

RAILWAY BRIDGE,
WATSON'S GAP,
VIA VICTOR HARBOUR.

HERITAGE SIGNIFICANCE

Historically - The item in its present form reflects the continued development and relative prosperity of the region in the early 20th century.

Architecturally the bridge is an unusual concrete structure with a parabolic arch, reputed to be the first of its kind in Australia.

Environmentally, the bridge is a striking feature in the landscape.

The Integrity of the bridge is excellent, with very little deterioration.

NOMINATION SOURCE/THREAT/OWNER

This report has been prepared in response to a recommendation by the South Australian Heritage Committee on 30 May, 1984 that the entire Victor Harbor-Goolwa Railway be assessed for the Register. The item is owned by Australian National Railways. The future of services on the line is in doubt, but the bridge is not known to be under any threat.

HERITAGE CONSERVATION BRANCH RECOMMENDATION:

..... *B. C. Rowland*
Manager

It is recommended that this item be included/~~not be included~~ on the Register of State Heritage Items, and that it be categorized A1, A2, H3, 3.1

SOUTH AUSTRALIAN HERITAGE COMMITTEE RECOMMENDATION:

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Chairman

South Australian Heritage Act 1978-82	Register of State Heritage Items ITEM EVALUATION SHEET Buildings and Structures	Ref. No. 6626-11183
	Item WATSONS GAP RAILWAY BRIDGE	Status -
Age 1907	Subject RAILWAYS	Style

History

Architecture

Environment

Integrity

Context	Constructed during the upgrading of the Victor Harbor line to take heavier rolling stock in the early twentieth century.	E	VG	AG	FP	NA
Person/Group	S.A. Government			X		
Event	-					X
Architect/Builder	W. Bennett Hays, Architect in Chief, Public Works Dept. R. Redman, Contractor.			X		
Design	The bridge is a massive concrete structure with a parabolic arch. Built in 1907, it is reputed to be the first of its kind in Australia.		X			
Construction	Reinforced concrete structure, built in 3 main sections - the centre section with parallel sides and containing the parabolic arch, and the two side sections of slightly tapered sides.		X			
Interior	N/A					
Representation	Very unusual design of a common railway feature.		X			
Continuity	N/A					X
Local Character	N/Z					X
Landmark	A considerable and striking feature in the landscape.		X			
Alterations	None		X			
Condition	Some spalling of concrete along the top edge exposing reinforcing rods, otherwise excellent condition.		X			
Compatibility	Still used as a bridge (as long as the trains still run!)	X				

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Supplementary Information

No potential for adaptation.

Interpretive measures need to be part of a strategy for the Victor Harbor railway as a whole, depending on whether or not it continues to operate.

History and Sources

Throughout the year of 1852, the lieutenant Governor, Sir Henry Young, successfully waged his campaign to establish a Harbor and Tramway complex on the South Coast to handle goods for the colony from interstate and overseas. The choice of natural anchorage/harbor site was limited to two stretches of water, one being Rosetta Head at Victor Harbor, the other Port Elliot.

A Harbormaster had been previously dispatched to the region with orders to assess both sites and make recommendations pertaining to the more suitable one. His report was attached to Sir Henry Young's final submission to Earl Grey, Secretary of State for the Colonies, and advised on the relative merits of both potential harbor sites in the following manner: "As a great objection to the former (Rosetta Head), I would remark with the winds most prevalent, it would be extremely difficult to take craft sufficiently close to obtain shelter under the bluff", and, "experience has shown this place to be totally unsafe. Port Elliot, on the contrary, is easy of approach and sheltered against all winds.... Indeed it is my opinion that Port Elliot will be proved the safest anchorage (except Port Lincoln) on the South line of the Province".

This final project proposal was received favourably by Earl Grey and his superiors, and as a result, the Port Elliot Harbor complex and associated Tramway to Goolwa became a reality. Shipping loss in the following decade however, highlighted the gross miscalculations of the Harbor Master, and it was accordingly decided to develop Victor Harbor after all as the South Coast's major harbor. Estimates were drawn up in 1861, and the wharf/tramway extensions put to tender.

A bridge to provide for transport over Watsons Gap, 2-1/2 miles east of Victor Harbor, was one of the major priorities of the scheme, and the government first advertised the tender on January 5th, 1863. Three replies were received by the Public Works Department, a Mr. R. Redman being the successful applicant, and on February 4th of the same year, the contract to lay rail lengths, complete all necessary earthworks, erect a goods warehouse, passenger shed, bonded cellar at Victor Harbor and construct the bridge over Watsons Gap, was signed and witnessed. In the early days of December 1863, the bridge was completed.

