HERITAGE COUNCIL OF WESTERN AUSTRALIA

REGISTER OF HERITAGE PLACES – ASSESSMENT DOCUMENTATION

11. ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

The criteria adopted by the Heritage Council in November 1996 have been used to determine the cultural heritage significance of the place.

PRINCIPAL AUSTRALIAN HISTORIC THEME(S)

- 3.8.6 Building and maintaining railways
- 4.5 Making settlements to serve rural Australia

HERITAGE COUNCIL OF WESTERN AUSTRALIA THEME(S)

- 107 Settlements
- 111 Depression & boom
- 202 Rail & light rail transport
- 506 Tourism
- 304 Timber industry

11. 1 AESTHETIC VALUE*

The station building and trestle bridges are elegant structures located in, and contrasting with, *Pemberton-Northcliffe Railway & Railway Station's* picturesque forest setting. (Criterion 1.1)

Warren River Bridge, the most impressive bridge on the line, is a finely constructed and picturesque timber structure, laid to a curve, which comprises four tall pile timber trestles with cross-braced piles, two with outrigger piles and stays, timber piled abutments with timber sheeting and stone pitching, and a cross camber on the deck. (Criterion 1.1)

Pemberton-Northcliffe Railway & Railway Station continues to function as an operational railway, an integral part of a cultural landscape[1] associated with inter-

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* For consistency, all references to architectural style are taken from Apperly, R., Irving, R., Reynolds, P. *A Pictorial Guide to Identifying Australian Architecture. Styles and Terms from 1788 to the Present,* Angus and Roberston, North Ryde, 1989.
For consistency, all references to garden and landscape types and styles are taken from Ramsay, J. *Parks, Gardens and Special Trees: A Classification and Assessment Method for the Register of the National Estate,* Australian Government Publishing Service, Canberra, 1991, with additional reference to Richards, O. *Theoretical Framework for Designed Landscapes in WA*, unpublished report, 1997.

1 For the purposes of the World Heritage List, UNESCO defines cultural landscapes as 'combined works of nature and of man' (Article 1 of the Convention), and goes on to explain: 'They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal'. http://whc.unesco.org/exhibits/cultland/histerm.htm 30 June

war Group Settlement projects and the timber industry, and provides visual access to re-growth Karri trees, forest and farmland settings of high aesthetic and natural value. (Criteria 1.3 & 1.4)

11. 2. HISTORIC VALUE

Pemberton-Northcliffe Railway & Railway Station was constructed to serve settlers in the district, in particular those at the recently established Group Settlements, as a transportation link crucial to the development of the region, with the Pemberton Railway Station built in 1926 as part of the works to extend the government railway to Pemberton, and the Pemberton to Northcliffe Railway subsequently built from 1929 to 1933. (Criterion 2.1)

Pemberton-Northcliffe Railway & Railway Station was a significant public works project that provided local employment during the Great Depression. (Criterion 2.2)

Pemberton-Northcliffe Railway & Railway Station supported the Group Settlements and the timber industry, and subsequently developed agricultural areas, for more than 50 years, and was an important element in the network of State railways in the South-West of Western Australia. (Criterion 2.2)

As a result of the difficult terrain it crosses, *Pemberton-Northcliffe Railway & Railway Station* was the most expensive railway line per mile of any government built railway by the date of completion in 1933, a government outlay of particular note given the railway's construction during an economic slump. (Criterion 2.2)

Brockman Siding was so-named as it served the property of the well known Brockman family, who were among the pioneers of the Shire of Manjimup. (Criterion 2.3)

Pemberton-Northcliffe Railway & Railway Station is an outstanding example of the technical and design expertise of the Western Australia Government Railways (W.A.G.R.), and is significant for its innovation and achievement in building a railway in extremely difficult terrain. (Criterion 2.4)

11. 3. SCIENTIFIC VALUE

Pemberton-Northcliffe Railway has potential as a teaching, reference and benchmark site, demonstrating railway and bridge building techniques which were common in the late nineteenth century through into the inter-war period, but which are no longer practiced, and provides fine examples of seven bridges featuring transom tops.[2] (Criterion 3.1)

Pemberton-Northcliffe Railway is significant for technical innovation and achievement in extremely difficult terrain, including some of the finest timber bridge construction in Western Australia. (Criterion 3.3)

11. 4. SOCIAL VALUE

Pemberton-Northcliffe Railway & Railway Station is highly valued by the community for social, aesthetic and cultural reasons, as indicated by its identification in 'Western Australia Comprehensive Regional Assessment Community Heritage Program (Non-Indigenous)' as a place of significance, based on community consultation workshops held in 1997. The various heritage

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2005.

2 A transom top bridge is an open deck bridge using transom timbers to replace track sleepers.

listings of the place are further evidence of the place's value to the wider community. (Criterion 4.1)

Since re-opening as Pemberton Tramway in 1987, *Pemberton-Northcliffe Railway & Railway Station* has become a popular tourist attraction, valued outside the local community by intrastate, interstate and international visitors. (Criterion 4.1)

Pemberton-Northcliffe Railway & Railway Station contributes to the community's sense of place as an integral part of the cultural landscape of the region for more than 60 years. (Criterion 4.2)

12. DEGREE OF SIGNIFICANCE

12. 1. RARITY

Pemberton-Northcliffe Railway & Railway Station was unique among the once extensive network of Western Australian government railways as its construction employed only cut, fill and bridges. (Criterion 5.1)

Pemberton-Northcliffe Railway & Railway Station includes a concentration of large timber bridges that is rare in the Western Australian railway network, having seven railway bridges within a short distance of Pemberton, six of which are timber trestle and transom-top bridges over five metres in height. (Criterion 5.1)

At 127 metres in length and ten metres in height, Warren River Bridge, is rare as a substantial bridge of this kind that has survived through into the late twentieth and early twenty-first centuries. (Criterion 5.1)

Pemberton Railway Station is rare as an extant inter-war timber railway station still operating as a station building. (Criterion 5.1)

12. 2 REPRESENTATIVENESS

Pemberton-Northcliffe Railway & Railway Station demonstrates railway construction in particularly difficult terrain and the skill employed to resolve these difficulties by the rail routing and construction of its bridges. (Criterion 6.2)

12. 3 CONDITION

Pemberton-Northcliffe Railway & Railway Station is vulnerable and it requires constant maintenance and use to sustain its values. Since its construction, the place has been regularly maintained and fabric replaced as required. Some material has been replaced with more modern forms of construction, such as timber piled trestles being replaced with concrete piers. Overall the place is in fair condition.

