DANNS BRIDGE

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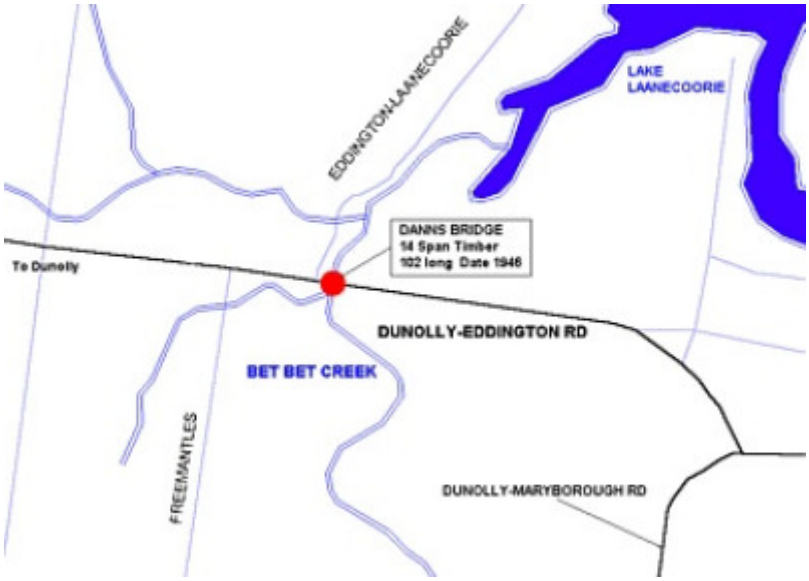
h01850 danns bridge over bet bet creek dunolly eddington road eddington across bridge she project 2004

h01850 danns bridge over bet bet creek dunolly eddington road eddington long view she project 2004

h01850 danns bridge over bet bet creek dunolly eddington road eddington railings she project 2004

h01850 danns bridge over bet bet creek dunolly eddington road eddington underneath she project 2004

h01850 danns river bridge ntv



danns bridge plan

Location

OVER BET BET CREEK, DUNOLLY-EDDINGTON ROAD, DUNOLLY, CENTRAL GOLDFIELDS SHIRE & LODDON SHIRE

Municipality

CENTRAL GOLDFIELDS SHIRE

LODDON SHIRE

Level of significance

Registered

Victorian Heritage Register (VHR) Number

H1850

Heritage Overlay Numbers

HO62

HO173

VHR Registration

November 18, 1999

Heritage Listing

Victorian Heritage Register

Statement of Significance

Last updated on - April 22, 2022

What is significant?

DEMOLISHED IN 2003 UNDER PERMIT P7595

Built in 1946, Dann's Bridge is a large all-timber simple-beam road bridge on the Dunolly-Eddington Road crossing of the Bet Bet Creek tongue of Laanecoorie Reservoir (Bet Bet Creek channel), approximately nine kilometres west of the Bendigo-Maryborough Road. It is a long bridge, with 14 all-timber spans, an overall length of 103 metres and a deck width of 5.5 metres. It occupies a picturesque setting adjacent to a broad road-junction reserve, on a prominent tongue of the Laanecoorie Reservoir. It is the largest timber bridge of its type in the state still in use.

How is it significant?

Dann's Bridge is of historical and scientific (technical) significance to the State of Victoria.

Why is it significant?

It is of historical significance as one of the last large all-timber road bridges built in Victoria. It is a rare example of an all-timber Country Roads Board bridge built in the period of post-war reconstruction immediately after World War Two; the final phase of all-timber bridge construction on Victoria's major roads. The Loddon River valley was once home to many large timber bridges, most of which have now disappeared. The bridge is situated on a historic gold-fields route. It is associated with Victoria's second 'National' irrigation works - the Laanecoorie Reservoir - which was originally constructed in 1889-91.

