STATEMENT OF HERITAGE IMPACT

PROPOSED QR NATIONAL TRAIN SUPPORT FACILITY

HEXHAM NSW

AUGUST 2012

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1. INTRODUCTION

EJE Heritage has been commissioned to provide a European Heritage Assessment and subsequent Heritage Impact Statement for the proposed development at Hexham of a Train Support Facility by QR National.

The European historical research originally prepared by Rosemary Melville of Hunter History Consultants. David Campbell added material concerning mining, railways, dairy farming, the Brown family and social history, and incorporated other information concerning more recent developments.

This Statement of Heritage Impact was prepared by EJE Heritage. The project team consisted of:

Barney Collins – (Director) Conservation Architect
Shea Hedley – Environmental Consultant
David Campbell – Heritage Consultant (August 2012 Revision)

Track diagrams are copies by Brian Andrews of material accumulated by him over a lifetime of research. His *Coal, Railways and Mines: the Story of the Railways and Collieries of J. & A. Brown*[1] is the definitive study of this fascinating industrial enterprise; those with family connections to the subject will long remain in his debt.

1.1 METHODOLOGY

This report has been written in accordance with the guidelines for Assessing Heritage Significance and Statement of Heritage Impact as issued by the NSW Heritage Office, and the Australia ICOMOS Burra Charter (1999).

1.2 HERITAGE LISTINGS

The site and buildings **are not** listed as individual items of heritage significance within any statutory planning or heritage instrument, nor are they located in a heritage conservation area. Instruments searched in determination of this include the *Newcastle Local Environmental Plan 2012*, Schedule 5, and the following provisions of the *Heritage Act 1977* (NSW): State Heritage Register, Interim Heritage Orders, State Agency Heritage Registers, and orders made under the *Heritage Act 1977,* Sections 136 and 170.

The Minmi to Hexham Railway **is** listed as an item of environmental heritage in the *Newcastle Local Environmental Plan 2012,* (LEP 2012) Schedule 5, Item 332. It is listed as having Local significance. It is not contained in the State Heritage Register, and is, therefore, not protected as such. It was previously identified as having State significance in the *Newcastle Local Environmental Plan 2003* (repealed).

It is submitted that the two extant but ruinous structures at Hexham should each be considered as having Local significance.

Hexham railway station and the original Pacific Highway truss bridge over the Hunter River at Hexham are also listed as Heritage Items within LEP 2012.

The site is listed on the Register of the National Trust (NSW); this listing is extracted as:

[1] Redfern: Australian Railway Historical Society, NSW Division, 2004.

Item Name
Richmond Vale Railway, including Hexham Locomotive and Wagon Depot with loco shed, amenities block, building sign, water columns, coal loading facilities and wagon repair sheds, all existing tracks, wayside huts, tunnels, bridges, cuttings, formations.

Building Material
Steam locomotives, air hopper wagons.[2]

This listing was made before the closure of the Richmond Vale Railway in 1987. Extant infrastructure now includes No. 1, No.2 and No. 3 tunnels, the Surveyors Creek trestle bridge and abutments, the Wallis Creek trestle bridge and abutments, the Control Cabin, Bath House, cuttings (some partially filled) and formations. The South Maitland Railway '10 Class' locomotives have long since been moved off site, their engine shed demolished. The reference to "air hopper wagons" should actually refer to non-air braked hopper wagons, hundreds of which were once to be found at Hexham and across the coalfields of the lower Hunter Valley. These consisted of wooden hoppers, each of which tapered to a discharge door at the bottom, carried on steel or timber underframes, which could be detached and lifted by cranes over ships' holds, into which their contents were then discharged. None of these remain on site, some having been preserved elsewhere; most were burned and scrapped after the closure of the line. Some overturned wagons are still extant near Minmi Junction.

The National Trust of Australia (NSW) is self-described as

> a community-based charity independent of government and corporate pressures, we are Australia's strongest voice for the protection of heritage of all kinds...with a membership of 22,000 in New South Wales alone, our voice counts![3]

While regulated by legislation, the Trust is not a government body;[4] its advice and listings do not have legislative force; they may, however, be considered persuasive.

1.3 SITE IDENTIFICATION

The site is identified as being at Maitland Road (Pacific Highway), Hexham NSW. The subject site is located within the Newcastle City Council Local Government Area. The real property description is:

LOT	DP
101	DP1084709
102	DP1084709
2	DP735456
10	DP735235
104	DP1084709
Pt104	DP1084709
113	DP755232
1	DP155530
12	DP1075150
1	DP1062240
311	DP583724
1	DP 128309

[2] *Register of the National Trust (NSW)* http://heritagespace.com.au/index
[3] http://www.nationaltrust.com.au/about/
[4] *National Trust of Australia (New South Wales) Act 1990* (NSW).

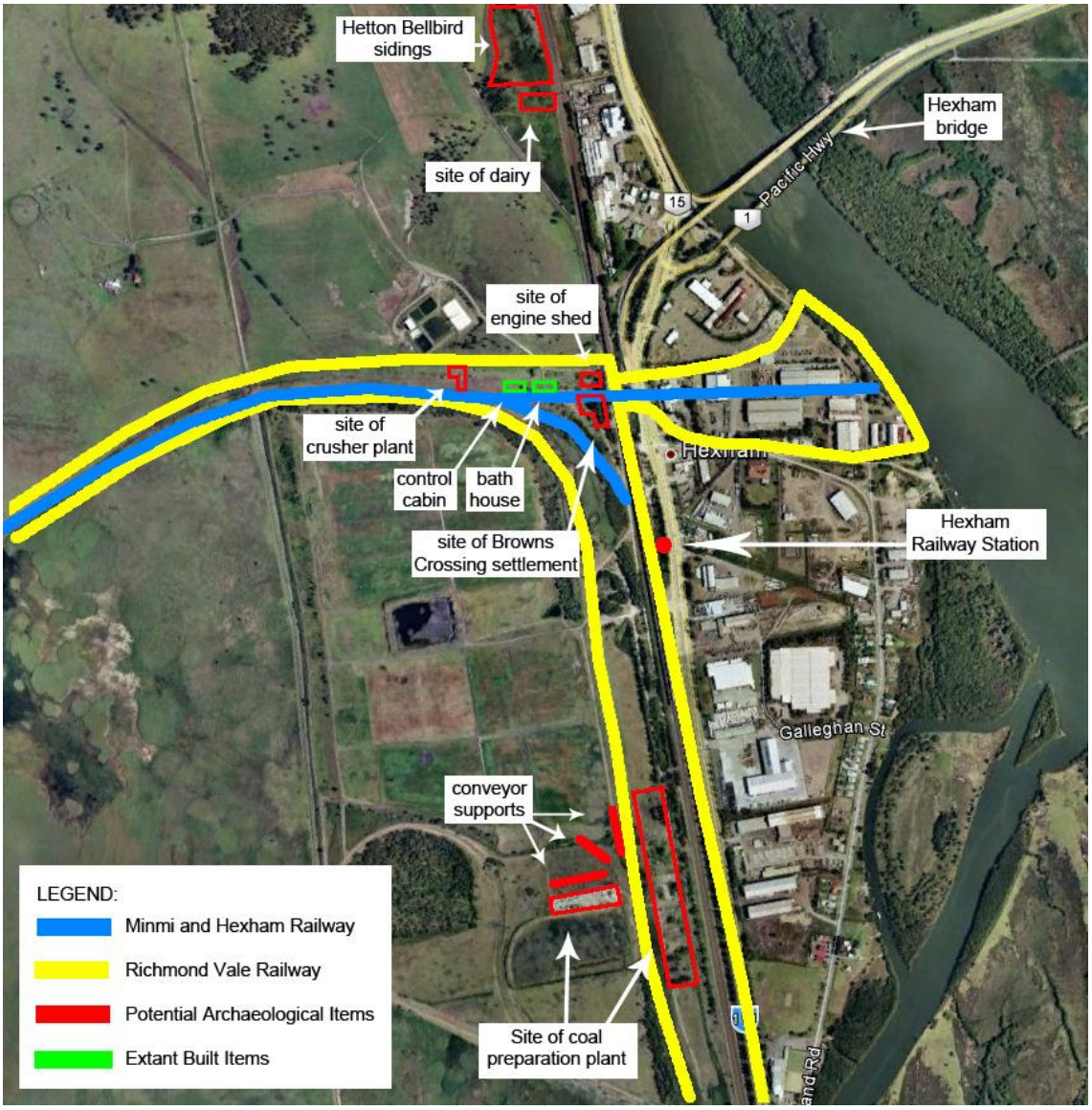
1.4 CONSTRAINTS AND LIMITATIONS

EJE Heritage is not qualified to offer structural opinions and this report is not intended to convey any opinion as to the structural adequacy or integrity of the structure, nor should it be construed as doing so in any way. Similarly, the author's observations were limited to the fabric only and he does not comment on the capacity, adequacy, or statutory compliance of any building services.

1.5 ABBREVIATIONS

Abbreviations used throughout the text are as follows:

LEP	Local Environmental Plan
SOHI	Statement of Heritage Impact



2. EUROPEAN HISTORY OF THE SITE

2.1 OVERVIEW[5]

Since the earliest days of European settlement in the Hunter Valley, the area's development has been driven by the coal mining and rural industries. Both industries underpin the history of the study site which was used for agricultural and dairying purposes from the 1830s, and were linked to the coal industry from 1857 following the construction of John Eales' railway to carry coal from his Minmi mines to loading facilities on the Hunter River at Hexham. Over the ensuing years, however, developments associated with the rural industry may be considered minimal when compared to those related to the transport and treatment of coal.

The purchase of Eales' mining interests by J. & A. Brown in 1859 heralded the beginning of a 138 year association with the study site by a firm which evolved to become the largest producer of coal in Australia. Established by James and Alexander Brown in the early 1850s, the company merged with Abermain Seaham Collieries Ltd. in 1930 to become J. & A. Brown and Abermain Seaham Collieries Ltd (JABAS).[6] A subsequent merger between JABAS and the Caledonian Coal Company in 1960 led to the creation of Coal and Allied Industries Ltd.[7]

The role of the site as a significant element in the coal industry increased during the early years of the 20th Century with the development of J. & A. Brown's mining empire which included the "showpiece" Richmond Main Colliery and the extended Minmi-Hexham Railway, which was renamed the Richmond Vale Railway. Whilst the rich history of the Richmond Vale Railway in its entirety is acknowledged, the emphasis of this history is on the Hexham terminus and associated developments in that area. From the mid-1930s coal preparation was also carried out on the site, an activity which took on increased significance following the construction of a coal washery in 1955.

Following the cessation of mining at Richmond Main Colliery and subsequent closure of the Richmond Vale Railway in 1987, the portion of the study site owned by Coal and Allied was sold to a local consortium, Newcastle Rail Terminals, in 1997. Their plans to improve the efficiency of coal transport to Newcastle through the construction of refuse sidings did not eventuate, and the site was sold to QR National in 2006.

This history focuses on the physical development of the study site and is arranged to reflect the various activities which have occurred there over the years. Given the large number of allotments included in the site, a summary of ownership details is also included, presented in table form as Appendix 1. Much of the land was originally owned by members of the Sparke family, who arrived in New South Wales in 1823 and played a significant role in the early development of the Hexham area.[8]

2.2 BACKGROUND HISTORY OF THE AREA

European settlement in the Hunter Valley dates from 1804 when an outpost was established at the mouth of the Hunter River to serve as a place of punishment for prisoners who had re-offended after being transported to Sydney. A previous attempt in 1801 to establish such a settlement had failed within six months for want of a suitable leader. The primary attraction of the area, apart from its isolation from Sydney, was the richness of its natural resources including timber, lime and coal.

For twenty years the exploitation of these resources provided labour for a significant proportion of Newcastle's convict population.[9]

[5] Original portion of history prepared by Hunter History Consultants Pty Ltd, April 2008
[6] Christopher Jay, *The Coal Masters: The History of Coal & Allied 1844-1994,* Sydney 1994, p.127.
[7] *Ibid.,* p.175
[8] Dulcie Hartley, *Men of Their Time: Pioneers of the Hunter River,* Newcastle, 1995, p.113.
[9] Pennie Pemberton, *Pure Merinos and Others: The "Shipping Lists" of the Australian Agricultural Company,* Canberra, 1986, p.8.

Removal of the penal station from Newcastle in 1823 paved the way for free settlers to enter the Hunter Valley and before long thriving communities had developed on the banks of the Hunter River at Morpeth (the head of navigation), the Government town of East Maitland and at West Maitland, which had developed along the line of a bullock trail leading to the interior. In contrast, Newcastle declined and for many years was little more than a stopping point for steamers travelling between Morpeth and Sydney.[10] According to the Rev. John Dunmore Lang, the town in 1836 had "somewhat the appearance of a deserted village", but he accurately predicted that it was likely to become "a place of considerable importance" because of its coal resources and good harbour.[11]

2.3 SECTION A: FARMING

Following the laying out of a road between Newcastle and Maitland in 1828, the village of Hexham was established as a stopping place for steamers travelling up and down the Hunter River to and from Morpeth. A public wharf was built in 1842, and it was not uncommon for travellers to disembark there and continue the journey to Maitland by road, which greatly reduced the overall time of the journey. Despite Surveyor Henry Dangar's somewhat unpromising description of the land around Hexham as "inferior country [with] improvable lands on the margins of the Swamps" [12], about 140 people were living there in the early 1840s. By that time Hexham had become a productive farming area where hay, maize, fruit and vegetables were successfully grown.[13] Dairy farming, which took advantage of the fertile although very low-lying river meadows, had become widespread by the 1840s.[14]

Visiting the area at that time was James Askew, who travelled through New South Wales in the early 1850s and published his impressions on returning to England. During a journey from Newcastle to Maitland, Askew's coach made an early morning stop at the Hexham Hotel. After breakfasting from a table "covered with a white cover, and spread over with joints of cold meat, bread, butter, cheese and the most delicious cream, to which was added tea and coffee", the travellers departed. Their next stop was the Hexham post office where they encountered an "old native, the last of his tribe, wall-eyed and nearly blind". Askew described the man, who was covered only in an old blanket, as a man of

> *frankness and intelligence, [whose] wants were abundantly supplied by a few individuals residing near the river, on whose banks he spent much of his time basking in the sunshine.*

Although Askew's description owes much to the mid-Victorian tragic-romantic sentiment common to such observations, it does at least show that Indigenous people continued to live in the area after the incursion of Europeans.

On leaving the post office, Askew's coach passed through the village of Hexham, concerning which he made these observations:

> *The road passed through the principal part of Hexham. In the middle of this village there is a neat wooden chapel, and a short distance from it a small school, and about half-a-dozen houses scattered over the distance of nearly a mile among the fields. There were grazing paddocks covered with rich herbage, fields covered with stubble, nearly a yard high, the remains of the last crop. In others, rich crops of Indian corn enlivened the scene.*[15]

A description of the area in 1880 revealed that the countryside was still devoted primarily to farming although there had been a significant development. The town of Hexham was described as:

[10] *The Colonist,* 11 June 1835.
[11] John Dunmore Lang, *An Historical Account of New South Wales,* Vol.1, 2nd edition, London, 1837.
[12] Cited in Dulcie Hartley, *Men of Their Time,* p.11.
[13] *Ibid.;* Raymond Terrace Historical Society, *Memories of Hexham, Hunter River, New South Wales,* n.d., p.5.
[14] *Maitland Mercury,* 3 November 1847, 21 March 1855.
[15] J. Askew, *A Voyage to Australia and New Zealand,* London, 1857, pp.298-230.

> *A small village, situated ten miles north of Newcastle, in the centre of an agricultural and grazing country. The Messrs. Brown ship coal from their famous Duckenfield and Merthyr collieries at staithes on the river here. It is a postal town, and contains a population in the neighbourhood of about 160 souls.*[16]

Rural activities continued to dominate in 1900, when sixteen farms were in operation. Three of the properties were devoted solely to grazing, eight of the remaining thirteen were dairy farmers and all but the three grazing properties were growing crops which included maize, oats, potatoes, sugar and vegetables.[17] Despite the presence of the Richmond Vale Railway and coal-related infrastructure and equipment, a plan of the land immediately west of the Richmond Vale Railway corridor shows large areas of land still under cultivation in 1957.[18] Dairy farming, too, continued, despite the debris deposited by the disastrous floods of 1949 and 1955. Dairy cows are still agisted in the area to this day. The milking sheds around Hexham and Tarro were small in scale before the introduction of milking machines, but before 1944, on two 100 acre lots originally granted to Cracknell and Maybury and afterwards sold to John Sparke,[19] a larger milking shed with concrete feed silos was erected. This land, together with the associated Wheat Sheaf Inn fronting the Maitland Road, was rented to William Sparke from about 1828.[20] It later passed by mortgage to William Dougal Christie and was later alienated from the Christie estate.[21] This complex was reached from Maitland Road near the Hunter Valley Dairy Co-operative Ltd premises via an occupation (private) crossing of the Great Northern Railway. The silos are similar to those remaining on some of 17 defunct dairy farms at nearby Ash Island, now incorporated into the Hunter Wetlands National Park.

2.4 SECTION B: COAL

Following closure of the Newcastle penal settlement in 1823 the Government decided to withdraw from coal mining activities, leading to an Agreement between the Colonial Office and the Australian Agricultural Company (A.A. Company), which gave the Company a 2,000 acre land grant at Newcastle for coal mining purposes and a 31 year near-monopoly on coalmining in New South Wales.[22]

Among the free settlers arriving in the Hunter Valley were bounty immigrants Alexander and Mary Brown and seven of their ten children – four sons, James, William, John and Alexander and three daughters, Lillias, Catherine and Janet.[23] The family had been involved in the weaving industry in Scotland but they emigrated to New South Wales in 1842 to work as agricultural labourers for James Garvan at Maitland. Perhaps due to the economic depression at the time, employment with Garvan did not eventuate and some members of the Brown family found work at Dr. James Mitchell's tweed mill at Stockton.[24] It is possible that the work involved actual construction of the mill, which began in 1842 with the first cloth not produced until about June 1843.[25]

[16] W.H. Shaw, *The Newcastle Directory and Almanac for the Year 1880.* Newcastle: 1879, reprinted 1978, p.61
[17] Yewens Directory of the Landholders of New South Wales, Sydney, 1900, p.363.
[18] Plan of Portion 113, Parish of Hexham, County of Northumberland, 17 July 1957, NSW Department of Lands.
[19] Shown as Lots 19 and 20 on Department of Lands, Parish of Hexham, County of Northumberland, 9th ed., 1942, Map G8971.G46svar, National Library of Australia; Map of Hexham, NSW, 1858, Ferguson Collection, Map 61a, National Library of Australia.
[20] Dulcie Hartley, *Men of their Time: Pioneers of the Hunter River.* North Arm Cove: Acquila Agribusiness, 1995, pp. 83-85.
[21] *Ibid.,* pp. 68-69.
[22] Pennie Pemberton, *Pure Merinos and Others,* p.8.
[23] Brian Andrews, *Coal, Railways and Mines, the Story of the Railways and Collieries of J. & A. Brown,* Australian Railway Historical Society, 2004, p.7.
[24] John Turner, *James and Alexander Brown 1843-1877,* Newcastle History Monographs No.4, Newcastle Public Library, 1968, p.12.
[25] Stockton Historical Society, "Stockton Year by Year", unpublished typescript, n.d.

2.4.1 Entry of James Brown and John Eales into the Coal Industry

In 1843 James Brown leased eighty acres of land on Four Mile Creek near East Maitland where, despite any previous knowledge of coal mining, he planned to open a colliery which was to be worked by all the male members of the family.[26] The owner of the land was Capt. William Dumaresq, whose brother, Henry, had been Commissioner of the A.A. Company from 1834 until his death in 1838.[27] When discussing his proposed lease of the land with Dumaresq, Brown raised the issue of the A.A. Company's monopoly but Dumaresq "did not think the Company would interfere with [Brown] unless [he] interfered with their trade, as the consumption of Maitland was so small".[28]

Other challenges to the A.A. Company's monopoly had begun to emerge during 1844 when one of the company's customers, the Hunter River Steam Navigation Company, was approached by John Christian who had begun to mine coal near Maitland. He offered to deliver coal to the Hunter River company's Morpeth wharves for the same price as A.A. Company coal at Newcastle. The convenience of being able to load its steamers at Morpeth and the saving in cost of transporting coal from Newcastle led the Hunter River company to accept Christian's offer but within three months the company had changed its supplier to James Brown, who had offered to supply coal from his lease at Four Mile Creek for 9 shillings and 6 pence per ton, compared to 13 shillings per ton from the A.A. Company and Christian. Competition then arose between John Brown, John Christian, John Eales (who had also entered the market) and the A.A. Company, with John Brown emerging victorious at 5 shillings and 11 pence.

