

Repairing an almost 100 year old rail-over-canal structure

The main freight route out of Immingham Docks, through Scunthorpe towards Doncaster, is currently closed, as part of a nine-day blockade, to allow work to take place on a unique bridge structure.

The crossing of the Keadby & Stainforth Canal at Keadby Canal Junction, just west of Scunthorpe, has been a key feature of the route, since it was opened by the Manchester, Sheffield & Lincolnshire Railway in 1866 - as an extension of the first South Yorkshire Railway route to Keadby. Originally a swing bridge, the LNER, as the route had become after the grouping, set about rebuilding the structure, and the sliding bridge that is present today was installed in 1925. The bridge is unusual in that it slides at 90 degrees to the canal, but the railway crosses at a roughly 45 degree angle. The bridge deck also carries two footpaths, one that can be used by the public when the bridge is open to rail services, and a second that lines up for use when the bridge is open to river traffic. The structure itself was rebuilt in 2003, with significant work being undertaken to the supporting beams.

After nearly a century of use however, the sliding bridge is a common cause of operational issues on the route, especially in warm weather, when the metal work of the bridge expands and results in problems 'locking' the bridge back into place after being opened to allow canal barges to pass through.

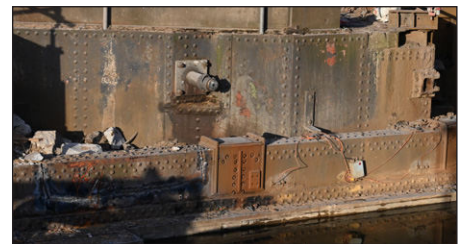
During the nine-day blockade, significant work is being undertaken by Amco, as Network Rail's contractor, to rebuild the abutment wall on the northern side, with a concrete replacement being installed. The canal is currently drained around the immediate bridge area, through the use of a limpet dam. On the sliding bridge deck itself, the wooden beams on which the rails sit, are being replaced by metal supports and new rails, covered in a special coating and painted white to

Below: One of the rail deck wheels and bridge movement rails are pictured below the bridge deck.



Above: The unique sliding bridge at Keadby Canal Junction, pictured open to river traffic.

Right: The north side supporting steel work that the bridge rests on when closed to river traffic. *All: Richard Tuplin*



make them less absorbent of heat in high summer. Once this work has been completed, the next task will be to raise the structure slightly, counteracting the loss of height that has occurred over the years. The bridge itself is believed to be unique in its style and operation. When in position for trains to cross over, the bridge is supported by several steel wedges that hold everything in place. When traffic on the canal needs to pass through, three jacks slowly lift the bridge bed to clear the wedges, which are then retracted into the structure, before the jacks lower the deck. This allows the wheels located on its underside to come into contact with the runners and a strong steel cable then winches the deck open. At the same time as work takes place to raise the structure, bringing the rail deck fully back into position, attention will turn the wheels and movement runners.

While all this work is taking place, a quarter of a mile up the line towards Scunthorpe, the opportunity of the closure is also providing the chance to perform repairs to Althorpe station.

Structural work is taking place on the platforms to repair damaged concrete supports, and also to replace the footbridge. The existing footbridge is believed to be the original from when the station opened on its current site in May 1916, but after 108 years has reached the end of its useful life. As a result, the bridge is being replaced with a modern style structure over the coming months. A temporary scaffolding based footbridge is being constructed on site which will be in use from when the line reopens on 26th February, until April when the new structure will be lifted into place and commissioned. During the intermediate period new supports and foundations will be installed, with the new permanent bridge being located adjacent to the existing structure. Given the low passenger numbers however, around 27 people a week during the 2022/2023 passenger figures, and just 153 per week pre-covid, the station will not become fully accessible.

Below: The wooden longitudinal sleepers have been exchanged for metal replacements, on which the rails will sit.

