

# COWIES CREEK RAIL BRIDGE NO 2



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123524\_Cowies Creek Rail Bridge No2\_Geelong\_HV\_5 Feb 2010\_002.jpg



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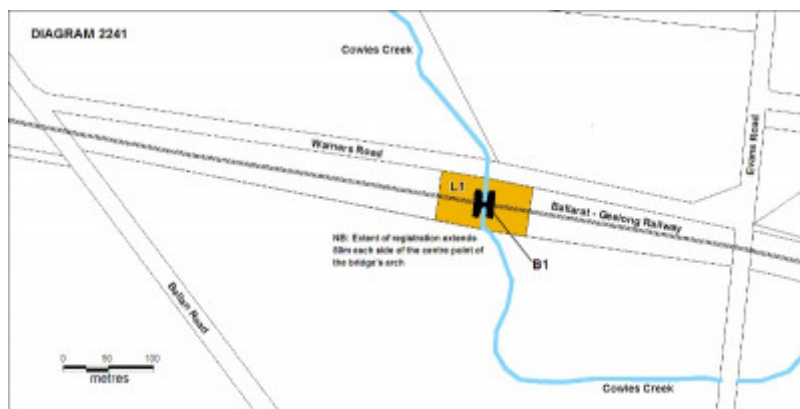
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Cowies Creek Rail Bridge No2\_Geelong\_16 Feb 2010\_Plan.jpg

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## Location

GEELONG-GHERINGHAP RAILWAY (GEELONG-BALLARAT RAILWAY), MOORABOOL, GREATER GEELONG CITY

## Municipality

GREATER GEELONG CITY

## Level of significance

Registered

## Victorian Heritage Register (VHR) Number

H2241

## Heritage Overlay Numbers

HO1971

## VHR Registration

May 13, 2010

## Heritage Listing

Victorian Heritage Register

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## Statement of Significance

Last updated on -

### What is Significant?

Cowies Creek Rail Bridge No 2 is a single span semicircular arch (or roman or round arch) bluestone bridge situated on the Geelong to Ballarat railway over Cowies Creek, 9.5 kilometres from Geelong. It was constructed in 1860 by Evans, Merry and Co. for the Victorian Railways to the design of George Darbyshire, engineer-in-chief of the Victorian Railways Department.

Rail links to the goldfields were considered priority routes by the colonial government and the Melbourne to Bendigo and the Geelong to Ballarat lines were the first two trunk lines built by the newly formed Victorian Railways Department. Geelong had been linked to Melbourne by rail since June 1857 but this line had been constructed by the privately financed Geelong to Melbourne Railway Company, which was a Geelong led initiative. The Geelong to Ballarat line opened in 1862 and became an important early link between the Ballarat goldfields and Geelong Port. This enabled Geelong to compete in shipping with Melbourne and facilitated the post gold rush growth and development of Ballarat as a major regional centre. Ballarat later became a railway hub for a number of other lines in the north west of Victoria. Subsequently all railway traffic from Adelaide and the Western Districts went by way of Geelong until the direct rail route between Melbourne to Ballarat was completed in 1889.

The bridge is characterised by its sophisticated design and finely finished stonework of rusticated ashlar which contrasts with the smooth surfaces of details such as the voussoirs, string courses and coping stones. Other

refinements include the splayed abutments and the curved and tapering wing walls. The corners of the bridge are marked by large square pilasters supported on curve-ended corbels, and parapet walls of rusticated ashlar with a curved-top coping extends along the length of both side of the bridge.

The arch was designed to carry two lines of railway track over Cowies Creek, which was diverted to cross the railway alignment at a more convenient angle for bridge building, and hence avoid the need to skew the bridge.

### **How is it Significant?**

Cowies Creek Rail Bridge No 2 is of historical and architectural significance to the State of Victoria

### **Why is it Significant?**

Cowies Creek Rail Bridge No 2 is of historical significance for its association with the Geelong to Ballarat Railway, which was one of the first two main trunk lines constructed by the Victorian Railways to connect the main gold producing towns to the ports of Melbourne and Geelong .

