

BB0018 Laystone Bridge carrying the minor road (C1122) over the River Lugg at Marden.

A review what measures can be carried out to reduce accidental vehicle strikes to the parapets of BB0018 Laystone Bridge, Marden, Herefordshire.

1.0 Introduction.

- 1.1 Laystone Bridge (BB0018), carries the unclassified road C1122 between the A49, over the River Lugg to Walkers Green, Marden. The Bridge is approximately 5 miles north of Hereford, grid reference SO 51804767.
- 1.2 Laystone Bridge is made up of 4 masonry arches but is only wide enough for a single carriageway with no verges or footway as the width between the parapets is only 3.4m
- 1.3 The bridge had substantial works carried out to strengthen the arches in 2011 and is rated to carry 40/44t ton traffic.
- 1.4 The purpose of this report is to consider what measures can be used to reduce the accidental vehicle strikes by passing traffic to the bridge parapets following a number of recent incidents.

2.0 Current Situation.

- 2.1 Laystone Bridge is a narrow bridge made up of four masonry arches spanning over the River Lugg with stone masonry parapets and wing walls.
- 2.2 Due to the narrow nature of the bridge there is only a single carriageway over the bridge with no verges or footway, as the square width between the inner faces of the parapets varies from a minimum of 3.4m to 3.7m. The stone masonry parapets are approximately 350mm thick.
- 2.3 The current bridge was listed in 1967 as a Grade II Listed Structure. The listed status of the bridge does not restrict its use by highway traffic, but it does require that Listed Building Consent is sought for any repairs to the bridge, and that the repairs are in keeping with the historic appearance of the structure. This was the principal followed when the bridge was strengthened in 2011.
- 2.4 The River Lugg at the bridge is classified as a Site of Special Scientific Interest SSSI and a Special Area of Conservation SAC. Any planned works to the bridge require consultation and consent from the Environment Agency and Natural England.

3.0 Alternative routes into Marden

- 3.1 Laystone Bridge provides a connecting route from the A49 to the Village of Marden, the width of the road over Laystone Bridge varies from 3.4m to 3.7m.
- 3.2 The nearest alternative crossing point over the River Lugg is 1.5m downstream at Moreton on Lugg Bridge which is narrower at only 3.16m wide and the approach is more difficult due to a sharp bend in the road on the approach to the bridge.
- 3.3 Both bridges over the River Lugg have the capacity to carry 40t traffic but the approaches and the width over the bridge at Moreton on Lugg make it more difficult for HGV traffic. For these reasons previous reviews of this situation have recommended against diverting traffic from Laystone Bridge to use Moreton on Lugg Bridge.
- 3.4 Previous investigations and consultations carried out by Herefordshire Council to consider width restrictions and weight restrictions over these bridges has met objections from the Fire and Ambulance Services, the Road Haulage Association and Sutton Parish Council.

- 3.5 In 2017/18 the Traffic Management Team from Herefordshire Council (BBLP) working in partnership with S&A Davies and the Parish Council and Local Member have installed new signs for an advisory HGV route into Marden.
- 3.6 The Traffic Management Team have advised that this scheme was focused on directing HGV traffic in from the A417 at England's Gate into Marden to avoid the steep hill known as God All Mighty, an unsuitable route for HGV traffic.
- 3.7 The signed HGV route is from the A417 at Bodenham along the C1125 to Small Ashes where the traffic turns onto the C1124 down to Paradise Green, and then up to the S&A Davies site.