It is of scientific (technical) significance as the largest example of a bridge built to the standard 1930 CRB motor bridge design, featuring the innovative longitudinal deck system which revolutionised engineering thinking about the viability of timber bridge construction. After the (presently scheduled) replacement of the nearby 10-span Bet Bet Bridge, it will become the only known surviving example of this important class of bridge with more than 5 spans. It was probably the last all-timber bridge of its size built by the CRB; it is highly unusual that as late as 1946 the CRB chose to replace a Main Road bridge using what is essentially a pre Second World War all-timber stringer bridge design. It is also an exceptionally long example of an all-timber road bridge of any type, and is the longest all-timber bridge still in use in Victoria. The only longer examples are the long-disused and declining Tyers Road bridge, which has a different (transverse) deck, and the Hopkins River Bridge at Warrnambool, which is presently scheduled for demolition.

Permit Exemptions

General Exemptions:

General exemptions apply to all places and objects included in the Victorian Heritage Register (VHR). General exemptions have been designed to allow everyday activities, maintenance and changes to your property, which don't harm its cultural heritage significance, to proceed without the need to obtain approvals under the Heritage Act 2017.

Places of worship: In some circumstances, you can alter a place of worship to accommodate religious practices without a permit, but you must notify the Executive Director of Heritage Victoria before you start the works or activities at least 20 business days before the works or activities are to commence.

Subdivision/consolidation: Permit exemptions exist for some subdivisions and consolidations. If the subdivision or consolidation is in accordance with a planning permit granted under Part 4 of the *Planning and Environment Act*

1987 and the application for the planning permit was referred to the Executive Director of Heritage Victoria as a determining referral authority, a permit is not required.

Specific exemptions may also apply to your registered place or object. If applicable, these are listed below. Specific exemptions are tailored to the conservation and management needs of an individual registered place or object and set out works and activities that are exempt from the requirements of a permit. Specific exemptions prevail if they conflict with general exemptions.

Find out more about heritage permit exemptions here.

Specific Exemptions:

General Conditions:
1. All exempted plans and alterations are to be carried out in a manner which prevents damage to the fabric of the registered place or object.

2. Should it become apparent during further inspection or the carrying out of alterations that original or previously hidden or inaccessible details of the place or object are revealed which relate to the significance of the place or object, then the exemption covering such alteration shall cease and the Executive Director shall be notified as soon as possible.

3. If there is a conservation policy or plan approved by the Executive Director, all works shall be in accordance with it.

4. Nothing in this declaration prevents the Executive Director from amending or rescinding all or any of the permit exemptions.

5. Nothing in this declaration exempts owners or their agents from the responsibility to seek relevant planning or building permits from the responsible authority where applicable.

Specific Provisions/Exemptions

No permit is required for routine maintenance or minor repairs which replace like with like.

Construction dates	1946,
Heritage Act Categories	Registered place,
Other Names	FREEMANTLES BRIDGE 2, DAMMS BRIDGE,
Hermes Number	5982
Property Number	

History

Contextual History:History of Place: Built in 1889-91, the Laanecoorie Weir and Reservoir on the Loddon River was the second of two important “National Irrigation Works” undertaken by the Victorian State Government following the passing of the Irrigation Act of 1886. Like its predecessor, the Goulburn Weir, it was co-designed by Stuart Murray, one of Victoria’s most influential early irrigation engineers and subsequently the founding Chairman of the State Rivers and Water Supply Commission.(C.G. McCoy, The Supply of Water for Irrigation in Victoria from 1881 to 1981, Rural Water Supply Commission, 1988, pp.7-8) Although its original capacity of 14,000 acre-feet of water sounds trivial by today’s standards, it was still one of the State’s major irrigation storages in 1910, playing an important role in the development of irrigation in the Loddon and Lower Murray River