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History and Sources

On the 1st April, 1864, the 4 mile 30 chain rail length extension to Victor Harbor was opened to traffic, and four months later was officially opened by Mr. Dodson, Chairman of the Encounter Bay District Council.

The finished structure evoked much admiring comment, including references to its "beauty of design, great strength and gracefulness of appearance". Spanning 290 feet, the bridge's decking rested on 8 main and 4 abutment pylons, the former trussed and the latter braced for greater stress resistance. The structure stood 27 feet above common roadway, supported overall by iron shod piles buried to a depth of 15 to 17 feet. reputedly, 45,000 lineal feet of hardwood were used in construction.

The next reference to the bridge was after its completion dates from 1872 when the decking was re-tarred.

In 1905-6 the Railways department made a decision to replace the light locomotives at that time servicing the Strathalbyn/Victor Harbor link with new R.RX and N class locos. The timber bridge at Watsons Gap was deemed inadequate to carry the weight of these machines over any sustained period of time, and as a result it was dismantled with the intention of erecting a concrete replacement.

In the annual report of the Railway Commissioner for the year 1906-7, the new ferro concrete bridge is reported completed, and as a single arch structure, it was unique in the State, possibly Australia wide.

As an engineering curiosity, the bridge attains special significance for the extremely uneconomical use of concrete/iron in its construction. An arched bridge's construction cost can be greatly reduced by eliminating structurally unnecessary material used in the spandrels. The designer/s of the Watsons Gap bridge were obviously unacquainted with this revelation, otherwise tons of concrete and iron re-inforcing would have been trimmed from the projects budget.

Sources:

A.A. Strempele - The First Public Railway in S.A. (1954)
National Trust of S.A. (Record 2384)
E. Noack, Marsden, Dallwitz - Port Elliot and Goolwa Heritage Study

Extracts from Parliamentary Papers:

1. Improvements at Port Elliot, the Goolwa and Navigation of the Murray Papers for 1851.
2. Public Works Report, May 1864 - Appendix
3. Public Works Report, May 1865 - Appendix
4. Engineer-in-Chief's Report/Railway Report, 1906-07, Paper No. 47
5. Engineer-in-Chief's Report/Railway Report, 1907-08, Paper No. 47

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History and Sources

Chronology

11th February, 1850, Harbor Master's Report to Sir Henry Young.
 The years 1852-53 - Goolwa/Pt. Elliot tramway constructed.
 The year 1861 - Debates concerning proposal to construct Harbor and Tram extension to Victor Harbor.
 January 5th, 1863 - Tender advertised for Watsons Gap bridge and Victor Harbor Pier/tram station.
 February 4th 1863 - Contract signed by Mr. R. Redman for above projects.
 December 1863 - Watsons Gap bridge completed.
 April 1st 1864 - Victor Harbor extension opened to traffic.
 August 4th, 1864 - Victor Harbor extension officially opened by Chairman of Encounter Bay D.C.
 Year of 1872 - Bridge decking re-tarred.
 1905-06 - Proposal for new locomotives to service Strathalbyn/Victor Harbor line.
 Year of 1906 - Wooden bridge dismantled.
 1906-07 - New ferro concrete bridge completed.



6626-11183 Watsons Gap Rail Bridge From Goodwa Rd.

August 84



6626-11183 Watsons Gap Rail Bridge Looking East

August 84

SOUTH AUSTRALIAN HERITAGE ACT, 1978

Entry of Items on the Register of State Heritage Items

There has been an increased community awareness of the need to protect those buildings and features of our State which reflect our cultural heritage. The South Australian Government has recognised that awareness by passing the South Australian Heritage Act, 1978, for which the Minister for Environment and Planning is responsible. In accordance with the provisions of the Act, the Register of State Heritage Items is being compiled.

Where the Minister considers that an item (defined as any land, building or structure) that is not on the Register is part of the physical, social or cultural heritage of the State and that the item is of significant aesthetic, architectural, historical or cultural interest, then the Minister may enter that item on the Register.

Pursuant to the provisions of the South Australian Heritage Act, 1978, I, Don Hoggood, Minister for Environment and Planning and Minister for the time being administering the said Act, hereby give notice that I have entered on the Register of State Heritage Items the items described in the schedule hereunder.

Items listed in the schedule were previously placed on an Interim List in accordance with the provisions of section 15 of the South Australian Heritage Act, 1978. Excepting items owned by the Crown and those within the area of the corporation of the city of Adelaide, the remaining items listed in The Schedule are subject to Part V of the Planning Act, 1982. That Act requires that no development, including demolition, conversion, alteration of, or addition to any item, is permitted without the written consent of the relevant Planning Authority. Items within the area of the corporation of the city of Adelaide are subject to the provisions of the City of Adelaide Development Control Act, 1976.