4.0 Previous works at Laystone Bridge.

- 4.1 Strengthening works to original existing bridge were carried out in 2011 which allows un-restricted use of this bridge by all vehicles up to 44t Gross Vehicle Weight.
- 4.2 Prior to the strengthening works and due to the history of damage to Laystone Bridge by large vehicles, as part of the design review for the strengthening of Laystone Bridge a feasibility report was produced to consider options for how to improve access over the bridge. Some of the recommendations in this report were implemented when the bridge was strengthened in 2011.
- 4.3 The alterations to the alignment of the approach road 2011 were to adjust the line of the road with new kerb lines and improved the visibility of this with white edge lining to act as a guide for large vehicles over the bridge. Steel bollards were also set in the verge behind the kerb line to deter large vehicles from over running the kerb lines and verges.
- 4.4 These measures initially worked fairly successfully until 2018 when records indicate that there were a number of incidents where large vehicles struck the corner of the parapet of the bridge on the Marden side. Photographs from around this time do not show the white edge lines.
- 4.5 More recently there have been three incidents where large vehicles have pushed against the parapets as they pass over the bridge. To carry out repairs to these incidents it has been necessary for the bridge to be closed to traffic and scaffold put up to provide safe access for the repairs to be carried out from.

5.0 Observations and recommendations.

- 5.1 Having reviewed the measures previously put in place as part of the strengthening works in 2011 and the dates of the recorded incidents of strikes to the bridge parapets since 2011 it would appear that the new kerb lines and solid white edge lining was initially successful to act as a guide for drivers of HGV traffic and that the loss of these lines could be a contributory factor to drivers getting their positioning wrong as they cross the bridge.
- 5.2 As an immediate measure we have recommend that the solid white edge lines and the advance SLOW marking on the road are retraced and that the damage bollard on the Marden downstream is reset in the verge.
- 5.3 The white lining and bollards on the verges will be added as safety elements for this bridge and inspected and reported on future Bridge Inspections.

Appendix.

Photos from 2011 following Bridge Strengthening showing edge lines on approach to Laystone Bridge.

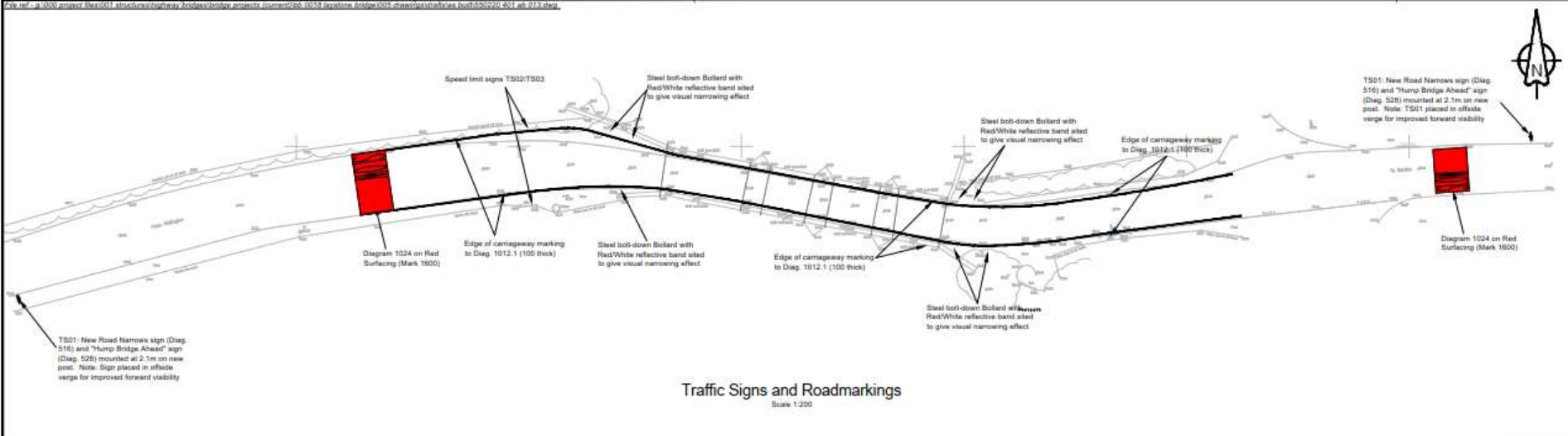


BRIEFING NOTE

August 2022

Photos from 2011 following Bridge Strengthening showing edge lines on approach to Laystone Bridge.