12. 4 INTEGRITY

Pemberton-Northcliffe Railway & Railway Station remains in use for its intended purpose, albeit that the vehicles used are trams rather than trains and the operation is for the benefit of tourists rather than a working service. The service is highly compatible and capable of sustaining the heritage values of the place. The integrity of the place remains high.

12. 5 AUTHENTICITY

It is in the nature of rail for replacement fabric to be required periodically and this has been the case with track, bridges, sleepers and the like. The impact of this

change has not been adverse. The buildings have had few changes. The place retains a moderate to high degree of authenticity.

13. SUPPORTING EVIDENCE

The documentation for this place is based on the heritage assessment completed by Robin Chinnery, Historian and Philip Griffiths, Architect, in June 2004, with amendments and/or additions by HCWA staff and the Register Committee.

The curtilage for *Pemberton-Northcliffe Railway* should include the Pemberton railway station, the railway line between Pemberton and Northcliffe (36 km. in length), sidings, seven railway bridges and, at the Northcliffe end of the line, the remains of the station platform and the two ton crane.

13. 1 DOCUMENTARY EVIDENCE

Pemberton-Northcliffe Railway comprises a standard plan timber and iron railway station, and a 3 ft. 6 ins. gauge railway line, 36 km. in length, between Pemberton and Northcliffe, which includes a total of seven railway bridges over its full length, six being in the first 10 km. The station was built in 1926, and the railway line and bridges were constructed in 1929-33. Many of the bridges contain repair material, including concrete piers to replace trestles, and steel beams to replace timber. At the Northcliffe end of the line, there is the remains of a station platform formation and a two ton crane.

In the early 1860s, Edward Revely Brockman established a pastoral station on the Warren River, in the present day Pemberton district. Circa 1862, Pemberton Walcott took up land in the district, on the northern outskirts of the later townsite of Pemberton, which was named after him. Within two years, he lost most of his cattle to Coast Disease, and departed the district.[3]

Through the late nineteenth century and into the early years of the twentieth century, there was little European settlement in the Pemberton district, which at that early period was known as Wandergarup, the Aboriginal name for the place meaning 'plenty of water'.[4] This was the name given to their property by one of the first European families to take up land in the district in the first decade of the twentieth century, the Thomsons, after whom Thomson's Hill was named.[5]

In the 1880s, numerous schemes were proposed for the private development of railways in Western Australia. Most were based on a land-grants scheme, whereby the company would receive land along the route in return for building the railway. Two came to fruition, the Great Southern Railway, connecting Beverley and Albany, which opened to traffic in June 1889, and the Midland Railway from Midland to Walkaway, for which the agreement was signed in 1886. However, construction was delayed by financial problems, and the line from Perth to Gingin was not opened until 1891, and the whole length of the line the Midland Railway to Walkaway finally opened in 1894.[6]

The granting of Responsible Government, in 1890, opened the way for the more rapid development of Western Australia, as the new Government was able to embark on a full-scale borrowing programme to fund public works. From 1890 to 1894, during the early period of the Western Australian gold boom, public debt trebled. The Forrest Government's policy on railways sought to achieve 'a

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3 Morris, John and Underwood, Roger *Tall Trees and Tall Tales: Stories of old Pemberton* Hesperian Press, Victoria Park, Western Australia, 1992, pp. 1-3.

4 Daubney, Alison (Ed.) *Pemberton: Family Stories* …Introduction.

5 ibid.

6 Crowley, F. K. *Australia's Western Third: A History of Western Australia from the first settlements to modern times* Macmillan & Co. Ltd., London, 1960,pp. 100-102.

balance between railways for the goldfields and those for the agricultural districts', and eight major projects would be approved in 1890-94, including the Northern Railway extending east from Geraldton.[7] In 1896, the South-Western Railway was extended from Bunbury to Bridgetown, ushering in a new period of development in the South-West. In 1910-11, the railway line was extended to Jarnadup (later re-named Jardee). On 7 July 1911, the railway line was officially opened. As elsewhere in the State, the opening of the railway furthered the development of the district.[8]

In December 1912, the Government Trading Concerns Act was passed, under which various State operated businesses would be established, including sawmills, brickworks, a shipping line, hotels, butchers' shops and secondary schools.[9] In 1913, State Saw Mills commenced in business with the purchase of South-West Timber Hewers' Co-operative, which had mills at Holyoake, and construction commenced on State Saw Mills' Deanmill (No. 1) at Manjimup, and twin mills (No. 2 and No. 3) at Big Brook (later re-named Pemberton) to provide railway sleepers for the Transcontinental Railway contract.[10] As extension of the Western Australian Government Railways (W.A.G.R.) line from Jarnadup to Big Brook had not been authorised, State Saw Mills constructed the necessary railway line to service their mills, which opened in 1914. In the same year, No. 2 Mill commenced operation. No. 3 commenced operation in 1915. Until the mid 1920s, State Saw Mills' railway line between Jarnadup and Big Brook continued in operation, and as its primary purpose throughout remained the provision of transport for the mills passengers were conveyed in a guards' van at the rear of the timber train.[11]

In the World War One period, through to completion of the Transcontinental Railway in 1917, State Saw Mills' No. 3 Mill was the largest timber mill in Australia. Big Brook became a thriving mill town, with a hall, store, staff accommodation, mill workers' cottages, and single men's huts, and two boarding houses. In the latter World War One period, and the immediate post-war period, the Western Australian timber industry experienced stagnation. In the early 1920s, there was economic recovery from the war and renewed activity in building stimulated the timber industry.[12]

In 1920, as economic conditions deteriorated in Britain, it was decided to widen the assisted migration scheme for ex-servicemen and women to migrate. James Mitchell, Premier of Western Australia, prepared a comprehensive immigration programme for submission to the other governments, which was implemented after the British Parliament passed the Empire Settlement Act in 1922. In February 1923, it was agreed that 75,000 migrants would be sent to Western Australia.[13] In the South-West, it was proposed to settle groups of 20 families, with 100 acres allocated to each individual settler, to establish dairy farms. In March 1921, the first such group was organised at Mitchelldean, eight miles west of Manjimup. In 1921-23, further groups began preparing blocks at scattered settlements in the South-West, including in the Manjimup, Pemberton, and

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7 Crowley, F. K. op. cit.

