



DESIGN + ACCESS STATEMENT

with historic building appraisal

Bradford-on-Avon Station Foot Bridge

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1.0 | INTRODUCTION

1.1 | INTRODUCTION

This report has been produced by Oxford Architects LLP and commissioned by the charity, The Bradford-on-Avon Footbridge Canopy Project.

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This GRIP Stage 3 report looks at the proposed full restoration of the footbridge at Bradford-on-Avon Station, including the reinstatement of the original canopy on the footbridge.



1.2 | PROJECT BACKGROUND

The project started as an idea by two consecutive Mayors of Bradford on Avon who are not only railway heritage enthusiasts but heavily involved in the preservation of Bradford on Avon's rich heritage.

The truncated footbridge without its canopy is an offence to the beautiful and unique station site which is Grade II listed. Over a number of years, a small self-starting team came together and started investigating the possibility of reinstalling the canopy, which was removed between 1962 and 1965.

The team was spurred into positive action when the footbridge was removed by Network Rail in 2013 to be shot-blasted, repaired and re-painted, before being replaced. It was realised what a lost opportunity there had been to reinstall a replacement canopy at the same time. To rub salt in the wound, a number of the team who volunteer on the West Somerset Railway were able to watch the ex-Trowbridge identical footbridge, which had languished in a station yard at Williton for many years having been removed from Trowbridge Station, being refurbished and reinstalled with a new canopy at Williton station and the result looked splendid.

It was felt that this was proof of what could be done, and so the project was pulled together formally, the team was set up as a charity, and discussions started in earnest with Heritage Railway Technical Consultants, with Network Rail accredited architects and with Network Rail and GWR. Two current key members of the team are still the two, now ex, mayors.

The years of investigative work and discussions with our technical consultants, with Network Rail

and with GWR have confirmed that the project is perfectly feasible.

It does require skilled technical design work, particularly to ensure correct heritage solutions; it will require careful project management and much close liaison with Network Rail and GWR, particularly in the context of NR possessions to enable work over a live railway; and there will need to be careful assessments to arrive at a decision of the best way to reinstall the prepared canopy.

Although this has been done many times now on heritage railways, notably recently at Broadway on the Gloucester Warwickshire railway, this will be the first time that such a job has been done on the live, operational, national railway network. But whilst this adds complexity, the charity are convinced this can be made a success with the skill, goodwill and cooperation of all concerned.

2.0 | SITE HISTORY

2.1 | HERITAGE STATEMENT

The first proposed scheme for a railway through Bradford on Avon was put forward in 1832 as part of a route between London and Bristol.

An initial survey of the proposed route via Bath and Bradford on Avon was carried out by Isambard Kingdom Brunel in 1833. Brunel estimated, following the survey, that construction costs would be £2,800,000.00. A Formal launch of the project took place in July of that year and so the Great Western Railway was born.

In 1834 the GWR presented its bill to parliament but simultaneously the London and Southampton Railway Company presented their bill which also included a proposed branch to Bath via Bradford on Avon. The GWR bill was rejected by parliament and although part of the London and Southampton bill was approved it didn't include the section through Bradford on Avon.

In 1835 the GWR had raised share capital of £2,000,000.00 and consequently a new bill was submitted to parliament which included a branch line which ran near to Bradford on Avon. This time the bill received Royal Assent in August of the same year.

Construction began on the scheme in 1836 and included the use of Brunel's 7¼ "broad gauge" system. Although the first part of the GW route opened in 1838, this only ran from London as far as Maidenhead. By August of 1840 the section at the other end of the proposed route was opened between Bristol and Bath and a year later the whole of the main line between London and Bristol came into use.

In 1844 the GWR promoted a scheme by the Wilts and Somerset Railway Company to construct a line from Chippenham to Salisbury, this included a branch to Bradford on Avon to meet up with the GWR branch from Bath. The scheme included a lease to the GWR together with running powers over the line with the GWR being a substantial shareholder. During 1844 the proposal grew with extensions to include a route to Weymouth. The company duly proposed the changing of their name to the Wilts, Somerset and Weymouth Railway. In 1846 the bill passed through parliament and received Royal Assent. Construction started in 1847 of the goods shed and station buildings at Bradford on Avon, all being built from local Bath stone with Welsh slate roofs and to a Tudor Gothic style. By 1848 the Brunel structures were fundamentally complete.