Cowies Creek Rail Bridge No 2 is of historical significance for its association with George Christian Darbyshire, engineer-in-chief of the Victorian Railways Department at the time of the bridge's design, and an important figure in the development of Victoria's railways.

Cowies Creek Rail Bridge No 2 is of architectural significance as a rare and unusual style of masonry rail bridge reflecting established British design precedents in the use of semicircular or round arch in local bluestone. The bridge is a rare type, as semicircular arch forms are only known from a handful of early rail bridges, generally the multiple arch viaducts such as Harpers Creek and Kismet Creek at Sunbury.

Cowies Creek Rail Bridge No 2 is of architectural significance for its sophisticated design and highly elaborated stonework treatment which is evident in the bridge's substantial abutments, curved and tapering wing walls and in the bridge's stonework and careful detailing.

## **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 alterations are to be planned and carried out in a manner which prevents damage to the fabric of the registered place or object. **General Conditions: 2.**

Should it become apparent during further inspection or the carrying out of works 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 works shall cease and Heritage Victoria shall be notified as soon as possible.

Note: All archaeological places have the potential to contain significant sub-surface artefacts and other remains. In most cases it will be necessary to obtain approval from the Executive Director, Heritage Victoria before the undertaking any works that have a significant sub-surface component. **General Conditions: 3.**

If there is a conservation policy and plan endorsed by the Executive Director, all works shall be in accordance with it. Note: The existence of a Conservation Management Plan or a Heritage Action Plan endorsed by the Executive Director, Heritage Victoria provides guidance for the management of the heritage values associated with the site. It may not be necessary to obtain a heritage permit for certain works specified in the management plan. **General Conditions: 4.**

Nothing in this determination prevents the Executive Director from amending or rescinding all or any of the permit exemptions. **General Conditions: 5.**

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

**Non Registered Fabric:**

All works including demolition and internal modification to structures not included in the extent of registration are permit exempt. Additions to structures not included on the extent will require either the approval of the Executive Director or permit approval. Should these works require a permit is at the discretion of the Executive Director.

The construction of any new structures within the boundaries of this registration will require a permit.

**Minor Works :**

**Note:** Any Minor Works that in the opinion of the Executive Director will not adversely affect the heritage significance of the place may be exempt from the permit requirements of the Heritage Act. A person proposing to undertake minor works may submit a proposal to the Executive Director. If the Executive Director is satisfied that the proposed works will not adversely affect the heritage values of the site, the applicant may be exempted from the requirement to obtain a heritage permit. If an applicant is uncertain whether a heritage permit is required, it is recommended that the permits co-ordinator be contacted.

**Regular Site Maintenance :**

The following site maintenance works are permit exempt under section 66 of the Heritage Act 1995,

- a) regular site maintenance provided the works do not involve the removal or destruction of any significant above-ground features or sub-surface archaeological artefacts or deposits;
- b) the maintenance of an item to retain its conditions or operation without the removal of or damage to the existing fabric or the introduction of new materials;
- c) cleaning including the removal of surface deposits, organic growths, or graffiti by the use of low pressure water and natural detergents and mild brushing and scrubbing;
- d) repairs, conservation and maintenance to plaques, memorials, roads and paths, fences and gates and drainage and irrigation.

**Note:** Surface patina which has developed on the fabric may be an important part of the item's significance and if so needs to be preserved during maintenance and cleaning.

**Note:** Any new materials used for repair must not exacerbate the decay of existing fabric due to chemical incompatibility, obscure existing fabric or limit access to existing fabric for future maintenance. Repair must maximise protection and retention of fabric and include the conservation of existing details or elements.

**Public Safety and Security :**

The following public safety and security activities are permit exempt under section 66 of the Heritage Act 1995,

- a) public safety and security activities provided the works do not involve the removal or destruction of any significant above-ground structures or sub-surface archaeological artefacts or deposits;

**b)** the erection of temporary security fencing, scaffolding, hoardings or surveillance systems to prevent unauthorised access or secure public safety which will not adversely affect significant fabric of the place including archaeological features;

**c)** development including emergency stabilisation necessary to secure safety where a site feature has been irreparably damaged or destabilised and represents a safety risk to its users or the public.

