Annex

Major Project Review: Lessons Learned from Cross Keys Bridge

The Intention

Why was the project established?

1. There are few locations in the Yorkshire Dales where everyone, whatever their level of fitness or mobility, could potentially experience a real feeling of wilderness and solitude. Cautley Beck valley is one of these places. There is nowhere quite like it - a hidden, glacial valley a short distance from a main road; somewhere that feels remote but is potentially accessible. Cautley Spout waterfall, England's highest cascading waterfall above ground, can be enjoyed, along with wildlife such as peregrine falcon and raven, and plants such as sundew and butterwort.

2. The project had the potential to make the special qualities of this area more accessible to a range of users and contribute to achieving one of the 2019-24 National Park Management Plan objectives:

   B3 – Carry out works to improve access on appropriate public rights of way and established permissive routes, so that 262km (10%) are suitable for users of all ages and abilities by 2024.

3. In the Western area of the Yorkshire Dales there are still limited opportunities that can be promoted as offering access for many. The replacement of the footbridge with a bridleway bridge and related path improvements would provide an opportunity to widen access to one of the most spectacular locations in the Dales.

What was the project intended to achieve?

4. A bridleway crosses the River Rawthey just north of the Cross Keys Temperance Inn and heads to the entrance to the valley where a footpath leads up to the waterfall and beyond. Previously, steep steps led from the road down to a narrow footbridge across the river.

5. Unlocking the potential of improved access to the valley required the removal of the existing steps and narrow footbridge and replacement with an accessible bridle bridge giving better access from the road to the bridleway beyond.

6. The new bridge would enable better access for all users including pedestrians, horse riders and cyclists, and provide year-round access onto the fell for the farmer, commoners and rescue services avoiding a deep ford crossing. In particular, people with limited mobility would have access to 700 metres of improved PROW leading from the bridge into the valley and viewing point for Cautley Spout waterfall.

7. The bridge design for this location had to be exemplary and reflect the importance of the site and landscape. The project was planned in two phases: a tender for the bridge design; followed by a tender for construction and installation.

8. The bridge had to be designed to meet the standards contained in 'By All Reasonable Means'[1] accessibility guidance, produced by the Sensory Trust on behalf of Natural England and Natural Resources Wales.

9. The bridge also had to be suitable for agricultural use, both for the commoners by quad and trailer and for moving livestock on and off the fell during winter in a quicker and safer way.

What was the original timescale?

10. Discussions on the concept began late in 2019 with officers beginning a conversation with the National Trust to look at the principle of the idea. No further development took place until August 2020 due to the Covid outbreak.

11. The procurement process for the bridge design was launched at the end of December 2021, with the contractor appointed in May 2022 following discussions with the planning team on the principles of the outline design. It was anticipated installation would take place in the summer of 2023.

12. There were several issues to resolve prior to the build:

    - Funding had to be secured based on the estimated cost of £250,000 for the build phase.
    - Environment Agency consent was required for works on or near a main river.
    - The proposed bridge was an enhancement to the existing structure and could not be installed under the National Park Authority's permitted development rights therefore, planning consent would be required.
    - Agreement had to be reached with the landowners on both sides of the river, in addition to the Brant Fell Commoners on the fell.

13. A number of access and works licences had to be prepared with the various interested parties. The river upstream of the bridge is part of the River Rawthey, Wandale Beck and Sally Beck Site of Special Scientific Interest (SSSI). Confirmation was required that the works would not impact the SSSI. The installation of the bridge would need a crane lift and therefore a likely road closure, to be organised by the Ranger Service working with Westmorland and Furness Council as Highway Authority.

14. Farming in Protected Landscape (FiPL) funding was essential to the completion of the project, but due to the timescales involved with the end of the FIPL programme in March 2025, it offered a s

[1] By All Reasonable Means link
www.sensorytrust.org.uk/resources/guidance/outdoor-accessibility-guidance

15. hort window to complete the works. An initial enquiry to FiPL began in November 2023 and on grant approval outlined an expected completion date of September 2024.

How would the project be delivered?

16. Oversight of the project was provided by the Ranger Service Western Team, with the Area Manager and Area Ranger acting as the primary points of contact.

17. The fabrication and installation of the bridge was carried out by the principal contractor, appointed through the procurement process. A specialist sub-contractor engaged by the principal contractor would construct the bridge abutments.

18. Internal consultation on planning, wildlife conservation, and the work of the farm team was coordinated by the Ranger Service.

19. Legal and procurement support was provided internally.

How much was it supposed to cost?

20. The design costs were an unknown, as there was no previous experience of the Authority procuring a bespoke design for a large bridleway bridge. The Authority had been provided with legacy monies for access improvement projects in Sedbergh parish, some of which was used for the design process. The total initial estimate for design and build was £300,000.