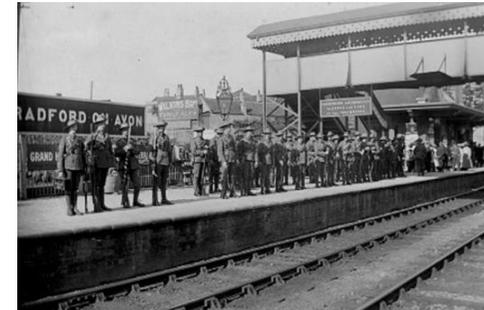
In 1849 huge spiraling costs of the scheme pushed the Wilts, Somerset and Weymouth Railway into an untenable position resulting in the company being absorbed by the GWR by the spring of 1850. The depth of the problem was such that the GWR proposed to abandon the branch to Bradford on Avon which naturally created discontent. Over the next few years various other disputes and problems created delays in the completion of the line. Finally Bradford opened its station in 1857 to both passengers and goods enabling the exportation of local wool.

In 1874 the decision was reached to re-gauge the route converting it to standard 4'8½" used throughout the country.

In 1895 the decision was made to change the station's name from Bradford to Bradford on Avon in order to avoid confusion with the Yorkshire town.



1897 with new footbridge — Installed in time for Queen Victoria's Diamond Jubilee celebrations.



1903: The Wiltshire Rifle Volunteers off to training camp — an early picture of the complete footbridge and canopy.



1950s: The canopy towards the end of its life.

2.0 | SITE HISTORY

Around 1897 a new footbridge was installed together with other modifications to the existing buildings and canopies. The footbridge was of the plate girder type similar to that installed around the same time at Wells and Droitwich Spa complete with its roof enabling passengers to remain dry whilst travelling from one platform to the other.

During the 1960's the line became under threat of closure, however, was recommended to remain open with a variety of operational changes and rationalisation of facilities.

In 1964 the station's goods facilities ceased with the exception of coal traffic, this also coming to a close a year later. In 1966 the signal box also closed together with the removal of redundant sidings. In 1967 the Station Master's house was demolished and around the same time the goods shed also disappeared as did the roof of the footbridge at some time between 1963 and 1967.

By 1980 some unsympathetic architectural alterations had been made to the platform 2 buildings which were subsequently subject to a fire seriously damaging the roof. The architectural merit of the surviving structures was officially recognised resulting in key aspects becoming Grade II Listed in 1992.

In 1998 Railtrack carried out major restoration work on the buildings and more recently major works, together with a re-paint in traditional GWR light and dark stone colours, took place on the roofless remains of the 1897 footbridge.



1950s: Showing clearly how the canopy neatly covers the footbridge steps/



Late 1950s / early 1960s: taken from the station yard showing the full extent of the canopy.



1964: The canopy has been removed.

3.0 | INITIAL CONSULTATIONS + STAKEHOLDER REQUIREMENTS

3.1 | INITIAL CONSULTATIONS

The Bradford-on-Avon Footbridge Canopy Project held initial Consultations with Network Rail (NR) Managers in the NR Asset Management team based in Swindon.

A number of on-site visits and off-site meetings established the credibility of the project and NR Asset managers have expressed support and a commitment to take over the maintenance of the new canopy on condition that they approve the design and the materials.

Detailed consultations were held with GWR (First Group) business managers, who again were supportive in principle and expressed willingness to help the project if possible.

There were a number of site visits by GWR Business Development Managers, and GWR also joined a number of joint meetings with NR to confirm an agreed approach. The GWR support led them to indicate that we should apply to the CCIF fund for a grant towards the GRIP 3 design work.

Bradford on Avon Town Council were then consulted and the Bradford on Avon Preservation Trust, both of who are supportive in principle and these consultations have enabled the project to gain wider publicity in the town, articles in local magazines and other publications, plus public meetings to gain support.

Various users groups, for example the Wessex Rail Partnership and the West Wilts Rail Users Group and others have also been consulted.