The trade of the Hunter River Steam Navigation Company was thus lost to the A.A. Company. For a short period, the company also lost its Sydney trade to Messrs. Eales, Christian and Turner who shipped their coal from Hexham to Sydney. Although the A.A. Company was able to drive this trio out of the market, it could not compete with James Brown and legal proceedings were instigated to enforce the company's monopoly. When questioned on his ability to provide coal at cheaper rates than the A.A. Company, Brown remarked that "they pay such extravagant salaries to men who do nothing, that they must charge an extravagant price for their coal".[29]

Although Brown was found guilty of "intruding on the reserves of the Crown" and his family was forced off the Four Mile Creek lease, damages of only one shilling were awarded against him. While he lost twelve houses which had been erected on the lease and there were significant expenses associated with moving, Brown was not driven from the coal industry. Under the terms of the Agreement between the A.A. Company and the government, coal was reserved only in lands which were alienated after the Agreement came into force. The A.A. Company's monopoly did not, therefore, apply to land which was acquired before the end of 1827, and some of this land belonged to John Eales. A partnership was established between Eales and Brown, the latter moved his mining operations onto land owned by Eales and the HRSN custom was retained. Forced to maintain its coal prices at un-remunerative levels, the A.A. Company then sought to surrender its privileges on condition that its very valuable land grants be made freehold; this was achieved "on acceptable terms" in August 1847.[30]

[26] John Turner, *James and Alexander Brown,* p.15.
[27] Pennie Pemberton, *Pure Merinos and Others,* p.99
[28] Evidence of John Brown, *Report from the Select Committee on Coal Inquiry, with Appendix and Minutes of Evidence,* Sydney, 1847, p.42.
[29] *Ibid.,* pp.41-43.
[30] John Turner, *James and Alexander Brown,* p.14.

Figure 1. James Brown, 1816-1894
John Turner, *James and Alexander Brown, 1843-1877*

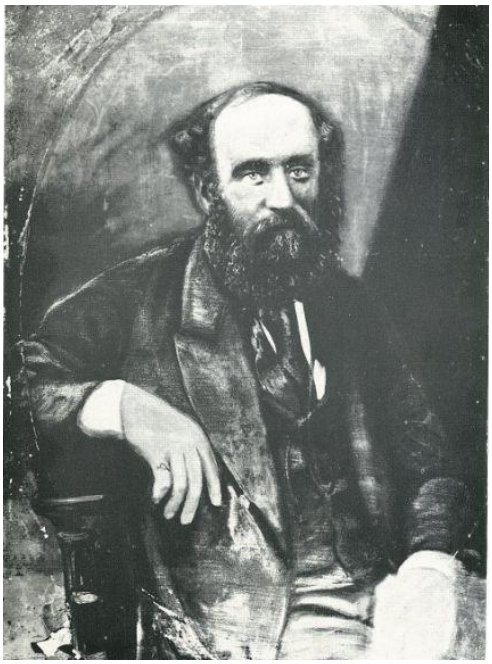


Figure 2. Alexander Brown, 1827-1877
John Turner, *James and Alexander Brown, 1843-1877*

The partnership between Eales and Brown was short lived, and by 1852 the Browns had left East Maitland and established a coal mine on a lease on the Burwood Estate near Newcastle. It was during this phase of the Brown family's history that management of the business became concentrated in the hands of James and Alexander, leading to the formation of J. & A. Brown. Under their leadership the company prospered and in 1854 they owned the successful Burwood mine, a share in a tug boat which was used on Newcastle harbour, valuable property in the town, a ships' chandlery, an import-export business and at least one ocean going ship.[31] In October 1853 they had also purchased two parcels of Crown land at Minmi, adjacent to land owned by John Eales.[32]

2.4.2 John Eales' Minmi Mine

While the Brown brothers were immersed in their business interests in Newcastle, their former partner, John Eales, had turned his interests to a coal mine which had been sunk by Messrs. Jackson, Tulip and Nixon on Crown Land at Minmi. Unable to fund the establishment of a colliery, they sold their interest to Eales who also purchased the land on which the mine had been sunk. Soon after acquiring the Minmi mine, Eales sold a share to John Christian, who had previously operated mines at Four Mile Creek.[33] Eales was a wealthy grazier and pastoralist rather than a miner, so it is understandable that he would seek out a man such as John Christian to provide "hands on" expertise for the Minmi venture.[34]

2.4.3 Construction of the 'Minmi and Hexham Railway'

Coal from the Minmi mine was carted by teams along a bush track through the hills and around the swamps to wharves at Hexham. Where possible, the route was shortened by building roads of saplings and brush across the swamps but the journey was slow and expensive.[35] The solution was for Eales and Christian to build a railway linking the colliery to the river port of Hexham, but to achieve this it was necessary to cross the properties of a number of landholders. Messrs. William Dougall Christie, William Charles Wentworth and James Mitchell were willing for the project to proceed because they believed "that it would improve the value of their properties, and otherwise benefit them". The Hunter River Railway Company, who hoped soon to open their railway between Honeysuckle Point and the vicinity of East Maitland, did not object to the Minmi line crossing theirs on the level so long as gates were provided, to be operated by a "fit and proper persons" constantly present and housed in a "station or lodge" to be built at the crossing place, but not on the Company's land. Construction of the 'Minmi and Hexham Railway' seems to have been well advanced by late 1854 but one landholder, John Malcolm, "of the city of Sydney, gentleman" refused permission for the line to cross his property. Eales, politically influential, was therefore forced to approach the Legislative Council to gain right of way. *An Act to authorise the continuation of a Railway from Minmi to Hexham* (NSW) was subsequently passed on 7th November 1854.[36]

Under the Act, compensation was to be paid to John Malcolm. It was stipulated that the railway was to be completed within five years, and should not "occupy in any part thereof a greater space in breadth than sixty-six feet, including the supports, abutments, and foundations thereof". The lodge, gates and attendant railway signals for the right-angled crossing were not present in late 1856,[37] but seem to have been built soon after, and to have been the genesis of a village informally known as Brown's Crossing that later grew in popularity after a junction with the government line was laid in.[38] Nothing of the design of the lodge is to hand; it may, however, have been similar to

[31] *Ibid.,* p.16.
[32] Brian Andrews, *Coal, Railways and Mines,* p.22.
[33] *Ibid.,* p.17.
[34] Elizabeth Guilford, "John Eales (1799-1871)" in AGL Shaw and CMH Clark (eds.) *Australian Dictionary of Biography, Vol.1: 1788-1850,* Melbourne, 1966, p.344.
[35] Brian Andrews, *Coal, Railways and Mines* , p.17; R.G. Preston, *The Richmond Vale Railway,* Newcastle, 1990, p.7.
[36] *Minmi and Hexham Railway Act, 1854*. Sydney: Government Printer, 1854, p.1.
[37] *Sydney Morning Herald,* 25 December 1856.
[38] Gifford Eardley, 'The Colliery Railways to Hexham', ARHS *Bulletin,* May 1955.

that of the Maitland Road crossing-keeper's house a short distance to the west, which was described as a "neat brick verandah lodge".[39]

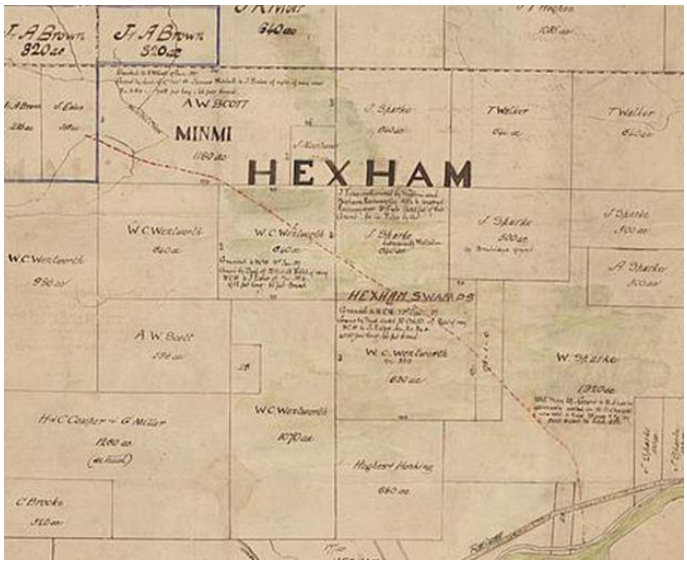


Figure 3. 'Map of Hexham'. The map appears to have been drawn before construction of Eales' railway, the route of which has been superimposed. *NLA, Ferguson Collection, Map 61a*

Figure 4. Allan and Wigley, 'Map Shewing the Extent to which the Lowlands on the Hunter and its Tributories between Oakhampton and Hexham were Submerged by the Great Flood of August 1857.' The Minmi and Hexham railway does not yet junction with the Great Northern Railway. Neither line has long been open. *NLA, Ferguson Collection, Map 380*

[39] *Sydney Morning Herald,* 25 December 1856.

Despite repeated requests for a passenger station to be built,[40] the Colonial government does not seem to have done so until 1878 when its line was duplicated, although a platform at which trains stopped on request was available in 1864.[41] Passengers travelled to and from Minmi on the coal wagons or, if the engine crew was willing, on the locomotive footplate; but this was not without some most gory casualties should people lose their footing.[42] Eales and Christian were to provide and maintain the necessary gates, fences, bridges and other works. At all times, the railway was open to the public who could transport their goods at varying rates depending on which party supplied the necessary trucks or wagons.[43] In addition to allowing coal belonging to other colliery owners to be carried on the line, J. & A. Brown eventually supplied a rather uncomfortable passenger service in second-hand carriages between Minmi and Hexham until 1921 when it ceased, although a service continued to run on holidays and "pay Saturdays".[44]

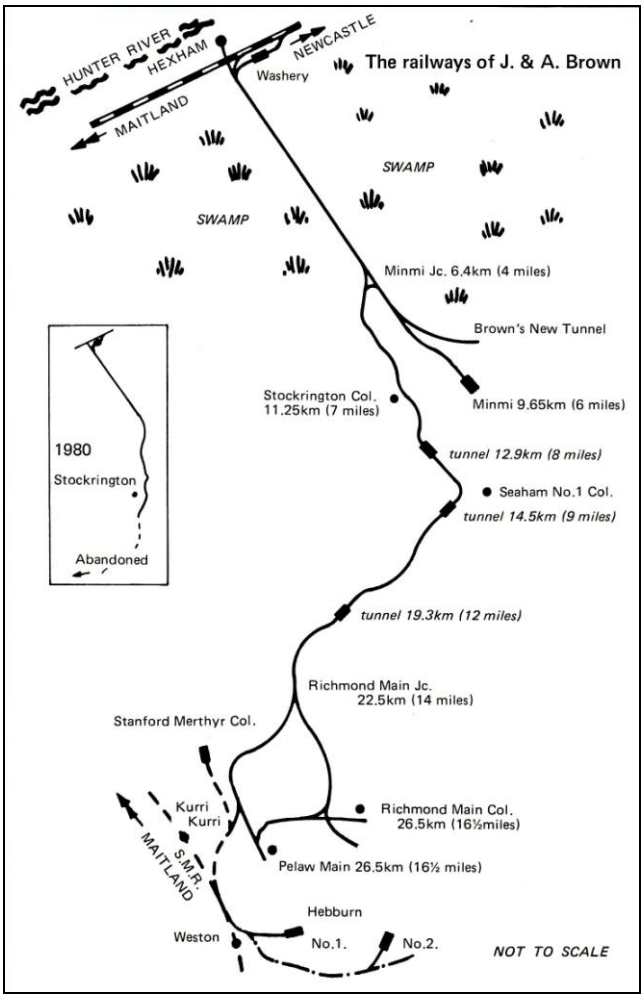


Figure 5. Railways of J. & A. Brown are shown in solid lines. K. Pearce*, Coals to Hexham*

[40] *Empire,* 1 July 1861.
[41] *Empire*, 28 May 1864.
[42] *Empire*, 28 May 1864; *The Courier,* 5 January 1863; *Maitland Mercury,* 25 December 1862.
[43] *Ibid.,* pp.1-5.
[44] Gifford Eardley, 'The Colliery Railways to Hexham', ARHS *Bulletin*, December 1955, p.168

The late Ron Preston, a local railway historian, has described the form of the railway:

> *The main line headed out across the great Hexham Swamp, a wetland famous for its birdlife and aquatic flora, but also noted for its black snakes and mosquitoes...the earthworks were simple – just an earth embankment, wide enough to carry the tracks and high enough to keep the rails above the peak water level. Culverts at intervals allowed water to flow from one side to the other.*[45]

The original line appears to have been laid with light rails, possibly wooden;[46] these were enough to support the horse trams in which the coal was at first conveyed. It seems to have been operating all the way between Minmi and the primitive port at Hexham before, at a cost of £40,000,[47] it was relayed with iron rails, so allowing it to support the weight of locomotives. By early December, 1856, the relaying was "so nearly finished that the coal trucks are being placed on it". Two dedicated wharves had been almost completed on the river bank close to the Hexham Hotel, and it was believed that there was "little doubt that the enterprise [would] richly reward the proprietors".[48] Two small but powerful locomotives, built by R. & W. Hawthorne of Newcastle-upon-Tyne in 1856, are said to have been introduced on the Hexham and Minmi Railway in 1857,[49] although it has so far proved impossible to confirm this.

2.4.4 The Browns Return to Minmi

Among those seeking access to the new line were the Brown brothers, who had renewed their interest in Minmi with the establishment in 1857 of a new colliery, Duckenfield Merthyr, close to Eales' property. A branch line, about three-quarters of a mile long, was constructed from the Browns' colliery to Eales' railway but access was restricted by Eales who gave preference to his own traffic. He was also the only authorised provider of locomotive power on the line, so the haulage of wagons owned by others was dependent on Eales' making an engine available.[50]

With the railway completed, shoots erected at the wharves and the mine in good working order, Eales seemed to be on a path to success. However, production was interrupted by industrial disputes which led to the mine being closed for over twelve months. In March 1859, the *Northern Times* reported the sale of Eales' entire Minmi interests, including the mine and railway, to James and Alexander Brown for the very significant sum of £60,000.[51] The Browns successfully applied for wharfage accommodation at Newcastle and for permission to connect their Minmi to Hexham railway with the Great Northern Railway at Hexham.[52]

[45] Ron Preston, *The Richmond Vale Railway.* Sydney: New South Wales Rail Transport Museum, 1990, p.13.
[46] *Sydney Morning Herald,* 25 December 1856.
[47] *Maitland Mercury,* 12 September 1861.
[48] *Maitland Mercury,* 8 December 1856.
[49] Brian Andrews, *Coal, Railways and Mines,* p. 215.
[50] Gifford Eardley, *The Railways of J. and A. Brown.* Sydney: Australian Railway Historical Society, 1972, pp. 23-25; *Minmi and Hexham Railway Act, 1954* (NSW).
[51] *Ibid.*
[52] Brian Andrews, *Coal, Railways and Mines*, p.24.

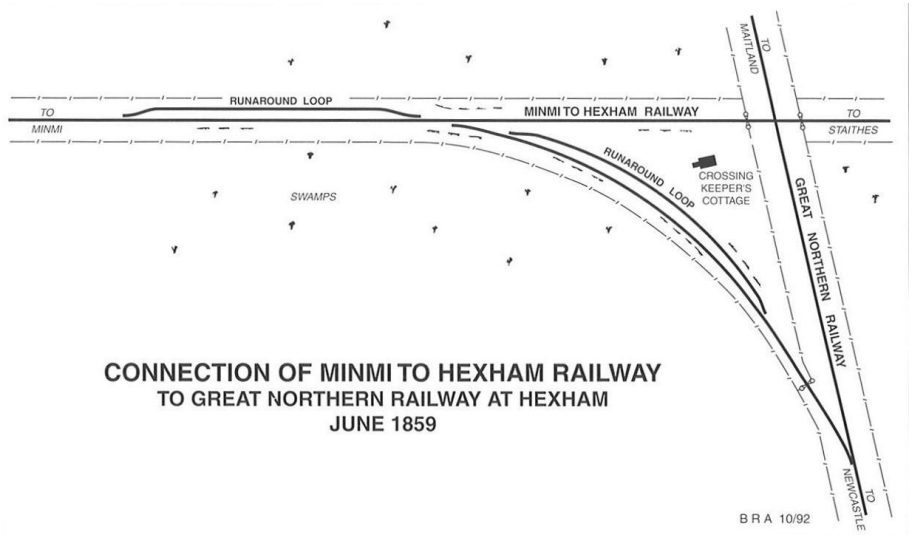


Figure 6. Note the location of the crossing keeper's lodge, the genesis of the little village of Brown's Crossing. Brian Andrews, *Coal, Railways and Mines.*

A junction lead, together with an exchange loop siding, was completed between April and June 1859 but the Government was not been so prompt in fulfilling its side of the bargain. Frustrated by the delay, in June 1859 the Browns sent a less than subtle message:

> *On last Friday afternoon the citizens of Newcastle were rather startled by the arrival of a coal train from Minmi, the works of J. & A. Brown. For some time past these gentlemen had been urging the Government to prepare shoots for them at Newcastle but without effect. The work has not yet begun. It is no doubt with a view to stimulating the government in the erection of shoots that these coals have been sent down for at present there is no means of shipping coal except by wheel-barrows.*[53]

Although steam cranes were erected on the Newcastle wharves during the early 1860s, they were under private Control and of little benefit to the Browns.[54] Additional loading shoots were therefore required at Hexham to handle the increasing flow of coal and once again, an Act of Parliament was required in order to gain the necessary access. This was achieved with the passing of an Amendment to The Minmi and Hexham Railway Act in May 1861 and by the end of that year an additional staithe had been constructed. Coal for the local market was loaded from these staithes, while that which was to be transferred to ocean going vessels at Newcastle continued to be shipped by a method which had been introduced by Messrs. Mitchell & Co. in 1859 and included the use of a dropship which was anchored in Newcastle harbour.[55] Coal was transported by barge from Hexham to the dropship, an "ingenious contrivance" which was described in the *Newcastle Chronicle* in December 1859:

> *When a vessel is ready to receive coal she is brought alongside the hulk and a barge laden with coal is brought to the other side. The coal being in wooden frames somewhat resembling earth wagons, each holding two tons, when the end of the crank is perpendicular to the barge, one of the frames is attached and carried over the hulk till it is perpendicular to the hold of the vessel, when a bolt is withdrawn by which the floor of the frame is knocked out and the coals are discharged. By another revolution of the crank,*

[53] Cited in Gifford Eardley, *The Railways of J. & A. Brown.* Sydney: Australian Railway Historical Society, 1972, pp.27,28; *Maitland Mercury,* 16 June 1859.
[54] E. Coulin, "The Evolution of Coal Loading Plant at Newcastle" in *Port of Sydney,* March 1959, p.159.
[55] *Ibid.,* p.30.

> *which only occupies a few seconds, the empty frame is returned to the barge, and the crank returns with another load which is again discharged. The loading of a ship of three hundred tons can by this apparatus be affected in the course of a day.*[56]

In December 1862 the Browns floated a public company, the Melbourne, Newcastle and Minmi Coal Company, which acquired the Minmi colliery. This company's involvement was short-lived as the market experienced a downturn and in June 1864 the Minmi collieries were flooded during a rainstorm.[57] The Melbourne, Newcastle and Minmi Coal Company was wound up and after being closed for eighteen months, the colliery once again came under the ownership of J. & A. Brown who recommenced operations in December 1865.[58] Further flooding in 1871 led to the cessation of mining at Minmi until 1873 when James Brown and his brother John returned to open Duckenfield Colliery on adjoining land which they had bought in 1853.[59]

While increasing quantities of coal for the local and interstate trade were being shipped from the Hexham staithes, coal destined for the Browns' rapidly increasing markets in the Far East, Pacific and North and South America was sent by rail to the wharves in Newcastle.[60] This increased traffic on the Great Northern Railway to such an extent that the line from Hanbury Junction to Hexham was duplicated in 1878.[61] The new passenger platform at Hexham had a signal box, but does not appear to have had even a small waiting room until 1884.[62]

By 1897 Control of J. & A. Brown was in the hands of James Browns' sons, John, Stephen and William but it was John who controlled the firm's management over the next three decades.[63] Described as "shrewd, analytical, and taciturn", John Brown was an "enigmatic and legendary figure" who played a dominant role in the coal industry for over forty years.[64] His strict moral code allowed him to be kind to those who shared his ideals and strove for self-improvement, even as he was censorious to those who did not.

While certainly a shrewd businessman for whom ends sometimes justified means, he was a man of strong but hidden sentimentality, the depth of which may be judged by his order that in death his body be laid next to that of his wife,[65] who had died after a very short period of marriage. His strong desire to separate his public and private lives caused an exaggerated reputation for ruthlessness to arise; this was, of course, sometimes played upon for political purposes. The fact that Sir Adrian Knox, Chief Justice of the High Court of Australia, was his closest friend[66] laid him open to accusations of undue influence. He routinely helped people whom he considered deserving of help,[67] valued loyalty and friendship[68], and although not a regular churchgoer in his adult years, continued quietly to contribute toward Presbyterian and other causes[69] until his death in 1930.