8 Evans, H. D. *The Story behind the Manjimup-Northcliffe Railway Line* Times Offset, Manjimup, Western Australia, 198- ,p. 3.

9 Mills, Jenny *The Timber People: A History of Bunnings Limited*

10 Southcombe, M. R. H. Steam in the Forests Hesperian Press, Victoria Park Western Australia, 1986, pp. 89-90, and p. 110; and Evans, H. D. op. cit., p. 9.

11 Evans, H. D. op. cit., p. 11 and p. 23.

12 Kelly, Roy in Daubney, Alison (Ed.) op. cit., p. 9.

13 Crowley, F. K. op. cit., pp. 201-202.

Northcliffe districts, the latter being named after Lord Northcliffe. The heavily timbered country proved difficult to clear, much of the land was found to be unsuitable for dairying, and the scheme was dogged by administrative problems. By 1924, many group settlers had left their holdings, and the scheme was suspended. In 1925, when the scheme resumed after a new Agreement between the Commonwealth and State governments, most new group settlers were sent to Manjimup, Northcliffe and Busselton. [14] To service the Group Settlements, it had been planned to extend the railway line from Jarnadup to Pemberton, and thence through Northcliffe to Westcliffe, and eventually to Albany. However, although the initial surveys were undertaken from 1919 and through into the mid-1920s[15], the railway to Northcliffe would not be built until 1929-33, and the extension to Westcliffe would not be implemented.

By the early 1920s, the mill town was well established at Pemberton. The main road extended out to Brockman's property, and thus had become known as Brockman Street. A mill hall was built in Brockman Street by the community and State Saw Mills, where the first school at Pemberton was accommodated in the supper rooms until the purpose built school was opened in 1922.[16] The introduction of the Group Settlement Scheme brought more European settlers to the Pemberton district, although many of the properties would be later abandoned in the Great Depression.[17]

On 30 October 1925, the town was officially re-named Pemberton and the Pemberton Townsite was declared, which was distinct from the area that remained under State Saw Mills.[18] A plan of the townsite shows the townsite boundary at Dean Street, with the town lots open for sale, land set aside for reserves and various government requirements, and to the north-west, outside the townsite boundary, the station yard, where a small shed is the only building shown.[19]

In the mid-1920s, group settlers requested that the government railways take over State Saw Mills' railway line from Jarnadup to Pemberton to provide a public service. After considerable discussion, this was agreed on condition that the line would be up-graded and station facilities built prior to hand-over.[20] It was considered that the 'most satisfactory' design for the proposed railway station at Pemberton would be 'that recently erected at Gnowangerup' as per PWD Plan 23186.[21] This provided a large traffic office, 26 ft. x 14 ft. 6 ins., which included accommodation for parcels' traffic. The Ladies' Waiting Room was to be a separate building, as per PWD Plan 18582. In addition, there were to be a Goods Shed 3rd Class, storeroom, stationmaster's house, trainmen's barracks, and a stock yard, all as per standard plans.[22] In late 1925, it was agreed that the

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14 ibid, pp. 211-214; and Evans, H. D. op. cit., p. 26.

15 Correspondence and reports in Correspondence in Big Brook to Denmark Railway Survey SROWA AN 260/1 Acc. 1235 Item 78, 1921-25.

16 Evans, H. D. op. cit., p. 17; photograph in Daubney, Alison (Ed.) op. cit., p. 58; and *Tall Trees* … op. cit., p. 13 and p. 26.

17 Evans, H. D. op. cit., pp. 10-11; and Kelly, Roy in Daubney, Alison (Ed.) op. cit., p. 57.

18 Daubney, Alison (Ed.) op. cit., Introduction.

19 Pemberton T'site, SROWA Cons. 5698 Item 1358, 29 October 1925, initialed 9 November 1925.

20 Correspondence in Jardee-Pemberton Section Transfer to WAGR SROWA AN 262/5 Acc. 1240 Item 162/26 (1926), 1922 to 1925.

21 Big Brook to Denmark Railway Survey op. cit.; correspondence in Jardee-Pemberton Railway Construction and Re-laying SROWA AN 260/1 Acc. 1235 Item 1737 (1925), October 1925; and Annual Report Western Australian Government Railways, Tramways and Electricity Supply in *Votes and Proceedings* 1926, Vol. 1, p. 4.