3.2 | STAKEHOLDER REQUIREMENTS

Whilst The Bradford-on-Avon Footbridge Canopy Project has no formal stakeholders who instructed the charity to run this project, nor any stakeholders who are dependent on the charity completing this project, they do have a number of significant stakeholders who are vital to the project because they are providing either technical, management or business support, or are important funders or potential funders of the project.

TECHNICAL, MANAGEMENT OR BUSINESS SUPPORT STAKEHOLDERS

- Network Rail
- Great Western Railway
- Bradford on Avon Town Council
- Bradford on Avon Preservation Trust.

POTENTIAL FUNDING SUPPORT STAKEHOLDERS

The key potential funding stakeholder is the Railway Heritage Trust who have committed in principle to granting up to 40% of the build and installation cost, primarily because of the heritage importance of the station.

The other important funding stakeholder is GWR who have generously granted £15,000 from their CCIF fund towards the present Feasibility study and design to GRIP 3. The charity also has many other supporters in Bradford on Avon, some of who have already donated significant sums of

money towards the design and we regard these supporters as stakeholders in the project.

4.0 | CONSENTS + SPECIALIST SURVEYS

4.1 | CONSENTS

In addition to the appointment of a Design Team to undertake the design works, the following consents will be required.

PLANNING CONSENT

A planning application may need to be submitted. If required it is likely to include a consultant period in which neighbouring locals and other relevant parties will be invited to provide feedback on the proposals.

The Local Planning Authority is Wiltshire Council.

LISTED BUILDING CONSENT

Whilst the footbridge itself has not been logged as listed on the Historic England website it sits within the curtilages of the two station platform buildings which are Grade II listed. On this basis a listed building application will be required.

NETWORK RAIL APPROVAL

The proposed works including all structural calculations will require approval from Network Rail. Method statements regarding aspects such as safety will be required in addition to a detailed programme outline the timeframe for the proposed works.

SIGNAL SIGHTING APPROVAL

Network Rail may request approval of the proposal by Signal Sighting Committee to ensure nothing adversely impacts the current infrastructure and systems.

4.2 | SPECIALIST SURVEYS

In addition to the appointment of a Design Team to undertake the design works, the following specialist surveys will be required.

TOPOGRAPHICAL SURVEY

A detailed topographical survey of the footbridge and its immediate vicinity was carried out in November 2019.

If any additional survey information is required the necessary arrangements will be made to carry out this work.

DRAINAGE SURVEY

A drainage survey in and around the footbridge and the station buildings was carried out in November 2019.

If any additional survey information is required the necessary arrangements will be made to carry out this work.

ASBESTOS SURVEY

Further to refurbishment work carried out in 2013 there is unlikely to be asbestos. The Health and Safety file from the previous work has been requested and should highlight any residual risks.

LEAD PAINT SURVEY

Similar to the asbestos there is unlikely to be lead paint. The Health and Safety file from the previous work in 2013 should highlight any residual risks.

ELECTRICAL LOAD TEST

Load monitoring to Network Rail standards will be required and submitted for Landlord approval to ensure the proposals can be accommodated with the existing supply and tolerances

CONTAMINATED LAND SURVEY

Not required as all existing footbridge structure is to be retained. The main scope of the works occurs above ground level.

ENVIRONMENTAL IMPACT ASSESSMENT

Subject to any amendments to landscaping in the vicinity of the works, it is unlikely to be required.

DIVERSITY IMPACT ASSESSMENT

As handrails will be replaced the new design will need to be assessed with regards to its impact on the passengers with diverse requirements. The addition of a roof is a benefit to all users.



Extract from Historic England website showing logged listed building locations (notated by blue triangle icon)

5.0 | SITE APPRAISAL

EXISTING SITE LAYOUT

Bradford-on-Avon railway station is located on the Wessex Main Line in between Avoncliff and Trowbridge, serving the town of Bradford on Avon, in Wiltshire, England.

SITE ACCESS

The principal access to the site is from the North, adjacent to the council managed car park.

The Southern platform can either be accessed from the Northern platform via the footbridge or via Barton Close, located on the South side of the station.

Step free access is available to each platform. There is no direct step free access between platforms within the station. The footbridge enables ease of transfer from one platform to another.

SITE TOPOGRAPHY

The site is relatively level.

