

## Brigsteer and Underbarrow Bridge Closures



**We welcome you to read Westmorland and Furness Council's 'Brigsteer and Underbarrow Bridge Closures Newsletter' that is issued once every month.**

The newsletter aims to keep our residents and local businesses updated with the latest information on the bridge closures and present the work we are delivering to restore these links for our communities.

The following detailed update on our progress with assessments and the options study was shared with attendees at the drop-in community event that took place on Wednesday 23 October 2024 at Brigsteer Village Hall.

### Work progressing towards possible temporary reopening of the bridges to restricted traffic

Drawing from the previous experience of providing similar solutions, our commissioned consultants, WSP, have been appraising options for:

- **A temporary bridge**, either:
  - Over the existing bridges
  - Alongside the existing bridges
- **Propping the current structure**, either:
  - Vertically below the suspended span
  - Hanging supports from above the suspended span.

In order to accurately appraise these options, WSP have had to gather information to supplement the 1970s records we hold, including:

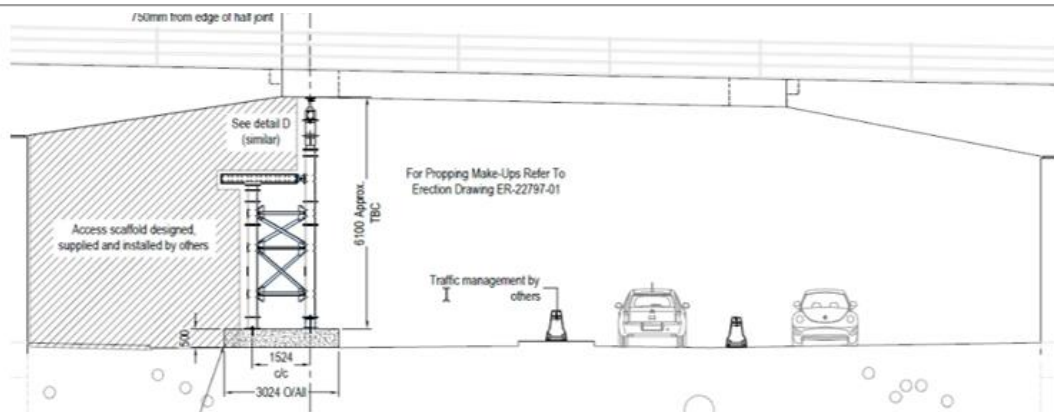
- Geotechnical Desk Studies to ascertain the ground conditions for each option.
- 3D scanning and topographical survey, to determine the exact geometry of the structures
- Environmental and ecological reviews and surveys
- Review of potential road remodelling, particularly the extensive realignment and reduction in carriageway width that would be required for any propping solution from below the bridges.

Having established the above, they are now liaising with specialist contractors to provide cost estimates for each option.

It is clear from the work undertaken to date that each option would require substantial work to implement and have potential undesirable consequences.

### Propping from below

- Props installed below would be substantial **and would require the reduction of the A591 to a single carriageway**, with significant realignment and “chicanes” due to the fact that the half joints are positioned diagonally across the A591 carriageway below. The image below shows an example of a similar scheme.



*Images courtesy of Mabey Hire*

### Propping from above

- The bridges could be propped from above, by positioning girders over the bridges and “cradling” the suspended span.

- However, the scale of the support girders would result in a single lane only over the bridges, with traffic signal control. An example of a previously delivered scheme is shown below.



*Image courtesy of Mabey Hire*

### **Installing a modular bridge alongside the existing structure**

- Installing a temporary modular bridge alongside the existing structures would require extensive construction of support embankments along the approach roads.
- Positioning such a bridge on top of the existing bridges would raise the road level, requiring extensive regrading of the approach roads which currently rise up to the existing bridges.

Whilst all of these options are still considered to be feasible, further extensive consideration is required before the most suitable option can be confirmed, and the Options Study Report finalised.

**Due to the complexities described, the delivery of propping or a temporary bridge solution would only be possible later in 2025.**

