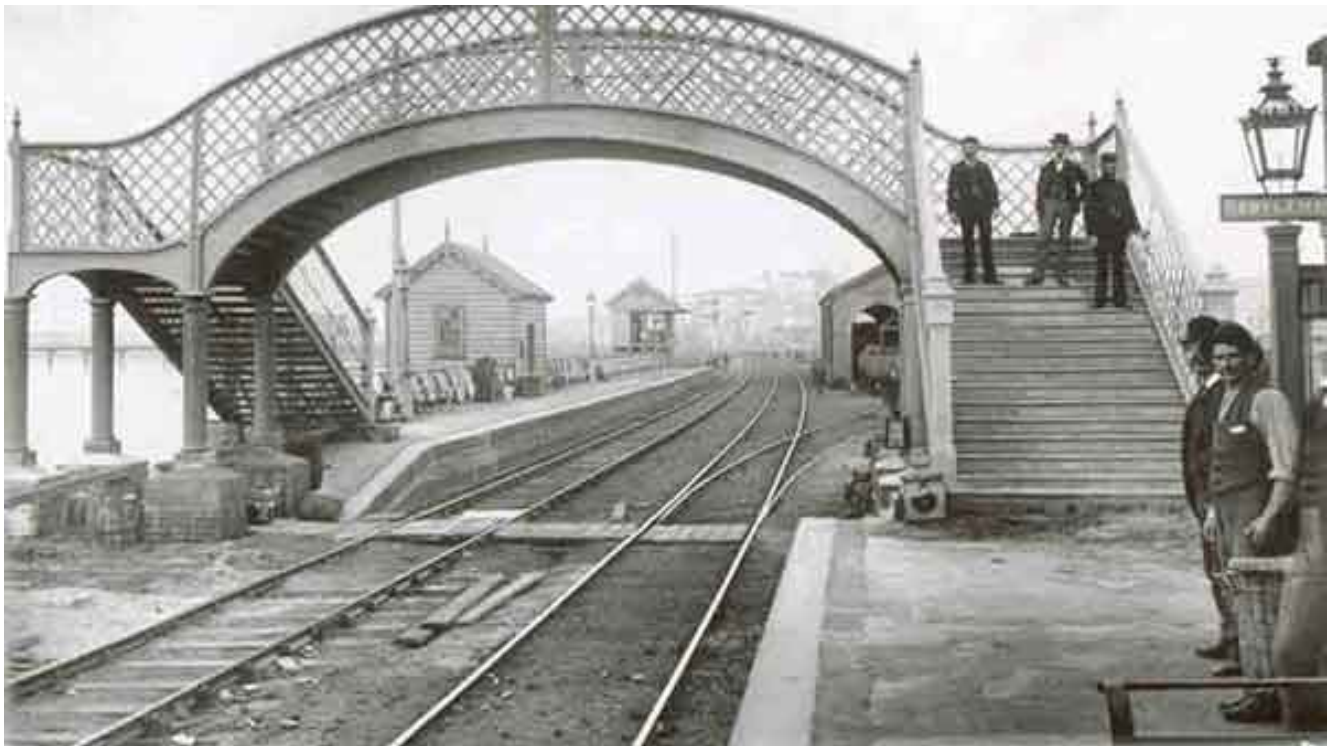
THE GREAT NORTHERN RAILWAY

NOMINATION FOR AWARD

OF

HISTORIC ENGINEERING MARKER



Great Northern Railway at Honeysuckle Railway Station late 1800s, looking east

Prepared for

Engineering Heritage Australia (Newcastle)

by GNR–150 Coordinating Committee

INTRODUCTION

The Great Northern Railway (GNR) was so named by NSW Governor Dennison at its opening on 30 March 1857. The 150th anniversary occurs on 30 March 2007 when it is planned to celebrate the event in Newcastle and Maitland. Community groups are combining to arrange the celebrations, led by Engineering Heritage Australia (Newcastle). The Governor of NSW, Her Excellency Professor Marie Bashir AC CVO, has accepted an invitation from Engineers Australia to take part in the celebrations.