THE SCHEDULE

Name	Address
Corporation of the City of Adelaide	
Dwelling	149 Barton Terrace, North Adelaide 5006. CT. volume 1770, folio 159. Part town acre 951. City of Adelaide.
Dwelling and Domestic Outbuilding	247 Currie Street, Adelaide 5000. CT. volume 4269, folio 289. Lot 5. of part town acre 126. City of Adelaide.
Former Steam Saw Mill	12-22 George Street, North Adelaide 5006. CT. volume 3580, folio 166. Part town acres 875 and 876. City of Adelaide.
Christian Brothers College	214 Wakefield Street, Adelaide 5000. CT. volume 1603, folio 159. CT. volume 1625 folio 163. CT. volume 3113, folio 105. Part town acres 292 and 293. City of Adelaide.
Adelaide Brewery	54-58 Wyatt Street, Adelaide 5000. CT. volume 1765, folio 42. Portion of town acres 208, 209 and 231. CT. volume 1737, folio 193. Portion of town acres 208 and 209. City of Adelaide.
Corporation of the City of Burnside	
Fence and Domestic Outbuildings—former Stable Walls	398 Glynburn Road, Kensington Gardens Burnside. CT. volume 4256, folios 116 and 117, lots 8 and 9. Portion of Section 2049. Hundred of Adelaide.
District Council of Yorke Peninsula	
Old Koonooma Homestead	Koorunga. CT. volume 4222, folios 251 and 252. Lots 20 and 21. Hundred of Koorunga.
District Council of Limestone Downs	
Limestone Well	Section 43, water reserve No. 212. Hundred of Richards.
Binnie Well	Section 56. Hundred of Strawbridge.
Reedy Well	Section 64, water reserve No. 210. Hundred of Colebatch.
Corporation of the City of Enfield	
Klemzig Lutheran Cemetery	Second Avenue, Klemzig 5087. L.G. volume 1701, folio 180, section 569. Hundred of Yatala.
Corporation of the City of Glenelg	
Dwelling—'Blanche Villa'	Corner Moseley Square and Broadway, Glenelg 5045. CT. volume 4211, folio 990, allotment 305 of portion of section 205. Hundred of Noarlunga.
Rotunda	Colley Reserve, Glenelg 5045. CT. volume 1501, folio 146, section 1622. Hundred of Noarlunga.
Townsend Drinking Fountain	Colley Reserve, Glenelg 5045. CT. volume 1501, folio 146, section 1622. Hundred of Noarlunga.
Glenelg Post Office and Dwelling	Moseley Square, Glenelg 5045. CT. volume 2360, folio 37, section 1510. Hundred of Noarlunga.
Pioneers Memorial Monument	Moseley Square, Glenelg 5045. L.G. volume 1656, folio 153 being block No.1. Hundred of Noarlunga.
Glenelg Town Hall	Moseley Square, Glenelg 5045. CT. volume 1501, folio 147, section 1599. Hundred of Noarlunga.
Dwelling	62 Moseley Street, Glenelg 5045. CT. volume 1758, folio 71. Portions of allotments 21 and 22, section 205. Hundred of Noarlunga.
Dwelling—'Russell Court'	Olive Street, Glenelg 5045. CT. volume 3540, folio 17. Portion of allotments 41 and 49 of subdivision of portion of section 204. Hundred of Noarlunga.
Waterworth Hospital	Pier Street, Glenelg 5045. CT. volume 4151, folio 57, allotment 267 of portion of section 204. Hundred of Noarlunga.
Dwelling—'Colonna'	5 Robert Street, Glenelg 5045. CT. volume 1386, folios 21 and 22, portion of allotments 7, 8 and 11 of subdivision of section 205. Hundred of Noarlunga.
District Council of Gumeracha	
Dwelling—'Ludlow House'	Cudlee Creek 5232. CT. volume 4261, folio 631, lot 12 of section 6071. Hundred of Talunga.
Mount Torrens Gold Battery	Mount Torrens 5244. CT. volume 808, folio 105. CT. volume 1095, folio 163. Portion of section 6537. Hundred of Talunga.
District Council of Kanyaka/Quorn	
Wirreanda Creek Bridge	Via Hawker. Section 514. Hundred of Kanyaka.