Valleys(Victorian Year Book, 1910-11, p. 604.). In 1923, the Waranga Western Channel from the Waranga Basin storage in the Goulburn Valley was extended to the Loddon River, where the Loddon Weir was completed the following year, downstream of Laanecoorie Weir. This interconnection enabled water from both the Goulburn and Loddon Rivers to be conveyed westwards to serve new irrigation districts around Boort and later also the Wimmera-Mallee Domestic and Stock Water Supply System(C.G. McCoy, 1988, pp.16, 18-20). In 1956, the Loddon irrigation system was again supplemented by the completion of the 148,000 megalitre capacity Cairn Curran Reservoir, upstream from the historic Laanecoorie Reservoir (C.G. McCoy, 1988, pp.37-8.). Despite being greatly dwarfed by this more modern storage, the Laanecoorie Weir and its small reservoir remains an attractive man-made water storage in a dry area and has for generations been a popular boating and fishing spot.

Even prior to the Second World War, the Country Roads Board had barely been able to keep up with the replacement of decaying old timber bridges from last century. With new bridge construction virtually non-existent during the war years, and materials and labour extremely scarce in the immediate post-war period, by 1946 the CRB faced a lag of between 600 and 800 bridges in its 'programme of minimal renewal'(Country Roads Board Annual Report, 1946, p.26). The situation with relation to timber bridges was further complicated by the impact of increasing numbers of semi-trailer road transports and multi-axle log trucks using Victorian roads at that time.

It is not clear exactly when the existing structure known as Dann's Bridge was completed although Vic Roads records suggest it was in 1946. This was after the prolonged drought in 1944-5, which left the Laanecoorie Reservoir empty for much of 1945, perhaps facilitating access for the construction of new bridge foundations(C.G. McCoy, 1988, p.20. (Another possible explanation for the construction of a new bridge might include the reservoir being raised around this time).
. Given the difficulty of acquiring large quantities of satisfactory bridge timber in 1946, it is surprising that such a large structure would have been contemplated in an all-timber design. That very year, the CRB Chief Engineer's Report commented that 'difficulty in obtaining good timber will lead to the increased use of steel and concrete, with consequent longer life of structures'(Country Roads Board Annual Report, 1946, p.26).

Perhaps the answer lies in the fact that a contract for the construction of a timber bridge on the Dunolly-Eddington Road over Bet Bet Creek was originally let in 1941, but appears to have lapsed due to wartime shortages of labour and materials. When the project was revived after the War, it is possible that CRB engineers simply approved the construction of a 1930s style all-timber bridge for the sake of expediency, even though it was becoming clear that loading standards for Victorian main road bridges would soon be upgraded. With four-pile timber piers, an 18-foot (5.6 metre) wide longitudinally-planked deck and only four substantial round stringers supporting each 23-foot 6-inch (7.2 metre) span, Dann's Bridge at best met only the standard CRB 1930 class "A" design suitable for 15 ton two-axle vehicles (Refer to CRB Standard Drawing for Timber Stringer Bridge Ref. 3B/50.

It is not easy today to grasp the fact that, until 1946, Victorian bridges and road pavements were being constructed in terms of their capacity to carry two-axle tray trucks and tractors only. The semi-trailer road transport had been so rare before 1939, that it was not a serious consideration for bridge builders. Such multi-axle transport vehicles spread their loads more broadly over a bridge deck or road pavement. However, they provided a problem for old bridges: 'the gross loads which can be carried on such a vehicle without damage to the pavement ... are frequently in excess of those which can be carried safely by many existing structures or without excessive stresses even by bridges in good condition'. By the end of the War, CRB engineers were already predicting that 'with increasing traffic, it is probable that the economic axle load limit will be raised before such structures will have reached the end of their useful life' (Country Roads Board Annual Report, 1946, p.26). Largely because of increasing vehicle loads, as well as the scarcity of obtaining timber of a suitable size and grade, most large CRB timber road bridges built after 1946 would have rolled steel joists over timber piers and abutments, topped by cross-beams and longitudinal decking, and finished with traditional timber kerbs and side-rails.