21. The design procurement process required the winning bidder to submit an estimated cost for the supply and installation of the new bridge. Based on this design work, the projected cost of the project build was £250,000.

22. It was expected to form part of the Ranger Service work programme, therefore staff time was not separately recorded for the project.

The Reality

What did the project actually achieve?

23. The project was able to achieve its initial aim (see paragraphs 4-9) to replace the existing footbridge with a bridleway bridge accessible to all.

24. The final outcome being a 2.5-metre-wide bridleway bridge, fully accessible to all users. This enables PROW users in the western area of the National Park, including those with reduced mobility, to reach the secluded and picturesque Cautley Valley, with its views of the highest cascade waterfall in England.

25. The structure sits comfortably within the landscape and is only visible at close range, where it is shaded by surrounding trees and positioned lower than the adjacent landform. Although it can be seen from the hill tops above, the selected colours of the steelwork, decking, and wooden rails help it blend subtly into the landscape.

26. The bridge has also been designed to allow local farmers access to their livestock on Brant Fell Common without the need for a lengthy detour, while also providing the Emergency Services with improved access to the Eastern Howgills. A post-and-rail pen at the western end has been constructed to support livestock management when the ford becomes impassable.

27. Although the bridge is narrower (2.5 m) than current guidelines recommend for a bridleway bridge of this length and height (4 m), it remains fully open and usable due to agreed mitigation measures authorised by Westmorland and Furness Council, after receiving support for the reduced width from the British Horse Society and local representations.

How long did it actually take?

28. Further ground investigations were required during the design stage due to concerns about the weight-bearing capacity at the points of contact with the intermediate piers. The final ground investigation was completed in April 2023 (see timeline **Appendix**)

29. This ultimately led to the design being revised to a truss design, with the final drawings submitted in mid-2023. The remaining consents, tender documents, letters of support, and Approvals in Principle were secured during 2023.

30. From the initial FiPL Application in February 2024 to the new bridge being in place and useable took nine months.

31. From issue of the contract to Beaver Bridges in August 2024 the bridge was installed and useable by the end of November 2024.

How was it actually delivered?

32. Overall management of the project was delivered by the Ranger Service. This phase of the project was particularly challenging due to several changes in staff responsible for managing and supporting the work, including long-term absences, secondments, and internal promotions, all of which created unavoidable disruption.

33. The project required involvement and consultation across the Authority and with Westmorland and Furness Council:

    - Planning - The ranger team sought early guidance on the acceptability of the outline bridge design proposed by Beaver Bridges. Confirmation took longer than anticipated, as the planning department sought further information at different stages to support their review of the overall design.
    - Planning Committee – Planning permission for the new bridge was submitted and approved by Members.
    - Conservation – The Wildlife Team undertook the Preliminary Ecological Assessment (PEA), confirming there were no significant ecological issues requiring further resolution.

- Procurement – This was managed in-house, ensuring compliance with value-for-money requirements.
- FIPL application – Completion of the Farming in Protected Landscapes funding process was supported by the FiPL staff in Farm Conservation team.
- Liaison with Westmorland and Furness Council – Securing approvals from PRoW and Highways sections.

34. Due to the complexity of the project, external solicitors were appointed to:

- Draft and negotiate the contract documents.
- Agree variations to the Joint Contracts Tribunal (JCT) construction contract for the bridge build.
- Draft access and maintenance licences.
- Draft the lease agreement with the National Trust for the construction of an abutment on the east bank.

35. External contractors and specialists were also required.

- Specialist bridge contractor Beaver Bridges were awarded the original design tender. The design brief required a structure that could be competitively tendered by multiple contractors, avoiding a bespoke solution that could give the designer an unfair advantage. Beaver Bridges were subsequently awarded the build tender through an open procurement process.
- Groundworks specialists were sub-contracted by Beaver Bridges to construct the bridge abutments.
- An externally appointed Principal Designer provided specialist oversight in line with Construction (Design and Management) Regulations 2015 for a project of this scale.

How much did it actually cost?

36. The total cost was £409,671**,** and the total income received £320,000

Project cost summary

Expenditure	
Bridge Design	£37,215
Bridge Construction	£372,456
Total	**£409,671**
Income	
Grant/Legacy/Donations	£320,000
Total	**£320,000**
Authority Contribution	**£89,671**

Lessons Learned

What went well, and why?

37. There was good co-ordination and oversight from the Ranger Service throughout the project, even taking account of the challenges faced due to several changes in staff responsible for managing and supporting the work.

38. There was strong support across the Authority throughout the development and delivery of the project, with contributions from all Directorates. Conservation & Community provided wildlife, planning and funding advice, Corporate Services provided legal and procurement advice, and Park Services ensured the successful completion of the project.