[56] *Newcastle Chronicle,* 15 December 1859.
[57] John Turner, *James and Alexander Brown,* pp.28,29.
[58] Andrews, *Coal, Railways and Mines,* p.34.
[59] *Ibid.,* pp.34, 35, 42.
[60] Gifford Eardley "The Colliery Railways to Hexham", Australian Railway Historical Society (ARHS) *Bulletin*, July 1955, p.93
[61] *Sydney Morning Herald,* 24 July 1878.
[62] *Maitland Mecury,* 23 October 1884.
[63] Christopher Jay, *The Coal Masters,* p.39; *The West Australian*, 6 May 1930.
[64] John Turner, 'John Brown (1850-1930)', Australian Dictionary of Biography, www.adb.online.anu.edu.au/biogs
[65] *Sydney Morning Herald,* 8 March 1930.
[66] *Sydney Morning Herald,* 8 March 1930. Sir Adrian's funeral wreath was the only one to be placed on the coffin together with those of John Brown's brother and sister.
[67] Brown, in his chauffeured Cadillac, prized his race horses and poultry, and is known to have provided pupils with 'lifts' to Minmi Public School if he came across them on the road.
[68] See a reminiscence of one who knew him well in Gifford Eardley, 'The Colliery Railways to Hexham', ARHS *Bulletin,* February 1956.
[69] He donated large sums for the construction and maintenance of St. Andrew's Presbyterian Church in Laman Street, Cook's Hill, although it was his married sister who laid the foundation stone, on which her name is incorrectly spelt as 'Narin' rather than as Nairn. John Brown's funeral was conducted at St. Andrew's on 7 March 1930; see *Sydney Morning Herald,* 8 March 1930.

Despite Brown's testamentary wishes, the firm shortly afterwards amalgamated with Abermain Seaham Collieries Ltd to become J. & A. Brown and Abermain Seaham Collieries Ltd. In 1960, the company merged with Caledonian Collieries Ltd to become Coal and Allied Industries Ltd. In 1967 this purchased the assets of Hebburn Collieries Ltd, and survives to this day as a wholly-owned subsidiary of Rio Tinto Ltd, a prospect that John Brown might never have foreseen.

Figure 7. The remarkable, much maligned John Brown.
Source: Newcastle Region Library

2.4.5 Richmond Vale Colliery and Estate: 1897

In 1897 the bankrupted Richmond Vale Coal Company was purchased by J. & A. Brown. Established by a Melbourne syndicate in 1888, the colliery was partially laid out, but no longer possessed the capital it needed to construct a railway by which to connect it with other, existing, lines. In order to fund the construction of a railway, the Browns purchased the Stanford Greta No. 2 Colliery which occupied a site near Stanford Merthyr, a short distance from Kurri Kurri, and easily accessible along the East Greta Coal Mining Company's system. This would afterwards become known as the South Maitland Railway. The Browns, as was their policy, renamed their new acquisition. They chose to call it 'Pelaw Main', incorporating the name of well-known Northumbrian mining district. The seam at Pelaw Main was close enough to the surface to be reached by relatively inexpensive adits. This allowed the Browns to produce the coal with which they planned to fund what would become their showpiece colliery at Richmond Vale, which they renamed as Richmond Main.[70]

[70] Brian Andrews, *Coal, Railways and Mines,* p.58.

Although Pelaw Main coal was initially sent along the railway to East Greta Junction, and then along the government's Great Northern Railway to the port of Newcastle, this involved the payment of way fees and haulage costs to a company over which the Browns had no Control, and which was in fact dominated by their competitors. This did not accord with the Browns' policy of vertical integration, by which they tried to achieve complete sway over every aspect of the mining and transportation process. John, William and Stephen, therefore, in 1900 obtained an Act of Parliament, the *Richmond Vale Coal-mine Railway Act, 1900* (NSW) to extend their Minmi-Hexham railway to the vicinity of the Richmond Vale Estate.

Although no powers were given to construct the line to Pelaw Main, the wording of the Act was vague enough[71] for the Browns to continue it the relatively short distance that was necessary. This, however, allowed the Browns not only to avoid the railway of its competitors, but also that of the government, which thereby stood to lose a sum estimated at £10,000 per annum.[72] This was, of course, controversial, but the Browns enjoyed sufficient political support to endure the ensuing criticism. A line was built to Richmond Main, the supposed original terminus, but it was more in the nature of a branch line until the colliery was opened out for production.[73]

Traffic over the Richmond Vale Railway was relatively light for several years, being used primarily for conveying construction material to the Richmond Main colliery. Advantage was taken of a general coal miners' strike in 1909 to duplicate the section of the rail across the swamps between Hexham and Minmi Junction, but it was a further four years before Richmond Main Colliery came into production on a commercial basis.[74] The Control Cabin/meal room which still stands in the Hexham sidings probably dates from this period and was constructed using the famously sturdy red bricks made at the Browns' own brickyard near Richmond Vale. The outbreak of World War I in 1914 brought a great increase in coal traffic across the line, and after the cessation of hostilities John Brown began investing large sums of money in making Richmond Main an example to the whole world.[75] The identity of the Hexham and Minmi Railway gradually became absorbed into that of the wider Richmond Vale system.

In 1914 the 'coal roads', two extra running lines between Port Waratah near Newcastle and East Greta Junction near West Maitland, were opened to traffic on the government's Great Northern Railway. This very significant project, begun in 1910, allowed the slow-moving coal trains, most having their origin along the South Maitland railway system, to operate independently of passenger and express goods trains, and involved the demolition of several older station buildings signal boxes and railway residences, including those at Hexham. A new island platform, with a fairly large brick station building, was constructed in their place, indicating the importance of Hexham not only as an employment centre and changing point where passengers joined charabancs and omnibuses for Raymond Terrace and towns further afield. The junction with the Richmond Vale Railway was removed and rebuilt, and a large new timber signal box was built to control it.

[71] See *Richmond Vale Coal-Mine Railway Act, 1900* (NSW), s 1.
[72] *Australian Town and Country Journal,* 18 October 1905.
[73] Brian Andrews*, Coal, Railways and Mines,* p.60, .G. H. Eardley, 'The Colliery Railways', ARHS *Bulletin*, October 1955, p.135.
[74] *Ibid.,* p.137-9.
[75] Gifford Eardley, G., "The Colliery Railways", ARHS Bulletin, December 1955, p.170.

Figure 8. Hexham station, Station Master's residence and signal box before their demolition for the Coal Roads project. The photograph may have been taken in May 1913, when flooding is known to have occurred; running lines are being investigated for damage or obstructions. The new Hexham signal box is seen beneath the footbridge. ***Late Mrs Rita Cameron***

Figure 9. A photograph taken from the eastern end of the first Hexham station. The new signal box is half completed, but point rodding and the interlocking machine (signal box levers) have not yet been installed. The island station platform is visible. The later site of the Coal Preparation Plant is behind the investigating party. ***Late Mrs Rita Cameron***

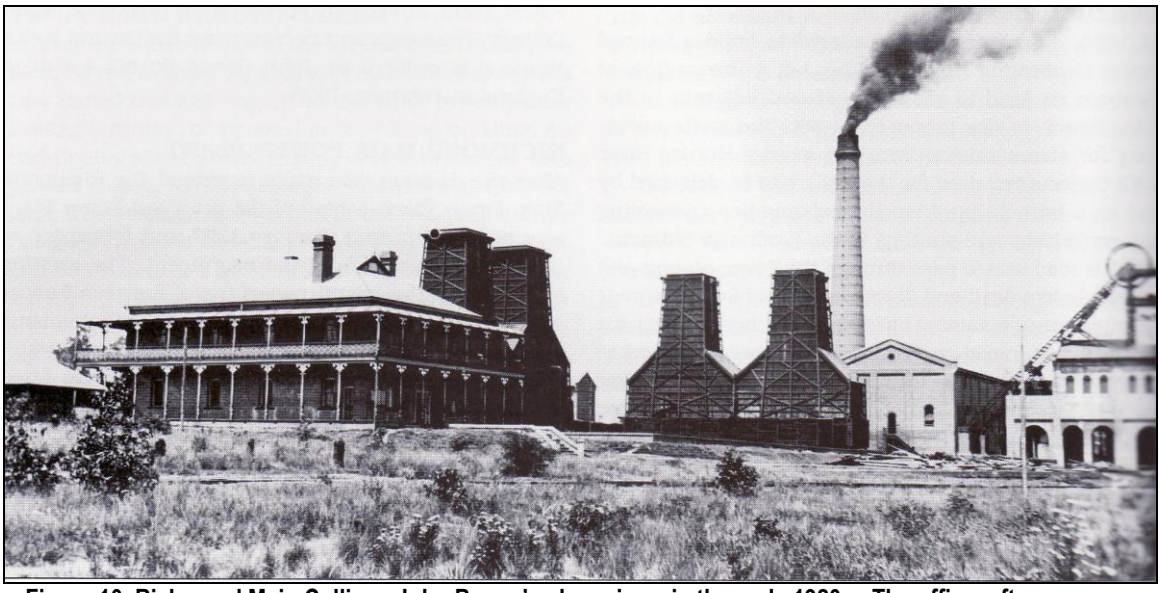


Figure 10. Richmond Main Colliery, John Brown's showpiece, in the early 1920s. The office, often Brown's home on weekends, cooling towers, power house and pit top are shown.
Source: Brian Andrews, *Coal, Railways and Mines*

John Brown, who kept a close eye on railway operations, now realised that he may require extra locomotives to assist those previously supplied by Kitson of Leeds; during a trip 'Home' after the war he was able to purchase from the War Office a number of war surplus tender locomotives designed by John Robinson, Chief Mechanical Engineer of the Great Central Railway. These were known as R.O.D. locomotives, as they had been on strength with the Railway Operating Division of the British Army. To save on freight rates, and requiring a new collier, Brown purchased the vessel on which the engines were brought to Australia. The locomotives were gradually introduced as traffic required, and were serviced in a large new engine shed at Pelaw Main.

The Browns now had a splendidly equipped railway system along which to send their coal to their port at Hexham. This was matched by their advanced power house at Richmond Main, completed in 1912, by which John Brown meant to supply the self-contained industrial empire. According to electrical historian Mark Fetscher, it was long the main source of power for the industrial activities of J. & A. Brown and their successors, eventually generating some 30 million kilowatt hours annually.[76]

To supply power to the company's Hexham ship loading facility and workshops a 33,000 volt transmission line was built alongside the Richmond Vale Railway.[77] In 1931, as J. & A. Brown and Abermain Seaham Collieries Ltd, the company began supplying the public when it acquired the East Greta Coal Mining Company, which had been supplying electricity to Kurri Kurri and surrounding areas since 1925. The sub-station was now linked to Richmond Main, which had recently been upgraded with the installation of a new steam plant. The coal produced by at Richmond Main was unsuitable for the new boilers, so it was decided to re-open the old Duckenfield lease. A new tunnel, known as Duckenfield No.5, came into operation in 1931.[78] This was worked under hand-won conditions so as to win the coal in large, easily combustible lumps; although this had to be crushed for use at Richmond Main power house, the remainder was used to fire the company's locomotives, tugs and steamships.[79]

[76] Mark Fetscher, *The Powermakers: a History of the Central Coast and Hunter Valley Power Generating Stations.* Charlestown: The Author, 2001, p.9.
[77] *Ibid.,* p.10.
[78] *Ibid.,* p.12.
[79] Reminiscences of the late Les Campbell, formerly a topman and shot-firer at Duckenfield No. 5 colliery.

2.4.6 Crushing and Sizing Plant: 1935-6

The need to crush a portion of the coal produced at Duckenfield No. 5 colliery for consumption at the Richmond Main power plant led to the construction of a central crushing and sizing plant at the Hexham sidings, where trains could be easily shunted. Its operation is described by Brian Andrews:

> *A dump hopper was constructed below rail level on the first loop and after unloading, the coal was fed by a plate feeder to a crusher and then onto a conveyor belt which elevated the coal into the loading out building. This building spanned three rail tracks enabling the coal to be loaded into rail wagons on any of the three tracks. Construction of the plant commenced during the latter part of 1935 and was completed in the early part of 1936. The plant was used to crush the coal from the collieries working the Borehole Seam until the commissioning of the Coal Preparation Plant at Hexham in June 1955. Due to the changed coal preparation process, the plant ceased operating but remained in place until the late 1960s when it was slowly dismantled over a period of several years and disposed of as scrap.*[80]

This involved, also, the laying of a service road for full wagons from the crushing plant.[81] Lack of further space meant that this had to pass through the triangular area occupied by the little village of Brown's Crossing, including the old crossing keeper's house and employees' cottages, some of which appear to have been brick-built. A 1933 photograph taken from the station footbridge[82] shows their location and some of their fabric; their site was certainly vacant in 1944.[83]

[80] Brian Andrews, *Coal, Railways and Mines,* p.114
[81] Brian Andrews, *Coal, Railways and Mines,* pp. 114, 121.
[82] See Gifford Eardley, *The Railways of J. and A. Brown,* p. 27; see also Brian Andrews, *Coal, Railways and Mines,* p. 137.
[83] See photograph below.

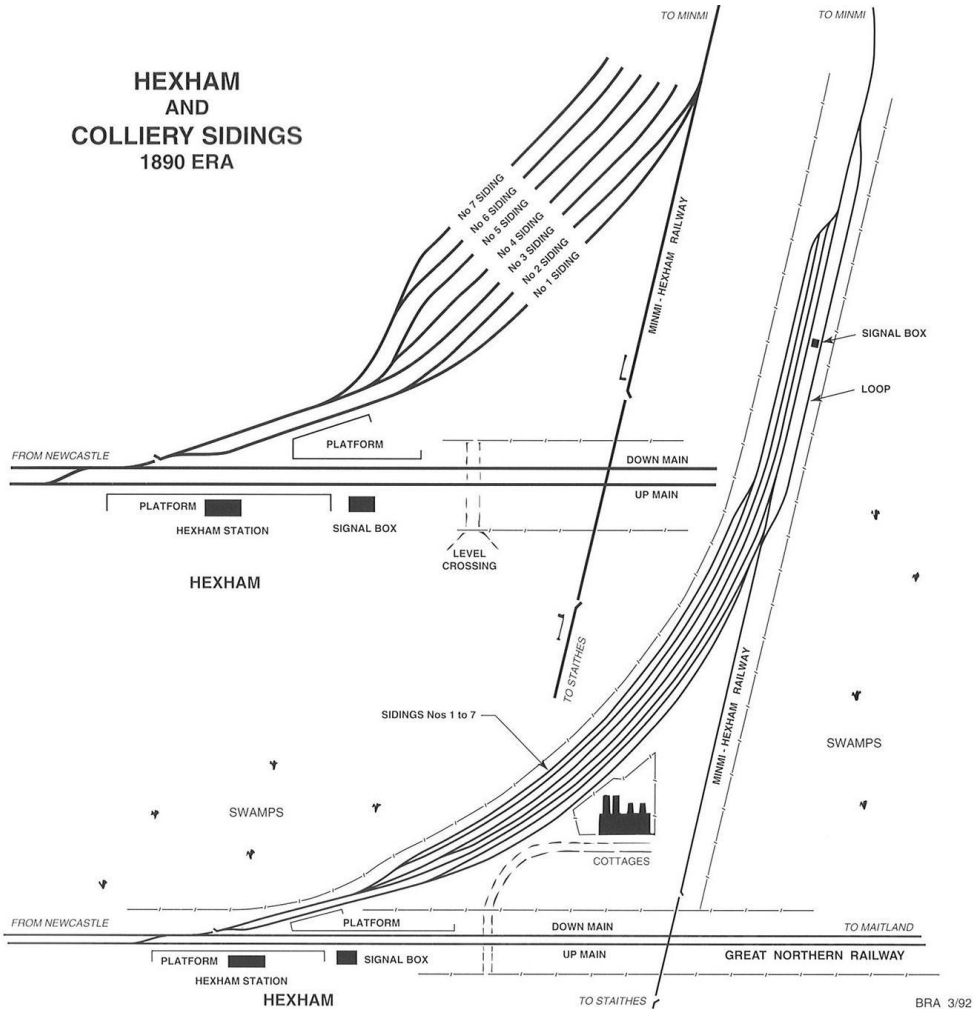


Figure 11. Copy of a track diagram of around 1890. Note the cottages of Brown's Crossing, and the ungated level crossing that led to them. Brian Andrews, *Coal, Railways and Mines*

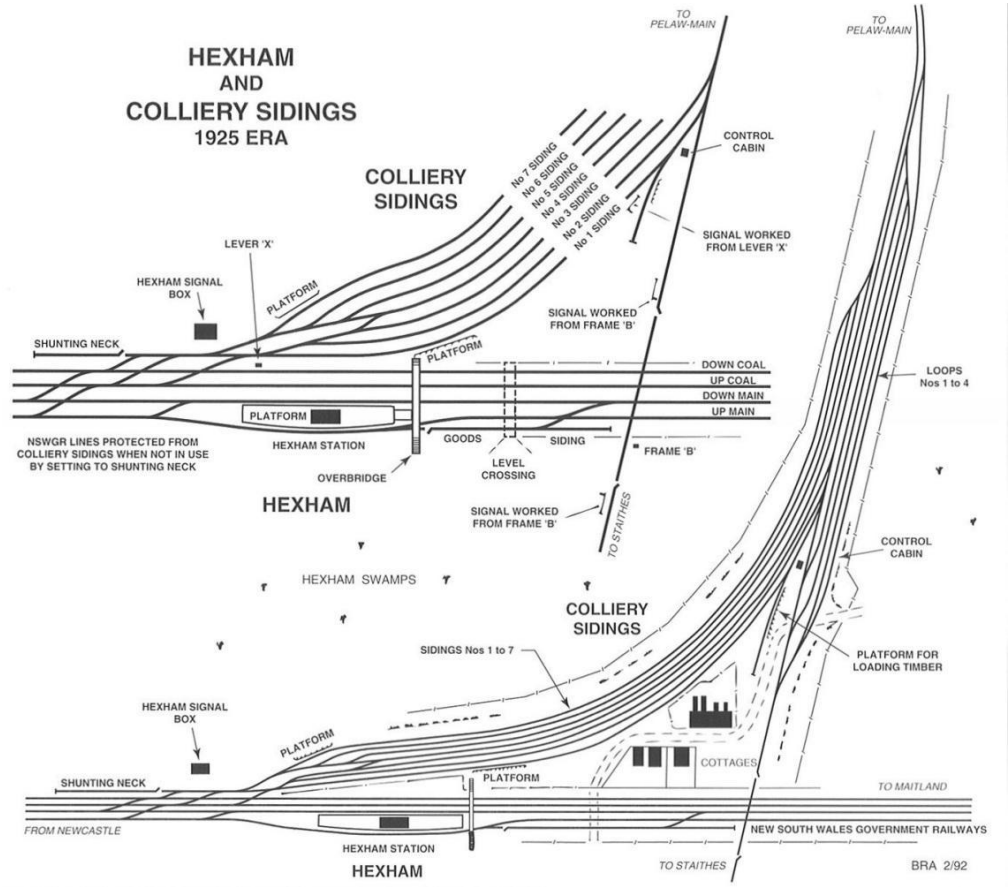


Figure 12. Copy of a track diagram of about 1925. Note the settlement of Brown's Crossing, which now has three more cottages. Brian Andrews, *Coal, Railways and Mines*

Figure 13. A view of the Great Northern Railway north of Hexham station, October 1933. An empty JABAS train can be seen crossing the lines from the river port. The little village of Brown's Crossing is to the left; at least three detached brick cottages can be seen, in addition to the larger terrace row at extreme left. An ungated level crossing provides access from the road at right. The settlement was demolished at some time not far distant from the date of this photograph.

2.4.7 The Hetton Bellbird Sidings

Contemporaneous with the crushing plant was a coal loading plant established by Hetton Bellbird Collieries Ltd in 1935,[84] which following death of John Brown had won his most valued contract: that to supply the Australian Gas Light Company's Mortlake works with coal.[85] Established some distance to the north of the Richmond Vale Railway, it consisted of two nests of sidings, respectively for full and empty hoppers hauled from East Greta Junction along the government railway and shunted by the company's own engine. A dump station dropped coal onto an elevated conveyor belt which crossed the Great Northern Railway and Maitland Road,[86] terminating at a new wharf where 'Sixty Miler' coasting vessels were loaded.

