

Victorian Heritage Database Report

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RAIL BRIDGE (ALBION VIADUCT)



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1 rail bridge albion viaduct over
maribyrnong river keilor side view



RAIL BRIDGE (ALBION VIADUCT)
September 2016



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Location

OVER MARIBYRNONG RIVER, KEILOR EAST and SUNSHINE NORTH, BRIMBANK CITY

Municipality

BRIMBANK CITY

Level of significance

Registered

Victorian Heritage Register (VHR) Number

H1197

Heritage Overlay Numbers

HO5

HO107

VHR Registration

September 19, 1996

Heritage Listing

Victorian Heritage Register

Statement of Significance

Last updated on - November 23, 1999

What is significant?

The "Albion viaduct" was constructed by the Victorian Railways in 1927-29 to carry a new double track goods line over the Maribyrnong River. The new line enabled trains from all parts of the state, except Gippsland, to have direct access to the Tottenham marshalling and sorting yards. The viaduct is 1,257 feet (383.13 metres) long between abutments and 180 feet (54.86 metres) above water level. The structure comprises two steel girders supported on twelve steel framed towers.

How is it significant?

The Albion viaduct is of scientific, architectural and historical importance to the State of Victoria.

Why is it significant?

The Albion viaduct is scientifically and architecturally important on account of its large size, and for the adoption of unusual cost effective design features such as the use of two girders per span to carry the double track, the use of K bracing in the towers, and the use of broad flange beams as columns. At the time of its construction it was the largest trestle bridge in Australia, and until the construction of the Sydney Harbour bridge was the highest railway bridge.

The Albion viaduct is historically important as part of the infrastructure associated with the development of the Melbourne railway marshalling yards at Tottenham in the 1920s. These yards were constructed to relieve congestion in the Melbourne Yard, located near the Spencer Street station, caused by the construction of suburban passenger platforms associated with the electrification of the suburban railway network.

Permit Exemptions

EXEMPTIONS FROM PERMITS

All works to the deck of the viaduct involving track and ballast repair or replacement.

Repair, replacement or renewal of all wires and cables required for operational and safety purposes relating to the daily use of the bridge.

Any emergency works relating to the substructure and the superstructure of the viaduct.

Construction dates 1927,
Heritage Act Categories Heritage place,
Hermes Number 4910
Property Number

History

Contextual History:History of Place:

During the late 1920s the Victorian Railways constructed extensive gravitation and goods train marshalling yards at Tottenham, on the west outskirts of Melbourne, to relieve congestion in the Melbourne Yard closer to the city. The capacity of the Melbourne Yard had been reduced by about one fifth owing to the construction of new suburban platforms associated with the electrification of the suburban railway system.. The Tottenham yards were to deal with the marshalling and sorting of goods traffic from all parts of the state except Gippsland. Their location was on the direct route of the Northern, North-Western and Western lines and during 1928-29 a new cross country line was constructed to enable the North-Eastern line to also have direct access. This line, some eight miles in length, left the North-East line just south of the present Jacana station and connected with the Northern line just north of Albion station.

A survey and cost estimate for the line was commenced in 1920 and in December 1926 the government authorised its construction at a cost of 452,000 pounds. The route traverses the basalt plains and crosses three deep gullies cut by the Maribyrnong River, Spring Creek and the Moonee Ponds Creek. Much of the cost of the line was for the construction of bridges spanning these gullies. The largest gully, at the Maribyrnong River, was spanned by a steel trestle bridge or viaduct some 1,257 feet (383.13 metres) long between abutments and 180 feet (54.86 metres) above the water level. The trestle bridge at Glenroy, over the Moonee Ponds Creek, is 200 feet (60.96 metres) shorter and 65 feet (19.81 metres) lower than the Albion Viaduct.

The double track broad gauge (5 feet 3 inches) line had 90 pound per yard rails and full ballast to take the heaviest class of traffic expected in the future. The Railway Construction Branch commenced construction on 1 March 1927 and the line was opened for traffic on 1 July 1929. The total cost was approximately 498,800 pounds which included 116,000 pounds for the Albion viaduct.

HISTORY OF PLACE

The Albion Viaduct was designed by Wilfrid Dinsey Chapman, MCE and erected by the Railway Construction Branch under the direction of C H Perrin, MIEAust, Chief Engineer for Railway Construction. The girders were fabricated by G W Kelly & Lewis Pty Ltd. Johns & Waygood Limited fabricated the six smallest towers and A Challingsworth fabricated the remainder.

The Albion and Glenroy viaducts are important on account of their size and for the adoption of unusual design features, namely, the use of two girders per span to carry the double track, the use of K bracing in the towers, and the use of broad flange beams as columns. At the time of their construction they were the largest trestle bridges in Australasia. The Albion viaduct contains 1,737 tons of steelwork.

The railhead was extended from Albion to facilitate delivery of plant and material. Steelwork was therefore delivered to and stacked on the plateau level. The tower steelwork was lowered and girders launched from a specially built Titan type traveller running on the new track.

This itself is a formidable structure, about 185 feet long over all, and 56 feet high above rail level. It comprises a

large electrically driven compound winch on a framing supported by two bogies, operating various hoists from a large trolley travelling on a steel track, so arranged that the various portions of the towers, girders, and so on, can be picked up at the back of the traveller and carried out to their final position in the structure, the traveller thus building the bridge in front of it as it advances.

The placing of a girder by this method was achieved in an average time of thirty minutes. The average number of men employed at the site was 79. Particular care was taken during windy weather and no serious accidents occurred during construction. On 14 June 1929 two C class locomotives were run onto the completed structure to conduct technical observations and note deflections. At the time of its completion the viaduct was 50 feet higher than the tallest building in Melbourne, and until the erection of the Sydney Harbour bridge it was the highest railway bridge in Australia.

During 1961 the up line was converted to standard gauge (4 feet 8 1/2 inches) and in 1959 the viaduct was repainted for the first time. This massive task using brushes and sprays, took three years to complete. Altogether six tons of red lead and oil, 1,560 gallons of paint and 455 gallons of paint solvents was used.

Associated People: Owner PUBLIC TRANSPORT CORPORATION;

Extent of Registration

NOTICE OF REGISTRATION

As the Executive Director for the purpose of the Heritage Act, I give notice under Section 46 that the Victorian Heritage Register is amended by including Heritage Register Number 1197 in the category described as a Heritage Place:

Railway Bridge (Albion Viaduct) over Maribyrnong River, between Jacana and Albion Stations, Moonee Valley City.

Extent:

1. To the extent of all of the bridge structure, abutments associated works.

Dated 5 September 1996

RAY TONKIN

Executive Director

[*Victoria Government Gazette* No. G37 19 September 1996 p.2472]

This place/object may be included in the Victorian Heritage Register pursuant to the Heritage Act 1995. Check the Victorian Heritage Database, selecting 'Heritage Victoria' as the place data owner.

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