SITE CONSTRAINTS

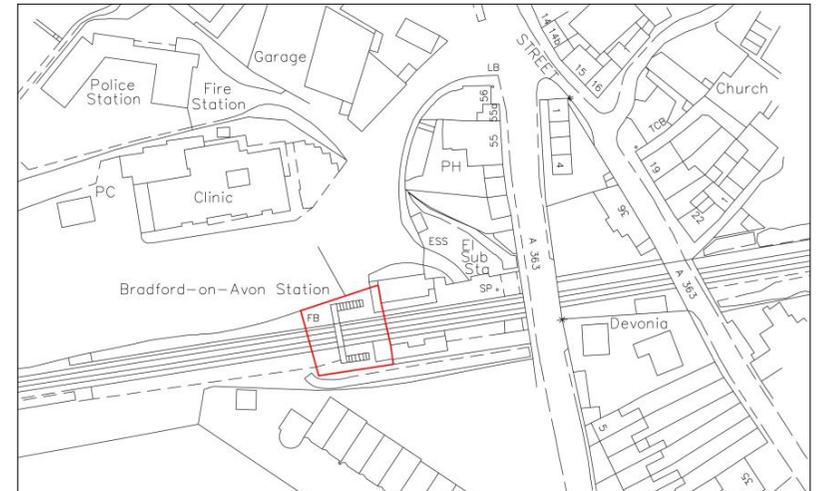
The main constraints for this project is not in the generating of the designs of the original canopy but the administrative organisation to enable the works to reinstate the canopy onto a footbridge which spans a live, operational, national railway network.

SITE BOUNDARY

The site boundary has been defined by the footprint of the footbridge and extended to account for aspects such as reinstatement of the canopy drainage into existing drainage networks and ensuring there is adequate space to carry out the works around the footbridge's perimeter.



Extract from Google Maps showing Site Location



Site Location and Site Boundary

5.0 | SITE APPRAISAL

EXISTING SITE PHOTOS



To reinstate the canopy it extend to beneath the existing roof canopy of the South platform building, however there is no connection between the two structures



The current handrail and balustrade is not a component of the original footbridge therefore it will be proposed these are removed to allow for restoration of these existing details.



Existing light fittings will require relocation to accommodate the reinstatement of a canopy.



Existing structural connection details remain accessible and can therefore be utilized to reinstate a canopy.

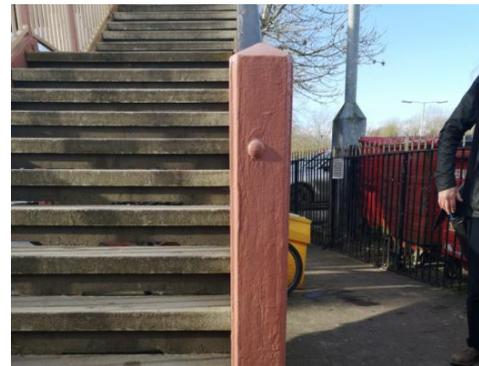


Existing help points and bike racks should remain unaffected by the proposed works.

The CIS and CCTV locations should remain unaffected but some proposed works to the redirection of the cable routes may be required.



As part of the restoration works new low energy lighting will be proposed that sympathetically site alongside the original detailing of the canopy. As such, it will be proposed that the existing lighting is to be removed.



Whilst an original component, the existing newel post will require replacing to allow for new support columns to be installed to support a canopy.



Structural investigations have been carried out to determine if the existing structure can still accommodate a canopy.