Although ships were sometimes delayed by tides and mud banks,[87] the facility represented a real challenge to the domination of the river port by JABAS. In the 1960s it was modernised by Peko-Wallsend Ltd, which built large steel storage bins on the river bank. The plant was closed before 1976, when the overhead gantry was removed in association with the clearing of the site.[88]

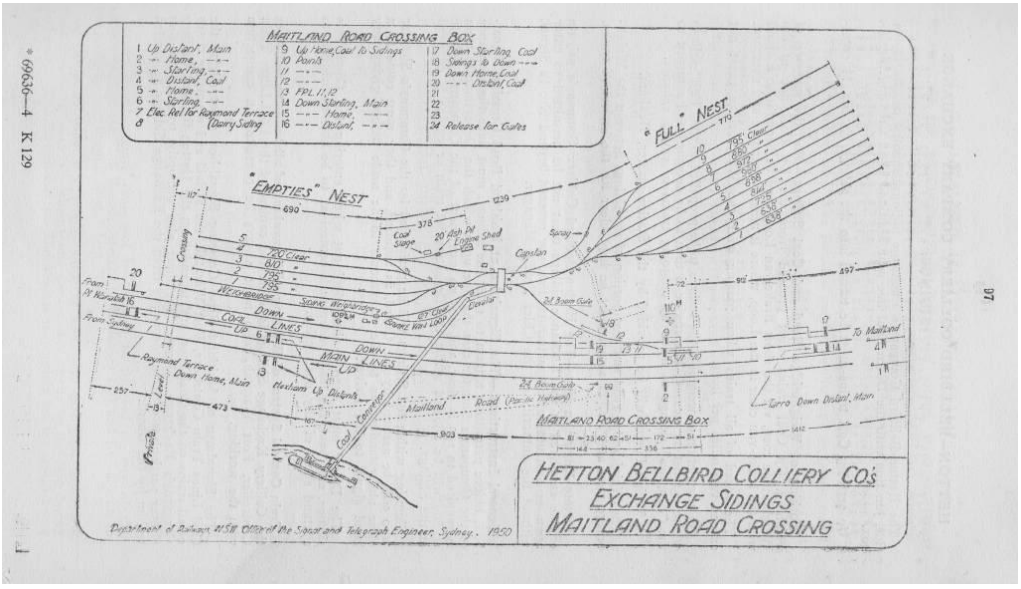


Figure 14. The Hetton Bellbird sidings, gantry and wharf in 1950. A dairy shed was located to the east of the level crossing shown at left. *NSWGR, Northern District Local Appendix 1960.*

[84] *Sydney Morning Herald,* 12 August 1935.
[85] *Ibid.,* 24 January 1936.
[86] See *Barrier Miner,* 5 November 1940.
[87] *Sydney Morning Herald,* 27 February 1936.
[88] Jon (Jack) Delaney, 'Pelton', in *History of the Greta Coal Measures, 1861-1995.* Newcastle: Newcastle Regional Museum, 1998.

Figure 15. The Hetton Bellbird sidings, showing the ex-SMR shunting engine. The conveyor gantry is a significant distance behind the photographer, as is the site of the dairy. *The Late Ron Preston*

2.4.8 Hexham Engine Shed: 1942-44

The closure of the Minmi facilities in 1934 and the need to permanently maintain engines at Hexham led to relocation of the running shed from there to the Hexham workshops, although the main locomotive depot remained at Pelaw Main near Kurri Kurri. This move brought with it the potential for industrial relations issues, for as employees of the coal mining industry the locomotive crews enjoyed better working conditions than did those employed in the nearby workshops. To reduce the possibility of industrial trouble, the facility was transferred to the other side of the Great Northern Railway, where a two-road shed with large doors was built close to the company's exchange sidings. According to historian Brian Andrews, work commenced during the latter part of July 1942, laying a new road to enable the area to be filled prior to construction. After two years of work, involving the construction of ash pits, erection of the building and laying of rails between the new building and sidings, the new shed came into operation in June 1944.[89]

[89] Brian Andrews, *Coal, Railways and Mines,* p. 114.

Figure 16. 1944 Aerial of Site. Hexham station, the exchange sidings, loading staiths, Hexham workshops and the engine shed can all be seen. Note the shed and silos of the dairy farm to the left of the Hetton Bellbird sidings and gantry at the bottom right hand corner of the image. ***NCC Plan Room***

Figure 17. View from the tender of an R.O.D. locomotive stored in the former crushing plant sidings. Note the engine shed, Bath House and Control Cabin. The government steel bogie wagons seen to the right of the Control Cabin are unusual intruders in the maze of non-air braked four-wheeled hopper wagons. *The Late Ron Preston*

Figure 18. Hexham Engine Shed K. Pearce, *Coals to Hexham,* Railmac Publications, 1982

Figure 19. The engine shed in 1984. SMR 10 Class engine No. 20 may be seen inside. The kindling was used for 'lighting up' the engines before use. *David Campbell*

Figure 20. A 10 Class engine in 1984, just about to be locked in the shed for the night. The fireman on the buffer beam has just emptied the smokebox ash into a wheelbarrow, out of shot. *David Campbell*

2.4.9 Bath House: 1949

A Bath House was constructed adjacent to the Control cabin in 1949. Following closure of the Hexham Wagon Repair Shops the Bath House was extended in 1974 to provide facilities for extra staff when working in the siding.[90]

2.4.10 Coal Preparation Plant: 1955

The earliest examples of coal preparation in Australia are associated with beehive coke oven plants, the first coal cleaning plant being established in 1877 by the Purified Coke and Coal Company. At the company's plant at Wallsend, near Newcastle,

> *… crushed coal was elevated into distributing troughs, which divided it amongst three pulsating washing machines or bashes, the shale and 'brass' falling through gratings in these machines and being carried away by sluice, while the cleaned coal was thrown forward by the water onto screens for separation into blacksmith's nuts and fine coal for coking after further crushing. This simple jig plant operated almost until 1950.*[91]

However, beneficiation of coal on a significant scale did not begin until 1944 when a 300 t.p.h. central coal preparation plant was built at BHP's Newcastle steelworks. The development of overseas markets in the 1950s and the demand for treated coal provided the impetus for the construction of a further six plants in New South Wales by 1955. Over the next five years the number of commissioned plants increased to 33, including one built by JABAS at Hexham.[92]

A large parcel of land at Hexham was purchased by JABAS from Mervyn and Gladys Robertson in 1951, heralding a change in use for land which had previously been devoted to farming.[93] The site was well located for the required purpose, being adjacent to the Hexham exchange sidings (Brown's sidings) and the Great Northern Railway. As well as being accessible for the J. & A. Brown collieries, this location was also convenient for other collieries which delivered coal for

[90] Brian Andrews, *Coal, Railways and Mines,* p.114.
[91] G.E. Edwards, *"A History of Coal Preparation Practices in Australia",* Paper presented at the Australian Coal Preparation Conference, 6 April 1981.
[92] *Ibid.,* p.6.
[93] Conveyance, No.935 Book 2202, 14 December 1951, NSW Land and Property Information (NSW LPI)

washing at various times.[94] Construction of the Coal Preparation Plant began in 1953 with the filling of adjacent swampland with stone and shale from the collieries and the central stone dump at Richmond Vale.[95] The new network of lines which was constructed to service the new plant was described by historian Brian Andrews as follows:

> *Three sidings for storing unwashed coal were constructed on the northern end of the Coal Preparation Plant. After the wagons had dumped their loads, they were reloaded with washed coal as they passed through the Coal Preparation Plant. The washed coal sidings consisted of two full sidings and one for the storage of empty wagons. These sidings were constructed at the southern end of the plant while a dead-end shunt and a service road connected these sidings through the plant to the Hexham Exchange Sidings (Brown's Siding). After the full wagons had been lowered from the Coal Preparation Plant, they were made into trains with the use of capstans which pulled the wagons together.*
>
> *The full sidings of the plant were connected to the Department of Railways Coal Roads adjacent to the plant and were serviced by the Department. The connection was brought into use on 23 August 1955 and the sidings were known as "J. & A. Brown's Coal Plant Sidings, Hexham" for identification purposes. The existing Hexham Exchange Sidings now became known as "Brown's Sidings".*
>
> *A siding and loading ramp was constructed at Brown's siding in August 1955 to enable "middling" coal produced at the Coal Preparation Plant to be road hauled to that location and loaded into rail wagons for transport to Richmond Main Power Plant … A train of 'middling' coal was worked to Richmond Main Power Plant almost daily over the Richmond Vale Railway until the closure of the line beyond Stockrington in July 1967.*[96]

Coal washery reject was disposed of in an on-site emplacement adjacent to the Coal Preparation Plant:

> *This emplacement was constructed in horizontal layers with the tailings being dewatered in tailings ponds constructed from embankments of coarse reject. As the tailings ponds were filled and drained, they were covered over with coarse reject and the new platform level utilised as a temporary coal stockpile area until the area was required for the next lift in the emplacement and replaced by tailings ponds again.*[97]

By the time its Coal Preparation Plant came into operation in 1955, JABAS had become the largest coal producer in Australia with an output of over 1.5 million tons a year from its eleven operating collieries. As recorded by Christopher Jay:

> *seven collieries were located on the Maitland field producing coal for gas companies, railway steam locomotives and power stations from the Greta seam, and four on the Newcastle field producing steaming and coking coal for steel, cement and general industrial purposes … The company also ran forty-seven miles of standard gauge branch lines, including the flood-free Richmond Vale Railway.*[98]

2.4.11 Stacking Out and Reclaiming System: 1962

A stacking out and reclaiming system was constructed at the Coal Preparation Plant in 1962, allowing washed coal to be transported via conveyor to storage areas. Reference is again made to Brian Andrews for a description of the plant:

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94 Brian Andrews, *Coal, Railways and Mines,* p.123.
95 *Ibid.,* p.118.
96 *Ibid.,* pp.119,121.
97 Longworth & McKenzie Limited and Johnstone Environmental Technology Pty. Ltd., *Environmental Impact Statement for the Construction of a Coal Washery Reject Emplacement and Coal Stockpile and Machinery Storage Area to serve the Hexham Coal Preparation Plant of Coal and Allied Operations Pty Limited,* April 1987, p.45
98 Christopher Jay, *The Coal Masters,* p.168.

An elevated conveyor system fitted with a moving tripper stacked out the coal while the coal was reclaimed onto a conveyor belt fitted in an underground tunnel below the stockpile, the coal being delivered into a bin constructed over the rail track. This system involved the laying of a new road known as 4 Road to service the bin.[99]

Figure 21. A NSWGR 'Standard Goods' engine leads its train into the Hexham exchange sidings. The station and signal box, both now demolished, are shown. The Coal Preparation Plant and its sidings are in the middle distance. *The Late Ron Preston*

2.4.12 Unit Train Loading Facilities: 1972

Further developments occurred on the Hexham site in 1972 as a result of a decision by the Public Transport Commission to upgrade rail facilities at Port Waratah. Under the existing system, coal was delivered to Port Waratah in 10 to 15 ton capacity wooden coal hoppers which were inefficient and costly to maintain. Moreover, they were held under load for long periods and therefore required extensive storage space at the Port Waratah yards. Increased demand for coal and the need for fast loading and turnaround of trains led to the phasing out of the old wooden wagons in favour of CH aluminium coal hopper wagons with a capacity of 54 to 60 tonnes. Trains carrying the new hoppers, which were fitted with air brakes, could travel at 50 mph compared to a limit of 25 mph for a train carrying wooden wagons. [100]

[99] Brian Andrews, *Coal, Railways and Mines,* p.127.
[100] *Newcastle Morning Herald (NMH)* undated clipping c.1972, and 15 November 1972.

An announcement by the Public Transport Commission that it would no longer work non-air hopper wagons between Hexham and Port Waratah had significant implications for JABAS, which was one of the largest users of such wagons in the district. Rather than convert all its loading points to accept the new wagons, the Company constructed a "unit train loading system" at Hexham. Two new sidings, known as the balloon loop siding and the Coal and Allied siding, were constructed as part of the system which allowed coal to be delivered in non-air hoppers to Hexham for storage or blending, after which it was loaded into unit-trains consisting of BCH, HCH and CH type wagons for transportation to the port.[101] Coal was also delivered by road to the Hexham facility which was capable of outloadings in unit trains of 1,800 tons capacity every two hours. In 1974 it was anticipated that the area would stockpile 500,000 tons of coal in units of 20,000 tons, 12ft. high with the ability to expand to 1 million tons.[102] The new system was featured in the mining journal, *Mine and Quarry Mechanisation:*

> *Both washed and run-of-mine coal are received by rail at a rate of 15,000 tonnes per day and a further 2,000 tonnes per day is received by road. Run-of-mine coal is washed in the Coal Preparation Plant, which incorporates a Barvoys Bath and Deister concentrating tables to produce clean coal, middlings and reject material. The coal products are directed to the appropriate blending and storage areas. When washed coal is received, it by-passes the preparation plant, going direct to the storage area.*
> *Loading of coal is achieved by use of front end loaders to load motor trucks which transport the coal to the new unit train loading equipment. Unit trains are of 1200 to 1800 tonnes capacity and loading rates of 1200 tonnes per hour may be maintained.*[103]

2.4.13 Balloon Loop Siding

The balloon loop siding which was constructed in conjunction with the unit train loading facility was located on swamp land adjoining the Coal Preparation Plant. Prior to construction of the loop, which was built using rails reclaimed from the abandoned section of the Richmond Vale Railway between Stockrington and Richmond Main Collieries, the site was filled with reject material from the Coal Preparation Plant.

Figure 22. Unit train making its way around the balloon loop in March 1988. *Source: Brian Andrews*

[101] Brian Andrews, *Coal, Railways and Mines,* p.130.
[102] 'Faster shipment through Coal and Allied Newcastle', in *Mine and Quarry Mechanisation,* 1974, p.35.
[103] *Ibid.*

The balloon shape of the siding allowed trains to depart as soon as they had been filled, eliminating the need for the locomotive to run around the train as had previously been the practice.[104]

2.4.14 Coal and Allied Siding

As was the case with the balloon loop siding, preparation work for the Coal and Allied siding involved filling the swamp land with washery reject material. The siding, which received washed coal in non-air and modern bogie wagons from the company's mines on the South Maitland field, comprised two parallel roads for dumping purposes and two arrival roads. Unwashed coal continued to be handled at Brown's Siding.

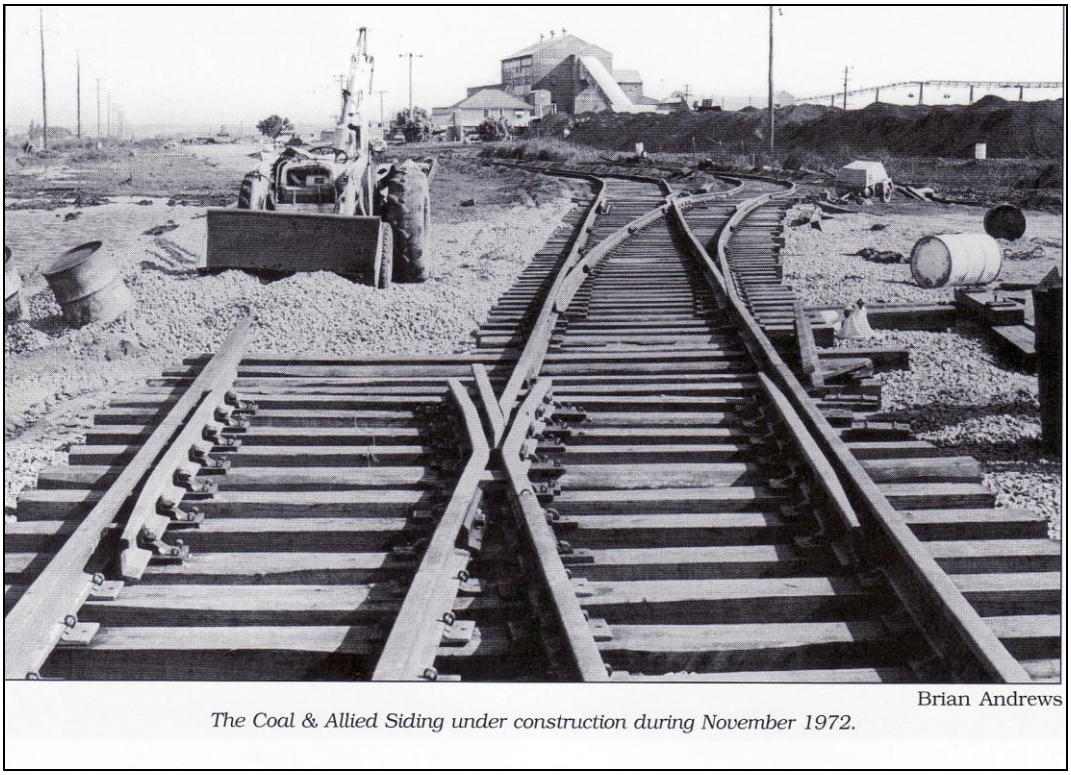

Figure 23. Coal and Allied siding under construction during November 1972. The Coal Preparation Plant and stockpiles can clearly be seen. *Source:* Brian Andrews, *Coal, Railways and Mines*

After being dumped at the Coal and Allied siding, coal was fed by conveyor belts to a road storage bin where it was either dumped for storage or loaded through the balloon loop loader.[105]

[104] Brian Andrews, *Coal Railways and Mines,* p.131.
[105] *Ibid.*,p.132.

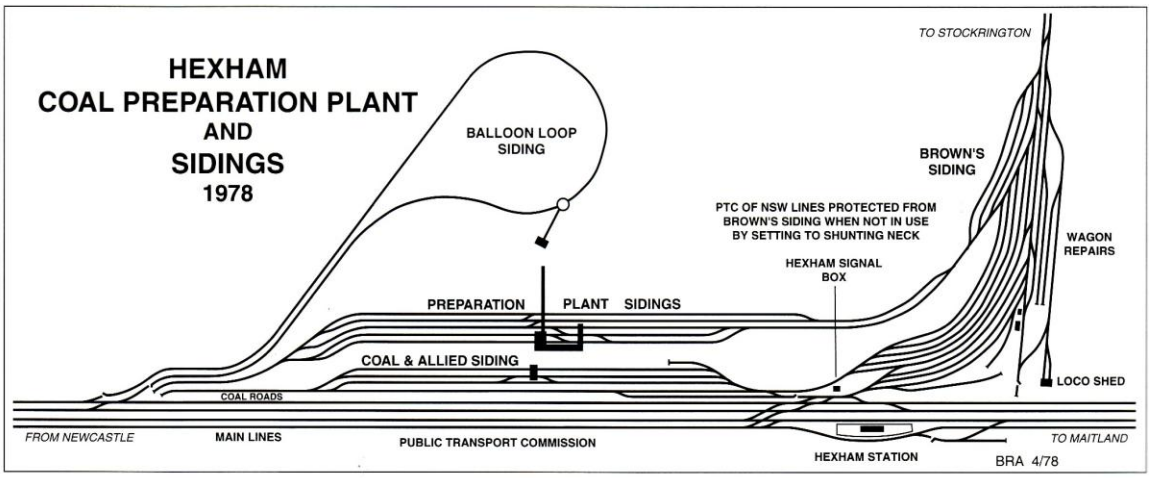

Figure 24. Plan of the site, re-drawn by Brian Andrews.
Brian Andrews, *Coal, Railways and Mines*

2.4.15 The End of an Era

Following the purchase of Hebburn Ltd. in 1967, JABAS gained ownership of Hebburn No.2 Colliery at Weston and full Control of South Maitland Railways Pty Ltd. Richmond Main Colliery, unmodernised although still a technical marvel, was closed. As the majority of coal from Richmond Main had been loaded at Hexham for transfer to Sydney for gas making, the Hexham loading staithes were also closed at this time. The line was closed at the western end of the Stockrington sidings, and was progressively lifted thereafter. Haulage duties on the remaining section of the Richmond Vale Railway were gradually taken over by the large 10 Class tank engines of the South Maitland Railways, which were also owned by Coal and Allied Industries Ltd. Trains continued to run between Stockrington and Hexham; after the South Maitland Railways were dieselised in 1982, the operation became Australia's last commercial steam railway.

Figure 25. Green-painted SMR 10 Class engine No. 31 shunts the Coal Preparation Plant sidings in 1987. *Brian Andrews*

Figure 26. SMR 10 Class engine No. 20 leaves Hexham with an empty train for Stockrington during the Easter school holidays in 1982.
David Campbell

It regularly drew the attentions of tourists and photographers from places far distant until, in August 1987, employees were given notice that they would be retrenched in the following month in favour of haulage by semi-trailer. Despite an outcry, 10 Class engine No. 25 led the last train out of the Stockrington Valley on 22 September. This, however, was not the end, as on 24 September, No. 25 was 'hijacked' by crews, and maintained in steam by them on the line near Lenaghan's Drive by way of a public protest. On 15 October the locomotive was returned to Hexham and securely locked in the engine shed.[106]

According to the *Newcastle Herald,* "time and progress eventually caught up with the antiquated rail system". Coal and Allied commented that "the old steam railway was too expensive to operate and that Stockrington colliery was too marginal an operation to sustain it". [107]

[106] *Newcastle Herald, 7 November 1987.*
[107] *Newcastle Herald,* 7 November 1987.

Figure 27. 1986 Aerial Photo of the subject site. *NCC Plan Room*

The company's concerns over the marginal nature of Stockrington No. 2 colliery were realised during the course of the following year. The mine ceased production in June 1988, with many retrenchments.[108] In the late 1980s, Coal and Allied completed its move out of underground mining and into open cut mines, where coal preparation was carried out on site. Between 1987 and 1990 the company closed down or sold six underground coal mining operations and five associated coal preparation plants, including the Hexham facility which ceased operation in May 1988.[109] Connections to Brown's Siding, the Coal & Allied Siding and the Balloon Loop Siding from the SRA were removed, and demolition of the Coal Preparation Plant began in March 1989.[110] Scapping of sidings and coal wagons of the Richmond Vale Railway was gradually undertaken in 1987 and 1988, although some track remains in the vicinity of the Hexham engine shed, and also along the line to Stockrington.