22 Correspondence in Jarnadup-Pemberton Railway Construction and Re-laying ibid.

proposed station building would be roofed with galvanised iron in lieu of Marseilles tiles, as this would be less expensive.[23]

In 1926, the Jardee-Pemberton railway line was re-laid with heavier rails. The requisite facilities were built at Pemberton, including a timber out-of shed (12 ft. 10 ft.), an engine shed, goods shed, and railway station, built in spring 1926.[24] In October 1926, the W.A.G.R. railway from Jarnadup to Pemberton was declared open.[25] In December 1926, work began on equipping the station and barracks etc. at Pemberton, which was completed in May 1927.[26]

Goods and people destined for the Group Settlements at Northcliffe traveled by rail to Pemberton, and then by road to Northcliffe, where a timber mill was established and also a store.[27] After the Pemberton section of the proposed Pemberton-Denmark railway was authorised by Parliament, it was held in abeyance until 1929, during which period final surveys were completed.[28]

In 1929, plans were drawn for the extension of the railway line from Pemberton to Northcliffe, including the necessary bridges across Eastbrook, with concrete piers, Big Brook, the Warren River and Dombakup Brook all of with timber piers or concrete and timber piers.[29] Most of the bridge plans for the railway, sometimes shown as Picton-Northcliffe Sec. or as Big Brook- Denmark Railway-Pemberton Section, were drawn by I. Harvey and signed by J. A. Ellis, Engineer for Railway Construction on 7 October 1929. The bridge, at 218 miles 76 chains 36 links (173.957 kms.), was the first crossing of Big Brook, which is now known as Lefroy Brook. The detailed drawings show the bridge with six spans of equal length, of timber and steel construction, the abutments to be piled and sheeted with stone pitching.[30] The next bridge, at 219 miles eight chains 80 links (174.208 kms.), is shown as a four span bridge of steel, timber and concrete construction, with timber piles and concrete piers.[31] The plan for the next bridge, at 219 miles 20 chains 58 links (174.445 kms.) shows a four span bridge of steel, timber and concrete construction, with steel and timber log beams, timber piles and concrete piers, with timber piled abutments sheeted and stone pitched.[32] The next bridge, at 220 miles 39 chains 26 links (176.429 kms.), the last of those crossing Big Brook, is shown as a five span bridge of timber, steel and concrete construction.[33] The bridge across the Warren River, at 222 miles 26 chains 99 links (179.402 kms.), is shown with 14 openings, the spans of equal length, and is a large timber trestle bridge. It is the longest and highest of the bridges.[34] The bridge crossing Dombakup Brook, at 232 miles 57 chains 52 links (196.11 kms.)

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23 Correspondence in ibid, October-December 1925.

24 Annual Report Western Australian Government Railways, Tramways and Electricity Supply in *Votes and Proceedings*. 1926, Vol. 1, p. 4.

25 *Government Gazette* 1926, p. 2123.

26 Annual Report Western Australian Government Railways … in *Votes and Proceedings*, Vol. 1, 1927, Appendix H, p. 57.

27 Evans, H. D. op. cit., pp. 26-27.

28 Correspondence etc. in Big Brook-Denmark Railway Survey SROWA AN 260/1 Acc. 1235 Item 79; and Annual Reports Western Australian Government Railways … in *Votes and Proceedings*, 1926 to 1929.

29 Big Brook-Denmark Railway Construction SROWA AN 262/5 Acc. 1240 Item 5105/35, November 1933.

30 Entry 2077 and CE Plan 2940/5 reproduced in Appendix, Volume 5-Appendix Railway Bridge Plans Prepared by W. P. Larke, Engineering Heritage Panel, Western Australian Division, The Institution of Engineers, Australia, Western Australia Division *Large Timber Structures in Western Australia* Perth, 1998.

31 Entry 2078 and CE Plan 29402/7 in ibid.

32 Entry 2079 and CE Plan 29403/3 in ibid.

33 Entry 2080 and CE Plan 29404/5 in ibid.

34 Entry 2081 and CE Plan 29405/7 in ibid.

is shown as a six span bridge, of timber and concrete construction.[35] All seven bridges were transom tops, i.e. 'open deck bridges using transom timbers to replace track sleepers.'[36]

In May 1929, work commenced on the Pemberton-Northcliffe Railway, which was 22 miles 16 chains in length. Utilising only cut, fill and bridges for its entire length, at an estimated cost of £10,000 per mile[37], it would be unique in Western Australia, and would prove to be the most expensive railway line per mile of any government built railway by the date of completion in 1933.[38] By early June 1929, work had begun on construction of a shed and yard at Pemberton in preparation for the project, and rails and other materials were 'coming forward.'[39]

A plan c. 1930 shows the W.A.G.R. railway line in Pemberton, with a number of timber mill workers houses built in proximity to the line.[40]

In May 1930, it was directed that so far as possible wandoo timber sleepers be used on 10 chain curves of the Pemberton-Northcliffe line.[41] Jarrah timber was most commonly used for railway sleepers, and it is not known to what extent wandoo may have been used on other lines.

By late 1930, Western Australia was in the depths of the Great Depression. From November 1930 through into autumn 1931, 120 men, most of whom were married, were employed on the work on a half time basis, i.e. working alternate weeks.[42] This was a common arrangement in this period in private and government sectors to provide work for as many workers as possible.

In December 1930, the names for the proposed railway sidings were approved, namely Brockman at 221 miles 39 chains, to serve the Brockmans' property, *Warren House*; Yeagarup at 227 miles 47 chains, so named at the suggestion of William Brockman, being near the area of the same name where the Brockmans' dairy operation was established; Dombakup at 234 miles 42 chains; followed by Northcliffe, and Dailac.[43]

In February 1931, the question of closing the railway was raised, but it was decided to continue the work albeit on a reduced basis and expenditure of £40,000 was authorised for this purpose.[44] The railway construction costs proved higher than anticipated, and, as in subsequent years, further expenditure would have to be authorised to enable work to continue.[45]

In June 1931, a photograph in the *Western Mail* showed 'a bridge over the Big Brook, about three miles from Pemberton, on the Pemberton-Westcliffe railway

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35 Entry 2082 and CE Plan 23406/4 in ibid.

36 Entries 2077 to 2082 and 'Glossary of Railway Bridge Terms' in ibid

37 Chief Engineer Way & Works to Commissioner for Railways in Construction Pemberton to Northcliffe SROWA AN 262/5 Cons. 1240 Item 5105/35, 12 December 1929.

38 Pemberton Tramway Assessment, National Trust of Australia (WA), June 1996, p. 2.

39 Chief Traffic Manager to Commissioner for Railways in Construction Pemberton to Northcliffe op. cit., 4 June 1929.

40 State Saw Mills SROWA Acc. 1060 AN 172/1 Item 979 Vol. 1.

41 Engineer in Chief to Commissioner for Railways in Construction Pemberton to Northcliffe op. cit., 8 May 1930.

42 Commissioner's Inspection Tour and Correspondence in Construction Pemberton to Northcliffe ibid, February to April 1931.

