

Cultural Heritage Assessment Report

Pelaw Main Bypass, Pelaw Main

Prepared for: HEZ Nominees Pty Ltd

Reference 20675 – February 2008





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PROJECT: STATEMENT OF HERITAGE SIGNIFICANCE AND IMPACT — PROPSED PELAW MAIN BYPASS		
CLIENT:	HEZ NOMINEES	
OUR REF.	20675	
DATE:	FEBRUARY 2008	
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EXECUTIVE SUMMARY

This Statement of Heritage Impact and Statement of Heritage Significance will consider the impact of a proposed Pelaw Main Bypass road on a section of the rail bed known as the Pelaw Main Branch of the heritage listed Richmond Vale Railway. The Richmond Vale Railway is listed on the Cessnock City Council Heritage Register as being of local importance.

The following report for the Pelaw Main Bypass is divided into two sections: $Part\ 1$ - $Statement\ of\ Heritage\ Impact\ that\ briefly\ details\ the\ proposal\ and\ the\ consequence\ for\ the\ heritage\ item\ under\ consideration\ and; <math>Part\ 2-A\ Statement\ of\ Heritage\ Significance\ that\ provides\ background\ information\ on\ the\ heritage\ item;\ pre\ contact\ and\ post\ contact\ history;\ the\ development\ proposal;\ report\ on\ the\ current\ state\ of\ the\ site;\ legislative\ requirements;\ a\ heritage\ significance\ assessment;\ a\ statement\ of\ heritage\ significance\ and\ recommendations.$

The proposal is for the construction of a road, a bypass for Pelaw Main to ensure that traffic accessing the newly developed Hunter Economic Zone will cause minimal disruption that village.

The proposed road will intersect the rail bed of the now defunct Richmond Vale railway line which is listed on the Cessnock City Council Heritage Inventory. The Richmond Vale railway is not listed on the NSW State Heritage Register or the Australian Heritage Commission Register.

The following recommendations are made at the conclusion of a desk top study and field survey of the subject area.

The recommendations are that:

- Impact on rail bed be minimised by restricting construction activity in the vicinity of the rail bed to the immediate area required for the Bypass road.
- Appropriate measures be taken to ensure that during construction of the Bypass road the culvert and abutment lying to the east of the construction area be cordoned off and protected. Construction workers should also be advised of the sensitivity of the cordoned area.
- Consideration is given to the reuse of old fence posts removed during construction to rehabilitate other sections of the Richmond Vale Railway.
- Consideration is given to the possibility of the conversion of the disused rail bed of the Richmond Vale Railway to a cycleway by community or council in the future. To facilitate this, if the Bypass road proposal is progressed, discussions with Cessnock City Council regarding the interaction between the road and cycleway could be undertaken.

PART 1 HERITAGE IMPACT STATEMENT

This is a Heritage Impact Statement for:

A section of the Pelaw Main Branch of the Richmond Vale Railway Line.

This statement forms part of the Statement of Environmental Effects for:

A proposed Link Road between John Renshaw Drive, Stanford Merthyr and the Hunter Economic Zone, Leggetts Drive, Pelaw Main. Referred to hereafter as the "Pelaw Main Bypass".

Date:

February 2008

References:

- Cessnock City Council Heritage Inventory. Richmond Vale Railway. Reference Number 87
- Cessnock Local Environment Plan 1989. Update 16 September 2005.
 Schedule 3. Items of Environmental Heritage. Item 19. Richmond Vale Railway.
- NSW Heritage Register Database Number 5045083. Richmond Main Colliery. *Note*: the railway is not included on the listed items of the Colliery
- NSW National Trust

The Richmond Vale Colliery and/or railway is not listed on

Australian Heritage Commission Register

Address and property description:

The section of the Pelaw Main Branch, Richmond Vale Railway Line under consideration is approximately 650 metres south of John Renshaw Drive, Pelaw Main.

See Statement of Heritage Significance. Part 2

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

The proposed Pelaw Main Bypass is intended to minimise traffic impact on the nearby village of Pelaw Main. The proposal acknowledges the heritage value of the Richmond Vale Railway Line and while some impact is unavoidable all efforts have been made to ensure that any impact is minimised.