[108] Brian Andrews, *Coal, Railways and Mines,* p.122.
[109] Christopher Jay, *The Coal Masters,* p.224.
[110] Brian Andrews, *Coal, Railways and Mines,* pp.340-341.

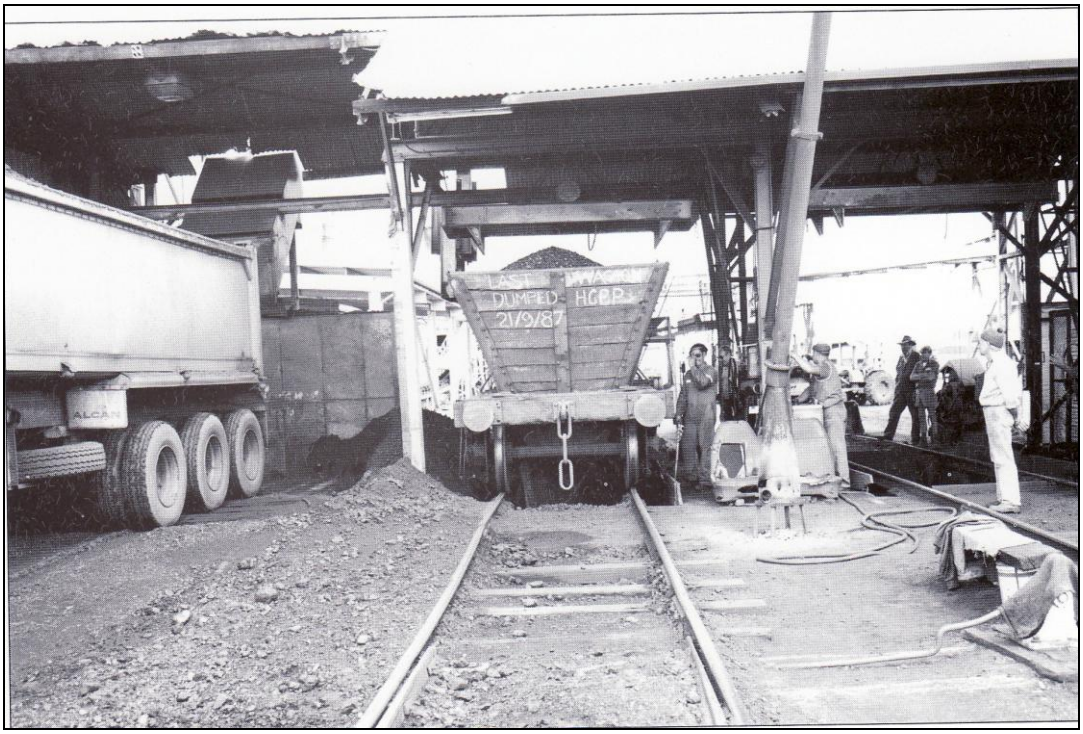

Figure 28. Last coal wagon to be dumped at the coal preparation plant 21 September 1987. Brian Andrews, *Coal, Railways and Mines*

A further contraction of Coal and Allied's presence in the Hunter Valley occurred in February 1989 when the Newcastle marketing office was closed. Over the previous twelve months the company had been increasingly affected by the rising value of the Australian dollar which had contributed to an operating loss of $2.7 million in 1988 financial year.[111] Hexham Engineering, "once hailed as a national industrial relations model", was also closed in 1989 and the site was offered for sale the following year.[112]

2.4.16 Newcastle Rail Terminals: 1997

In August 1997 the former coal washery site was sold to a private company, Newcastle Rail Terminals (trading as Hexrail).[113] The company hoped to use the site to alleviate some of the difficulties being experienced with the transportation of Hunter Valley coal to the loading facilities at Newcastle. This was to be achieved through the construction of a number of "refuge sidings", which would hold coal trains destined for the port. Departures from the sidings could then be sequenced to allow the most efficient use of the Port Waratah and Koorgang coal loaders.[114]

As well as constructing the refuge sidings, the proprietors of Hexrail proposed removing 1.5 million tonnes of old coal washery waste from the site over a six year period. The waste was to be transported by a fleet of coal trucks to Hunter Valley power stations where it would be burned to create electricity.[115]

Hexrail's plans did not eventuate and in September 2006 the site was sold to QR National.[116]

111 *Newcastle Morning Herald,* 14 February 1989.
112 *Newcastle Herald,* 12 April 1990
113 Transfer No.3323328 K, 12 August 1997, NSW LPI.
114 J. Hoyle, "Hexham – A New Life for a Steam Age 'Sacred Site?" in *Railway Digest,* September 1997, p.19.
115 *Newcastle Herald,* 5 May 2003.
116 Transfers AC641653X and AC641654V, 26 September 2006, NSW LPI.

2.5 SECTION C: SECONDARY INDUSTRY

2.5.1 Waste Treatment Plant: Australian Co-Operative Foods Ltd.

On land adjacent to the Richmond Vale Railway corridor stands a treatment plant which was constructed in the early 1990s to treat waste from the Oak Factory, operated by Dairy Farmers.

Dairy Farmers was established following a major rationalisation within the dairy industry which saw the 1989 merger of three NSW dairy co-operatives, namely Shoalhaven Dairy Co-operative Limited, Dairy Farmers Co-Operative, and the Hexham based, Hunter Valley Co-Operative Dairy Company.[117] The latter company's complex at Hexham became an integral part of Dairy Farmers operations following the merger. The plant continues to produce a range of milk products as well as a variety of bulk dairy ingredients.

Since 1927 the Hexham site had served as head quarters for the Hunter Valley Co-Operative Dairy Company. [118] Founded in Raymond Terrace in 1903, the company originally started trading as the Raymond Terrace Co-Operative Dairy and Produce Company Limited and by the 1920s its activities had greatly expanded necessitating larger premises. The factory constructed on the seven acre site chosen at Hexham was considered state-of the-art at the time of its construction.[119]

The Hunter Valley Co-Operative Dairy Company became synonymous with the 'Oak' brand name and the plant at Hexham was known as the Oak Factory. The 'Oak' name originated because of the oak tree near the northern entrance to factory. Mr. P.A. Scarr, the first manager of Hunter Valley Co-Operative Dairy Company, is credited with planting the tree shortly after the factory was opened. It is believed that the seedling was germinated from oak trees planted in the Hunter Valley by Mr. A.J. Windeyer, the chairman of Hunter Valley Co-Operative Dairy Company, who imported tree specimens from England in the late nineteenth century.[120] Today, the 'Oak' brand label still exists as one of several brands within the Dairy Farmers group.

Although the Oak Factory was originally established as a milk receiving depot and butter-producing factory, by the late 1960s it was manufacturing a diverse range of dairy products. In 1955 the Oak Milk Bar was opened at the Hexham site and soon became a popular stop for travellers. The milk bar remained on the site until it was closed in 1988; the former landmark was demolished the following year.[121]

The diversification of activities at the Oak Factory required expansion and reconstruction of the plant complex. A major $1.2 million expansion scheme was underway in 1983 which saw the demolition of sections of the original plant and the erection of a new cool room and storage facility. In the following year the Hunter Valley Co-operative Dairy Company installed a waste water treatment plant costing more than $500,000 at its Hexham complex.[122]

Designed to treat milk, ice cream and other rinsings from the factory and milk bar, the treatment plant was established to comply with State Pollution Control Commission regulations. Wastes had previously been released into the Hunter River. The plant was capable of treating 100,000 litres of water each day and consisted of three separate holding tanks each containing bacteria which, with water movement, broke down milk and other product waste. The decomposed solids settled on the bottom of the tanks and clear liquid was pumped from the top of the third tank and discharged through a 30cm pipeline into the river.[123]

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[117] *Town and Country*, 1 January, 1990
[118] The Hunter Valley Co-Operative Dairy Company Limited, *The Hunter Valley: A Tribute*, ca.1953.
[119] *Newcastle Sun*, 19 February, 1947.
[120] *Newcastle Morning Herald*, 27 January, 1951.
[121] *Newcastle Herald*, 15 March, 1988, 20 December, 1990.
[122] *Ibid.*, 21 February, 1983; *Maitland Mercury*, 12 May, 1983; *Port Stephens Examiner*, 14 December, 1984.
[123] *Port Stephens Examiner*, 14 December, 1984; *News Pictorial*, 5 December 1984.

Following the merger of the Hunter Valley Co-Operative Dairy Company and the other co-operatives into the Australian Co-Operative Foods Limited, the former Oak Factory at Hexham underwent a multi-million dollar expansion and redevelopment during the 1990s.[124] This redevelopment included the replacement of the 1984 waste treatment plant with a new facility which was constructed on land adjacent to the Minmi-Hexham rail corridor. An upgrade was carried out in 1997 in order to minimise odours and reduce wastewater nutrient load.[125] According to a government report produced in 1997, "this was achieved by constructing a new treatment pond which allowed the water that was previously being released into the Hunter River to be suitable for use for irrigation."[126] National Foods closed the factory in 2009;[127] it is now owned by Italian company Parmalat.

2.6 SECTION D: CHICHESTER PIPELINE

The pipeline which runs across the southern boundary of the study site forms part of the Chichester gravitation main which has supplied water to Newcastle and the lower Hunter for over 80 years.

By the beginning of the twentieth century it was evident that the Walka Water Works, the first source of a reticulated water supply for Newcastle and the lower Hunter, would not be able to meet the region's growing demands for water, and in particular the needs of Newcastle's developing industries. After various proposals for a major new water supply were investigated, in 1916 a site was chosen for a dam below the junction of the Chichester and Wangat Rivers near Dungog in the Upper Williams River Valley.[128]

Construction work on the Chichester Dam by the Department of Public Works was underway by 1918. The project was designed by E.M. de Burgh, the then Chief Engineer for Water Supply, Public Works Department. A wall built from thousands of interlocking units of concrete and rising to 41.1 metres at its highest point was erected to contain the dam's 23,000 megalitre capacity. Five inlet valves were installed at different heights to draw water from the level at which it was purest. The Department's Supervising Engineer overseeing the dam's construction and pipeline delivery system was E.T. Henning.[129]

The Parliamentary Standing Committee on Public Works had favoured an underground pipeline as a delivery system but in order to reduce costs and to enable easier maintenance of the main, the Public Works Department decided to construct an above ground, gravitational supply. Initial work on the pipeline was delayed due to a shortage of steel following World War One. As a result of the steel shortage the first 14.5 kilometres of the line was made of woodstave pipes built by the Australian Woodpipe Company and cut from in a local timber mill. Rolled steel was eventually obtained from America for the remainder of the line, which consisted of steel locking-bar pipes and lap-welded steel pipes, manufactured at the former Walsh Island engineering works in Newcastle.[130]

Transportation of the pipes to the route of the gravitation main was in itself a major logistics exercise involving, river punts, horse jinkers and solid-tyred motor lorries. The route of the main across the Woodbury and Hexham Swamps could not be served by horse jinkers and a tramway was laid and the pipes hauled by a petrol-driven locomotive.[131] In total, the original pipeline,

[124] *Town and Country*, 1 January, 1990; *NH*, 2 September, 1998.
[125] Discussion with Graham Collison, Plant Manager, Dairy Farmers, May 2008.
[126] Department of Environment and Climate Change website, https://www.dec.nsw.gov.au/soe/97/ch5/13_3.htm
[127] *Newcastle Herald,* 30 September 2009.
[128] Hunter District Water Board, *Chichester Dam,* brochure produced to mark the re-commissioning of Chichester Dam on 25th May, 1985; Hunter Water Corporation Website, www.hunterwater.com.au ; Clem Lloyd, Patrick Troy, and Shelley Schreiner, *For the Public Health: The Hunter District Water Board 1892-1922*. South Melbourne: Longman Cheshire, Melbourne, 1992, pp.123-131.
[129] Hunter District Water Board, *Chichester Dam*; John Armstrong, *Pipelines and People: The History of the Hunter District Water Board*. Newcastle: Hunter District Water Board, 1967, pp.91,96.
[130] John Armstrong, *Pipelines and People*, pp.91-95; Lloyd, Troy, and Schreiner, *For the Public Health*, p.172.
[131] John Armstrong, *Pipelines and People*, p.94.

including branches from Tarro to Waratah and Stony Pinch, was 85 kilometres long and ran as follows:

Alongside the Chichester River to Bandon Grove, below the junction of the Williams and Chichester Rivers, parallel to the main road to Dungog and Wiragulla, over the railway line, south over several large creeks, through a tunnel at Brookfield and thence across hills between Brookfield and Wallarobba, across hills and through cuttings as far as the Clarencetown-Seaham Road, past the outskirts of Seaham, skirting fertile farmland to the Hunter River Tunnel at Green Rocks, over low lying country, underneath the railway line near Tarro Railway Station, thence to Tarro Pumping Station.[132]

From Tarro one branch continued from the pumping station to Stoney Pinch whilst another traversed swampy country to terminate at the newly constructed Waratah Reservoir. An embankment was built to carry the pipeline across the Hexham Swamps.[133]

Although construction on the dam was not fully completed until 1926, the first water from Chichester reached the Waratah Reservoir in November 1923. In June of the following year, management of the dam and pipeline was formerly handed over to the Hunter District Water Supply and Sewerage Board.[134]

In the mid 1940s work commenced to replace the woodstave section of the pipeline with steel pipes 137 centimetres in diameter. Since then other sections of the main's original 91.5 centimetre pipes have been replaced by new steel pipes of 137 and 106.7 centimetres in diameter. In some areas a second line of pipes 91.5 centimetres in diameter has been constructed alongside the original. During the 1955 floods the pipeline was broken in three places on the Woodberry and Hexham Swamps. Maintenance and inspection of the Chichester gravitation main is an ongoing process involving leak repair above and below ground, repainting, and line strengthening.[135] In 2011 the Tarro-Hexham section of the pipeline was placed underground.

2.7 SECTION E: HISTORICAL SIGNIFICANCE OF THE SITE

The historical significance of this site lies primarily in its association with the coal industry for well over a hundred years. Despite the removal of railway infrastructure, associated buildings and equipment, highly significant evidence relating to the early history of the site remains in the form of a rail corridor and former Control Cabin. Activities on the site relating to the transport and treatment of coal link it to the State Heritage Themes of Mining, Transport, Industry and Technology, while the association with the coal magnate John Brown links it to the theme of Persons.

Although of less historical significance than the coal-related history of the site, agriculture has also played a role, providing an association with the State Heritage Themes of Pastoralism and Agriculture.

[132] *Ibid*, pp.94-95.
[133] *Ibid.*
[134] *Ibid*, p.95; Lloyd, Troy, and Schreiner, *For the Public Health*, p.173.
[135] *Newcastle Morning Herald*, 27 October, 1945, 13 February, 1952; Hunter Water Corporation, www.hunterwater.com.au ; John Armstrong, *Pipelines and People*, p.96.

3. PHYSICAL CONDITION AND CONTEXT

3.1 THE SITE

The site is bounded by Maitland Road (Pacific Highway) to the east, the New England Highway to the north, Chichester Pipeline to the west and private property to the south.

3.2 THE BUILT ITEMS WITHIN THE STUDY AREA

3.2.1 The Control Cabin

Built c.1909, the Control Cabin is a two-storey structure constructed from bricks made in the J. & A. Brown brick yards. The building consists of brick arched openings and a hipped roof of which only the rafters and some iron sheets remain. Vandalism and neglect, together with the theft of materials, has made the building ruinous, with large voids in the brickwork. Floor joists and ceiling rafters have been burned out.

3.2.2 The Bath House

Built in 1949, the Bath House is a single-storey structure with two clear additions to the east and west elevations. The building is ruinous, with vegetation growing within the structure. The Bath House consists of tiled interior and a gable roof of which only the timber structure remains, its asbestos sheeting having been removed.

Figure 29. Bath-house and Control Cabin

EJE Heritage

Figure 30. Control Cabin

EJE Heritage

Figure 31. Control Cabin. *EJE Heritage*

Figure 32. Control Cabin. *EJE Heritage*

Figure 33. Bath House. *EJE Heritage*

Figure 34. Bath House. *EJE Heritage*

Figure 35. Bath House interior. *EJE Heritage*

Figure 36. Bath House. *EJE Heritage*

3.2.3 Coal Preparation Plant Conveyor Belt Support Footings and Coal Stockpile

Coal Preparation Plant conveyor belt support footings and other coal stockpile buildings remain on site. Thirteen concrete conveyor belt support footings remain as well as those of other coal stockpile buildings.

Figure 37. Conveyor Belt Support Footings . *EJE Heritage*

Figure 38. Conveyor Belt Support Footings. *EJE Heritage*

3.3 Ruins of Dairy Farm Milking Shed, Milking Machine Hut and Silos

The ruins of a milking shed, including a milking machine hut , hay shed and concrete feed silos, are located towards the western end of the study area, just to the south of the site of the Hetton Bellbird sidings. The facility was extant by 1944; anecdotal evidence suggests that it became redundant in the late 1950s. *Images are courtesy of Australian Museum Business Services.*

Figure 39. Ruins of the milking shed, milking machine hut, hay shed and feed silos. *Australian Museum Business Services*

Figure 40. A closer view of the ruins of the milking machine hut. ***Australian Museum Business Services***

Figure 41. A closer view of the concrete feed silos. ***Australian Museum Business Services***

3.4 Ruins of the Hetton Bellbird Weighbridge Hut

The weighbridge hut, which housed the weighing machine showing the weight of each coal hopper shunted across the weighbridge before dumping at the gantry loader, was built at some time after 1935, and was probably demolished during the general clearing of the site in 1976.

Figure 42. Ruin of former Hetton Bellbird weighbridge hut, showing doorway; the Great Northern Railway signal relay hut is elevated to guard against flood damage. ***Australian Museum Business Services***

Figure 43. A closer view of the weighbridge hut ruin. ***Australian Museum Business Services***

3.5 CONDITION

Both the Control Cabin and Bath House are ruinous. The Control Cabin has been burned, and robbed of materials; both buildings have lost roof coverings.

The remains of the conveyor belt and stockpile support footings are in poor condition, although they remain substantial.

The ruin of the Hetton Bellbird weighbridge hut, together with other remains associated with the Hetton Bellbird (later Peko-Wallsend) sidings and coal loader, is in poor condition.

The former dairy milking shed, feed shed and milking machine hut are in ruinous condition; the concrete feed silos have resisted flooding and other damage, and stand in good condition.

3.6 SURROUNDING CONTEXT

The site is surrounded by Hexham Swamp to the south and west and by the Pacific Highway to the north and east. Rural properties lie to the south and west; their stocking levels vary between intensive and low.

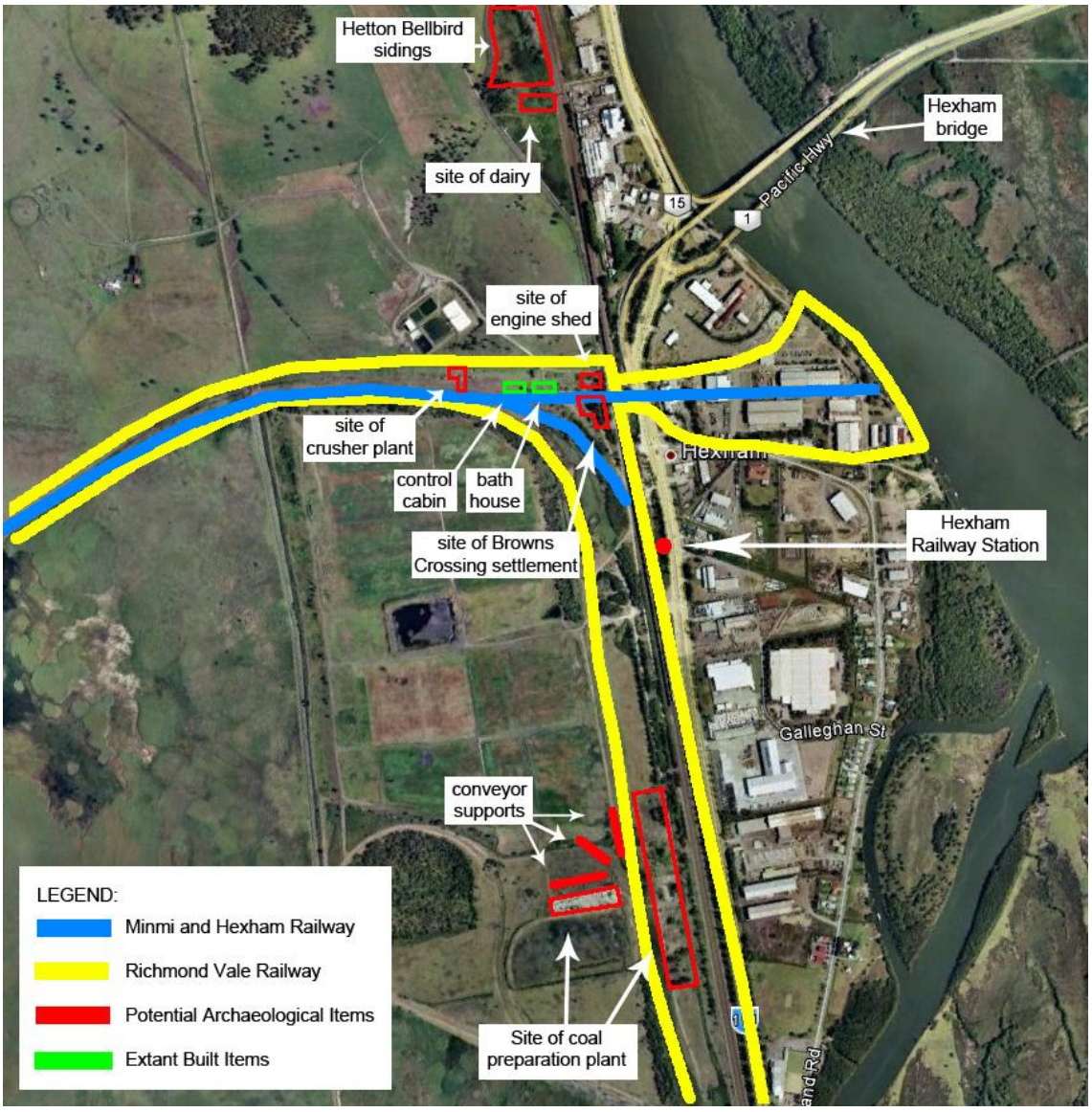

Figure 44. An overlay showing the sites of redundant structures, as well as of Hexham railway platform and the bridge over the Hunter River. All or part of the sites of the Hetton Bellbird sidings; the dairy; the engine shed; the Control Cabin; the Bath House; Brown's Crossing; the conveyor supports; and the coal preparation plant will be unavoidably disturbed by the proposed works. None of these are individual Heritage Items, although the Minmi to Hexham Railway is a collective Item of Environmental Heritage listed as having Local significance in the *Newcastle Local Environmental Plan 2012,* Schedule 5.