39. Support from partner organisations, landowners, local community and other interested parties played a significant role in the success of the project. This was particularly evident in receiving the backing of the British Horse Society (BHS), who supported the Authority in advocating for a reduction of the bridge width from 4 m to 2.5 m.

40. Securing external funding and the support received for the FiPL application process

41. Identifying the need for specialist advice on Construction Design Management (CDM) regulations and for contract negotiations in aiding delivery of the project was helpful.

42. Site assessments (including flooding, ground investigations, access licences and road closures) were secured and works were carried out within the required timeframe, taking into account river constraints and groundwork considerations, without causing significant delay.

43. The removal and disposal of the original bridge went smoothly, with the building of the new bridge within 3 months. This was a relatively short period in the overall project timeline.

What went less well, and why?

44. During the project there were several changes in staff responsible for managing and supporting the work, due to long-term absences, secondments, and internal promotions, all of which created unavoidable disruption and consistency of delivery There was also a significant additional staff input across the Authority that had not been identified at the commencement of the project.

45. The revision to the bridge width requirements from 2.5m to 4m was introduced at a very late stage by an external bridge engineer consultant advising Westmorland and Furness Council. During the initial discussions, no concerns were raised regarding the proposed bridge width. In alignment with updated Council approved specifications, the parapet height was subsequently amended from 1.6m to 1.8m to ensure full compliance and with the support of the BHS the width remained at 2.5m. This process

to receive the Council's approval for the bridge specifications was more protracted than anticipated.

46. The Authority was required to produce an updated 'Contract for Work' document for the bridge build tender. The development of this document required additional time and resulted in increased external legal fees. However, it now provides a template for future projects.

47. The issuing of the contract led to an extended period of negotiation regarding the terms and conditions. A substantial volume of work was required, with proposed variations being exchanged repeatedly between the solicitors acting for the Authority and those representing the principal contractor, resulting in increased external legal costs.

48. Our own internal knowledge and understanding of the JCT Intermediate Building Contract issued for the works resulted in further variations and additional costs to the project during and post construction phase.

49. The project experienced sustained cost escalation not because of issues with the bridge construction itself, but because a wide range of associated statutory, design, legal, and contractual requirements increased significantly as the works progressed. Despite extensive early planning, these additional obligations many of which were not fully defined or foreseeable at the planning stage introduced new tasks, approvals, and specialist inputs that increased the overall cost of delivery.

Recommendations for the Future

50. The Authority's lead role in the delivery of this project has been a success, delivering one of the largest Public Rights of Way infrastructure projects in the National Park and provides valuable learning points for the future.

51. The Authority is continuing to become a more project-based organisation in the delivery of our work. Further development of the current Project Management Framework is ongoing and essential to guiding future projects. It should not be underestimated how long projects of this scale take to develop and deliver and the input/skills required from staff.

52. The following recommendations for future project development and delivery have been identified:

    I. Follow the Project Management Framework in creating a clear project plan and costings from the outset.

    II. Engage with a wide range of staff (from all sections of the Authority and partners that could be involved in the project) at an early stage.

    III. Identify individual roles and responsibilities which are clearly defined in relation to project/budget management and ensure communication within the project team and wider Authority.

    IV. Identify early any areas where there may be a lack of knowledge or experience where specialist advice or input may be required. For example, Contract

Management, CDM Regulations, Highways or the appointment of an external Project Manager.

V. Recognise the real costs of delivery and ensure that the impact on officer time is fully considered at both development and delivery stage.

VI. Ensure that clear continuity plans for project teams are developed and detailed in the Risk Register.

VII. Ensure the continuous development of the Project Management Framework and associated Project Management training for staff, including lessons learnt from this and previous Project Reviews.

Major Project Review - Cross Keys Bridge, Cautley, Sedbergh

Timeline

	2019				2020				2021				2022				2023						2024											
Key Tasks	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Initial Concept developed																																	
Tender for Bridge Design																																	
Topo and ground survey																																	
Preliminary Ecological Appraisal																																	
Contractor Appointed for Bridge Design																																	
Paraphet height change to 1.8m																																	
Final Design Plans received from BB																																	
Design and Build																																	
Tender for Bridge Build																																	
Contractor approved for Design & Build																																	
Planning Application Submission																																	
FiPL Grant and Consents																																	
Initial Discussions with FiPL																																	
FiPL Application Approved																																	
Planning Permission Granted																																	
Highways Dept. W&F Council Approval																																	
FiPL Agreement Issued																																	
Bridge Works																																	
Groundworks to abutments starts																																	
Abutment concrete pour																																	
Bridge Lift																																	
BRIDGE OPEN																																	