The following aspects of the proposal could detrimentally impact on heritage significance. The reasons are explained as well as the measures to be taken to minimise impact:

It is proposed that the Pelaw Main Bypass, a fifty metre wide two-lane rural road, traverse the now-abandoned Pelaw Main Branch of the Richmond Vale Railway. The proposed Pelaw Main Bypass would cut through the rail bed and require the removal of approximately 8 fence posts from the original railway fencing.

The Pelaw Main Bypass has been designed to avoid unnecessary impact on associated railway line structures such as cuttings, culverts, abutments, etc.

The following sympathetic solutions have been considered and discounted for the following reasons:

The development of the Hunter Economic Zone to the south west of Pelaw Main will result in increased traffic using John Renshaw Drive. To reduce the impact of this traffic on the village of Pelaw Main, it is proposed that a link road be constructed, bypassing Pelaw Main and providing a direct link from John Renshaw Drive to the Hunter Economic Zone.

The following sympathetic solutions should be considered:

- Ensuring that impact on the rail bed is limited to the area required for construction.
- Protection of the culvert and abutment lying to the east of the proposed construction zone.
- Reuse of old fence posts removed during construction in rehabilitating other sections of the Richmond Vale Railway may be appropriate.
- The possibility of adaptation of the rail bed for a cycleway in the future and its intersection with the road.

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PART 2 STATEMENT OF HERITAGE SIGNIFICANCE

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1 INTRODUCTION

1.1 Background

This assessment for a proposed Link Road between John Renshaw Drive, Stanford Merthyr and the Hunter Economic Zone, Leggetts Drive, Pelaw Main was prepared by Laraine Nelson (Senior Archaeologist) of RPS-Harper Somers O'Sullivan. A Statement of Heritage Impact is required by Cessnock City Council as part of the assessment process for the proposed Pelaw Main Bypass road between John Renshaw Drive and the Hunter Economic Zone.

This study will outline the significance of all items of Environmental Heritage on approximately 150 metres of the Pelaw Main Branch of the Richmond Vale Railway. This will include earthworks, structures and ancillary equipment within a 100 metre wide corridor of land over the railway track bed centre line. This study will then assess the likely impact of the proposed roadway on the Richmond Vale Railway line.

The proposed Pelaw Main Bypass road will hereafter be referred to as the Pelaw Main Bypass.

