

Bridge successfully lifted out of flood zone in Wales railway first

June 28, 2021



For the first time ever, a railway bridge in Wales has been raised away from rising river waters to prevent flooding on the track.

Black Bridge, on the Cambrian Line, near Machynlleth, now stands one metre taller than before, after Network Rail engineers and contractors AmcoGiffen worked day and night to lift it away from a river flood zone.

This resilience project will improve passenger journeys and secure the future of this vital transport link between Mid Wales and the rest of the UK.

The bridge has been closed 30 times in the last decade, and ten times in 2020 alone, for emergency repairs caused by flood water.

A total of 360 engineers clocked up more than 32,000 hours to deliver this innovative project, in just six weeks, with the line reopening on June 28 2021.

Engineers opted to lift the 80-tonne bridge manually, rather than using hydraulics, to ensure there was no twisting or buckling of the structure. Eight, 20 tonne chains were used in total and for every 10 meters of chain pulled, the bridge was raised just 10mm.

This resulted in more than 12,800 metres (12.8km) of chain being pulled through the lifting blocks for this challenging lift, which took a lot of strength from the teams on the ground.

Richard Compton, project manager for Network Rail Wales and Borders, said: “Black Bridge has repeatedly flooded over the years during periods of heavy rainfall, causing regular closures and long delays for passengers.

“We experienced this flooding first-hand during our work, which shows exactly why raising the bridge is so important. Improving the resilience of Black Bridge means we can continue to provide a safe and reliable railway for passengers for many years to come.

“I’d like to remind level crossing users that trains will be running again on the line as normal so please follow the instructions at level crossings.”

Andy Crowley, Operations Director Wales and Western at AmcoGiffen, commented: “With nine months from concept to completion, we knew from the outset that it was going to be challenging to deliver this scheme in such a short timescale. We also understood the necessity behind the risk being taken.

“Collaboration was crucial from the start and when severe weather hit the early days of the project, we all worked together to recoup the lost time and maintain our schedule.

“It’s important to acknowledge the true team spirit that has been part of this intense scheme from start to finish and we’re delighted to have played our part.”

Alexia Course, Transport for Wales’ Transport Operations Director, added: “The innovative work carried out by Network Rail will help us to provide a more reliable service on this important line during periods of bad weather.

“We understand disruption is frustrating for our customers, and we’d like to thank them for their patience while the work has taken place over the last six weeks.

“We look forward to welcoming customers back to this popular route.”

Heavy rain caused the river levels to rise at the end of May, hitting the closure mark of the bridge. Despite this setback, work to raise the bridge and reprofile the track has completed on time.

Photo and video credit: Network Rail