**Note:** Urgent or emergency site works are to be undertaken by an appropriately qualified specialist such as a structural engineer, or other heritage professional.

#### **Signage and Site Interpretation :**

The following Signage and Site Interpretation activities are permit exempt under section 66 of the Heritage Act 1995,

**a)** signage and site interpretation activities provided the works do not involve the removal or destruction of any significant above-ground structures or sub-surface archaeological artefacts or deposits;

**b)** the erection of non-illuminated signage for the purpose of ensuring public safety or to assist in the interpretation of the heritage significance of the place or object and which will not adversely affect significant fabric including landscape or archaeological features of the place or obstruct significant views of and from heritage values or items;

**c)** signage and site interpretation products must be located and be of a suitable size so as not to obscure or damage significant fabric of the place;

**d)** signage and site interpretation products must be able to be later removed without causing damage to the significant fabric of the place;

**Note:** The development of signage and site interpretation products must be consistent in the use of format, text, logos, themes and other display materials.

**Note:** Where possible, the signage and interpretation material should be consistent with other schemes developed on similar or associated sites. It may be necessary to consult with land managers and other stakeholders concerning existing schemes and strategies for signage and site interpretation.

#### **Fire Suppression Duties :**

The following fire suppression duties are permit exempt under section 66 of the Heritage Act 1995,

**a)** Fire suppression and fire fighting duties provided the works do not involve the removal or destruction of any significant above-ground features or sub-surface archaeological artefacts or deposits;

**b)** Fire suppression activities such as fuel reduction burns, and fire control line construction, provided all significant historical and archaeological features are appropriately recognised and protected;

**Note:** Fire management authorities should be aware of the location, extent and significance of historical and archaeological places when developing fire suppression and fire fighting strategies. The importance of places listed in the Heritage Register must be considered when strategies for fire suppression and management are being developed.

#### **Weed and Vermin Control :**

The following weed and vermin control activities are permit exempt under section 66 of the Heritage Act 1995,

**a)** Weed and vermin control activities provided the works do not involve the removal or destruction of any significant above-ground features or sub-surface archaeological artefacts or deposits;

**Note:** Particular care must be taken with weed and vermin control works where such activities may have a detrimental affect on the significant fabric of a place. Such works may include the removal of ivy, moss or lichen from an historic structure or feature, or the removal of burrows from a site that has archaeological values.

Construction dates            1860,

Architect/Designer Darbyshire, George C,  
Heritage Act Categories Registered place,  
Hermes Number 123524  
Property Number

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## History

DATE BUILT: 1859-61

### CONTEXTUAL HISTORY

Victoria's first railways were directly related to the population expansion and wealth generated by the gold rushes of the 1850s. While the first railway in Victoria (and Australia) was intended to link the main settlement at Melbourne with the port, the next wave of railway building served the gold towns of Bendigo and Ballarat.

The Geelong and Melbourne Railway Company was a local Geelong initiative born out of the rivalry between the two ports for shipping and goldfields commerce with works commencing on 20 September 1853. Edward Snell who had previously been responsible for a number of Geelong buildings, was the engineer for the line, while Ferdinand Kawerau was the company's principal architect.[1] By mid 1856 the railway was complete apart from the track between the Werribee River and Williamstown Junction, where it was expected the line would join with the Mount Alexander Company's branch.[2] Trains began running from Geelong to Lara in November 1856, and through to Little River by January 1857.

Construction of railways had begun in earnest in the later half of the 1850s thanks in no small part to the efforts of Surveyor General Andrew Clarke. A Commission reported on 26 September 1854 that the construction of railways on a grand scale should be adopted and that such undertakings should be carried out by the Government. Subsequently a Select Committee authorised the Surveyor General to undertake surveys to determine the most suitable path for proposed main trunk railway lines. Surveying of the proposed lines appears to have begun in 1855. Some of this growing Government commitment to railways has been sourced to the Royal Engineers, who had been the regulators of Britain's private railways in the late 1840s railway boom. The Governor General at the time, Sir William Denison, was himself the most powerful of the Royal Engineers. The *Argus* noted that as the serious difficulties of the Mount Alexander Company spurred the Legislative Council to pass a motion affirming the desirability of government take over of the company, but rather than doing this immediately, it established a Royal Commission to examine transport options.[3]

