Pitfield Bridge over Woady Yallock Creek



B7227 Pitfield Bridge

Location

Rokewood-Skipton Road,, PITFIELD VIC 3351 - Property No B7227

Municipality

GOLDEN PLAINS SHIRE

Level of significance

State

Heritage Listing

National Trust

Statement of Significance

Last updated on - May 10, 2005

What is significant? Pitfield Bridge is a riveted metal Warren Truss bridge on bluestone abutments. The Bridge is a total length of approximately 53 m overall, comprising two spans of 26 metres. It is located south of the existing road on a bypassed crossing with sharply angled approaches. The bluestone abutments (probably relating to an earlier strutted timber beam bridge of c1870) are teamed with deep but lightweight riveted wrought iron Warren Trusses, a central pier of two riveted wrought iron cylindrical columns, and timber cross planking and longitudinal timber decking with scarf-jointed timber kerbs.
How is it significant? Pitfield Bridge is significant for aesthetic/architectural, historic, and scientific (technical) reasons at a State level.
Why is it significant? The Pitfield Bridge is of historical significance for its association with an important pre-gold route once known as the Upper Portland Road, and one of the major connecting routes between the Western District and the ports of Portland and Geelong. A series of important early metal bridges (Pitfield, McMillans, Shelford) as well as some substantial bluestone arch bridges (Winchelsea, Waurn Ponds) survive on this route as

a unique collection, which reflect the significance of the road in the second half of the nineteenth century as a main route for commerce and communication between the Western District and Melbourne, Geelong and Portland markets and ports. The route provided outlets for wool and agricultural produce, as well as gold from diggings between Ballarat and Stawell. The Pitfield Bridge and other bridges along the route also reflect the influence, expertise and technical development of local designers, engineers and metal works in the regional cities of Geelong and Ballarat.
It is of technical significance for its highly refined Warren Truss design which incorporates chords of variable section based on the differential stresses in each part of the bridge. That is, the thickness and number of diagonal members reduces from the ends to the middle of the spans in response to the increased loads closer to the bearing points. Although documented confirmation is yet to be found, there is a high probability that this is a design which draws on the work of Melbourne University engineering department Professor Kernot, in the same way that the nearby McMillans Bridge also demonstrates this design development.
It is of aesthetic or architectural significance as a rare and intact survivor of a late nineteenth century, metal truss bridge on stone abutments. The stonework is of classical proportions and fine finish reflecting the skills of stonemasons and the bridge designer with subtle finishes such as drafted margins to the corner stones, projecting string courses and curved wing walls.
The current condition of the bridge, while dilapidated, creates a very picturesque quality.
Classified: 08/09/2004

Hermes Number 71575

Property Number

Physical Description 1

Pitfield bridge comprises a riveted metal double Warren Truss supported on bluestone abutments with riveted cylindrical columns for the central pier, and a timber deck.
The trusses are unique in Victoria in their employment of varying section diagonal members according to the relative load borne. Angle and flat section wrought iron is used for all the truss components. The bottom chords have wider plates attached to the spans in four steps, ie the central section is four plates thick with reduced number and depth of plates stepping out towards the ends.
The top chords are uniform section angle iron, although the outer segment from the top of the last triangle to the end verticals are small flat bar, probably indicating the lack of structural or load-bearing requirements in these small members.
The diagonals include heavier inward sloping members of larger section towards the supported ends of the spans, and lighter section outer sloping members also increase in size towards the span ends. The outer four inward sloping members are doubled angle iron, while single thickness flat is used for the central diagonals. There are at least 6 dimensions of angle and flat iron used for the diagonals alone.

The metal used is most likely to be wrought iron considering the presumed age (c1890) of the bridge and lack of commonly available structural steel in Victoria at this time. The metal is most likely to have been imported, because of the large number of sections used.
The central pier comprises two riveted wrought iron cylinders, each made from at least 6 curved plates. A decorative Doric capital on each is formed from hollow cast iron. This may also have a functional use in forming the bearing for the truss ends. Light angle iron cross bracing is attached to the cylinders with iron hoop collars at the top and bottom of the piers.
The deck is of timber longitudinal planking 6 by 10 inches with scarf jointed timber kerbs. Much of the deck is seriously decayed. The deck timbers are bolted down to timber cross beams, which are in turn attached to the tops of the trusses with "U" or "J" bolts.
The abutments are coursed, rock-faced basalt masonry with a prominent string-course at the top of the low parapet wall and another about a third way down the abutment. This lower string-course, probably relates to the deck or lower beam level of the original timber bridge, as it falls awkwardly against the truss. The parapet, the corners of the abutments and the projecting string-course all have drafted margins. A series of four small sockets low down in the abutments suggest timber diagonal braces from the former timber beam bridge.

The bridge crosses the Woady Yallock on a bend in an almost north-south direction, and because the crossing has been made perpendicular to the river at a point where the banks are high, the road has necessarily made sharp turns at each end to accommodate the east-west oriented road.

Intactness

The bridge is highly intact in terms of original components of several periods including the c1871 abutments modified in c1890, the 1890 trusses and central pier, and a probably reconstructed deck from the mid 20th century although following the original 1890s pattern of timber kerbs. The deck was probably originally of transverse timbers as was common 19th century practice, so the remains of longitudinal decking is probably an early 20th century adaptation to motor traffic.

This place/object may be included in the Victorian Heritage Register pursuant to the Heritage Act 2017. Check the Victorian Heritage Database, selecting 'Heritage Victoria' as the place source.

For further details about Heritage Overlay places, contact the relevant local council or go to Planning Schemes Online http://planningschemes.dpcd.vic.gov.au/