4. HERITAGE SIGNIFICANCE

The NSW heritage assessment criterion encompasses four generic values in the Australian ICOMOS Burra Charter, which are historical, aesthetic, scientific, and social significance.

An item will be considered to be of State or local heritage significance if, in the opinion of The Heritage Council of NSW, it meets one or more of the assessment criteria listed in the NSW Heritage Act, effective April 1999.

These criteria will be used in assessing heritage significance of the property/site.

The basis of assessment used in this report is the methodology and terminology of the Burra Charter 1999, The Conservation Plan and the criteria of the NSW Heritage Branch. Article 26.1 of the Burra Charter states that:

> *"Work on a place should be preceded by studies to understand the place which should include analysis of physical, documentary, oral and other evidence, drawing on appropriate knowledge, skills and disciplines."*

Once the place has been studied, the cultural significance can be assessed. Cultural Significance philosophically aids the establishment of value. Places and items of significance are those which display an understanding of the past and enrich the present. They allow values to be continually interpreted for future generations.

The significance of the place is determined by the analysis and assessment of the documentary, oral and physical evidence presented in the previous sections of this document. Having an understanding of significance allows decisions to be made about the future management of the place. However, it is important that these future decisions do not endanger the cultural significance of the place.

The NSW Heritage Manual prepared by the NSW Heritage Office and Department of Urban Affairs and Planning, outlines the same four broad criteria and processes for assessing the nature of significance, along with two criteria for assessing comparative significance of an item.

Since the preparation of the Heritage Manual, the Heritage Act 1977 (NSW) was amended in 1999. As part of this amendment, the NSW Heritage Council has adopted revised criteria for assessment of Heritage significance. The evaluation of cultural significance in the following section is based on the approach adopted by the Burra Charter and the NSW Heritage Manual, but considers whether and, if so, the study site meets the current (revised) criteria.

Heritage Significance Criteria

The NSW assessment criteria listed below encompass the following four values of significance:

- Historical significance
- Aesthetic significance
- Research/technical significance
- Social significance

Listed below are the relevant Heritage Assessment Criteria identified in the Heritage Act:

Criterion (a) An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).

Criterion (b) An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area).

Criterion (c) An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).

Criterion (d) An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.

Criterion (e) An item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).

Criterion (f) An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).

Criterion (g) An item is important in demonstrating the principle characteristics of a class of NSW's cultural or natural places; or cultural or natural environments (or a class of the local area's cultural places; or cultural or natural environments).

An Assessment of Significance requires that a level of significance be determined for the place. The detailed analysis uses the levels of significance below:

LOCAL	Of significance to the local government area.
STATE	Of significance to the people of NSW.
NATIONAL	Exhibiting a high degree of significance, interpretability to the people of Australia.

4.1 HISTORICAL THEMES

The site provides evidence of a number of Australian and NSW Historical Themes.

AUSTRALIAN THEME	NSW THEME	ASSOCIATION
Developing local, regional and national economies	Agriculture	The site has been used for the farming of hay, maize, fruit, vegetables and sugar from the early 1840s.
Developing local, regional and national economies	Industry	Railway
Developing local, regional and national economies	Mining	Transportation of coal
Developing local, regional and national economies	Pastoralism	Grazing and dairy farming dominated the area in 1900.
Developing local, regional and national economies	Technology	Transportation and distribution of coal.
Developing local, regional and national economies	Transport	Transportation of coal.
Building settlements, towns and cities	Utilities	Chichester Pipeline
Marking the phases of life	Persons	James and Alexander Brown, John Brown

4.2 ANALYSIS OF SIGNIFICANCE

Historical Significance

Criterion (a) **An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).**

Criterion (b) **An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area).**

The historical significance of this site lies primarily in its association with the coal industry for over a hundred and fifty years, playing host to one of the earliest horse tramways in Australia, which shortly afterwards became one of the first steam-powered private railways in the country. From this stems its cultural significance as a place of work for many hundreds of railway, wharfage and plant workers over a long period of time, and also as a place of residence for J. and A. Brown employees who lived in the small village of Brown's Crossing. Despite the removal of most infrastructure, the place remains readily identifiable as the site of this cultural history, the more so as it was the terminus of Australia's last commercial steam railway.

The place has a special association with the persons involved in the creation and ownership of the Minmi and Hexham Railway and its extension, the Richmond Vale Railway. These include John Eales; John Christian; James and Alexander Brown; John Brown; the corporate entity of J. & A. Brown and Abermain Seaham Collieries Ltd; and the corporate entity of Coal and Allied Industries Ltd. It also has a strong association for the enginemen, firemen and running staff of the last commercial steam railway operation in the country.

Aesthetic and Technical Significance

Criterion (c) **An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).**

No item remaining on the site, or the site as a whole, retains importance under this head. The Control Cabin formerly had a level of aesthetically and technically significance because of its design, and also because of the solid masonry walls are laid in the very durable red bricks for which J. & A. Brown's Richmond Vale brickyard was known. Although the structure is now ruinous, such of its bricks as are clean and undamaged may be salvageable for re-use on site.

Social Significance

Criterion (d) **An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.**

The subject site has a special association for the large numbers of railway and mining enthusiasts in a local and national context. The wide range of publications and articles which have featured the Hexham and Minmi and Richmond Vale Railway systems testify to a sustained public interest over many years. Visitors from the United Kingdom occasionally came to view the different classes of British-built locomotives, particularly those formerly owned by the British Army Railway Operating Division (ROD). Former employees, together with hundreds of local and interstate photographers and visitors, feel a strong association with the place.[136] This association stems from the site's long and significant history with the development of coal and railway transportation.

Research Significance

Criterion (e) **An item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).**

The site has the potential to yield cultural information pertaining to the people who built, maintained and operated the Hexham and Minmi and Richmond Vale Railway systems, such as the nature and terms of their employment. It also provides an example of the financial and social power of J. & A. Brown and its successor companies.

Rarity Significance

Criterion (f) **An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).**

No such items are known to remain on site.

Representative Significance

Criterion (g) **An item is important in demonstrating the principle characteristics of a class of NSW's cultural or natural places; or cultural or natural environments (or a class of the local area's cultural places; or cultural or natural environments).**

The site does not meet this criterion.

[136] The extent of such feelings is demonstrated by the title of a *Railway Digest* article by a Council member of the Australian Railway Historical Society NSW Division; see John Hoyle, 'A New Life for a Steam Age "Sacred Site"? *Railway Digest,* September 1997. ARHS/nsw has hundreds of members; there are other Divisions in the other states as well as in the ACT. *Railway Digest* is posted to members, and over 1,500 copies per month are sold at newsagents.

4.3 STATEMENT OF SIGNIFICANCE

The site itself is of local significance; although the Heritage Branch website data asserts that the former Richmond Vale Railway as a whole has State significance, it is not listed as such in the State Heritage Register. The historical significance of this site lies primarily in its association with John Eales and John Christian, the original proponents of the Hexham and Minmi Railway; with the Brown family dynasty; and with the corporate successors of J. & A. Brown. For over 140 years it played host to important activities connected with the transportation and handling of coal. Despite the removal of railway infrastructure, associated buildings and equipment, evidence relating to the history of the site remains in the form of the railway easement; embankments; remnant sleepers and rails; conveyor belt tunnels and support footings; coal preparation plant foundations; the Bath House; and possibly the foundations of the dwellings and associated structures of the village of Brown's Crossing.

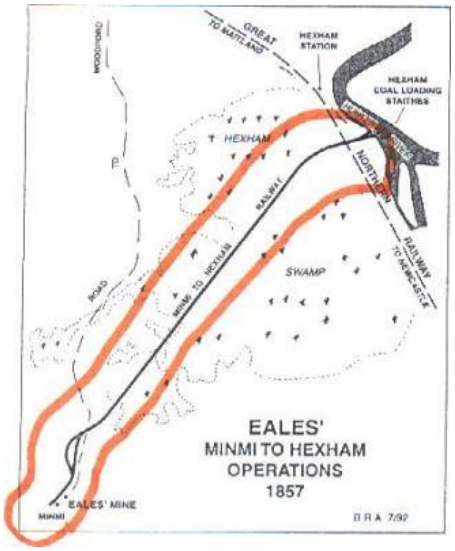

Figure 45. Curtilage Map as developed by the NSW Heritage Branch
www.heritage.nsw.gov.au

5. PROPOSED WORKS

QR National, a leading provider of coal haulage services across the Hunter Valley railway network, proposes to construct a Train Support Facility (TSF) within 38 ha. of the 255 ha. study area. Since entering the Hunter Valley heavy haul sector, QR National operations have grown quickly, and the brand is now readily recognised by stakeholders. The Australian Rail Track Corporation (ARTC), also, proposes to lay five Relief (Refuge) Roads on an 18ha. site between the QR National project are and the Down Coal Road of the Great Northern Railway (GNR).

The numbers of coal trains using the GNR has in recent times increased exponentially. The opening of further collieries in the upper Hunter Valley and Gunnedah basin, as well as the need to service the new 'T4' coal loader at Kooragang Island, means that extra track capacity must be provided for extra coal train movements. The ARTC project, in adding to train scheduling flexibility, will help to meet this need. QR National needs provide more train sets and locomotives by which to meet its customer obligations. While it presently operates 10 trains, in seven years' time it is envisaged that it will require 38 of them. Greatly increased wagon and locomotive numbers will require new provisioning and maintenance facilities based on industry best practice. The availability of such a facility is crucial not only for QR National but for the national economy.

The facility will consist of a provisioning road for the supply of fuel, water, wheel sand and the like; a train examination road for the monitoring of brakes, couplings, wheel profiles and wagon integrity; two cutting-out roads for the uncoupling of crippled wagons; and two wagon maintenance roads. Storage sidings will also be laid. The facility will be connected by leads to and from the Down Coal Road; all movements will be protected by interlocked signals.

A wagon maintenance running shed will be built, with a washbay. A fuel storage area, initially consisting of two 100,000 litre tanks but with provision for future expansion to up to twice that capacity, will also be installed.

A second locomotive provisioning facility, locomotive running shed, wash bay, wheel lathe building and turntable will complete the motive power facilities.

Vehicular access to the site will be provided along an access road from the existing Tarro traffic interchange. Circulating roads and administrative offices will be built within the site.

The above works will require some filling, draining and grading of the TSF area. This will particularly concern the reject stockpile of the demolished coal preparation plant.

The development area includes only a narrow portion of the former Richmond Vale Railway site, and will not necessitate the removal of any recognised Heritage Items.

6. STATEMENT OF HERITAGE IMPACT

This is the Statement of Heritage Impact for:	QR National Train Support Facility
Date:	Statement Completed in August 2012
Address and Property Description:	Maitland Road, Hexham
Prepared by:	EJE Heritage
Prepared for:	QR National Ltd

The following aspects of the proposal respect or enhance the heritage significance of the item or area for the following reasons:

The significance of the site is directly related to its former use in hauling coal by rail. The TSF, designed to meet the modern requirements of the industry, will re-introduce rail-based activities very similar to those that came to an end with the closure of the Richmond Vale Railway in 1987. In cultural terms, it will re-activate what was formerly a busy place of work, in pursuit of innovation and industry best practice in a fashion sympathetic to the efforts of the Brown family. Re-use of the site for railway purposes will increase the meaning and value of the site both for staff, contractors, the people of Hexham, Tarro and Beresfield, and for railway enthusiasts and the wider community.

The following aspects of the proposal could detrimentally impact on the heritage significance of the item or area for the following reasons:

The proposed works necessitate the disturbance, concealment or removal of a range of built items. These include the Hetton Bellbird weighbridge; the dairy; some concrete conveyor belt support footings; some coal preparation plant footings; the engine shed foundations; the Control Cabin; the Bath House; the footings of Brown's Crossing; and some remnant items of trackwork. Of these, only the last four have been identified as having Heritage significance.[137] The ruins of the former dairy at the western end of the site may have to be removed on the grounds of public safety, or to provide train operating lines. The ruins are of unknown provenance, but certainly date from before 1944. The small brick, iron-roofed building appears to have housed the milking machine compressor; similar buildings are common on the sites of former dairies in the lower Hunter Valley. While the milking shed has long since been demolished, the concrete feed silos remain extant. Relics associated with Hetton Bellbird (Peko-Wallsend) coal loader, the remains of which were demolished in 1976, are located to the north of the dairy site. While these and the other remnant structures provide evidence of the previous use of the place, they are not considered to have any further significance.

There were only two extant structures within the study area to which Heritage significance might have been assigned. These are the Bath House and the Control Cabin. While these are not listed in statutory planning instruments or Heritage registers, both are within the curtilage of the former Richmond Vale Railway as developed by the Heritage Branch of the Department of Planning and Infrastructure.

[137] *Newcastle Local Environmental Plan 2012,* Schedule 5, Item 332. The assigned level of significance is 'Local'.

The Bath House was built in the context of continuing industrial strife in the mining industry that culminated in the great strike of 1949. Colliery owners had been forced by legislation in the mid-1920s to provide pit top Bath Houses for their miners; this did not, however, extend to private railway staff.[138] Richmond Vale Railway employees at Hexham had to wait two decades for such facilities to be made available. This reflects demarcation between mining and railway trades occasioned by differing industrial Awards. The leadership of the Federated Engine Drivers' and Firemen's Association and that of the Miners' Federation were sometimes antipathetic toward one another; during the Northern District Lockout of 1929 the relationship was strained almost to breaking point because of differing strategic agendas.[139]

The structure was formerly of some interest; vandalism, malicious damage and neglect have, however, now made it a ruin.

The brick-built Control Cabin is associated with the development of the Richmond Vale Railway as an extension of the Hexham and Minmi Railway, which eventually supplanted it in both name and significance. Neglect, vandalism and the theft of materials, together with the large voids in the brickwork that this has created, have converted the formerly sound building into a ruin. Such of its bricks as remain clean and undamaged should be salvaged and reused in suitable locations within the TSF for garden edging, paving or similar landscaping activities. Remnant items of trackwork, such as short lengths of rail, will be used where appropriate. This will preserve a link between past and the present uses of the site.

The following sympathetic design solutions were considered and discounted for the following reasons:

The remnant structures are located within the raised development pad required for the TSF, which must be located above the 50 and 100 Average Recurrence Interval flood levels; other design solutions were, therefore, not available.

The following actions are recommended to minimise disturbance and/or enhance the interpretation of the heritage significance of the item or area:

It is recommended that serviceable bricks from the Control Cabin should be salvaged and appropriately reused within the site. This will facilitate interpretation of its previous uses of the site, and also of its heritage significance. Clean, undamaged bricks might be used for landscaping purposes or perhaps to create dwarf walls for signage. Items of redundant trackwork might be used to similar purpose. A wide range of photographs of the operations of the Richmond Vale Railway are available in both electronic and printed form. It is recommended that some of these, together with interpretative text and a site map, should be displayed within the office areas and in the rostering and sign-on rooms. Copies of Brian Andrews' *Coal, Railways and Mines* are available via the Australian Railway Historical Society's New South Wales website. These could be made available for the perusal of employees during rostered breaks.

There is a high probability of the discovery of relics associated with the settlement of Brown's Crossing and with the operation of steam locomotives. Actions to be undertaken in the event of such discovery are described below.

[138] Jim Comerford, *Lockout: the Northern New South Wales Coal Lockout 2nd March 1929 – 3 June 1930*, p.12.
[139] Ibid, pp. 162-164.

7. PROPOSED ENVIRONMENTAL MITIGATION MEASURES

7.1 General

The Minmi to Hexham Railway was previously assessed in the *Newcastle Local Environmental Plan 2003* (repealed) as a heritage item of State significance. The Heritage Branch of the New South Wales Department of Planning and Infrastructure states that the railway has research significance at a State level because of its archaeological potential. The following Environmental Mitigation Measures are therefore to be undertaken.

(a) The proposed development will be carried out in accordance with this Statement of Heritage Impact, completed in August 2012.

(b) Serviceable bricks from the Control Box will be salvaged and appropriately reused in a symbolic linkage of the past and proposed uses of the place.

(c) Appropriate interpretation, in the form of a plaque providing details of the site's heritage, is to be located within the site.

7.2 Construction Non-Indigenous Management Plan

The lead contractor for the construction of the Train Maintenance Facility will, before commencing site work, prepare a Construction Non-Indigenous Management Plan setting out the mitigation and management strategies that would be implemented to minimise potential impacts to heritage items. The Plan will incorporate the provisions of paragraphs 7.3 – 7.6, below.

7.3 Excavation Director

An Excavation Director, whose experience complies with the criteria promulgated by the Heritage Branch of the NSW Department of Planning and Infrastructure, will be appointed prior to any excavation within the vicinity of the junction of the Minmi to Hexham Railway and the Great Northern Railway. The Excavation Director will advise on archaeological matters associated with the excavation, and is to ensure compliance with both the procedures to be adopted in the event of unexpected finds and measures for protecting heritage items that are to be conserved.

7.4 Potential Impacts on Archaeological Resources Associated with the Minmi to Hexham Railway

Excavation works proposed for the QR National site are likely to unearth items properly classified as relics within the meaning of the *Heritage Act 1977* (NSW), s 4(1):

***Relic** means any deposit, artefact, object or material evidence that:*

(a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement; and
(b) is of State or local heritage significance.

As the Minmi to Hexham Railway is listed as an item of environmental heritage of Local environmental heritage significance within the *Newcastle Local Environmental Plan 2012*, Schedule 5, any relic which is associated with the railway, or is otherwise of State or Local heritage significance, falls within the intent of the *Heritage Act 1977* (NSW), s 139:

(1) A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered,

exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.

(2) A person must not disturb or excavate any land on which the person has discovered or exposed a relic except in accordance with an excavation permit.

The effect of s 139 is, however, modified as discussed in 7.4.1 and 7.4.2, below.

7.4.1 *Environmental Planning and Assessment Act 1979* (NSW), Part 3A (Repealed)

The proposed works may proceed under the transitional and savings provisions associated with the repeal by the *Environmental Planning and Assessment Amendment (Part 3A Repeal) Regulation 2011* of the *Environmental Planning and Assessment Act 1979* (NSW), Part 3A. Under s 75U9c) of that Act, the proponent is exempted from the requirement to apply for an Excavation Permit under the *Heritage Act 1977* (NSW) s 39.

7.4.2 *Environmental Planning and Assessment Act 1979* (NSW), Part 5.1

Alternately, the proposed works may proceed under authority of the *Environmental Planning and Assessment Act 1979* (NSW) Part 5.1. Under s 115ZG(1)(c) of that Act, the proponent is exempted from the requirement to apply for an Excavation Permit under the *Heritage Act 1977* (NSW) s 139.

