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## Hiawatha - A Frame Bridge



B6838 Hiawatha A Frame Bridge



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### Location

Albert River Road,, HIAWATHA VIC 3971 - Property No B6838

### Municipality

WELLINGTON SHIRE

### Level of significance

State

### Victorian Heritage Register (VHR) Number

H2069

### Heritage Listing

National Trust

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### Statement of Significance

Last updated on - February 10, 2005

Built in 1933, the Hiawatha "A frame" bridge is scientifically, historically and aesthetically significant at State level. It is the only surviving Victorian (and probably, Australian) example of its structural type, and was produced to a standard design by Victoria's Country Roads Board in the economically-depressed years of the 1930s. This is the last surviving example of an innovative type of Victorian timber bridge, specifically designed for rural Gippsland sites.

The main distinguishing feature of this type of historic Country Roads Board bridge is its pair of "A frames", one on each side of the deck, and each constructed from two large logs with their tops joined high above stream

centre and their bases encased in concrete at each bank of the stream. This pair of solid-timber triangular frames are braced together by cross-stays above the vehicle passageway, and each has a strong steel-rod "hanger" suspended from its apex to support a main steel joist "cross-beam" that carries the dead weight of the bridge superstructure. It has a standard Country Roads Board longitudinal-timber deck.

Technically, this is a very unusual bridge pattern, incorporating elements both of truss and suspension design. When in 1930 the Country Roads Board produced the prototype of what became its standard "A frame" design, it was promoted as an economical successor to the traditional Howe-type Country Roads Board timber-truss bridge of the 1920s, although of more limited application. The use of diagonally-aligned overhead timber compression members in conjunction with vertical steel-rod tension members to provide a clear span of sixty feet, is its only real link with the traditional Howe-type timber truss that it partly superseded.

The suspension element of this design, with its heavy steel rods anchored to the apex of two tall logs forming an "A frame" on either side of the deck, and designed to carry the bridge's load and to transfer leading stresses via the overhead timber frames to abutments and bedrock, fits into a worldwide engineering preoccupation with suspension-type bridge designs during the 1930s. Rather than being suspended from an arch as in some nineteenth-century laminated-arch timber designs, the central section of the vehicle-carrying timber superstructure and deck is here suspended from massive triangular timber frames, the triangle providing both simplicity and beauty of form and an extremely strong structure.

This relatively complex small-timber-bridge design reflects the new-found mental flexibility and ingenuity of Victorian engineers of the Great Depression, forced to confront formidable construction problems with very limited resources, especially on remote and lightly-trafficked rural Developmental Roads. By 1930, the howe-type timber trusses traditionally used to bridge sixty-foot spans in Gippsland were relatively expensive to construct and maintain, and suitable high-quality bridge timbers for that design were increasingly hard to obtain.

The Developmental Roads programme was a significant venture undertaken with limited State loan funds between the two World Wars, in order to populate rural Victoria and boost primary-production revenues. This economical "A frame" bridge pattern was used exclusively on lightly trafficked Developmental roads, and played an essential transport role prior to and during World War 2. This last surviving example of an "A frame" bridge therefore represents a significant historical artifact of the 1930s.

In terms of architectural form and aesthetic appeal, the Hiawatha "A frame" bridge must rank among Victoria's most beautiful timber bridges. Its setting on a winding and remote Gippsland gravel road that is popular with summer tourists and fishermen, adds to both its beauty and its historical authenticity.

Classified: 06/10/1997

Hermes Number 69963

Property Number

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