The Commission was chaired by Francis Murphy with two Royal Engineers, the Commissioner of Public Works, Charles Pasley and Archibald Ross. The Commission's Report of September 1854 suggested the government acquire the Mount Alexander Company and build three main lines of railway: from Melbourne to Castlemaine and Bendigo; from Melbourne in the direction of Sydney" (presumably to eventually link up with a south bound railway in New South Wales); and from Geelong to Ballarat.[4]

Pasley, and the Surveyor General, Captain Andrew Clarke, were appointed Trustees of the Melbourne, Mount Alexander and Murray River Railway. The District Surveyor at Williamstown, George Christian Darbyshire examined the company's works and finances and was later chosen for the position of Engineer in Chief. His Assistant Engineers and Surveyors included Robert and George Watson, Messrs Zeal, Bennet, Green, Hardie and Smith. Peter Lalor of Eureka fame was appointed Inspector of Works. Darbyshire was replaced as Engineer in Chief in 1860 by Thomas Higginbotham, but it would seem that the designs for the bridges had already been determined by this stage.

With the Geelong to Melbourne connection completed, the next task facing the railway builders was the link between Geelong and Ballarat. During the 1850's gold rush, Ballarat had grown enormously but a journey from Geelong, the nearest port, could take nine hours by coach. A private venture to build a railway to Ballarat was floated in 1853 as the Geelong and Ballarat Railway Company, a large amount of capital was subscribed, and a survey made of the route. However, following a second reading in parliament of the enabling bill, a change in government policy that it would take the responsibility of constructing the main trunk lines resulted in the bill being

defeated.[5]

On 24 November 1857, government approved the construction of the Geelong - Ballarat railway and works were inaugurated by an elaborate ceremony at Geelong on 26 August 1858 with a gala occasion comprising much festive spirit including a procession, flags, bunting, speeches and celebratory dinner.

Construction of the railway to Ballarat was straightforward, apart from the challenge of crossing the Moorabool River valley. The solution, the Moorabool viaduct, was a striking feat of engineering with its 1450 feet (442 metres) span and ten arches. The line was built to a high standard by the Victorian Railways, with double track provided throughout, stone station buildings at all of the initial stations, a number of stone bridges for roads that crossed the line.

Wining tenderers for construction of the line were Evans, Merry & Co. who were awarded the contract for £1,271,841. However, the contract was taken over by Messrs. Williams and Little after Evans & Merry fell into financial difficulties. Little had also been involved in the original contractors' partnership, but the complexities of the arrangement appear to have continued as a matter of dispute for several years, with a protracted series of court cases into the 1870s.

Construction was completed by March 29th 1862 and the line was officially opened on 10 April 1862. It remained the only rail link from Ballarat to Melbourne until 1889 when the current direct line through Bacchus Marsh was completed.

William Robert Merry was a well established civil engineer, who claimed that he, Mr. G. S. Evans, and Mr. Little were the original contractors for the construction of the Geelong and Ballarat railway, but he had been cheated out of the contractual agreements. He made accusations of perjury and the attempted substitution of a deed of contract to his disadvantage. The cases continued for many years initially commencing in 1862 and as late as 1894 when he made an unsuccessful claim against the government for his claimed share of the contract payments which he put at £442,400.[6] However, he appears to have suffered as a result of the railway contract failing and became insolvent later in the century. [7]

## **HISTORY OF PLACE**

A series of contracts were advertised by the Board of Land & Works in January 1858 for construction of various sections of the Geelong to Ballarat railway, with the Cowies Creek section numbered 27, comprising the greatest portion of 52 miles, and evidently including both the substantial bridges over Cowies Creek, as well as the bulk of the rest of the line. Other contracts dealt with the Moorabool viaduct, various stations and other discrete infrastructure.[8]

Evans Merry & Co. commenced the works on the bridge, but the contract had been transferred to Williams and Little by the time the bridge was complete. There is a separate reference to Mr. Alexander Smith carrying out works on other bridge construction on the line at the same time, with, Mr. Davies described as ".being the superintendent engineer." [9] It is likely that Smith and Davies were employees of one or both of the contractors and had direct responsibility for supervising the construction works.