6.0 | PROJECT PROPOSAL

6.1 | ARCHITECTURAL DESIGN BRIEF

Provided by Oxford Architects LLP and Fain Redfern Ltd

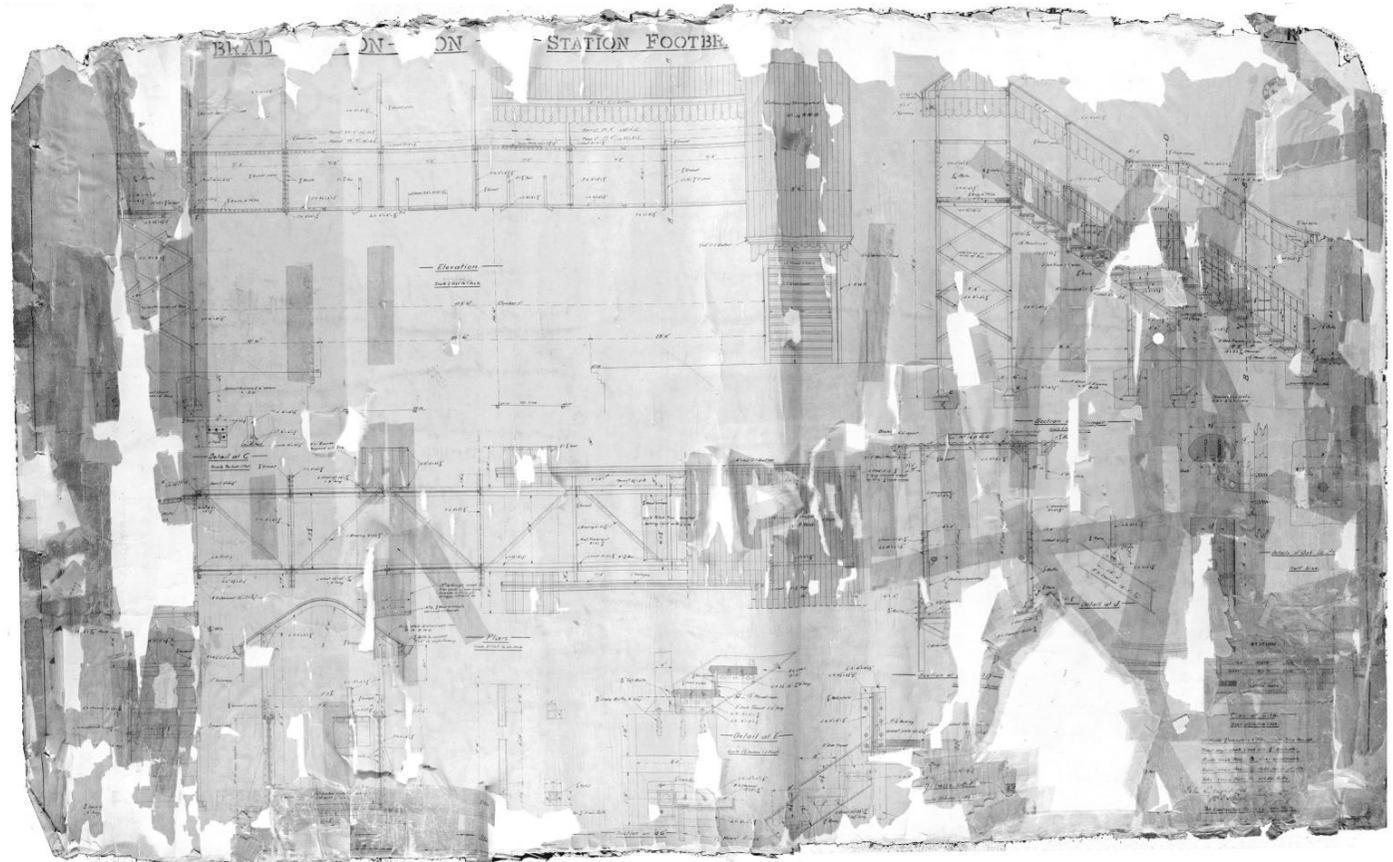


The Grade II listed station buildings of Bradford-on-Avon station are a very rare surviving example of a Brunel designed station and have been restored in recent years.

The project brief is to complete the ensemble and through using historical archive documents as reference, provide a detailed design to enable full restoration of the footbridge and reinstate a canopy on the footbridge at Bradford on Avon railway station.

Supplementary to this, the reinstatement of the canopy will assist in the preservation of the footbridge from the elements and provide safer, sheltered access to pedestrians and staff when transferring between platforms.

As this is a restoration project, there is only one design option for consideration.



Historical drawing of original footbridge and canopy design

6.0 | PROJECT PROPOSAL

6.2 | STRUCTURAL AND CIVILS DESIGN BRIEF

Provided by Scott White and Hookins

Scott White and Hookins

STRUCTURAL

Structural investigations have been carried out to determine if the existing structure can still accommodate a canopy.