43 Correspondence in Construction Pemberton to Northcliffe op. cit., December1930; Annual Report Western Australian Government Railways … in *Votes and Proceedings*, Vol. 2, 1934, p. 18; and Evans, H. D. op. cit., p. 30.

44 Correspondence in ibid, February 1931.

45 Correspondence in ibid, 1931 to 1935.

line'.[46] A trestle bridge built one mile south of Pemberton had 'proved too unsafe and was filled in.'[47]

By December 1931, at 219 miles 75 chains, a water supply for construction purposes had been established. Recognising that water supply would be essential when the line was opened for traffic, it was decided to convert this into a permanent supply.[48] This dam continued to supply water as long as steam locomotives were used in the service on this line. In 2005, the site is one of the features pointed out during journeys on the Pemberton Tramway.[49]

In the main line, fluorised karri sleepers were laid for approximately one to one and a half miles, and fluorised karri sleepers were also used for the triangle at Northcliffe. The remainder of the sleepers were hewn jarrah[50], other than a small number of wandoo sleepers, as noted above. From Pemberton to 227 miles 3 chains, the line was laid with 60 lb. new A.S. "B" material, and thence to Northcliffe with 58 lb. W. A. standard rails from Kanowna line and Mundaring branch. The depth of ballast beneath the sleepers was 6 ins., the ruling grade was '1 in 60, and minimum radius of curvature is 10 chains.'[51]

In December 1932, the Commissioner for Railways suggested that the railway terminate at Northcliffe rather than Westcliffe, due to the heavy nature of the construction and the anticipated cost of the extension beyond Northcliffe at approximately £50,000.[52] The difficult terrain traversed between Pemberton and Northcliffe resulted in a construction cost of £238,968 10s. 3d, and at £10,264 per mile it was the most expensive railway built in the State. Including the costs of surveys and land resumption for the whole line, the cost exceeded £292,000. [53]

On 19 October 1933, it was reported that the railway was 'almost completed as far as Northcliffe', and it had been decided not to extend it beyond Northcliffe because only light traffic was likely.[54] On 27 November 1933, the Pemberton-Northcliffe Railway was opened for traffic, and the District Superintendent, Mr Hickey, traveled on the first return train journey.[55] In early December, it was declared a District Railway.[56] In its first year of operation, the line ran at a heavy loss, and so its closure was proposed. The prospect of timber business in the future as State Saw Mills expanded its activities was a major factor in the decision not to close the line.[57] Suggestions that State Saw Mills takeover the line came to naught, and the anticipated expansion of their timber cutting did not

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46 *Western Mail* 5 June 1931, p. 22.

47 Evans, H. D. op. cit., p. 29.

48 Commissioner of Railways to Hon. Mr. Scadden in Construction Pemberton to Northcliffe op. cit., 3 December 1931.

49 Site visit, Robin Chinnery and Philip Griffiths, 7 June 2004.

50 Big Brook-Denmark Railway Construction op. cit.

51 Annual Report Western Australian Government Railways … in *Votes and Proceedings*, Vol. 2, 1934, p. 18.

52 Commissioner for Railways to Hon. Mr. Scadden in Construction Pemberton to Northcliffe op. cit., 14 December 1932.

53 Construction Pemberton to Northcliffe SROWA AN 262/5 Cons. 1240 Item 5105/35.

54 *West Australian* 19 October 1933.

55 *Government Gazette* 24 November1933; *West Australian* 25 November 1933, p. 15; *Manjimup and Warren Times* 7 December 1933, p. 3; and Annual Report Western Australian Government Railways … in *Votes and Proceedings*, Vol. 2, 1934, p. 18.

56 *Government Gazette* 8 December1933.

57 Correspondence in Pemberton-Northcliffe Section- Use by State Saw Mills SROWA 2697/38, 17 November and 15 December 1934.

eventuate in the inter-war period as it was not economical. The Pemberton-Northcliffe line proved to be 'a heavy liability to the State.'[58]

For more than 50 years, the railway between Pemberton and Northcliffe provided 'the vital transportation link' which 'allowed the development' of the region, bringing to it the necessary farm materials, including superphosphate, and carrying away the timber and agricultural produce of the area, as well as providing transport for people.[59]

In late 1949, the Ladies' Waiting Room, a 12 ft. x 10 ft. out-of shed and a 12 ft. x 8 ft. timber cabin oil room were removed from the Pemberton railway station complex.[60]

In 1961, the bridge across the Warren River was damaged by fire, necessitating repairs. In 1972-73, further repairs were carried out and the transoms were renewed. Girders replaced at this period bear the mark 2-73.[61] Other works carried out under the WAGR including replacement of timber sleepers, are also marked to indicate the date at which the work occurred.[62]

In early 1972, after tenders were called for the purchase and removal of the engine shed from the station yard at Pemberton, it was sold to N. G. Belton for $60.[63]

In 1975, a plan of Pemberton Townsite shows Vasse Highway leading into the town and Brockman Street. The station yard is shown as per the 1925 plan. The railway line is shown passing through the yard, but no buildings are shown. By this date, the townsite had expanded and the boundaries had been extended accordingly. The station yard was still outside the town boundary.[64]

In December 1986, the Pemberton to Northcliffe Railway was closed to traffic. In 1987, it was leased to Mr. R. Pearson, trading as Pemberton Tramway Co., to be developed as a tourist venture, operating under an Order-in-Council as a light railway, i.e. locomotives prohibited.[65] In spring 1987, the tourist tramway was officially opened, utilising three light-weight rail cars, 'fashioned on a four wheel tramcar', which had been purpose-built by Willis Light Engineering of Rivervale.[66]

In December 1988, it was reported that the condition of the rail track was 'poor, with many sleepers in need of replacement before conventional heavy railway equipment could use the line extensively.'[67] It was considered that use as a light railway was 'unlikely to cause great deterioration of the track, its main enemy being natural decay of the sleepers and undermining of the gravel ballast and weed problems.'[68] Due to the low track speed, the round-trip Pemberton-

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58 Correspondence in ibid, 1933-14 March 1941.