1.2 Method

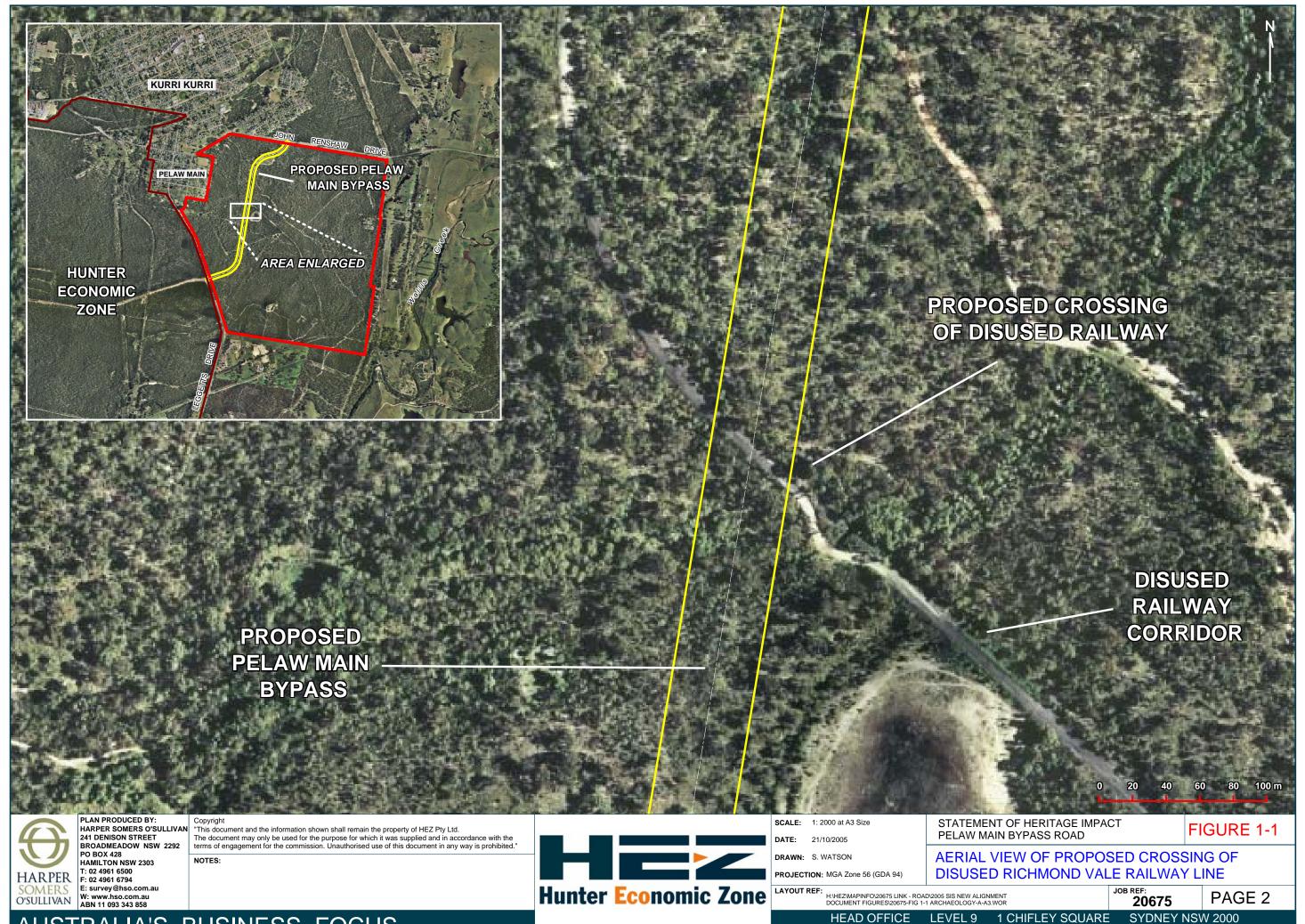
This report on the Pelaw Main spur of the Richmond Vale railway has been prepared in accordance with:

- Guidelines for Statements of Heritage Impact and Heritage Assessments.
 NSW Heritage Office.
- The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance: The Burra Charter and its associated Guidelines (1984 and following).

In keeping with the requirement to assess: a) why the item is of heritage significance; b) the impact of the proposed development and; c) what measures could be taken to minimise that impact, the area was surveyed on foot and a search completed on documents relating to the operation and history of the Richmond Vale Railway and in particular the Pelaw Main Branch Line.

1.3 Development Proposal

It is proposed that a link road between John Renshaw Drive and the Hunter Economic Zone be constructed. This fifty metre wide, two lane rural road would cross the rail bed of the disused Pelaw Main Branch of the Richmond Vale Railway. See Figure 1-1.



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2 PRE CONTACT HISTORY

The pre contact research and archaeology for the Pelaw Main Bypass has been the subject of investigation by ENSR Australia Pty Ltd (ENSR). To ensure consistency in reporting the following is an excerpt from that report:

According to Horton (1994), the study fell within the area of the Awabakal people (Horton 1994). It is probable that Aboriginal people had base camps along the Hunter River and its tributaries. The main tributaries near the study area being Wallis Creek to the south east and Swamp Creek to the west (Roberts 2003). Archaeological evidence is sparse for most of this period with dated evidence for Pleistocene occupation in the region of Moffats Swamp in the Newcastle Inner Barrier (Baker 1994 cited in ERM 2003). The vast majority of archaeological evidence is associated with a specialised stone artefact technology associated with backed artefacts. This technology first appears in the archaeological record at around 8,000 years (Hiscock and Attenbrow 1998) but occurs in abundance around the mid-Holocene. All but a very few open sites are characterised by backed artefact technology and thus date from the period after stabilisation of the sea to present levels. Sites without backed artefact technology include Moffats Swamp, Galloping swamp, and Newcastle Convict Lumberyard (near Newcastle railway station) (ERM, 2003). By 1838 a small pox epidemic and other introduced diseases had decimated the Aboriginal population (Roberts, 2003).