As part of celebrations to mark the 150th anniversary of the opening, a committee has been formed which has brought together members of Engineers Australia with other community and railways historical groups to ensure that the maximum publicity is generated for the occasion. With the support of Rail Corporation New South Wales (Railcorp) it is planned to have ceremonies at both ends of the relevant section of railway line with historical trains being used for taking participants between the two.

The civil infrastructure for railways is the oldest infrastructure in Australia of which much is still in regular use. Compared to its importance in the development of the country, this infrastructure is not well represented in the Historic Engineering Plaquing Program. To date 12 railway-related works have been awarded plaques but, of those, only three or four cover substantial lengths of track which are still in use for regular service. This plaquing proposal is aimed at partly redressing the imbalance.

This proposal has been prepared by Bill Jordan on behalf of the GNR–150 Coordinating Committee.

PLAQUE NOMINATION FORM

The Administrator
Engineering Heritage Australia
Engineers Australia
Engineering House
11 National Circuit
BARTON ACT 2600

Name of work: Great Northern Railway

The above-mentioned work is nominated to be awarded a **Historic Engineering Marker**

Location, including address and map grid reference if a fixed work:

Railway line from Newcastle Station to Maitland (formerly West Maitland) Station as shown on the locality map on the next page.

Owner (name & address): Rail Corporation New South Wales, PO Box K349, Haymarket NSW 1238

The owner has been advised of this nomination and a letter of agreement is attached (Appendix A).

Access to site: At railway stations and overbridges along the route, otherwise under owner escort

Nominating Body: GNR–150 Coordinating Committee on behalf of Engineering Heritage Australia (Newcastle)