59 Evans, H. D. op. cit., p. 2.

60 Pemberton Station Buildings and Improvements SROWA CE 37225 Acc. 4810 WAS 1213 (1949-1973), 23 September 1949.

61 Entry 2081 in *Large Timber Structures* op. cit.; and Raven, B. 'I Rode the Tramway to Northcliffe' December 1988.

62 Site visit, Robin Chinnery and Philip Griffiths, 7 June 2004.

63 Pemberton Station Buildings and Improvements op. cit., January-February 1972.

64 Townsite of Pemberton SROWA Cons. 5698 Item 1362, 1975.

65 Pemberton Tramway Assessment, National Trust of Australia (WA), op. cit.; and 'The Northcliffe Tramway' in *"The Westland"* December 1988, p. 12

66 'The Northcliffe Tramway' ibid.

67 ibid.

68 ibid.

Northcliffe, 'through dense forest country', was a full day excursion. The shorter journey, from Pemberton to the Warren River, was 'proving quite popular'.[69]

In 1989, as Pearson had been unable to pay for the rail cars, ownership of Pemberton Tramway Co. was transferred to the company which had been built by them, which has continued to operate the tramway through into 2005.[70]

In 1994, the railway was included in the Statewide Railway Survey.[71]

In June 1996, the tramway was assessed by the National Trust of Australia (WA), and subsequently Classified in July. It was considered 'an engineering masterpiece', which 'includes some of the finest timber bridge construction in the state (sic)', its 'Heritage Integrity' was 'Extremely High', and the place was recommended for Entry in the Register of Heritage Places.[72] It was also recommended that a Conservation Plan be prepared, along with 'preparation of plan for the Pemberton Railway yard', which 'should reflect the current appropriate re-use as a tourist light railway.'[73] No Conservation Plan has been prepared to date. Regular repairs and maintenance have been carried out as required by Pemberton Tramway Co., including replacement of sleepers etc.[74]

In July 1997, the place was included in the Shire of Manjimup Municipal Inventory, and recommended for Entry in the Register of Heritage Places.[75]

Also in 1997, a process of community consultation was undertaken, on behalf of the Environment Forest Taskforce, Environment Australia and the Western Australian Department of Conservation and Land Management, to identify heritage sites of social significance to local communities. A community workshop in Pemberton on 18 October 1997 identified *Pemberton-Northcliffe Railway & Railway Station* as a place of high social value.[76]

In 1998, the six aforementioned bridges were assessed and included in *Large Timber Structures in Western Australia*. Given a heritage status Ranking 4 designated five of them should be registered and maintained 'as an important industrial heritage structure', and it was recommended that all six bridges be assessed for their heritage significance as part of a heritage railway precinct.[77] The bridge across the Warren River was given a heritage status Ranking 5, which ranked equally with Ranking 4, and indicated that 'urgent assessment' was required as the bridge 'is subject to alteration, demolition or various types of damage or destruction.'[78] It was considered that this bridge 'should be given priority' as it was a large timber trestle bridge.[79] The number of surviving timber bridges in Western Australia, indeed throughout Australia, has steadily declined

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69 ibid.

70 Ian Willis, conversation with Robin Chinnery and Philip Griffiths, 7 June 2004.

71 HCWA Place No. 4637 Backlog Review Form.

72 Assessment Pemberton Tramway, National Trust of Australia (WA), June 1996, p. 1.

73 ibid.

74 Ian Willis op. cit.; and site visit, Robin Chinnery and Philip Griffiths, 7 June 2004.

75 HCWA Database Place No. 4637..

76 The Training and Development Group Pty Ltd, 'Western Australia Comprehensive Regional Assessment Community Heritage Program (Non-Indigenous): A report to Environment Forest Taskforce, Environment Australia and Western Australian Department of Conservation and Land Management', 1997, p.88.

77 Introduction and Entries 2077, 2078, 2079, 2080 and 2082 in *Large Timber Structures* op. cit.,

78 Introduction and Entry 2081 in ibid.

79 Entry 2081 ibid.

since World War Two, as most replacement bridges and new bridges built in the post-war period have been of concrete and steel construction.[80]

In 2005, *Pemberton-Northcliffe Railway* continues to operate as the Pemberton Tramway on a twice daily basis as far as the Warren River Bridge, but journeys to Northcliffe are seldom made. The Tramway is a well known tourist attraction in the South-West with more than 30,000 visitors per annum.[81] Pemberton Railway Station continues in use as an office and shop for the Tramway business.

13. 2 PHYSICAL EVIDENCE

Pemberton-Northcliffe Railway comprises a standard plan timber and iron railway station, and a 3 ft. 6 ins. gauge railway line, 36 km. in length, between Pemberton and Northcliffe, which includes a total of seven railway bridges over its full length, six being in the first 10 km. The station was built in 1926, and the railway line and bridges were constructed in 1929-33. Many of the bridges contain repair material, including concrete piers to replace trestles, and steel beams to replace timber. At the Northcliffe end of the line, there is the remains of a station platform formation and a two ton crane.

Pemberton-Northcliffe Railway runs from Pemberton in the north to Northcliffe in the south, climbing a gradient out of Pemberton and then descending towards Northcliffe. It follows an irregular path, exploiting the terrain to minimise cutting and filling and to make creek crossings at negotiable points. It crosses East Brook and Lefroy Brook, tributaries of the Warren River, passing to the east of the Cascades, a well known water feature, then the Warren River, and Dombakup Brook on its way through to Northcliffe.

Features along the way include at the northern end of the line Pemberton Railway Station and station yards, the southern end of the town of Pemberton, the present Sotico sawmill (present day successor to Big Brook State Saw Mill) west of the line and the remains of the mill's single men's quarters to the east of the line, together with saw dust piles.