### **Further assessment work could reopen the bridges to pedestrians and/or light traffic**

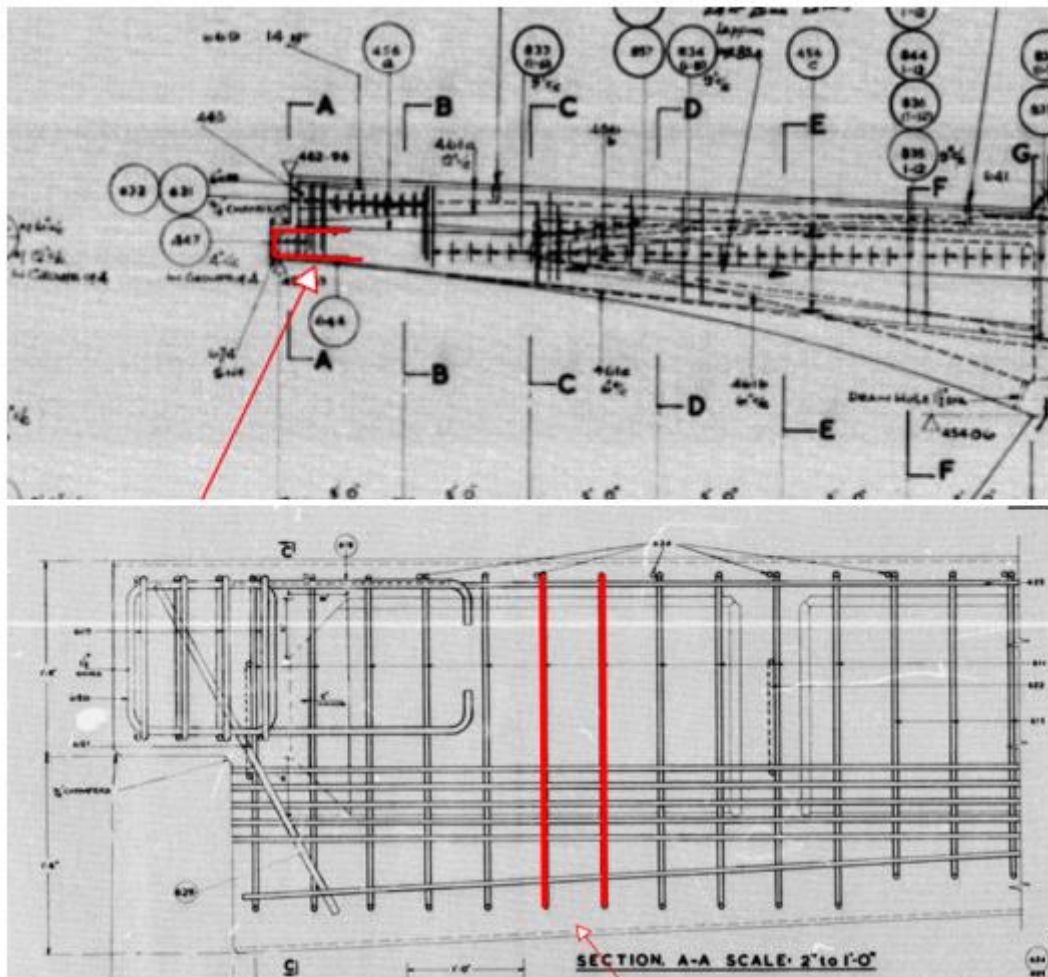
A potentially quicker pathway to reopening the bridges is the use of more sophisticated analysis, with an aim to proving the bridges can accommodate pedestrians and light vehicles.

This sophisticated analysis has been substantially progressed by WSP, and the initial findings pinpointed particular steel reinforcement bars buried within the concrete of the bridge decks that are critical to the capacity of the bridges.

Unfortunately, the 1970s record information we held contained ambiguities over the details of these hidden steel bars. Intrusive investigations were therefore undertaken this week to very carefully core out concrete at the half joint positions (using a “cherry picker” to provide access with overnight closure of the A591) to expose this reinforcement and ascertain its size, spacing and condition.

This will now allow us to remove the conservative safe assumptions which were necessary in the original assessment, **potentially now improving the assessed load-carrying capacity of the bridges.**

*The following image is of extracts from the 1970s record drawings showing the bars exposed during the intrusive investigations:*



Similarly trial holes were excavated on the bridge deck to remove the ambiguity from the 1970s record drawings regarding the fill material above the bridge deck, which



again will be positive for potentially improving the assessed load-carrying capacity of the bridges.

All of this improved information, together with the 3D survey information described above, can now be inputted into the assessment analysis being undertaken by our consultant WSP. **Initial indications are that this process may provide a positive result in our aim to reopen the bridges, albeit with a weight restriction that would allow use by light vehicles.**



*3D point cloud scan with Photogrammetry*

The assessment will, of course, need to follow the national Standards to which we, as a responsible Highway Authority, have to adhere.

These Standards are unambiguous in the requirement for the assessment calculations for half-joint bridges of this size containing post-tensioned elements to have the highest level of “Category 3” check. This requires a checking consultant to independently undertake an assessment process as the assessor: effectively two separate consultants independently undertaking the same, or similar, calculations.

We have now engaged Jacobs as the checking consultant. The two Consultants are currently establishing the technical parameters for this process, following which they will complete their calculations and then undertake a “resolution” process where the independent assessment results are compared and any discrepancies examined and resolved.