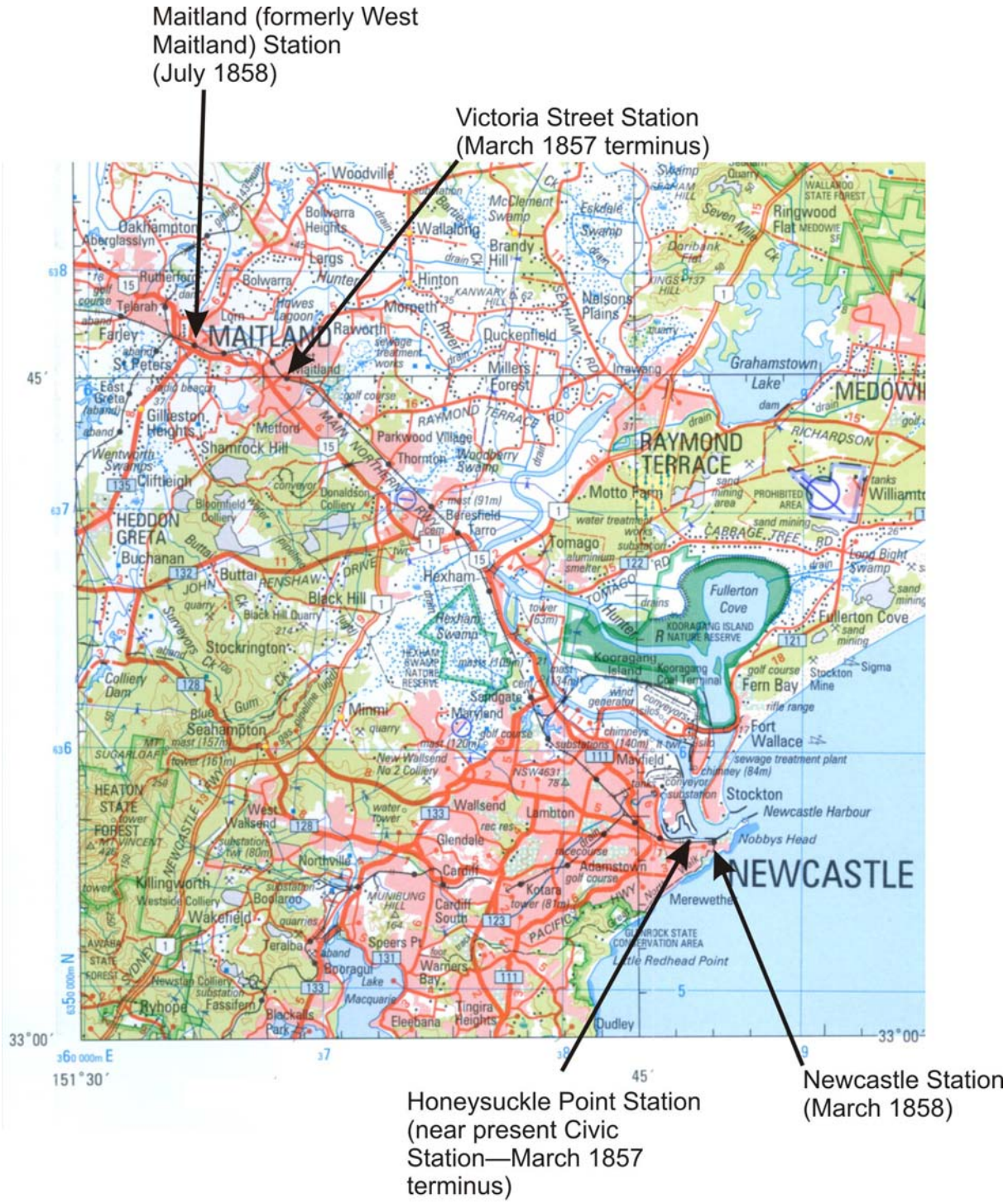
Chair of Nominating Body

Date:

Chair of Division Engineering Heritage Branch

Date:

LOCATION



Extract from Natmap 1:250 000
Sheet SI56-02, Edition 4

HISTORY

Summary

The Hunter Valley Railway Company, formed in 1853, commenced work on the original railway under contract to William Wright for the section from Honeysuckle Point (near the present Civic Station) to Hexham (the present Tarro Station). This section had to cross what is known as the Hexham Swamp, and the experience of George Stephenson at Chat Moss in England was put to good use when a corduroy of brushwood was used as the underlay for the embankment: this embankment is still in use. A further contract was let to Wright and Randle in 1857 for the section onwards to East Maitland, finishing at what is now the Victoria Street Station. Much of the civil infrastructure for this section of line is still in place, making it possibly the oldest in Australia continuously worked by locomotives (a section near Port Adelaide may lay claim to being slightly older). The line was extended eastwards to the present Newcastle Station and westwards to near the present Maitland Station in 1858, then continued northwards on the inland route to Queensland, being opened to Wallangarra (HEM on station) in January 1888.

The most comprehensive historical record of the original construction that has been found is the article in the Australian Railway Historical Society Bulletin No. 233, written in March 1957 to commemorate the centenary of the line: this article is reproduced in Appendix B. Search of newspaper archives uncovered a description of work in progress in December 1856 which is reproduced in Appendix C. Other historical notes are presented in Appendix D.

NSW State Records archives were searched but little was found except the centreline and property survey reproduced in Appendix E. Unfortunately, engineering documentation describing the structures has not come to light. The original tender was found and is at Appendix F.

Other historical notes

Research for this proposal has uncovered a number of interesting indicators of the little–known early history of coal freight railways in the Hunter Valley which could throw a completely different light on accepted Australian railway history.

Australia's first railway, running on iron rails, was the original Australian Agricultural Company (AA Co.) line from the 'A' Pit on the hill above Newcastle to the loading staithes on the wharf. This railway, which used full wagons descending to haul the empty wagons back up, began operating on 10th December 1831.: A 175th anniversary celebration and local community plaquing was held in Newcastle on 10th December 2006. From this beginning the AA Co. railway network expanded to serve other mines both in inner Newcastle and, from 1849, the suburb now known as Hamilton.

An intriguing reference in the appended ARHS bulletin article (p. 34) says that:

> The A. A. Company's railway crossed Blane Street on a light timber viaduct, of such limited clearance that carters had to keep their heads well down when passing underneath. Although steam locomotives operated the lines from the collieries, only horses were used over the viaduct to the company's two staiths, where coal was loaded into small ships.

This reference suggests that steam locomotives could have been used by the AA Co. as early as the opening of the 'D' Pit in 1849. A search of the extensive AA Company archive has been initiated to find the orders for their first locomotives. The accepted order of historical "firsts" in Australian railway history may need to be revised.

The proposal to extend the line eastwards towards Newcastle was made very early on in the life of the railway planning, although not formally approved until 1857, as shown by the survey for property acquisitions which has its zero chainage at the Watt Street boundary for the present Newcastle Station.

