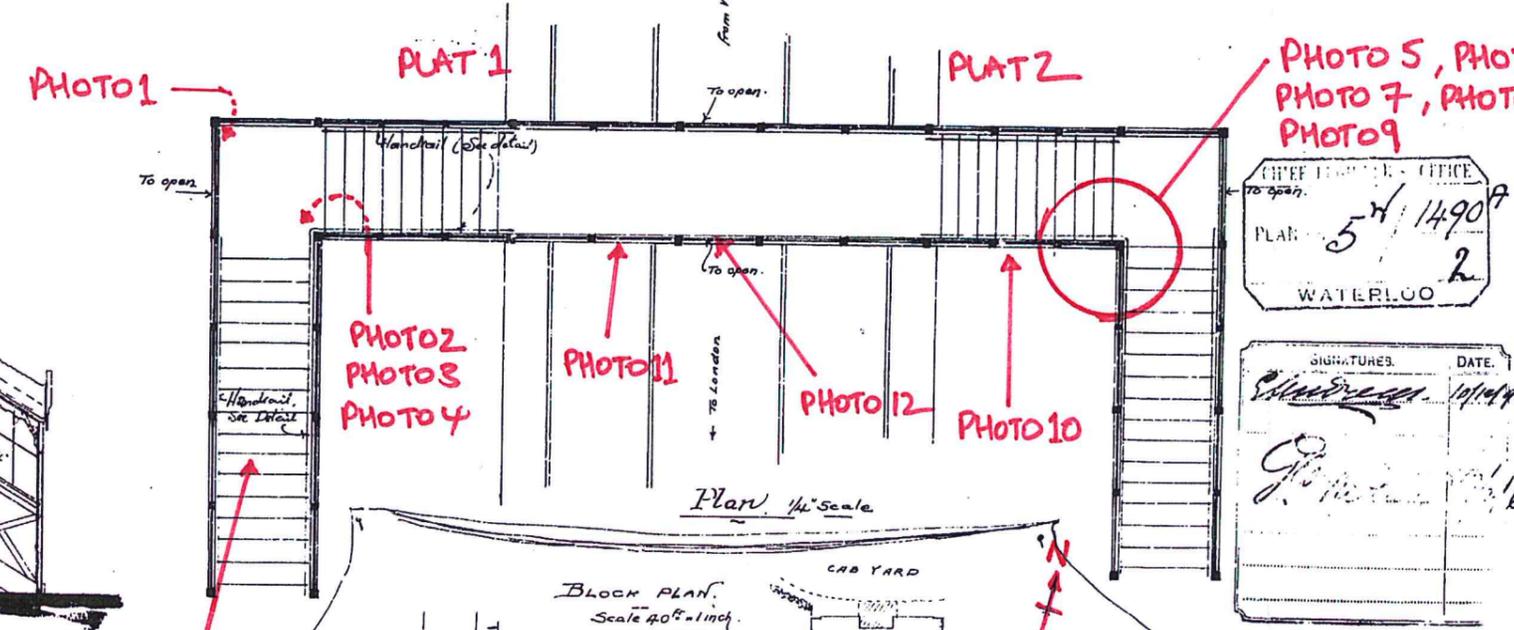
Estimate 500



Side Elevation looking North South
1/4\"/>

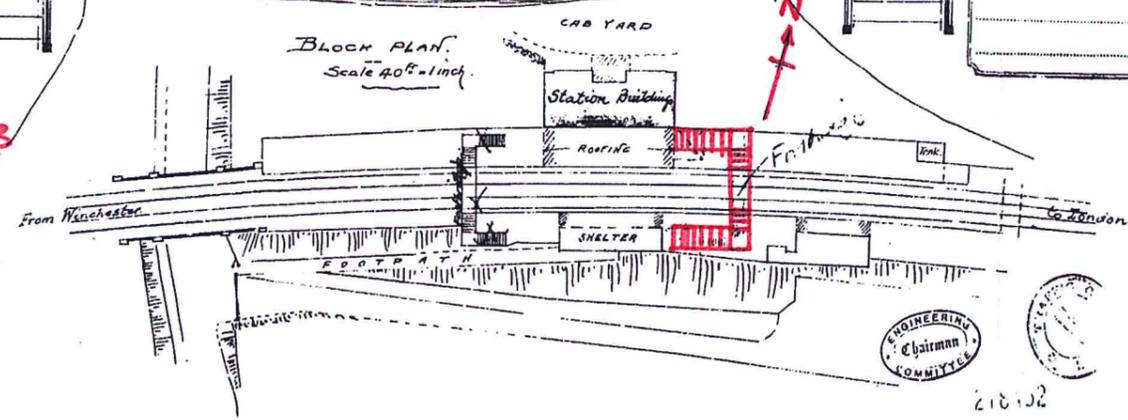
John Wilson

218102



CIVIL ENGINEERING OFFICE	
PLAN	5/1490A
WATERLOO 2	

SIGNATURES	DATE
<i>John Wilson</i>	10/1/15
<i>John Wilson</i>	10/1/15



ENGINEERING
Chairman
COMMITTEE

218102

SOUTHERN HOUSE MICRO FILM UNIT
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