THE SCHEDULE

Name	Address
Corporation of the City of Kensington and Norwood	
Royal Hotel	2 North Terrace, Kent Town 5067. CT. volume 4203, folio 536, allotment 100 of portion of section 255. Hundred of Adelaide.
District Council of Light	
Ridley Arms Hotel	Anne Terrace, Wasleys 5400. CT. volume 4064, folio 315. Allotment 1 of portion of section 524. Hundred of Mudla Wirra.
District Council of Meningie	
Hawks Nest Well	CL. volume 1557, folio 10, section 102. Hundred of Coolinong.
Dwelling—'The Needles'	Millarouan. CT. volume 3751, folio 171, section 180. Hundred of Glyde. CT. volume 3754, folio 28, section 190. Hundred of Bonney.
District Council of Minlaton	
'Grainstore Galleries'	Corner Ramsay and Main Roads, Port Vincent 5581. CT. volume 316, folio 228, allotment 27. Hundred of Ramsay.
Minlaton Showground Pavilion	West Terrace Minlaton 5575. CT. volume 1691, folio 161, section 279. Hundred of Minlacowie.
District Council of Mount Remarkable	
Whim	Booleroo Centre 5482. Section 198. Hundred of Willowie.
Dwelling	Lot 6 Spratt Street, Melrose 5483. CT. volume 4148, folio 247. Allotment 6 of portion of section 5. Hundred of Wongyarra.
Dwelling	Lot 13 Whitbey Street, Melrose 5483. CT. volume 519, folio 11. Allotment 13 of section 5. Hundred of Wongyarra.
District Council of Mount Baker	
'Hahndorf Inn'	35 Main Street, Hahndorf 5245. CT. volume 4216, folio 183. Allotment 3 of portion of section 4233. Hundred of Kuitpo.
German Arms Hotel	69 Main Street, Hahndorf 5245. CT. volume 4214, folio 553. Allotment 20 of section 4234. Hundred of Kuitpo.
F.W. Wittwer House	85 Main Street, Hahndorf 5245. CT. volume 3799, folio 13. Part Allotment 7 of section 4235. Hundred of Kuitpo.
Dwelling	102 Main Street, Hahndorf 5245. CT. volume 4067, folio 440. Allotment 20 of section 4002. Hundred of Onkaparinga.
District Council of Murray Bridge	
Perkindoo Well	CT. volume 3193, folios 82 and 83. Portion of section 701. Hundred of Coolinong.
Corporation of the City of Noarlunga	
Church and Cemetery of St Philip and St James ..	Church Hill Road, Old Noarlunga 5168. CT. volume 4025, folio 489. Portion of section 61. Hundred of Noarlunga.
Mount Hurtle Winery	Reynella 5161. CT. volume 4261, folios 542 and 543. Lots 1 and 2, section 533. Hundred of Noarlunga.
District Council of Onkaparinga	
Dwelling—Pise House	Adelaide-Lobethal Road, Forest Range 5139. CT. volume 4258, folio 357, section 229. Hundred of Onkaparinga.
Dwelling and Farm Outbuildings—'The Pines' ..	Beaumont Road, Verdun 5245. CT. volume 2153, folio 43 and CT. volume 4079, folio 142. Part sections 3928 and 3929. Hundred of Onkaparinga.
Mining Site—former Grunthal Mine	Beaumont Road, Verdun 5245. CT. volume 4254, folio 596. Lot 101 of section 4008. Hundred of Onkaparinga.
Dwelling and Dry Stone Wall	Burnley Road, Mount Charles. CT. volume 2611, folio 108. Portion of section 3960. Hundred of Onkaparinga.
Former Balhannah School	Corner West Terrace and Main Street, Balhannah 5242. CT. volume 671, folio 110. CT. volume 3640, folio 178. Allotments 1 and 2 of section 4014. Hundred of Onkaparinga.
Dwelling—'Ravenswood'	Corner Birchmore and Paechbros Roads, Bonneys Flat. CT. volume 4189, folio 193. Allotment 2 of section 4217. Hundred of Onkaparinga.
Old Lime Kiln and Quarry	Days Road, Murdoch Hill. CT. volume 3542, folio 161. Portion of Block 3 of section 5294. Hundred of Onkaparinga.
Workshop and Dwelling—former 'Dorset Brewery'	Elizabeth Street, Oakbank 5243. CT. volume 4053, folio 187, allotment 38. CT. volume 4267, folios 338 and 339. Lots 39, 40 and 41. Hundred of Onkaparinga.
Dwelling—'The Folly'	Grasby Road, Balhannah 5242. CT. volume 4173, folio 998. Allotment 3 of part section 4041. Hundred of Onkaparinga.
Mining Site— Former Balhannah Mine Engine House, Boiler House, Crusher House and Stack	Greenhill Road, Lenswood 5240. CT. volume 2325, folio 163. Portion of section 4048. Hundred of Onkaparinga.
Lock-up and Stables	36 Main Street, Woodside 5244. Portion of allotment 13. Portion of section 5030 in GP 84 of 1857. Hundred of Onkaparinga.
Dwelling—'Dalintober'	Robert Street, Oakbank 5243. CT. volume 4086, folio 564. Portion of section 4020. Hundred of Onkaparinga.
Oakbank Racecourse	Shilabeer Road, Oakbank 5243. CT. volume 1720, folio 6. Portion of sections 4018 and 4019. CT. volume 4176, folio 854. Allotment 1 of section 132. Hundred of Onkaparinga.
Dwelling—'Blackburn Farm'	Tiers Road, Woodside 5244. CT. volume 1831, folio 84. Portion of section 5027. Hundred of Onkaparinga.
Corporation of the City of Payneham	
Dwelling—'Forsythe House'	160 O.G. Road, Felixtow 5070. CT. volume 4097, folio 687. Portion of section 306. Hundred of Adelaide.
Office—former Dwelling	296 Payneham Road, Payneham 5070. CT. volume 2640, folio 78. Portion of allotments 122 and 124 of portion of section 279. Hundred of Adelaide.