HERITAGE ASSESSMENT

1. BASIC DATA

Item Name: Great Northern Railway

Other/Former Names: Hunter River Railway (planning stage), Main Northern Railway

Location (grid reference if possible): see location map

Address:

Suburb/Nearest Town: Newcastle to Maitland

State: NSW

Local Govt. Area: Newcastle City, Maitland City

Owner: Rail Corporation NSW

Current Use: Railways, freight and passenger

Former Use (if any):

Designer: J. Wallace, consulting engineer; J.N. Gale, resident engineer

Maker/Builder: William Wright (to Hexham {now Tarro Station}); Wright and Randle, balance of first stage; William Wright (Newcastle Extension); Mark Faviell (West Maitland extension).

Year Started: 1854 **Year Completed:** 1857 (first section), 1858 (extensions).

Physical Description: Railway line and appurtenant structures, including station buildings of a later period which have high heritage significance in their own right.

Physical Condition: Good

Modifications and Dates: All original timber structures replaced progressively. Line extended to Newcastle terminus and West Maitland 1858 and progressively to Queensland border; connected southwards to Sydney system in 1887.

Historical Notes: (see separate details)

Heritage Listings (information for all listings)

The railway as a whole has no listings to date. The Section 170 Register, under the NSW Heritage Act, unpublished as at December 2006, may contain some items. Various parts of the railway (e.g. station groups) have State and Local Government listings, but none date from the original 1857 works. The section of line from East Maitland to Maitland, opened in 1858, has been listed in the Maitland Heritage Study (1993) in a rather confused fashion.

Copies of relevant listings are reproduced in Appendix G. The listings reproduced have been extended to include all railway items along the 1857 corridor and the extended 1858 corridor.

The Honeysuckle Railway Workshops erroneously called "Civic Railway Workshops" in many recent documents, which were set up to service the Great Northern Railway, were awarded a Historic Engineering Marker in 1996.

2. ASSESSMENT OF SIGNIFICANCE

Historic Phase: The railway is the genesis of passenger railways in the Hunter Valley and played an important role in the development of railways in the north of NSW and the interstate link to Queensland.

Historic Individuals or Association: W.C. Wentworth, **Charles Kemp** and **T.S. Mort** were prominent NSW citizens connected with the formation of the short-lived Hunter River Railway Company. The engineer of the Sydney Railway and subsequent first Engineer–in–Chief of the NSW Government Railway, **James Wallace**, was consulting engineer to the venture (James Wallace has some notoriety as the person responsible for reneging on the inter–colonial agreement on railway gauge when he adopted standard gauge in Sydney instead of the agreed Irish gauge.). The railway was the first new railway to be opened following the appointment of **John Whitton** as Engineer–in–Chief of the NSWGR. He argued strongly for the extensions to Newcastle and West Maitland, which quickly followed the original line, but he arrived too late to have any significant influence on the first stage works. His continuing insistence on the use of permanent materials, masonry rather than timber, probably had some effect on the extension to West Maitland.

Creative or Technical Achievement: Whilst much of the railway design and engineering was contemporary with the technology of the Sydney railway, the GNR was the first railway to be built across substantial swamp land and pioneered the use in Australia of brushwood as a "corduroy", a system of construction which led to the use of geotextile fabrics in modern times.

Research Potential:. The integrity of much of the original work would allow archaeological investigation of 19th century construction techniques if it could ever be made available. Some of the original brick culverts are understood to form the core of now extended culverts and have the potential for research into the masonry materials used in engineering construction as opposed to building construction.

Social: The railway opened up the Hunter Valley to the port of Newcastle and reduced the travelling time for the Maitland to Newcastle journey from a day to less than an hour. It is still an important link in the NSW "Cityrail" network and forms the basis of part of the most heavily trafficked railway in Australia, bringing coal exports to the port of Newcastle. The post construction story and social significance of the GNR is well described in Preston's book "Great Northern Railway"

Rarity: Although by only a narrow margin, GNR was the second passenger steam railway to be opened in NSW**,** much of the original earthwork formation is still in use which is largely that planned in 1854, and more original engineering features remain than on Sydney lines. The formation and some culvert sections believed to be intact are very rare in the Australian context.

