

Cowley Bridge Flood Alleviation

The project improved the flood resilience and safety of the Great Western Mainline by 80%, benefiting travellers, local environments and surrounding communities.

Flooding occurs at Cowley Bridge Junction when the two culverts passing beneath the diverging 'V' of the Taunton-Exeter main line and the Devon and Cornwall line become overwhelmed with floodwater, which subsequently causes flooding of the railway line, mass washouts, damage to infrastructure, and delay or suspension of all train services. The positioning of this junction and the associated railway embankments were perhaps not seen as critical at the time of their construction, but they have since created a literal bottleneck.

Suffering significant disruption with sporadic flooding over several years, AmcoGiffen successfully improved the flood resilience in and around Exeter's Cowley Bridge Junction area – with the main possession taking place over a 75 hour blockade.

As part of Network Rail's wider enhancement programme in the South West for flood resilience, following the storms of 2014, the team was charged with the task of removing the main line track in an area prone to flooding, while remediating the inadequate ground conditions. This was undertaken prior to installing the 24 precast concrete chambers, with the use of an 80 ton excavator, before backfilling and relaying the track.

Having been negatively impacted by serious and significant flooding over the last few years, the resilience works have considerably decreased both the severity and the frequency of future flooding. Due to the geography of the site, the project is 'a major prevention', opposed to a complete cure. However, the project team estimates that a severe event, maybe closing the railway, will now occur only once every 10 years instead of once every two years – which is a fantastic improvement of 80% greater resilience.

Ensuring heightened resilience against once-frequent flooding, we have provided significant protection for the railway, travellers and the surrounding communities. This has further facilitated an increase in tourism and trade, along with alleviating the continual worry of our lineside neighbours.