We are working closely with WSP and Jacobs to complete this process as timeously as possible, but at this time it is not possible to confirm when that will be completed. However, **it is anticipated that, should the assessment and check both provide**

positive results, it may be possible to reopen the bridges to light vehicles and pedestrians some time in early 2025.

## Further monitoring continues to ensure safety of the A591

The next phase of monitoring will be undertaken overnight on Thursday 31 October 2024. The A591 between Plumgarths roundabout and Shenstone Interchange will be closed overnight from 8pm to 6am to allow this work to be undertaken safely.

The half-joints will be accessed using a mobile cherry picker, and the inside of each joint will be inspected using a borescope which is an [optical instrument](#) designed to assist [visual inspection](#) of narrow, difficult-to-reach cavities. This exercise is required to confirm the A591 is safe to remain open.



**Thank you to all attendees of the recent community drop-in event and business workshop**

A big thank you to all who took the time to attend the community drop-in session at Brigsteer Village Hall. It was a well-attended event, with over 150 local residents and businesses gathering to receive an update on the closures.

Representatives from Westmorland and Furness Council's bridges and structures, traffic management, network management, public rights of way and economic development teams offered one to one conversations, answered specific questions and listened to community concerns.

The teams noted all feedback that was shared and we will provide an update in the November 2024 newsletter.

### **Business workshop and resources**

The Economic Development and Regeneration team held a business drop in session on 25 September at Underbarrow Village Hall.

Businesses were invited to come and talk about the impacts of the bridge closures, discuss ideas for potential areas of help and were offered advice about business support available currently:

- W&F Cumbria Accelerator scheme, [thecumbrialep.co.uk](https://thecumbrialep.co.uk)
- Business rate relief [gov.uk/business-and-trade/business-rates/business-rates-relief-and-reduction/business-rates-relief-on-the-grounds-of-hardship/](https://gov.uk/business-and-trade/business-rates/business-rates-relief-and-reduction/business-rates-relief-on-the-grounds-of-hardship/)
- REPD Advice vouchers, Cumbria Growth Hub [cumbriagrowthhub.co.uk/repf-advice-vouchers](https://cumbriagrowthhub.co.uk/repf-advice-vouchers)
- [investinwestmorlandandfurness.gov.uk](https://investinwestmorlandandfurness.gov.uk)

Businesses can also benefit from the Greening Business Scheme and the Community Grant Finder.

### **Greening Businesses Scheme**

This scheme is designed to support local businesses to understand and reduce their carbon emissions which in turn may help reduce your business overhead costs.

Please note that the deadline for applications is **Friday 29 November 2024**.

Your application will be assessed on your business' ability to:

- Demonstrate actions or ambitions to reduce your carbon emissions
- Provide an aspiration to develop green measures within your activities and operations
- Contribute to a greener local economy

[Please visit our website here for more information on how to apply for the Greening Businesses Scheme.](#)

### **Community Grant Finder**

You can also use our [Community Grant Finder online search](#) to help find a range of different grant opportunities that may be suitable to your business or community need.

All businesses were emailed with the details following the meeting to ensure that those who were unable to join the session received the same information.

The team also attended the community drop-in event to answer questions and explore possible areas of help including a digital marketing campaign and issues around connectivity.

If you would like to discuss any of the above or talk about new ideas please contact the team [econ.dev3@westmorlandandfurness.gov.uk](mailto:econ.dev3@westmorlandandfurness.gov.uk)

## Contacting the team

We encourage you to continue sharing your queries on the bridge closures directly to our team by submitting an enquiry on the [highways online reporting form found at westmorlandandfurness.gov.uk](#).

Monthly meetings also continue with impacted Town and Parish Councils who will represent the voice of your community, so please continue to raise issues via them and we will aim to provide answers.

## ***Background to closing Brigsteer and Underbarrow bridges***

*The decision to close Brigsteer and Underbarrow bridges on the 12 June 2024 was based on the clear findings of a specialist report conducted by independent experts, Jacobs, as a part of Westmorland and Furness Council's [ongoing safety assessments](#).*

*The report found structural concerns, requiring the Council to remove all applied load from the bridges including all vehicles, pedestrians and cyclists. This was an unavoidable decision to ensure the safety of all road users travelling underneath on the A591.*



*Nothing in our past maintenance regime is likely to have prevented the need to close these bridges. The structural concerns relate to the design of the bridge, not their maintenance.*

[More information on our assessment process and frequently asked questions can be found on westmorlandandfurness.gov.uk.](https://www.westmorlandandfurness.gov.uk)

*You are receiving this newsletter because you chose to provide your email address at the Brigsteer and Underbarrow Public Meeting on Thursday 11 July 2024, or you have signed up to receive updates at westmorlandandfurness.gov.uk.*

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