Representativeness: The railway is representative of the first phase of public railway construction in Australia.

Integrity/Intactness: The alignment, earthworks and some drainage structures are believed to be intact. As a whole the railway has been progressively widened (now four tracks over much of its length) and continually upgraded throughout its life.

References: Wylie, R.F. in *The Australian Railway Historical Society, Bulletin No. 233*, March 1957;. Preston, R.G, 1983 "Arteries of Steel", in *Shaping the Hunter,* Engineers Australia, Newcastle Division, ISBN 0 85815 025 5; Maitland Mercury, 23rd December 1856; Preston, R.G. 1982, The Great Northern Railway, Newcastle to Maitland, 1857–1982, Burwood-NSW Rail Transport Museum, ISBN 0 909862 15 X.

Statement of Significance: The first section of the Great Northern Railway was one of the original steam worked Australian passenger railways opened in the 1850s and was the genesis for the railways in northern New South Wales, including the connection to Queensland. It used construction techniques for earthworks over swampy ground for the first time in Australia and is very rare in having most of the original formation still in use. It opened up northern NSW to the port of Newcastle and continues as one of the most important and heavily trafficked export railways in Australia.

Assessed Significance *(whether National, State or Local)*: National (some aspects) and State.

Image(s) with caption(s):

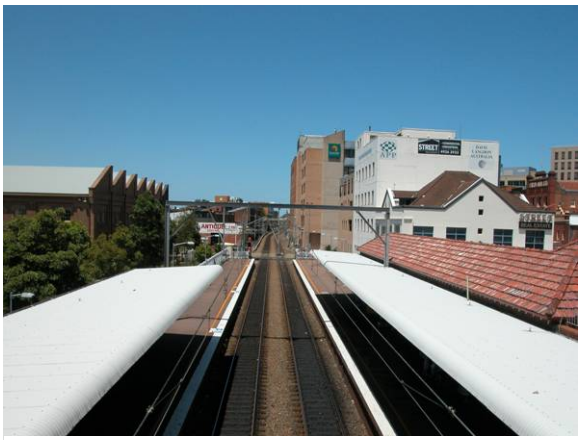


Photo 1: Looking east from the present Civic Station, previously the site of the original Honeysuckle Point Station. The original line ended at the street boundary of the level crossing in the middle of the photo. The saw–tooth roofed building on the left forms part of the Honeysuckle Workshops (HEM 1996).

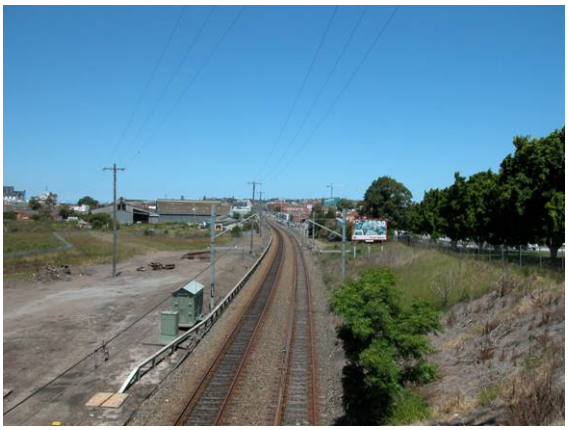


Photo 2: Looking east from the overbridge on the site of the original Maitland Road level crossing at $1^{M}74^{ch}$ (see appended survey). This formation appears to be original.

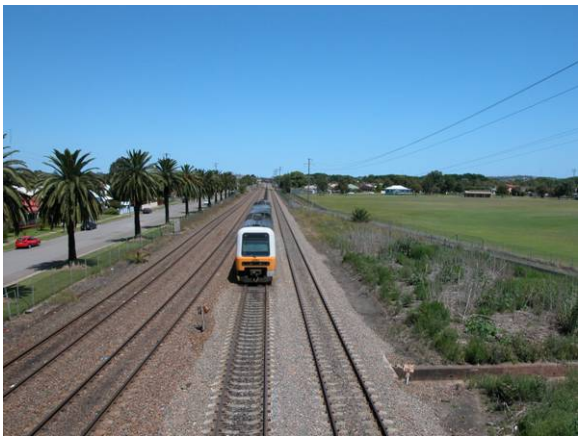


Photo 3: Looking east from Waratah overbridge (approx . $3^{M}40^{ch}$) The passenger train is on the original alignment; the two tracks to the north lead to the Port Waratah coal loader.