The track runs in a snake–like pattern through cuttings, on formations and over seven bridges in the course of its journey, through State forest and through developed farmland.

Sidings are located along the track and include a small siding at the Cascades, Brockman, Yeagarup, Dombakup, and Terry's Siding.

The track crosses roads in both towns, as well as along the path, including logging tracks.

The Northcliffe end of the line passes to the east of the town terminating to the east of its centre at a platform formation.

The track passes through areas of developed landscape, re-growth forest, and bush. Native species along the track include re-growth Karri (*Eucalyptus diversicolor)*, Marri (*Eucalyptus calophylla)*, Orange Wattle (*Acacia saligna*), Prickly Wattle (*Acacia spp.)*, Peppermint Trees (species unknown), Swamp Banksia (*Banksia littoralis)*, Bull Banksia (*Banksia grandis)*, Zamia (*Macrozamia riedlei)*, Karri Hazel (*Trymalium spathulatum)*, Karri (She) Oak (*Allocasuarina decussata)*, Warren River Cedar (Species unknown), Water Bush (*Bossiaea aquifolium)*, Hovea (Hovea Species; Common Hovea *Hovea trisperma)*, and

80 Introduction in ibid.

81 Ian Willis op. cit.

Blackbutt (*Eucalyptus patens or staeri)*. Exotics include Black Wattle (*Acacia mearnsii)*, Watsonia (*Watsonia leipoldtii)*, Blackberry (*Rubus ulmifolius)*, and California Redwood (*Sequoia sempervirens)*.

Pemberton Railway Station

The station area comprises a 5 track ladder, a standard pattern timber and iron station house with a single sided awning, a standard pattern timber and iron male toilet, timber and iron store, and on the opposite side of the tracks, a skillion roofed corrugated iron clad goods shed. The whole arrangement is located on a levelled area, surrounded by shrubs and trees, with open grassed areas around the former yards. The buildings and context have a picturesque quality.

The station is situated on a low level platform and is a rectangular plan building with a corrugated iron gabled roof, with a broken back roofed verandah. The latter is supported on stop chamfered posts, with knee braces up to the roof structure. The station walls are clad with timber weatherboards, and there are four doors with highlight windows along the platform, and two double hung sash windows. There are three rooms in the station and the interior has timber floors, fibrous cement lined walls and ceilings and fireplaces.

The goods shed is a standard pattern corrugated iron clad skillion roof pattern, with a pair sliding doors on the track alignment, highlight windows on the north wall and a pair of sliding doors in the south wall.

The store and toilet buildings are simple skillion roofed structures.

Northcliffe Station

All that remains of Northcliffe Station is a timber construction platform formation, with bitumen paving, ramped at one end with an iron construction two ton crane at the opposite end.

Tracks and Bridges

The single track is laid on timber sleepers on ballast through cuttings, on fill and on bridges of various types and sizes.

Eastbrook Bridge is a concrete and steel bridge.

Bob's Bridge which spans a water course, is a timber trestle bridge with a steel top comprising six spans and piled abutments clad with stone pitching. It is 54.8m long and 7.3m high.

Lefroy Bridge spans a water course and has timber piled and concrete piers and abutments, steel spans and timber log beams,and has two spans . It is 37 m long and 5.5m high.

Cascade Bridge spans a water course and has timber piled and concrete piers, stone clad timber abutments, steel spans and timber log beams and has two spans . It is 37m long and 8m high.

A water tower to west of track was designed to supply water to steam locomotives.

Redgum Bridge spans a water course. It has two timber construction trestles of four piles each and two concrete piers with steel spans. Abutments are timber piled and sheeted with stone pitching. It is 50m long and 9m high.

Warren River Bridge is the most impressive bridge on the line and is laid to a curve, with a cross camber on the deck. It has been managed in a way that has preserved its traditional construction. It is built of timber and is a single track over a watercourse, and comprises four tall pile timber trestles, two with outrigger piles

and stays, timber piled abutments with timber sheeting and stone pitching. The piles are cross braced. It is 127m long and up to 10m high. As well as being a significant construction achievement, the composition of this bridge and its setting have a very fine picturesque quality.

Dombakup Bridge was not sighted during the inspection, but is recorded as a timber trestle bridge with concrete abutments.

The station buildings are little altered, well maintained and are in good condition.

The railway track remains in its original location and has been repaired and maintained. Repair and maintenance have required fabric replacement to the track and to the bridges through time.

13. 3 COMPARATIVE INFORMATION

In the mid-1920s, new standard plans for Station Buildings such as that built at Pemberton in 1926 were implemented for new stations and to replace older Station Buildings. Photographs illustrate the original buildings as had existed at several named places, and the new standard type which had replaced them.[82] The standard type 'as erected at Kojonup, Lake Grace, and Gnowangerup' had a tile roof.[83] The railway station groups at each of these towns have been included in their respective Municipal Inventories, with construction dates of 1912, 1924 and 1920 respectively.[84] Whilst this standard plan design was used for Pemberton, the roof was of corrugated iron. In the late twentieth century, many railway station buildings were closed, and whilst some, such as that at Lake Grace, have been converted to community uses, some timber railway station buildings were removed from their sites. However, Pemberton Railway Station is one of the very few timber construction railway stations to remain in use for its intended purpose.

The HCWA database identifies 101 railway stations, of which 24 include timber construction. Five of these timber railway stations are entered in the Register, begin Wyalkatchem (1937), Mullewa (1915), Donnybrook (1929), Claremont (1886-1905) and Bridgetown (1898). A further two timber railway stations are in the current assessment program, being Kojonup (1925) Tambellup (1924).[85] Pemberton Railway Station is rare as an extant inter-war timber railway station.

