

CASE STUDY LYDLINCH BRIDGE – BUILT 1942 AND IN GREAT CONDITION

As early as 1942 the Ministry of Defence was considering outline plans for the D-Day invasion. Where and when the landings would take place were top secret, but the speedy movement of the invasion force to the south coast ports was a common factor to all alternatives.

One such route, the A357 through Dorset, needed to be improved at Lydlinch. The picturesque narrow stone bridge over the River Lyden would not withstand the weight of heavy tanks. In 1942, Canadian army engineers erected a temporary galvanized steel Callender-Hamilton bridge alongside the older structure. The tanks and heavy equipment were diverted over the galvanized bridge on their way to Europe. The bridge was not intended to be a permanent structure but has stayed in service having been passed into Dorset County Council's control. It has carried the road's eastbound traffic ever since.

The bridge has seen only minor changes to its original design since it was erected. Timber deck repairs were carried out in 1985 and 2009. The only work of any structural significance was to strengthen the bridge in 1996 to enable it to conform to new standards in order to carry 40t lorries.

At the time, Ted Taylor, Dorset's chief bridge engineer said "We have had no real trouble ensuring that this 'temporary bridge' is brought up to the new standard and the bridge was in remarkably good shape".



Use

The strengthening consisted of bolting 'T' sections to the existing transverse deck beams and the addition of some longitudinal beams but the two main trusses were left as they were in 1942. On a few sections where a lot of cutting and readjustment of design had taken place, the sections were re-galvanized.

The bridge was inspected in 2014 and was in very good condition.

The components inspected included the main truss diagonals, joining plates and some bolt heads. Average coating thicknesses on the diagonal trusses ranged from 126µm to 167µm. On the plate sections the average thicknesses were 131µm to 136µm. On bolt heads average galvanized coating thicknesses ranged from 55µm to 91µm.

Having started life as a temporary structure, the Callender-Hamiliton bridge at Lydlinch, is still in good condition 78 years after it was first erected and can be expected to provide a life well in excess of 100 years.



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