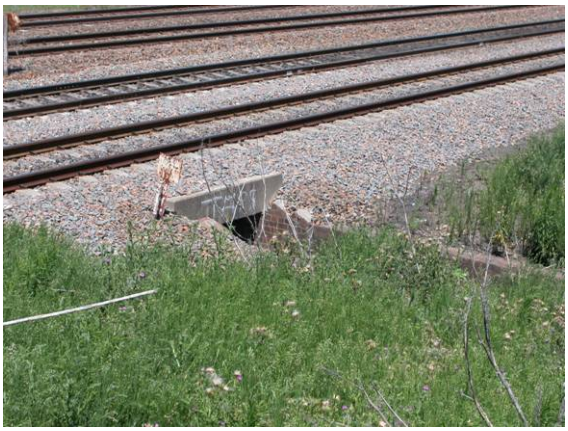


Photo 4: Original brickwork can be seen forming part of the culvert near Waratah–-the brick channel beyond the culvert is of later construction.

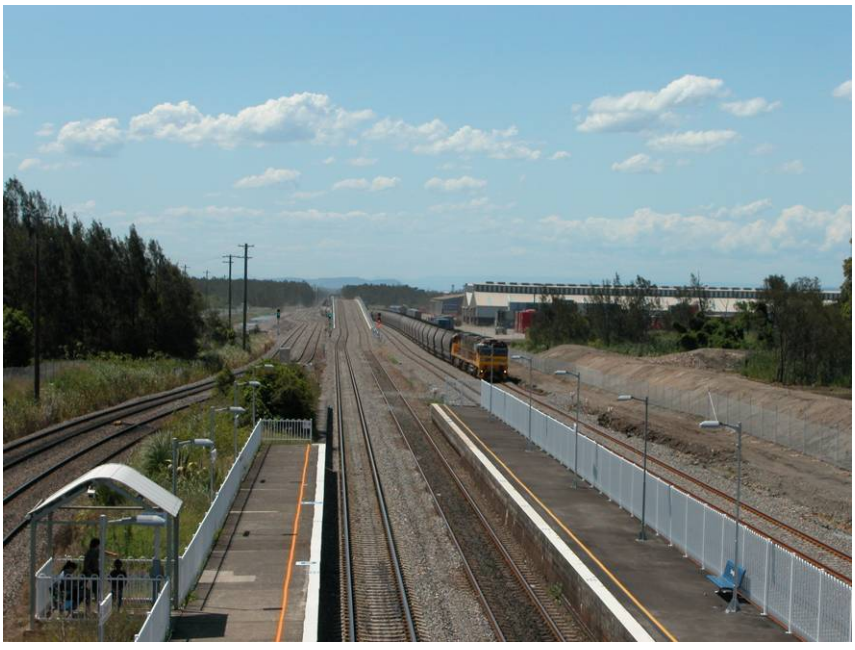


Photo 5: Sandgate Railway Station, looking west from approx. $6^{M}40^{ch}$, with original formation between the platforms. The overpass in the mid distance was completed in 2006 to allow coal trains to cross the passenger lines without disrupting passenger traffic and vice-versa.

Draft plaque wording

Historic Engineering Marker

Great Northern Railway

The Hunter River Railway Co.—consulting engineer James Wallace, resident engineer J.N Gale—constructed this railway from 1854. Bridges were built of timber and small culverts used brickwork, of which some remains. Pioneering work across the Hexham Swamp used brushwood matting over the soft ground. Governor Dennison opened the line between Honeysuckle Point and East Maitland, by then taken over by government, on 30 March 1857, proclaiming it the Great Northern Railway. The extensions to Newcastle and West Maitland opened in 1858.