7.4.3 Heritage Council must be Notified of Relics

Under either or both provisions discussed at 7.4.1 and 7.4.2, above, the proponent and its agents continue to be bound by the requirements of the *Heritage Act 1977* (NSW) s 146:

A person who is aware or believes that he or she has discovered or located a relic (in any circumstances, and whether or not the person has been issued with a permit) must:

(a) within a reasonable time after he or she first becomes aware or believes that he or she has discovered or located that relic, notify the Heritage Council of the location of the relic, unless he or she believes on reasonable grounds that the Heritage Council is aware of the location of the relic, and
(b) within the period required by the Heritage Council, furnish the Heritage Council with such information concerning the relic as the Heritage Council may reasonably require.

7.5 Duties and Responsibilities of the Excavation Director

The Excavation Director will:

(a) Notify the proponent of potentially archaeologically sensitive places as defined by Figures 44 and 35, above;

(b) Closely observe the course and conduct of excavations both in those places and in the entire area of excavations;

(c) Be responsible to the proponent for compliance with the provisions of the *Heritage Act 1977* (NSW) as described at 7.4, above, and

(d) Advise the proponent as to the level of significance of such relics as may be discovered within the area of excavations. These levels may be Local, State or National.

Although as discussed in 7.4.1 and 7.4.2, the proponent is not required to apply for an Excavation Permit under the *Heritage Act 1977* (NSW) s139, best practice requires that the Excavation Director shall nonetheless comply with the requirements of the *Heritage Act 1977* (NSW) s 146A:

(1) As soon as practicable after a relic is obtained from an excavation carried out by the holder of a permit, the holder shall notify the Minister of the existence of the relic.

(2) The holder shall furnish the Minister with such information concerning the relic as the Minister may reasonably require.

7.6 Measures for Protecting Heritage Items that are to be Conserved

Should relics be discovered within the area of excavation, and should these, within the opinion of the Excavation Director, have a level of significance as described at 7.5(d), above, the Excavation Director shall advise the proponent as to practical measures for the protection of those items.

(a) In the first instance, the Excavation Director, in consultation with the Heritage Branch, will consider the practicality of conserving the relic on site as guided by the *Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance, 1999.*

(b) Should this not be possible within the parameters of the *Burra Charter*, the Excavation Director will have regard to the intent of the *Heritage Act 1977* (NSW) s 146B, despite the proponent not being bound by it. Section 146B provides that:

The Minister may, by notice in writing, direct any person:

(a) who is or has been the holder of a permit, or

(b) who, in the Minister's opinion, has obtained a historic shipwreck as a consequence of having removed the relic without a historic shipwrecks permit, in contravention of section 51, or

(c) who, in the Minister's opinion, has obtained a relic as a consequence of having excavated land without an excavation permit, in contravention of section 139,

to deliver the relic to a specified person or body (such as a museum) who in the opinion of the Minister has the facilities and expertise to conserve the relic.

These provisions make clear the need to conserve such relics as cannot be retained on site. The relic or relics will, therefore, be offered in sequential order of priority to the bodies listed below in terms of conservation by location, classification and acquisition policy:

(a) Newcastle Museum, Newcastle NSW;
(b) Museum of Applied Arts and Sciences, Sydney NSW (Powerhouse Museum);
(c) Trainworks, Thirlmere NSW (NSW Rail Transport Museum);
(d) National Museum of Australia, Canberra ACT;
(e) Australian Railway Historical Society, NSW Division, Sydney NSW.

8. CONCLUSION

The proposed QR National Train Support Facility (TSF) will have very minimal inherent impact on the Heritage values of the site. While several items associated with previous uses, such as the dairy ruins, remnant trackwork, coal preparation plant footings and conveyor belt support footings, may be demolished, these have a very restricted level of significance; their loss will not be detrimental. While the Bath House and Control Cabin have not been formally identified as Heritage Items, they do lie within the curtilage of the Hexham and Minmi and Richmond Vale Railway system as developed by the Heritage Branch. These are both in ruinous condition.

QR National is committed to interpreting as much of the site's history as is possible within the parameters of modern needs. This has been demonstrated in the commissioning of detailed Indigenous and European heritage studies such as this. Although items as listed above will be disturbed or concealed, relics such as clean, undamaged bricks from the Control Cabin and remnant trackwork will be re-used as appropriate for landscaping and/or signage activities within the site. Use of these items in garden edging, retention of garden beds, dwarf walls for signage, or in paving or similar activities will preserve links between the past and future uses of the place.

In Heritage terms, the site is undoubtedly suitable for the proposed TSF. For over 130 years, the place was associated with the operation of an early horse tramway and with an early use of steam locomotion in a private context. This connection extends, also, to the former river port of Hexham, to the early proponents of the railway. It has a special association with the Brown family mining dynasty, and through them with one of Australia's largest coal companies which is in turn owned by one of the world's largest transnational mining corporations. These associations will be preserved by the revival of the use for which the site was intended: the transportation of coal.

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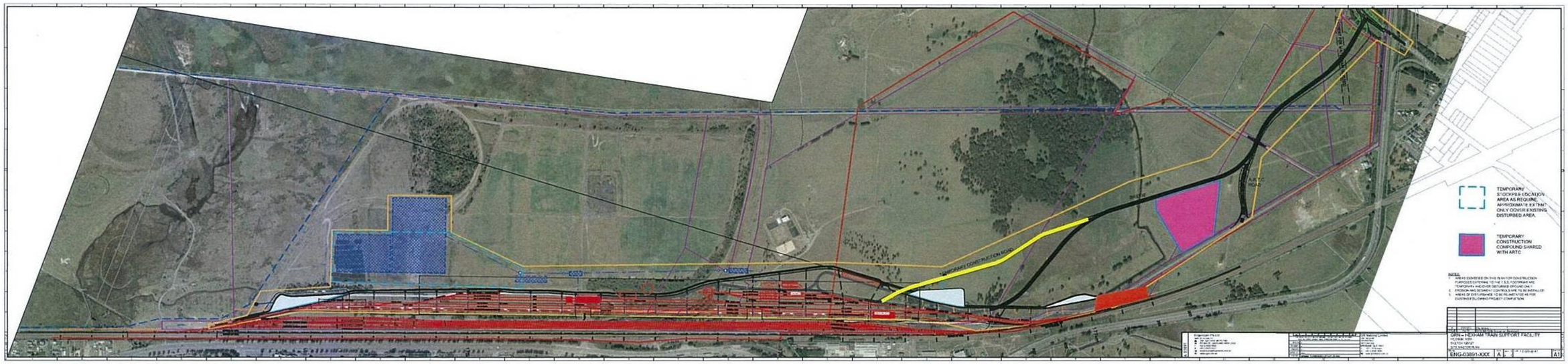
APPENDIX A: TRAIN SUPPORT FACILITY SITE MASTER PLAN



10. APPENDIX B: HERITAGE BRANCH WEBSITE DATA

Minmi To Hexham Railway

Item

Name of Item: Minmi To Hexham Railway

Type of Item: Built

Group/Collection: Transport - Rail

Category: Railway

Primary Address: Minmi, NSW 2287

Local Govt. Area: Newcastle

Property Description:

Lot/Volume Code	Lot/Volume Number	Section Number	Plan/Folio Code	Plan/Folio Number

Boundary: Refer to curtilage diagram in Image 10

All Addresses

Street Address	Suburb/Town	LGA	Parish	County	Type
	Minmi	Newcastle	Hexham	Northumberland	Primary

Statement of Significance

The Minmi to Hexham Railway is of state historical significance as a rare example of a mid-nineteenth century private colliery railway whose route remains highly visible in the landscape today. Constructed by John Eales to transport coal from his Minmi Colliery to coal loading facilities at Hexham, the railway is associated with an important phase in Newcastle's and the state's economic history, particularly the growth of private satellite mining towns around Newcastle from the mid-nineteenth century, which made a significant contribution to the local, state and national economy via coal production and export. The Railway and mining operations were run from the late 1850s by James and Alexander Brown, founders of an empire – J & A Brown & Abermain Seaham Collieries Ltd - that became the state's largest coal producer and which continues, as Coal and Allied Industries Ltd, to be one of Australia's major mining and industrial enterprises. The Railway was an integral part of the Browns' Minmi Colliery and associated operations from the mid-nineteenth to early twentieth century, facilitating the transport and export of coal and other products nationally and internationally via the port of Newcastle. The Railway, together with its immediate surrounds have research significance at a state level for their potential to yield information regarding the construction and operation of the railway and associated mining, industrial and coal loading activities in one of NSW's most important coal producing regions.

Date Significance Updated: 10 Jun 08

Note: There are incomplete details for a number of items listed in NSW. The Heritage Branch intends to develop or upgrade statements of significance and other information for these items as resources become available.

Description

Designer/Maker: John Eales, John Higham

Builder/Maker: John Higham

Construction Years: 1854 - 1857

Physical Description: The line of the Minmi to Hexham Railway is marked on current maps (see images) and the raised embankment, tracing the line is visible (at least in part) on the outskirts of Minmi township, and when viewed from the air (Google Earth). It seems that much of the line is overgrown with grass, and that the embankments are the only physical remains of the railway, however it is possible that parts of the rail lines remain, or may be uncovered by archaeological examination. It appears that some of the railway cuttings also remain visible in Minmi township and are listed on the SHI as a separate item (2170139). A detailed physical inspection of the site was not possible within the current study.

	The original railway route left Eales' mine at Minmi, travelled northwards, paralleling the Woodford Road for about half a mile, where it turned northeast and crossed Woodford Road. It then travelled in a straight line for some four miles, mainly across swamplands to Hexham. About half a mile from the Hunter River, the line turned to the east, ending at the banks of the Hunter River at Hexham, approximately six miles and five chains from Minmi. As most of the rail line travelled across low and swampy ground, embankments had to be built up with sand fill to elevate the railway. The rails were 65 lb per yard and double headed, while on inclined sections of the line, the rails were steel-faced. The sleepers were spaced two feet six inches apart. As the major part of the railway was on swamp lands, the foundations were provided using the same method as the road for teams - i.e. by laying bushes and logs on the swamp and covering with suitable material for formation of the railway. (Andrews, 2007, pp 18-20).
Physical Condition and/or Archaeological Potential:	The embankments of the Railway are visible, and the line is distinguishable across the landscape, however no rail lines were present at the area examined in this study. However, further detailed investigation is required to determine the nature and condition of surviving relics. **Date Condition Updated:** 10 Jun 08
Modifications and Dates:	The route of the railway was altered slightly in subsequent years at both the Hexham and Minmi ends. Originally, when the railway reached Minmi after crossing the swamp in a straight line, it turned southwards, climbed the small ridge separating Minmi and Back Creeks and followed the natural contours of the ground to reach Eales' Mine. Sometime after the introduction of steam locomotives, it was found that the grade to the ridge was too steep for locomotive haulage and the line was diverted around the side of the hill to the mine, providing a uniform grade into Minmi from the level section across the swamp (Andrews, 2007, pp 18-20). 1859 - Minmi to Hexham Railway connected to the Great Northern Railway about 300 yards on the Newcastle side of the right-angle crossing of the Great Northern Railway. 'Exchange Sidings' constructed at this location, on the Upside of the Minmi to Hexham Railway. Initially two sidings were constructed, consisting of a main line and run-around loop. 1860s, 1870s & 1890s - additional sidings constructed in association with expansion and development of colliery and coke works at Minmi; and workshops and coal loading facilities at Hexham. By 1900, there were seven sidings and one loop had been constructed off the Minmi line proper on the northern side. 1944 - locomotive shed to house the locomotives required for the loading staithes, workshops and exchange sidings built near Hexham adjacent to the Minmi to Hexham main line near where it crossed the Department of Railways tracks. Rails between the loco shed and sidings were completed in June 1944. 1949 - Minmi Open Cut operations established. To coincide with this, the laying of another siding (number 9) commenced. (Andrews, 2007, pp 113-114, 139)
Further Information:	Detailed physical inspection & archaeological investigation required.
Former Use:	Colliery Railway; Passenger & Goods Railway

History

Historical Notes:	The Minmi-Hexham railway line was a private railway line constructed at the instigation of John Eales in 1853 to transport coal from mines in the Minmi area to Hexham, where it was shipped in small vessels to Sydney and elsewhere. Coal mining in Newcastle was first carried out by the government using convict labour, until the Australian Agricultural Company took over this enterprise in 1828 on a grant of 2,000 acres west of Newcastle. The A.A. Company's monopoly on coal mining continued until the 1840s, when this began to be challenged by enterprising miners, including Scottish immigrant, James Brown. From the 1840s onwards, mining in the Hunter region was opened up to private enterprise. (Hunter, 1997, p 2) Land grants in the lower Hunter Valley began in the 1820s and the extensive Hexham Swamp area was first used for agricultural and pastoral activities. Minmi began as a cattle station in the 1830s, when John Eales took up large grants in the area. Eales was also a director of Hunter River Steam Navigation Company, established in 1839. While coal was not produced there on a large scale until the1850s, a Mr William Coombes, an old resident of the Wallsend district, worked an outcrop there from the early 1830s, carting the coal from his small mine to Maitland to supply the blacksmiths operating there. During the late 1840s,

Coombes met three miners - Jackson, Nixon and Tulip, who had been engaged with the Australian Agricultural Company for seven years. After leaving the Company, they had been working on tribute for about a year at a mine near Morpeth. Looking for a more lucrative opportunity, they collaborated with Coombes, sinking a shaft near the spot where he got his coal. However, desperately in need of capital to develop the mine to its full potential, the three decided to offer their mine to John Eales, who had been operating mines at Four Mile Creek during the 1840s. Eales purchased the parcel of Crown land on which Messrs Tulip, Jackson and Nixon's mine was located on 1 June 1853 and also bought them out. The shaft was situated on the western side of the ridge separating the Minmi and Back Creeks. (Suters Architects, 2007, p 28; Andrews, 2007, pp 16-17; Hunter, 1997, p 2).

Initially, the coal was carted from the mine to Maitland by bullock teams via Woodford, and to Hexham around the foothills of Blackhill where these joined the swamps Where possible, short cuts were taken over the swamps, and a road of saplings and brush was formed over sections of the swamps to allow the teams to take the shortest route to Hexham. Carting coal by teams, however, was expensive, and too slow, and so shortly after the temporary road was built, Eales conceived the idea of constructing a railway line between Minmi and Hexham. (Andrews, 2007, p 17)

A route for the Minmi to Hexham railway was surveyed and construction of the line had begun by September 1853. The route ran across land owned by William Dougal Christie, William Charles Wentworth, John Malcolm, James Mitchell and a parcel of Crown land. The landowners conceded to the construction of the railway across their lands as they believed that it would generally enhance the value of their properties. Construction of the line started from Hexham as agreements to cross the lands were granted towards Minmi; however, once all approvals were obtained, construction took place from both ends, working towards the middle. In order to effect the route over John Malcolm's land it was necessary to implement an act of Parliament as the railway was beneficial to the Colony of NSW. A private bill entitled Minmi and Hexham Railway Bill (1854) requesting authorisation for continuation of the Minmi to Hexham Railway was presented to the Government for enactment. On 5 September 1854 the Bill was referred to a Select Committee. Petitioners to the Committee, included John Malcolm, James and Alexander Brown, who argued for sufficient compensation and that the whole Railway should be thrown open to public use upon payment of a reasonable toll. The Browns had 640 acres of coal land at Minmi and, together with Eales' land, Andrew Brown estimated that more than 9 million tons of coal was available. Mining 400 tons per day, he anticipated 70 years of coal production at Minmi. These estimates were not soundly based however. (Andrews, 2007, p 19)

A representative of the Hunter River Railway Company, whose planned line, which became the Great Northern Railway, was to be crossed by the Minmi-Hexham Railway, gave evidence that the Company would not oppose formation of the new line, on certain conditions. Those conditions included the requirement that promoters of the new railway should erect a station house upon their land for a signalman, who was to be kept permanently at that place. The Report of the Select Committee was presented to the Government on 6 October 1854, subject to a number of conditions. One of these conditions was that the land required for the railway was not to exceed 66 feet in width and was to be limited to surface alone. The Minmi and Hexham Railway Act (1854) was passed on 7 November 1854. (Andrews, 2007, pp 19-20)

The route of the Minmi to Hexham Railway left Eales' mine at Minmi, travelled northwards, paralleling the Woodford Road for about half a mile, where it turned northeast and crossed Woodford Road. It then travelled in a straight line for some four miles, mainly across swamplands to Hexham. About half a mile from the Hunter River, the line turned to the east, ending at the banks of the Hunter River at Hexham, approximately six miles and five chains from Minmi. John Eales stated that it was impossible to construct a railway to the Hunter River in any other direction than the one proposed, due to the cost of circumnavigating swamplands, and that a railway crossing the swamps had to be in a straight line. During construction of the line, large amounts of fill material were needed to make the embankments to take the railway across the swamp and low level ground on the outskirts of Minmi. Fill was obtained from the side of the hill about two miles from Minmi, at the location that became known later as the 'Sand Cutting'. The route of the railway was altered slightly in subsequent years at both the Hexham and Minmi

ends. Originally, when the railway reached Minmi after crossing the swamp in a straight line, it turned southwards, climbed the small ridge separating Minmi and Back Creeks and followed the natural contours of the ground to reach Eales' Mine. Sometime after the introduction of steam locomotives, it was found that the grade to the ridge was too steep for locomotive haulage and the line was diverted around the side of the hill to the mine, providing a uniform grade into Minmi from the level section across the swamp (Andrews, 2007, pp 18-20).

John Higham, Surveyor and Civil Engineer, who had been involved with railway construction in England, and was also engaged in surveying the Hunter River Railway route, was responsible for constructing the Minmi to Hexham rail line. Due to the greater cost involved in moving minerals and coal compared to passenger traffic, the railway was constructed with iron, rather than the usual wooden rails. The rails were 65 lb per yard and double headed, while on inclined sections of the line, the rails were steel-faced. The sleepers were spaced two feet six inches apart. As the major part of the railway was on swamp lands, the foundations were provided using the same method as the road for teams - i.e. by laying bushes and logs on the swamp and covering with suitable material for formation of the railway. (Andrews, 2007, p 18)

Construction of the Minmi to Hexham Railway preceded the Hunter River Railway. The first stage of the great Northern Railway (Hunter River Railway) between Newcastle and East Maitland, was begun in 1854, however the contract for the section between Honeysuckle Point and Hexham was not awarded until October 1854. After the Hunter River Railway Company went bankrupt, the Government stepped in to complete the railway to Maitland. The railway was officially opened by Governor Sir William Denison on 30 March 1857 and as the line was gradually extended through the Hunter Valley and into northern New South Wales, taking 25 years to reach Tamworth, Newcastle served as the Port of an expanding region. Simultaneously, private railways facilitated the transport of coal to the port, permitting the opening of new mines. As well as Minmi, other collieries with private rail lines were established at Wallsend, Lambton, and Waratah within a decade, thereby laying the foundations of Newcastle's key role in the Australian economy. The network of private colliery steam railways and the Great Northern Railway permitted the rapid development of the Borehole mines and their associated townships in the following decade. Minmi (1856), Waratah (1856), Wallsend (1859), Plattsburg (1861), Lambton (1863) and New Lambton (1867) joined the older centres of Merewether (1849) and Hamilton (1849) to create Newcastle's first ring of colliery towns. (Suters Architects, 2007, pp 5, 28; Andrews, 2007, p 18).

By late December 1856, although the safe working facilities at the crossing of the Great Northern Railway had not been constructed, the 'Maitland Mercury' reported that 'Mr Eales' coal railway, which comes on the river close by the Hexham Hotel, is so nearly finished that the coal trucks are being placed on it, ready for use. Two fine wharves are in course of construction, and will, with the railway, afford great facilities for the loading of vessels from Minmi coal works.' Eales had been moving his coal from Minmi to Hexham along the railway formation after completion of the line across Malcolm's land during early 1855. Coal wagons were assembled in workshops, consisting of a carpenter's shop and engineer's shop, which Eales had constructed at Hexham adjacent to the two coal staithes. Eales' wagon fleet consisted of ten Chaldron (fixed hopper) type wagons. In the early years of the railway's operation, bullocks moved the wagons to and from Hexham until two steam locomotives built by R. W. Hawthorn were placed in service. Following the arrival of the steam locomotives, Eales built a loco shed at the western side of the Minmi line proper, serviced by a short siding facing trains to Hexham. Once the railway line was completed, shoots were erected at the wharves and the mine put into thorough working order. (Andrews, 2007, pp 20-21).