The design of the bridge is most likely to have been the responsibility of one of the Victorian Railways own engineers. It is known that the engineers-in-chief George Christian Darbyshire (1856-60) and Thomas Higginbotham (1860-78) took overall responsibility for the permanent way and bridge designs for the main trunk lines. the bridge arch is very similar to those on the two Sunbury stone viaducts, which were probably designed by William Edward Bryson.

Andrew Clarke had appointed William O'Hara to design bridges and viaducts, while Bryson stated to the Select Committee of the Legislative Assembly on Railway Contracts that he had designed most of the large bridges on the Bendigo line. Clarke clearly influenced the design of the railway in setting the standards for the line.

George Darbyshire took up a post as Engineer of the Melbourne and Mount Alexander Railway in 1855 and was then appointed as Engineer in Chief of the Victorian Railways from 1 April 1856 to 17 May 1860 when he supervised the various design engineers. He was replaced by Thomas Higinbotham.[10]

Darbyshire saw himself as an engineer, and was recruited to the Survey Department by the Surveyor General Andrew Clarke, as an engineer. In response to a question when appearing before the Select Committee upon the Railways on 4 May 1860 to describe an engineer he stated -*A man who has actually been employed for some years, having actual experience in the working and construction is a civil engineer, as compared with the man*

who has no experience in works of construction.[11]

The Cowies Creek bridge is therefore most likely to have been designed by either Darbyshire himself, or by Bryson under his supervision. It would have been finished by April 1861 or earlier as a published description at that time, when describing that the section of railway from the junction at Geelong West to the Moorabool River, noted that ".that portion may be looked upon as completed, for both lines are permanently laid, and a settled aspect pervades the whole.[12]

[1] Snell, Edward, *The life and adventures of Edward Snell*, Tom Griffiths (ed), Angus & Robertson and the Library Council of Victoria, Melbourne, 1988; Victorian Register Heritage, Werribee Railway Station, H1309

[2] Lee 2007 pp.28-9

[3] Lee 2007 p.24-5

[4] Lee 2007 p25, *Argus* 11 April 1854; Francis Murphy, Charles Pasley & Archibald Ross, Report of the Commissioners appointed to inquire into the best modes of providing for the internal communication of the colony, 26 September 1854, Vic V&P, LA (1856-1857, vol. 4 pp. 853-5.

[5] Report of the Select Committee on the Geelong and Ballarat Railway Company, *The Argus* Thursday 28 June 1860 p.7

[6] *The Argus* Tuesday 21 December 1875 p.9

[7] *The West Australian* Monday 25 June 1894 p.3

[8] *Government Gazette*, 2, Date: Tuesday, January 5th 1858 p.23

[9] *Ibid.*

[10] R. L. Wettenhall, 'Higinbotham, Thomas (1819 - 1880)', *Australian Dictionary of Biography*, Volume 4, Melbourne University Press, 1972, pp 397-398.

[11] Betty Malone, 'Clarke, Sir Andrew (1824 - 1902)', *Australian Dictionary of Biography*, Volume 3, Melbourne University Press, 1969, pp 409-411., Letter to Surveyor General 28 May 1856, p 48, Andrew Clarke's Report on Railways, 1856, Appendix III.

[12] A Visit to the Geelong and Ballarat Railway Line. (by our special reporter.)*The Argus* Tuesday 23 April 1861 Page 5

Source: Gary Vines, *Masonry Rail Bridges Gap Study*, Initial Draft Classification Report, National Trust of Australia (Victoria), 2009

## Extent of Registration

1. All of the bridge, wing walls and associated embankment shown as B1 on Diagram 2241 held by the Executive Director
2. All of the land shown L1 on Diagram 2241 held by the Executive Director being part of the land described in Old Law Title 79/107.

*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/>*