The Institution of Engineers Australia

Rail Corporation New South Wales 2007

It is proposed that two plaques be provided and placed at Newcastle Railway Station and Maitland Railway Station where they can be seen by the greatest number of people. The one at Newcastle Railway Station is to be placed on the station wall at No. 1 platform, directly beneath the GNR bell which is mounted there. The one at Maitland Railway Station is to be mounted in a similar prominent position. Both will be unveiled by the NSW State Governor on 30th March 2007 with a journey by historical train connecting the two ceremonies.

APPENDIX A

Letter from Rail Corporation New South Wales.

APPENDIX B

Extract from Australian Railway Historical Society Bulletin No. 233, March 1957.

APPENDIX C

Print from microfilm of Maitland Mercury, December 23, 1856 together with typescript of full article.

APPENDIX D

Extract from ARHS Bulletin No. 170, December 1951.

SOME NOTES ON THE HUNTER RIVER RAILWAY CO.

By Gavin Smith

Despite the difficulties in Sydney, private enterprise in the form of the Hunter River Railway Company proposed in October, 1853, the construction of a line from Newcastle to Maitland, with a capital of £100,000 in £5 shares Messrs. W. C. Wentworth and T. S. Mort were prominently connected with this company and Mr. Kemp was chairman of the board. Several proposals had been made earlier for companies to construct lines in the Hunter River area, but none survived, e.g., in the Sydney Morning Herald of January 14, 1846, a line of 120 miles to the Liverpool Plains was proposed at an estimated cost of £1000 per mile, while a week later there appeared an English advertisement for a 50 mile line through Maitland.

At an early stage Mr. Wallace was appointed consulting engineer and Mr. Higham was engaged to survey the line. The Directors reported on September 1, 1854, that the survey of the line from Newcastle to East Maitland had been completed. At this stage a resident engineer, Mr. J. N. Gale, was appointed, while contracts were entered into with Messrs. Flower & Co. for plant and machinery, including 1000 tons of rails. Furthermore, 400-500 railway labourers had been engaged in England by Mr. Randle, father of the contractor of the Sydney Railway.

On November 8, 1854, the first sod was turned on the Honeysuckle Pt. – Hexham section of the line, and by January, 1855, the Hunter River Railway and [had] seven miles of earthworks finished and one mile of permanent way laid. Next, on July 3, 1855, the first sod was turned on the second section of the line for which Wright and Randle were the contractors. The formation of the railway was constructed for a double line but only a single line was laid at the time.

Then, when most of the line from Hexham to Newcastle was finished, similar financial difficulties overtook the Hunter River company as had caused the failure of their Sydney counterpart, so the Government bought the northern property of July 30, 1855, for £307,054, while on September 3, 1855, they paid £520,872 for the Sydney company. The Government refunded the capital subscribed to the companies, and, in the case of the Sydney Company, paid the shareholders seven per cent. on their money.

At the end of 1854 it had become evident that a terminal station at Honeysuckle Point was unsuitable, so a site on the "Sand Hills" beyond Watt Street was recommended and, in time, a single line from Honeysuckle Point to the Wharf at Watt Street was built. An inconvenient curve and dip had to be made in the line to enable it to pass under the bridge upon which the Maitland Road was crossed by the A.A. Company's tramway. This lasted until the bridge was renewed.

The first section of the railway from Honeysuckle Point to near the site of the present Victoria Street was opened on March 30, 1857, and the extension into Newcastle on March 19 of the following year.

APPENDIX E

Property survey from NSW State Records compiled from microfilmed originals. This survey shows the current end of the line, at Newcastle railway Station, as the chainage origin.

APPENDIX F

Original tender.

APPENDIX G

Relevant listings from NSW Heritage office database.

The state of some of the listings is indicative of the work still to be done. Most of the heritage listings have resulted from local government sponsored heritage surveys. The poor methodology of these and other surveys is well illustrated by there being only one listing of the railway itself, rather than just station buildings, and that listing is of dubious value. Lack of coordination between various surveys is also well illustrated.

In particular:

- architectural considerations predominate which degrades the heritage significance of much of the railway for most criteria;
- there are three different listings for both Newcastle Railway Station and the "Civic" Workshops, from different studies each sponsored by different bodies or at different times, with no attempt to coordinate or even cross-reference them;
- the most thorough study of the workshops established definitively that they had been called the Honeysuckle Railway Workshops for most of their life, but the wrong name persists in the listings.