In 1946, the Australian Conference of State Road authorities recommended that the American Association of State Highway Officials H20-S16-41 loading should be adopted as the standard for all new State Highways and Main Roads throughout Australia.(Country Roads Board Annual Report, 1946, figure 1, p. 33.) In layman's terms, the most obvious change in Victorian bridge design resulting from this decision would be that a ten-feet wide traffic lane was henceforth to be designed to safely carry axle loads of 32,000 lbs, rather than the 25,000 lbs required under the CRB's earlier class "A" standard of the 1930s. Although the 1946 CRB annual report announced the new standard, it appears that it was a few years before its implications actually filtered down into modifications of the Board's standard timber bridge designs and revised sets of drawings of standard drawings were issued (Country Roads Board Annual Report, 1946, figure 1, p. 33).

In the interim, it appears that a number of new main road bridges were built to the old standards and Dann's Bridge on the Dunolly-Eddington Road was one of these. What is significant is that whilst most other large new CRB bridges built in the late 1940s were constructed either of concrete or composite materials (such as a conventional timber deck over rolled steel joists on timber piers), Dann's Bridge was built in all-timber to what was essential a pre-war design. The only other comparable bridge which appears in CRB Annual Reports is the 6-span 192-foot long Upper Goulburn Road Bridge over King Parrot Creek completed in 1945 (Country Roads Board Annual Report, 1945, p.9).
It is highly likely that Dann's Bridge was one of the last all-timber main road bridges of its size built by the CRB and is today the largest surviving example of important standard CRB design.

Assessment Against Criteria

A large log-stringer bridge is now very rare indeed in this State, and its Lake Laanecoorie context provides an attractive setting for this fifty-year-old all-timber structure.

Very few large all-timber bridges, with traditional log-stringers on timber piles, have been built on Victorian main roads since World War Two. The 13 span CRB bridge over the Bet Bet Creek 'tongue' of the Laanecoorie Reservoir is a very rare survivor in the category of large timber bridges from that era of post-war reconstruction. Whereas there were once many lengthy timber or timber-and-steel river bridges in the Loddon Valley, this substantial timber bridge west of Eddington is today a scarce survivor. The nearby 10 span Bet Bet Creek bridge (built 1941, also over Bet Bet Creek), of the same timber-stringer type, has now had most of its timber stringers replaced with RSJs, and is considered to be in a poor condition, and a high priority for replacement.

The Country Roads Board's new longitudinally-decked motor version of the timber bridge, first constructed on the Princes Highway (East) in 1930, had become the norm in Victorian all-timber bridge construction by the mid-1930s. The standard Howe-type timber trusses of the 1920s were no longer considered economic or relevant to future traffic needs, and none were built after 1930. In neighbouring New South Wales the all-timber Allan Truss had been largely displaced by the composite steel and timber Dare Truss early this century.

Most Victorian all-timber bridges built in the years of post-war reconstruction after 1945, were built as strengthened versions of the CRB standard 1930s timber-stringer motor bridge, with longitudinal decking and traditional timber kerbs and side-rails. An occasional minor variation could be found, such as the CRB low-level timber bridge of the 1950s with its external timber piles rising above deck level to cradle the timber superstructure during floods, or the use of hardwood beams placed on their edges and secured by long through-bolts as a primitive laminated-timber deck (not supported by stringers) on some smaller low-level bridges. A few rural shires continued to build bridges on the earlier transverse-decked pattern of the horse-and-buggy era.

However, the great majority of all-timber bridges built in Victoria between 1945 and 1960 were variations on the standard CRB motor-bridge pattern of the 1930s, strengthened a little to meet the greater loading requirements of increasingly-common semi-trailer transport. Because of the relatively short working life of such standard bridge timbers of the post-war period as Messmate, very few of these bridges are functional today. On main roads subject to escalating transport loadings, they are becoming very rare indeed.