THE SCHEDULE

Name	Address
Corporation of the City of Port Adelaide Dwelling—First Housing Trust Homes	35 and 37 McNicol Terrace, Rosewater 5013. CT. volume 632, folio 69. Portion of allotments 42 and 43. CT. volume 1592, folios 89 and 90. Portion of allotments 44 and 45. Hundred of Port Adelaide.
Port Dock Hotel	10 Todd Street, Port Adelaide 5015. CT. volume 4227, folio 660. Allotment 100 of portion of section A. Hundred of Port Adelaide.
District Council of Port Elliot and Goolwa Watsons Gap Bridge	Via Port Elliot 5212. Section 29. Hundred of Goolwa.
Corporation of the Town of Renmark Dwelling—'Bangalore'	Renmark Avenue, Renmark 5341. CT. volume 1131, folio 18 and CT. volume 1347, folio 170. Allotment 273, portion of allotments 274 and 275 of block A. Hundred Renmark irrigation area.
District Council of Strathalbyn Shop	10 Albyn Terrace, Strathalbyn 5255. CT. volume 133, folio 78. Part lot 17. Hundred of Strathalbyn.
District Council of Tanunda Lutheran Church	Bethany Road, Bethany 5352. CT. volume 520, folio 68. Portion of section 660. Hundred of Moorooroo.
District Council of Tatiara Dwelling—'Clayton Farm'	Bordertown-Mundulla Road, Bordertown 5268. CT. volume 4040, folio 668, section 154. Hundred of Tatiara.
Two Wells	CL. volume 1594, folio 7, section 54. CL. volume 1232, folio 34, section 105. Hundred of Laffer.
Kongal Springs Well	CL. volume 631, folio 8, section 241. Hundred of Wirrega.
Corporation of the City of Tea Tree Gully Dwelling—'Eldergreen'	Yatala Vale Road, Golden Grove 5125. CT. volume 4153, folio 675. Portion of section 2132. Hundred of Yatala.
Corporation of the Town of Thebarton Squatters Arms Hotel	East Terrace, Thebarton 5031. CT. volume 4008, folio 485, lot 286. Hundred of Adelaide.
Southwark Hotel	77 Port Road, Thebarton 5031. CT. volume 4066, folio 52. Part lot 214. Hundred of Adelaide.
Corporation of the Town of Thebarton and Corporation of the Town of Hindmarsh Holland Street Bridge	Holland Street, Hindmarsh 5007. CT. volume 400, folio 195. Part section 1, hundred of Adelaide. CT. volume 2392, folio 63. Portion of section 353. Hundred of Yatala.
Unincorporated Strangways Springs Telegraph Station	Anna Creek. Telegraph Reserve 1177, <i>Gazette</i> 8 March 1883. North out of hundreds. Curdimurka.
Wilpena Station Homestead	Via Hawker 5434. CL. volume 1276, folio 38, block 670. Out of hundreds. Counties of Taunton and Hanson.
Algebuckina Bridge	Via Oodnadatta. CT. volume 4210, folio 566, section 611. Out of hundreds.
District Council of Victor Harbor Railway Bridge	Hindmarsh Road, Victor Harbor 5211, part section 18. Hundred of Encounter Bay, part section 19. Hundred of Goolwa.

Dated at Adelaide, 24 October 1986.

D. J. HOPGOOD, Minister for Environment and Planning