NOTES

- All dimensions in millimetres unless shown otherwise
- Diagram numbers refer to the Traffic Signs Regulations and General Directions 2002

Note: Drawing based on information provided by Amey Wise Valley (Principal Contractor) and Amey Consulting (Designer)

Traffic Signs and Roadmarkings
Scale 1:200



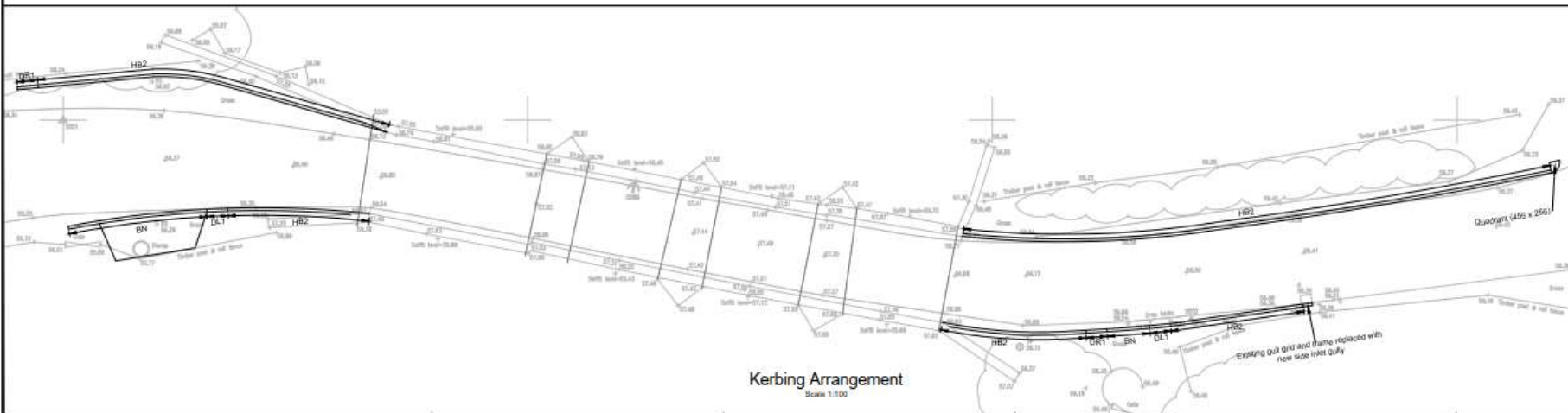
Scheme Ref. .	
Sign Ref. TS01	x-height 100.0
Letter colour N/A	SIGN FACE
Background YELLOW	Width 740mm
Border N/A	Height 1320mm
Material Class RA2 (12899-1:2007)	Area 0.49sq.m

Sign Reference TS02	
Height 600mm	
Width 600mm	
Area * 0.14sq.m	
Material Class RA2 (12899-1:2007)	
Mount Height 2100	
* Area reduced for rounded corners.	

Sign Reference TS03	
Height 600mm	
Width 600mm	
Area * 0.14sq.m	
Material Class RA2 (12899-1:2007)	
Mount Height 2100	
* Area reduced for rounded corners.	

Sign Reference TS04	
Height 300mm	
Width 300mm	
Area * 0.07sq.m	
Material Class RA2 (12899-1:2007)	
Mount Height 2100	
* Area reduced for rounded corners.	

Rev	Revision details	Chd	Appd	Date



Kerbing Arrangement
Scale 1:100

Client
G. HUGHES SA, Amey WISE VALLEY
DIRECTOR OF SUSTAINABLE COMMUNITIES

Project Name
Laystone Bridge

Drawing Title
**STRUCTURES
Highways Improvement Works -
Kerbs, Signs and Lining As-built
Detail August 2011**

Original Drawing Size	A1
Scale	As Shown
Dimensions	

Drawing No.
550220/401/AB/013