Where multiple broad spans were necessary for a large timber river bridge, the standard technique in immediate post-war years was to use long steel joists over traditional timber piers of driven piles, with a standard longitudinal motor deck and traditional timber kerbs and side-rails. In situations where steel joists could not feasibly span the required distance of flood channel, steel trusses (usually electrically-welded) had in the 1930s been used either as deck trusses (below deck) or through-trusses (above deck) with standard timber decks. With so many choices of technology available by 1945, the non-availability and increasing expense of large and durable bridge timbers, and the greatly increased traffic-loading requirements of the post-war reconstruction era, the building of large all-timber-beam bridges fell off drastically. Thus large all-timber bridges of that period, like Dann's Bridge, are very rare indeed.

Bridges built circa 1946 are now fifty years old, which is a long working lifetime for all-timber constructions built from the inferior hardwood timbers still available in those years of post-war reconstruction, when timber of any sort was in great demand and seasoned quality timber was very difficult to obtain. Although a complete new series of all-timber bridge plans was produced by the Country Roads Board during the early 1950s, designed to suit a wide range of post-war Victorian road conditions, these plans were out-of-fashion virtually from the time of

printing.

By the later 1950s the CRB had largely turned away from the use of timber in its new bridge structures, and was concentrating on the development of lighter-weight and flexible prefabricated reinforced-concrete bridge structures. Most Victorian all-timber bridges constructed after the mid-1950s were on relatively minor Shire roads, and even there the rolled steel joist was coming into its own in combination with timber piers and timber decks, except in a few well-forested areas. Hence, this fourteen-span all-timber post-war-reconstruction CRB main road motor bridge at the Laanecoorie Reservoir (Bet Bet Creek) crossing, is unique in Victoria today.

Sizeable examples of all-timber CRB motor bridges of that 1930s pattern, are today extremely rare on Victorian roads. Where functioning examples are still tolerated on State highways, they are on remote stretches of lightly-trafficked highway route such as the Omeo Highway above Omeo. The Livingstone Creek bridge on the Omeo Highway above Omeo is indeed an historic timber bridge, but its timber-beam component is smaller and of a much earlier, and different, type. Other all-timber bridges of the post-1930 CRB pattern on the Omeo Highway, like the adjacent Bingo Munjie Creek bridge, are smaller and more lightly-constructed and generally akin to other little timber CRB-type motor bridges scattered around the Gippsland high country.

The one surviving timber-beam main-road bridge that is akin in its size and original all-timber design to Dann's Bridge, is the nearby Bet Bet Bridge over Bet Bet Creek at the former township of Bet Bet. This bridge, not a post-war bridge (built 1941), has had rolled steel joists inserted beside its ageing timber stringers to support the timber deck, and most of its original stringers have disappeared. It can no longer be regarded as an example of a big timber-beam bridge. In addition, Dann's Bridge is considerably larger and situated in a more picturesque setting. There are plans to replace both bridges with concrete structures specifically designed to meet contemporary and future heavy-vehicle needs.

Dann's Bridge is the second longest surviving all-timber road bridge in Victoria, after the Tyers Road Causeway Bridge. Other longer bridges (Kirwan's Bridge, Hopkins River Bridge, Wuk Wuk Bridge, Calulu Bridge, Mitchellstown Bridge, Chinaman's Bridge, and the old Seymour Bridge) all have introduced non-timber beams, and were not originally built to the 1930 CRB style. This makes Dann's Bridge the longest all-timber road bridge in Victoria still in use.

Its 14 spans is the second largest number of spans for a surviving all timber-beam road bridge in Victoria, and at 103 metres in overall length is exceptional for a timber road bridge still in use. It is not only the last all-timber Main Road bridge of its size built by the CRB, but also the largest unmodified example of the standard 1930 CRB motor bridge design. As such, it incorporates the innovative longitudinal deck system, which revolutionised engineering thinking about the viability of timber bridge construction. After the scheduled replacement of the nearby 10-span Bet Bet Bridge, it will become the only known surviving example of this important class of bridge with more than 5 spans.

Extent of Registration

All the bridge marked B1, including its abutments and land five metres on either side of the bridge and its abutments, as marked on Diagram Number 1850, held by the Executive Director, being part of the land described as government road (Dunolly-Eddington Rd), Parish of Eddington