In conjunction with this, it is likely remediable works will be required to some of the existing structure. Further investigations will be made as the project progresses.

CIVIL

Surface drainage from the reinstated canopy will need to be reviewed. Current proposals are to link into the existing drainage runs on the North platform and if required a soak away within the existing soft landscaping on the South platform.



Possible surface drainage locations to be investigate

6.3 | MECHANICAL AND ELECTRICAL DESIGN BRIEF



Provided by Proair Consultants

The services installation has two key elements firstly the diversion of the services passing over the bridge to the other side of the station and secondly to supply and install a new heritage lighting which replicate that which was installed at the station in the early years and coordinate with the new footbridge.

New lighting will be chosen to be sympathetic to the heritage structure. Lighting fixtures shall be chosen for their energy efficiency whilst at the same time considering the visual effect of the installation, here there are several options open to us which shall be discussed with the team.

The lighting shall be designed to coordinate with the footbridge, this includes design, scaling, fixing, look including colour, other considerations shall be practicability and risk of vandalism, thus ensuring that what is finally installed meets the long term objectives of the society and satisfies Network Rail and Great Western Railways.

In addition, the lighting shall include emergency lighting allowing the overall installation to meet current Network Rail standards, this shall be completed carefully and discreetly so that there is no visual change.

There are also existing services routing across the footbridge to serve platform 1 from the main services location which are on platform 2. These

include power and communications. Whilst this sounds quite straight forward in reality there are a lot of items to be considered to maintain railway operations. These shall be reviewed item by item with a clear design and method statement/strategy included providing an explanation on how this element of works shall be completed.

The diversion works shall involve civil works on the platforms themselves and coordination with the existing station services and may require the rewiring of these services in the worst-case scenario. However, we aim to carry out some detailed survey work to minimize the works involved.

CIS SCREENS

The existing CIS system will be retained. Any proposed alteration are likely to only relate to the relocation of existing cabling.

SECURITY EQUIPMENT - CCTV

The existing CCTV system will be retained. Any proposed alteration are likely to only relate to the relocation of existing cabling.

6.0 | PROJECT PROPOSAL

6.4 | PROPOSED MATERIALS

REPLACEMENT OF MISSING STEEL ROOF STRUCTURE

All required steel sections and plate work would be recreated using the nearest suitable metric steel equivalents to those originally used. The replicated steelwork would be wet paint decorated in the historically authentic GWR dark stone colour (As T R Williamson's 8108121110- no RAL or BS equivalent).

REPLACEMENT OF PLATFORM LEVEL ROOF COLUMNS

The missing four columns were of a non decorative square cast iron construction These would be replicated as a more ductile steel fabrication.- finish as Steel Roof Structure

RAIN WATER GOODS

The missing round cast iron down pipes from the main span would be replaced with the current cast iron equivalent.

The missing original cast iron O.G. gutters would be replicated using GRP due to maintenance issues over a live railway. All cast iron rain water goods to be wet painted in historically authentic GWR dark stone as Steel Roof Structure. All GRP gutters to receive matching colour impregnated gel coat.

ROOF CLADDING

The missing original sheeting was 3" pitch sinusoidal corrugated metal.

Originally the ridge comprised a very tight radius curve for which the tooling is no longer available. The original appearance of the sheeting including the curved ridge would be specially replicated in GRP. The material would receive the historically authentic Black impregnated gel coat to the upper face and the appropriate GWR Light Stone gel coat to the under side (as T R Williamson 8108121111 - no RAL or BS equivalent).

BALUSTRADES TO STAIRWAYS

The current steel balustrades are thought to date back to the 1970s and are of a non original design.

The proposed replacements would replicate the timber as built T&G appearance. The replicas would be produced from GRP in order to overcome a maintenance difficulty due to the proximity of live rails.

The material would include a colour impregnated gel coat of the historically appropriate GWR light stone.

DECORATIVE DAGGER BOARDS

The missing original timber dagger boards together with the appropriate longitudinal mouldings would be accurately replicated using GRP. The material would receive a combination of colour impregnated gel coats to recreate the original GWR Light stone colour to the dagger boards and the dark stone to the mouldings.