Large Timber Structures in Western Australia classifies a large railway bridge as one having seven or more openings, being over 30 metres long or being over 3.5 metres in heighth with at least three openings. Six of the bridges included within *Pemberton-Northcliffe Railway & Railway Station* meet this criteria (Eastbrook Bridge is not of timber construction). The study identified 297 timber bridges in the State, including many in ruinous condition, unused and without maintenance, or demolished. Of the bridges analysed for the study, 81 were considered to be of major heritage importance, with 50 having very high heritage value. These figures

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82 Annual Report Western Australian Government Railways … for Year ending 30 June 1926 in *Votes and Proceedings* Vol. 1, 1926, Appendix P

83 ibid.

84 HCWA Database Place Nos. 1398, 3279 and 5078.

85 HCWA database search, 1 July 2005.
Note: It is not possible to ascertain whether the timber element of a railway group is the station building. The search initially identified 10 Registered places including both railway stations and timber construction and a further six in the current assessment program, but on reading the Register entries only seven of these included timber railway stations. Therefore, it is likely that a proportion of the 101 places identified do not actually include timber railway stations, but it is not possible to determine this without reading individually through all 105 records.

include bridges that have been demolished. All the timber bridges within *Pemberton-Northcliffe Railway & Railway Station* are noted as having major heritage importance, with Warren River Bridge identified as having very high heritage value.[86]

Of the 297 railway bridges in *Large Timber Structures in Western Australia*, aside from the bridges contained within *Pemberton-Northcliffe Railway & Railway Station,* 34 included trestle construction and 25 included transom tops, although at least three of these have been demolished and a further ten are either known to be in ruins or have been abandoned and their condition is unknown. Eleven bridges are identified as including both features. Only one of these 11 was over 5 metres in height, being Collie River Bridge, at 6.4 metres in height. Two trestle bridges without transom tops were over 5 metres high, one on the Picton-Northcliffe Railway (Section 75) being 7.4 metres in height, the other being Tullis Bridge over the Hothan River, at 12 meters in height, which is abandoned and has not been confirmed to remain extant.[87]

Other than *Pemberton-Northcliffe Railway & Railway Station,* only 24 bridges in the survey are identified as being over 5 metres in height, of which four have been demolished and 11 are either known to be in ruins or have been abandoned and their condition is unknown. *Pemberton-Northcliffe Railway & Railway Station* therefore includes six of only 15 extant timber bridges over 5 metres in height known to be extant in the State. [88]

Large Timber Structures in Western Australia identifies a number of sections of railway that include several bridges in close proximity, including:

- The Brunswick Junction – Narrogin Railway (Section 71), which includes 10 timber bridges in a 72 kilometre stretch of line. Two of these are within a kilometre of each other, but the others are spread at distances of between three and 23 kilometres. Nine of the ten bridges include trestles, of which eight have transom tops. This is a non-operational railway line, but the bridges are mostly in fair condition. They range in height from 1.8 to 3.7 metres.
- The Donnybrook-Katanning Railway (Section 76), which includes 39 timber bridges over 194 km, including one group of 18 bridges over 32 km, and another group of 13 bridges over 52 km. This is a disused line, and many of the bridges have been demolished or are in ruin. Four of the bridges are over 5 meters in height (the highest being 7.5 metres) but the majority are around 2 metres high. Thirteen have trestles, of which two have transom tops; and,
- The Wonnerup-Nannup Railway (Section 78), which includes 13 timber bridges over 43 kilometres. One has a transom top and two have trestles. The line is disused, and the majority of the bridges are also not in use. Heights are not stated for most bridges, although the relatively short lengths of the majority suggest they are comparatively small bridges. One large bridge, across the Blackwood River, remains in use, and is 10 metres high.

Five of the six timber bridges within *Pemberton-Northcliffe Railway & Railway Station* are within a 5.5 kilometre section of the line. The heights of the six

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86 Institution of Engineers, Australia, Western Australia Division, *Large Timber Structures in Western Australia, Volume Three: Railway Bridges,* Institution of Engineers, Australia, Western Australia Division, 1998.

87 ibid.

88 ibid.

bridges (5.5, 6.5, 7.3, 8, 9, and 10 metres) makes the place a rare group of high bridges in close proximity to each other. [89]

Warren River Bridge, at 10 metres high, is one of only five timber bridges ten or more metres high known to have been constructed in the State , of which only three are extant.[90]

As indicated in the documentary evidence, Pemberton-Northcliffe Railway is unique in Western Australia as a railway line constructed utilising only cut, fill and bridges for its entire length, and was the most expensive railway line per mile of any government built railway to that period. The seven bridges within a short distance of Pemberton are a rare concentration in the Western Australian railways and are an integral part of this most notable railway. The largest timber trestle bridge (Warren River Bridge) is considered to be of particular importance as few such bridges have survived through into the late twentieth and early twenty-first centuries.

13. 4 KEY REFERENCES

Big Brook-Denmark Railway Construction SROWA AN 262/5 Acc. 1240 Item 5105/35

Big Brook to Denmark Railway Survey SROWA AN 260/1 Acc. 1235 Items 78 and 79

Construction Pemberton to Northcliffe SROWA Cons. 1240 AN 262/5 Item 5105/35 (1935)

Evans, H. D. *The Story behind the Manjimup-Northcliffe Railway Line* Times Offset, Manjimup, Western Australia, 198-

Jarnadup-Pemberton Railway Construction and Re-laying SROWA AN 260/1 Acc. 1235 Item 1737 (1925)

Pemberton Tramway National Trust Assessment by Philippa Uhe, Railway Heritage Committee, June 1996

'The Northcliffe Tramway' in *"The Westland"* December 1988

13. 5 FURTHER RESEARCH

Further research would be necessary to provide a more detailed insight into the construction of the railway line and the changes to it through time, and to determine the degree to which original timber sleepers survive on the Pemberton-Northcliffe line, including any wandoo sleepers.

Further research would be required to ascertain how many railway stations built to the standard plan employed at Pemberton are extant in 2004, and their comparative degrees of integrity and authenticity.

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89 ibid.

90 ibid. Note: Approximately 125 bridges in the survey have no height identified. However, other information provided suggests these are unlikely to be bridges over 5 meters high, Many have been demolished, and another significant portion are in use and identified as having little heritage value.