ENSR Australia Pty Ltd. December 2007. Aboriginal Heritage Assessment – Precinct 1. Pelaw Main Bypass and Station Road Extension. Hunter Economic Zone. Draft. .

3 POST CONTACT HISTORY

3.1 Background

The history of the Richmond Vale Railway is closely linked to the development of the coal industry in the lower Hunter Valley and J. & A. Brown, one of the most significant coal mining operations in the Hunter Valley in the early to mid-twentieth century.

In 1842 Alexander Brown, together with his wife and children migrated to Australia settling at Heddon Greta. By 1843 Alexander, together with his three sons, had commenced mining coal at Four Mile Creek and transporting it to Morpeth for sale to the Hunter River Steam Navigation Company. The death of one of the brothers, John in a mining accident and the later retirement of Alexander left two brothers, James and Alexander (junior) to establish the business of J. & A. Brown.

The brothers expanded their coal mine holdings with the purchase of a new mine at Minmi adjoining the mine of John Eales, another successful 19th Century Australian. Eales had constructed a railway line linking Minmi to Hexham in 1856 to service his coal mine. In 1864 J. & A. Brown acquired both the colliery and railway belonging to Eales.

James Brown (of J. & A. Brown) had 3 sons and while all sons became equal shareholders in the business in 1887 it was one son, John that went onto manage and develop the company.

J. & A. Brown, now managed by John Brown, purchased the Richmond Vale estate in 1896. Established in 1888, Richmond Vale had not been profitable due to a world economic recession, low coal prices and the lack of a suitable method for transporting the coal. By 1911 J. & A. Brown had reversed the fortunes of the mine, renamed it Richmond Main and in 1913 opened the second successful Number 2 pit (Mahon, 1998).

In 1901 J. & A. Brown notified the Mines Department that they had recently acquired Stanford Greta No. 2 Tunnel and renamed it Pelaw Main Colliery. Coal was first produced here during November 1901, however it was not until January 1902 that the first full train of coal production was despatched from Pelaw Main Colliery.

John Brown went onto become a major force in the coal industry, the Hunter Valley and one of Australia's wealthiest men. Following his death on the 6th March 1930 moves were made to merge the J. & A. Brown Company with the Abermain - Seaham Collieries Limited Company.

The new company - J. & A. Brown Abermain - Seaham Company (J.A.B.A.S.) was incorporated in mid January 1931. A new company 'Coal and Allied Limited' was formed on 2nd May 1960 to take over the assets of J. & A. Brown Abermain - Seaham Limited Company and Caledonian Collieries Limited (Delaney – Pelaw Main, 1998).

3.2 Richmond Vale Railway

The original owners of Richmond Vale mine had been forced to cease production in 1892 because of, amongst other things, a lack of suitable transport for the coal produced. With J. & A. Brown's purchase of Richmond Vale moves were made to rectify this.

In 1900 an application was made to the NSW Parliament in the names of John, William and Stephen Brown for permission to build a railway from Richmond Vale Colliery to connect with J. & A. Brown's Minmi railway line. This privately owned line, approved by Parliament in October 1900 as the *Richmond Vale Railway Act* was to join the original 1856 Minmi railway line with an ultimate destination of the wharf facilities at Hexham (Eardley, 1972). See Figure 3-1.

The purchase of the financially sound Stanford Greta Colliery (Pelaw Main) provided working capital to develop Richmond Main Colliery and finance the construction of the Richmond Vale Railway. Initially coal from Pelaw Main was transported using Greta Coal Company's railway (later to become the South Maitland Railway) system. While the *Richmond Vale Railway Act* did not include a branch line for Pelaw Main, Brown largely ignored this and proceeded to construct the Pelaw Main colliery line first. This went unchallenged as possibly, with the line solely on J. & A. Brown's property, its construction was outside Government jurisdiction.