Coke was more valuable than coal, and so Eales established a coke works adjacent to his mine at Minmi, comprising seven 'beehive' type coke ovens, serviced by a short siding from the main line proper to Hexham. Coal was loaded at the screens and transported to the coke ovens, where it was fed into the ovens for baking into coke. The coke ovens were located on the western side of the railway line below the loco shed. (Andrews, 2007, p 21)

Eales' operations were going smoothly until miners demanded an advance of 6 pence per ton above the old hewing price of 3 shillings per ton. Miners began a

strike, but Eales gave in to their demands. However, at the expiration of a large contract, Eales notified miners that the rate would return to 3 shillings per ton after a certain date. A strike ensued, and Eales, who had built 25 houses for miners, gave them notice to leave their homes. Many left willingly, but some refused. The mine was closed and remained so for over twelve months. Grass grew over the railway line and Minmi appeared dissolute. (Andrews, 2007, p 21)

On 3 March 1859, James and Alexander Brown purchased Eales colliery and coal lands at Minmi, together with the Minmi Railway, engines and all plant and wharves; as well as 50 acres of adjoining land at Hexham, for 41,000 pounds. The Browns had purchased two parcels of Crown land at Minmi adjacent to and north-west of Eales' Mine in October 1853, with a view to exploiting the Minmi coal seams in that area. They intended to use Eales' Minmi to Hexham Railway to transport their coal, but when Eales demanded 6 pence per ton per mile to move their production, the Browns considered this unreasonable and were prevented from developing their Minmi lands and so they continued operations on their Burwood Estate. During May 1857 James Brown purchased another area of land at Minmi and intended to open a new pit, close to Eales' Minmi works. No major development of this land occurred, however, apart from sinking a shaft, until the 1870s. By purchasing Eales' operations, the Browns obtained an established coal mine which allowed them immediate access to coal. When the Browns took possession of Eales' Mine, it consisted of three shafts, located on the Minmi Creek side of the ridge separating Minmi and Back Creeks. The Browns further developed the mines that Eales had begun, including construction of additional rail sidings. (Andrews, 2007, pp 22-23).

Following their purchase of the Minmi Coal Works, the Browns applied for the necessary wharfage accommodation at Newcastle to enable them to load their coal there. Upon securing this accommodation, they applied for and were granted permission to connect their Minmi to Hexham Railway with the Great Northern Railway at Hexham. This connection was completed during early June 1859 and the first coal was despatched to Newcastle on 10 June 1859. The connection joined the Great Northern Railway about 300 yards on the Newcastle side of their right-angle crossing of the Great Northern Railway. To enable the exchange of traffic between the two systems, it was necessary to construct 'Exchange Sidings' at this location, on the Upside of the Minmi to Hexham Railway. Initially two sidings were constructed, consisting of a main line and run-around loop. By the turn of the century, there were seven sidings and one loop had been constructed off the Minmi line proper on the northern side. The Exchange Sidings were known as the Colliery Sidings. The Browns subsequently lobbied for improvements to coal loading facilities and to the condition of the Great Northern Railway, which, was considerably out of gauge and causing damage to their rolling stock. (Andrews, 2007, pp 24-25, 111)

J. & A. Brown opened another pit, known as 'C' Pit west of the existing 'A' and 'B' pits and the railway was extended by about 300 yards from 'B' Pit, to the new facilities, which were operating by July 1861. Increased production at the collieries meant higher demand for coke and so the Browns expanded the Coke Works at Minmi, which eventually consisted of 32 ovens, with a capacity of approximately 5,000 tons of coke per year. The ovens were serviced by rail sidings on each side of the ovens; the sidings joined into the main line to Hexham and faced trains destined for Minmi. As demand for coke increased, other companies built and operated coke works in the Wallsend area from the mid-1870s. By the mid-1890s, the Minmi Coke Works were ageing and in need of repair, however, with competition from other coke companies, rebuilding the ovens was not warranted and the works closed in June 1898. The ovens were demolished at the beginning of World War 1. (Andrews, 2007, pp 25-28)

As well as their mining operations, the Browns decided to branch out into the heavy engineering field to take advantage of the work required for the developing coal and shipping industries. A large workshop was established at Minmi adjacent to the C Pit facilities, commencing operations in May 1861 (Andrews, 2007, p 28). The Minmi to Hexham Railway was used for transporting machinery to and from the workshops.

By the early 1860s, the Minmi coal works were considered equal to any in New South Wales at that time Messrs Brown were capable of supplying one half of the demand for the whole colony with the best coal and coke available. They were

hampered, however, from delivering their products because of restrictions placed on steam cranes which were under construction at the Government wharves at Newcastle, which gave the Newcastle Wallsend Coal Company sole operating rights for six months. For the Browns to be able to ship their increased production, they had to construct extra loading facilities at Hexham. They envisaged construction of another five shoots at Hexham, to the south of the existing facilities. This necessitated an act of parliament to obtain land on which to build the facilities adjacent to the loading staithes at Hexham. A Private Bill - the 'Minmi and Hexham Railway Act Amendment Act' - was passed in May 1861, allowing the Browns access to additional parcels of land at Hexham to construct the additional loading facilities on the northern side of those existing. After one staithe was completed, the Browns decided that it was more expedient to purchase a dropship in Newcastle Harbour and transport their coal by barge down the Hunter River from Hexham. (Andrews, 2007, pp 28-30).

The Browns increased the output of the Minmi Colliery from 44,000 tons in 1860 to 111,000 tons in 1862. This increase in sales was achieved by reducing prices and by shipping coal on their own account to New Zealand, China and North America as well as to colonial ports. (J. W. Turner, 'Brown, James (1816 - 1894)', Australian Dictionary of Biography, Online Edition, Australian National University, 2006, http://www.adb.online.anu.edu.au/biogs/A030240b.htm) By the latter months of 1862, the Browns decided to form a company to take over the Minmi Colliery to broaden the scope of the undertaking. The newly formed Melbourne and Newcastle Minmi Coal Company took over the colliery, plant, rolling stock and stock in trade from James and Alexander Brown. The Company prospered until disaster struck in June 1864 when, during a heavy storm, the workings below Minmi Creek gave way and were inundated with water. All operations were suspended and workers moved onto the Australian Agricultural Company, the Waratah Coal Company and Newcastle Wallsend Coal Company. Financial difficulties resulted in the Melbourne & Newcastle Minmi Coal Company being wound up and the Colliery and associated works reverted to the Browns. By September 1869 many of the Minmi miners had transferred to J & A Brown's New Lambton Colliery and no coal was produced at Minmi after this year. While coal mining ceased at Minmi until the 1870s, the workshops remained in operation, as did the railway, moving the equipment manufactured or repaired in the workshops between Minmi and Hexham. (Andrews, 2007, pp 32-35)

James Brown returned to Minmi in 1873, reaching an agreement with John Eales Junior, who was pressing the Browns for settlement of debts owed to his father, following his death in 1871. For 10,000 pounds Eales cancelled the mortgage and transferred the Minmi properties to the Browns. They named their Minmi properties Duckenfield after John Eales' Senior's estate, Duckenfield Park, near Raymond Terrace. Following the Browns' return, an extra loading staithe was constructed adjacent to and north of the existing facilities on land obtained under the 'Minmi and Hexham Railway Act Amendment Act' in 1861. In the 1870s the Browns expanded the Hexham Workshops, to carry out repair works to ships which couldn't be handled by the Minmi Workshops. By 1895 the workshops at Hexham consisted of an Engineer's shop, Carpenter's shop and a timber storage shed. The rail sidings serving the workshop area consisted of a single track across the Main Northern Road forming two sidings on the wharf where a stationary crane was fitted. The workshops were further expanded throughout the early twentieth century, stimulating the growth of Hexham as a town. (Andrews, 2007, pp 35, 135, 136)

Messrs J & A Brown regularly provided excursions for the employees at the Duckenfield Colliery and their families and friends, transporting people between Minmi and Hexham on their own trains. By the early 1890s the people of Minmi had requested the New South Wales Railways to operate a goods and passenger service between Minmi and Newcastle. Their request was finally granted, and passenger trains began running between Minmi and Newcastle from 12 September 1892. These services were operated by the NSW Railways until 1897 when they were taken over and operated by J & A Brown. The Browns operated the services between Minmi and Hexham hiring carriages from the NSW Railways. The service terminated at Hexham and passengers had to complete their journey to Newcastle operated by the Government Railways. In November 1911 the Browns purchased five obsolete carriages for use on the service, eliminating the need to hire them. Sometime after this, however, the passenger service was terminated. By the early 1920s goods traffic was still being consigned to Minmi and in late 1920 the passenger service between Hexham and Minmi resumed on Pay Saturdays and

public holidays only. J & A Brown provided the locomotive and guard, while the carriages were supplied by the Government. The service continued to operate until the closure of Brown's Colliery at Minmi in February 1924. Goods traffic to Minmi would also have ceased around this time (Andrews, 2007, pp 383-384).

In 1910, quadruplication of the main lines to Maitland meant further changes to the rail lines at Hexham. By this time, three extra loop sidings had been constructed along the northern side of the Minmi to Hexham Railway to store traffic destined for the Staithes. The facilities at Hexham serviced the Browns' other collieries in the area, including Abermain Seaham, Pelaw Main and Richmond Vale Collieries. The workshops also carried out repairs to locomotives belonging to other companies operating in the Newcastle area. (Andrews, 2007, pp 111-113, 139).

The last Minmi mine closed in 1925, and the workshop facilities also closed and transferred to Hexham, while the locomotive depot closed in 1934. A locomotive shed was built near Hexham adjacent to the Minmi to Hexham main line near where it crossed the Department of Railways tracks to house the locomotives required for the loading staithes, workshops and exchange sidings. Rails between the loco shed and sidings were completed in June 1944. In 1949, the Minmi Open Cut operations were established. To coincide with this, the laying of another siding (number 9) commenced in 1949. (Andrews, 2007, pp 113-114, 139)

Coal mining, the railway and associated operations had a strong impact on the development of the townships of Minmi and Hexham. After flourishing in the early 1860s, Minmi town had virtually closed between 1865 and 1870, then grew to about 5000 in 1895 before a rapid decline after 1913. According to the census of 1911 there were 1708 people living in Minmi and this figure was reduced to 832 at the next census in 1921. A decade later the police estimated that there were 472 residents in the district, a total very similar in 1950. The sharp decline between 1921 and 1931 may be attributed to the closure in 1925 of the last Minmi mine. (Suters Architects, 2007, p 29)

Between 1843 and 1886 James and Alexander Brown produced more than three million tons of coal and so well established their firm that by 1914 its total output exceeded sixteen million tons, about 8 per cent of the total production of New South Wales for the period. Following the death of James Brown in 1894, his son John managed J. & A. Brown until his death in 1930. After John's death, the J & A Brown firm merged with Abermain Seaham Collieries Ltd, and the company, J & A Brown & Abermain Seaham Collieries Ltd became the largest single producer of coal in New South Wales. In 1960 this company merged with Caledonian Collieries Ltd. to form Coal & Allied Industries Ltd. J & A Brown & Abermain Seaham Collieries Ltd continued as a subsidiary company of Coal & Allied Industries, operating as its mining division until 1980 when the name was changed to Coal & Allied Operations Pty. Ltd. The latter is now managed by Rio Tinto Coal Australia. (Turner, ADB Online, 2006; Andrews, 2007, p 12) Coal & Allied website: http://www.coalandallied.com.au/index_whoweare.asp)

The workshops at Hexham continued to expand in the mid-1970s. However, with the downturn in underground coal mining from the mid-1980s, the workshops' business declined and they closed in November 1989. (Andrews, 2007, p 143)

The line of the Minmi to Hexham Railway remains readable in the landscape today. Parts of its raised embankments are visible from ground level on the outskirts of Minmi; the line is marked on some road maps; and aerial shots of the area, available on Google Earth show clearly the line running across the Hexham Swamp area from Minmi to Hexham. While remains of other colliery railways exist in the Newcastle region - for example, the Waratah Railway at Lambton; the Scottish Australian Co. Railway at Broadmeadow; and Duckenfield Colliery Railway relics - the Minmi to Hexham Railway is rare in that much of its route is so intact and visible. Further physical and archaeological investigations are recommended for this site, which potentially, could yield rich material relating to the operations of the railway and associated mining and industrial activities.

Historic Themes

Australian Theme (abbrev)	New South Wales Theme	Local Theme

1. Environment - Tracing the evolution of a continent's special environments	Environment - naturally evolved - Activities associated with the physical surroundings that support human life and influence or shape human cultures.	(none) -
3. Economy - Developing local, regional and national economies	Commerce - Activities relating to buying, selling and exchanging goods and services	(none) -
3. Economy - Developing local, regional and national economies	Environment - cultural landscape - Activities associated with the interactions between humans, human societies and the shaping of their physical surroundings	(none) -
3. Economy - Developing local, regional and national economies	Industry - Activities associated with the manufacture, production and distribution of goods	(none) -
3. Economy - Developing local, regional and national economies	Mining - Activities associated with the identification, extraction, processing and distribution of mineral ores, precious stones and other such inorganic substances.	(none) -
3. Economy - Developing local, regional and national economies	Transport - Activities associated with the moving of people and goods from one place to another, and systems for the provision of such movements	(none) -
4. Settlement - Building settlements, towns and cities	Towns, suburbs and villages - Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	(none) -
8. Culture - Developing cultural institutions and ways of life	Leisure - Activities associated with recreation and relaxation	(none) -
9. Phases of Life - Marking the phases of life	Persons - Activities of, and associations with, identifiable individuals, families and communal groups	(none) -

Assessment of Significance

SHR Criteria a)
[Historical Significance]

The Minmi to Hexham Railway is historically significant at a state level for its association with a key phase in Newcastle's and New South Wales' economic history. As an item of transport infrastructure the railway contributed to the development of the townships of Minmi and Hexham, which, with other satellite coal producing and industrial regions around Newcastle, had an enormous impact on the region's contribution to the state and national economy. In the mid and late nineteenth century, and early twentieth century, Minmi mines produced a substantial proportion of the state's coal and coke output and the railway facilitated the transport of these products for export in NSW, Australia and overseas. The Railway was also instrumental in the operations of associated industrial activities, particularly the Minmi and Hexham workshops, servicing rail and shipping infrastructure. The Railway thus represents the historic themes of mining, industry and transport at a state level.

The Railway is also historically significant at a local level having functioned as a passenger and goods railway from the late nineteenth to early twentieth centuries. It played an important role in the social and leisure activities of local residents of Minmi, connecting them with transport links to Newcastle and beyond.

SHR Criteria b)
[Associative Significance]

The Minmi to Hexham Railway has associative significance at a state level for its association with prominent individuals, including John Eales, who founded the railway and was instrumental in establishing the Minmi coal fields and the resulting settlement. John Higham, who was responsible for the railway's design and construction, was an accomplished railway engineer, who was also involved with the design of the Great Northern Railway. The Minmi to Hexham Railway was owned and operated from the late 1850s by James and Alexander Brown, whose coal mining and associated operations at Minmi made a substantial contribution to the local, state and national economy. The Browns were highly significant figures in the coal industry, founding an empire which evolved to become J & A Brown & Abermain Seaham Collieries Ltd, which became the largest single producer of coal in New South Wales. A more recent incarnation of this empire, Coal & Allied Industries Ltd., remains one of Australia's major mining and industrial enterprises, now managed by Rio Tinto Coal Australia.

SHR Criteria c)
[Aesthetic Significance]

The Minmi to Hexham Railway is of aesthetic and technical significance at a local level, with its route and construction demonstrating adaptation to the natural environment in which it is set. Its construction on raised embankments due to the swampy and low-lying terrain it traversed, has contributed to the continued survival of the line's route from the mid-nineteenth century as a visible part of the landscape

	and hence, its rarity.
SHR Criteria d) [Social Significance]	While this aspect of significance has not been investigated within the limited scope of this study, it is likely that the Minmi to Hexham Railway has social significance among locals as a distinctive feature of the landscape and history of the Minmi and Hexham area; for those with knowledge and interest in railway history; and for descendants of those who lived and worked in the locality during the heyday of the mining era when the railway was in operation.
SHR Criteria e) [Research Potential]	The Minmi to Hexham Railway site and its immediate surrounds are of research significance at a state level due to their archaeological potential. There is a high probability that remains of the railway and the associated mining and industrial structures that existed close to the line exist and would be capable of yielding information regarding nineteenth and early twentieth century coal mining and industrial technology and processes, as well as transportation networks.
SHR Criteria f) [Rarity]	The Minmi to Hexham Railway is rare as one of few remnants of a private colliery rail line in NSW associated with one of the earliest coal mining operations that established one of a number of satellite mining towns around Newcastle from the 1850s, and which contributed significantly to the local, state and national economy. It is extremely rare in the state as much of its route is still capable of being read in the landscape today.
SHR Criteria g) [Representativeness]	The Minmi to Hexham Railway is representative of private colliery railways established in mining regions across the state from the mid nineteenth century.
Integrity/Intactness:	High
Assessment Criteria	Items are assessed against the **State Heritage Register (SHR) Criteria** to determine the level of significance. Refer to the Listings below for the level of statutory protection.

Recommended Management

A detailed physical inspection of the site and, ideally, an archaeological investigation of the site and surrounds should be carried out in order to determine precisely the extent of any surviving physical evidence of the railway and associated works.

The Railway should be considered with other relics associated with mining activities at Minmi, including the former railway cuttings in Woodford Street, Minmi (SHI Item 2170139) and the Duckenfield colliery relics, also listed on the Newcastle LEP.

Recommendations

Management Category	Description	Date Updated
Recommended Management	Carry out an Archaeological Assessment	10 Jun 08

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
Local Environmental Plan			08 Aug 03	124	7679
Heritage study					

Study Details

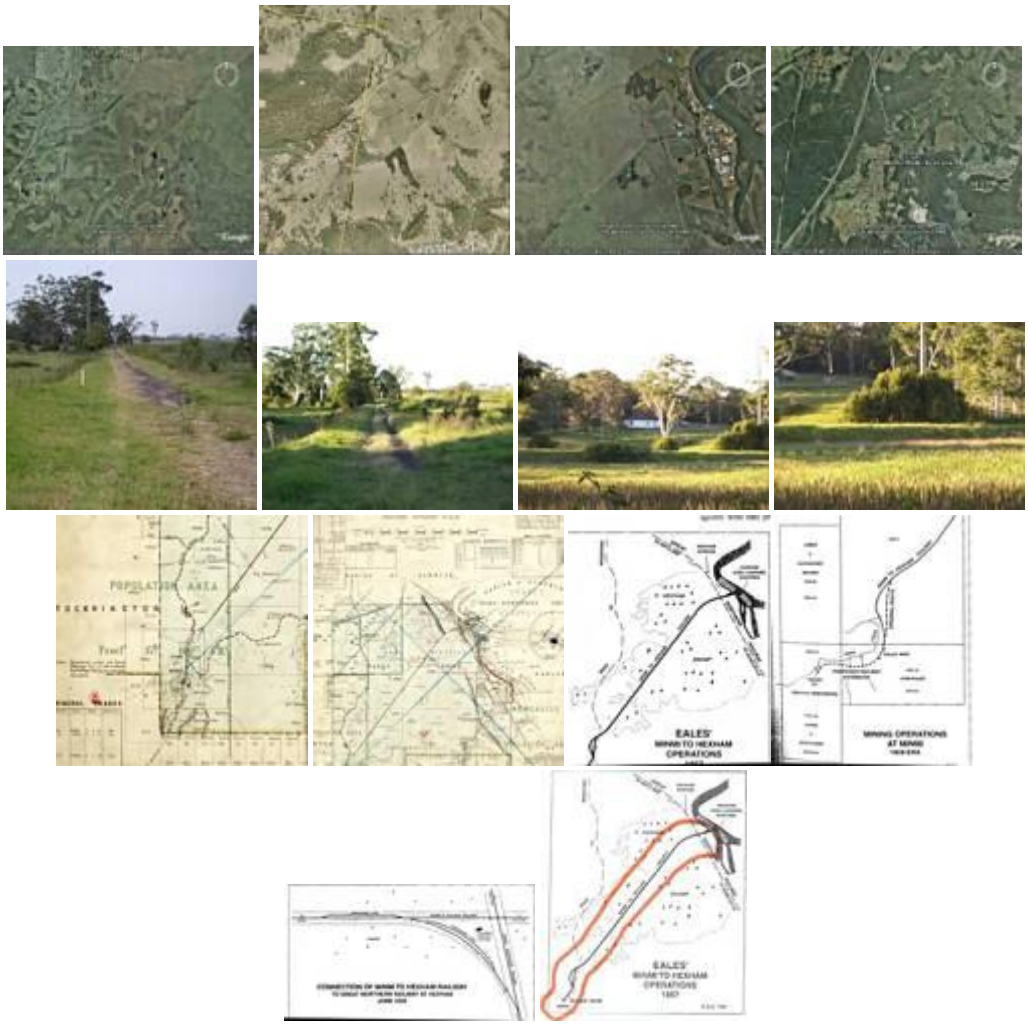
Title	Year	Number	Author	Inspected by	Guidelines Used
Review of Items of Potential State Significance in the Newcastle City Area	2008		Sue Rosen and Associates Heritage Assessment And History (HAAH)		Yes

References, Internet links & Images

Type	Author	Year	Title	Internet Links

Written	Suters Architects	2007	Newcastle City Wide Heritage Study Thematic History	
Written	Andrews, Brian Robert	2007	Coal, Railways and Mines: The Story of the Railways and Collieries of J & A Brown	
Written	Turner, J. W.	2006	'Brown, James (1816 - 1894)', Australian Dictionary of Biography, Online Edition	
Written	Hunter, Cynthia	1997	Minmi Cemetery History Context Report	
Written			Coal & Allied website	

Note: Internet links may be to web pages, documents or images.



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