While minor clearing for the tracks commenced 18 months after the *Richmond Vale Railway Act 1900* was passed, construction did not begin in earnest until February 1904. By June of that year the workforce had grown to 750 men with some urgency in the work as the Enabling Act required the work to be completed by October 1905. A series of seven workers camps were established along the line to ensure expediency.

On 3rd July 1905 the first coal from Pelaw Main was hauled over the new Richmond Vale Railway Line. The opening of the line however had been prefaced by its use in June 1905 to bring in 'free labour' under police guard to replace striking workers at Pelaw Main. A few days later, a train bringing supplies to the 'free labour' camp was halted by a crowd near the Pelaw Main junction with many of the supplies removed by the disgruntled workers.

The Richmond Vale Railway Line consisted of 11½ miles of track from the Minmi Junction to Richmond Vale, with a further 3 miles of track for the Pelaw Main spur line. The line required two tunnels and two wooden trestle bridges with a total estimated cost of £80,000 (Andrews, 2004).

The railways of J. & A. Brown, together with the mines, operated into the late twentieth century changing name through mergers first to J. & A. Brown Abermain - Seaham Limited and Caledonian Collieries Limited (1931) and later to Coal and Allied Limited (1960). In February 1961 Pelaw Main Colliery ceased operation followed in 1967 by the closure of Richmond Main Colliery (Delaney, Richmond Main 1998).

With the closure of the mines the Richmond Vale Railway beyond Stockrington Colliery ceased operation.

Hexham Hexham Swamp Minmi Junct. Minmi No. 2 (Second) Stockrington Collieries No. 1 tunnel The Richmond Oale Railway No. 2 tunnel, Surveyor's Creek Bridge Surveyor's Creek No. 3 tunnel Wallis Creek Bridge Pelaw Main Branch Line Wallis Creek Richmond Vale Junct. South Maitland Railways Stanford Merthyr No. 1 Passenger line Richmond Main Pelaw Main

Figure 3-1 – Depiction of Richmond Vale Railway

Source: Friends of South Maitland Railway website. http://www2.tpgi.com.au/users/irener/RVR.html

4 CURRENT LANDSCAPE OF THE PELAW MAIN BRANCH LINE - RICHMOND MAIN RAILWAY

The area proposed for impact by the Pelaw Main Bypass is the rail bed of the disused Pelaw Main Branch of the Richmond Vale Railway. The rail tracks of the Richmond Main Railway from Stockrington to Richmond Main and Pelaw Main and the direct line between Richmond Main Colliery and Pelaw Main Colliery were lifted in June 1972 (Tonks, 1980).

Visible along the route of the Richmond Vale Rail Line are two trestle bridges, tunnels, culverts, abutments, embankments, building footings and cuttings. The rail bed, even with the tracks removed, is readily discernable along much of the route. The Pelaw Main Branch Line has still visible culverts, embankments, bridge foundations and cutting. Over the entire line the majority of the rail bed is considerably disturbed and it appears likely that the surface has been highly modified for use by recreational four wheel drive vehicles and motor bikes. Scattered around the area are other remnants of rail history including iron pegs for securing the railway sleepers, broken ceramic electricity insulators and wire rope. See Appendix A - Plate 1.

In an easterly direction from the intersection of the proposed road with the rail bed (approximately 100 metres) there is a culvert and a brick abutment that formed part of the rail line structure. The culvert is a double drain constructed from buff coloured bricks with reinforced concrete inserts. The abutment comprises red brick retaining walls, approximately 3 metres in height that would have been support for a rail bridge. See Appendix A - Plates 2; 3; 4.

In the area directly affected by the proposed Pelaw Main Bypass there are two remnants of the railway that would be impacted. They are:

- The rail bed this has been highly degraded most likely through use by 4WD vehicles and motor bikes. See Appendix A Plate 5.
- Remnant fence posts these show signs of deterioration through age and damage by bushfires. See Appendix A – Plate 6.

5 ASSESSMENT OF POTENTIAL IMPACT OF PROPOSED DEVELOPMENT

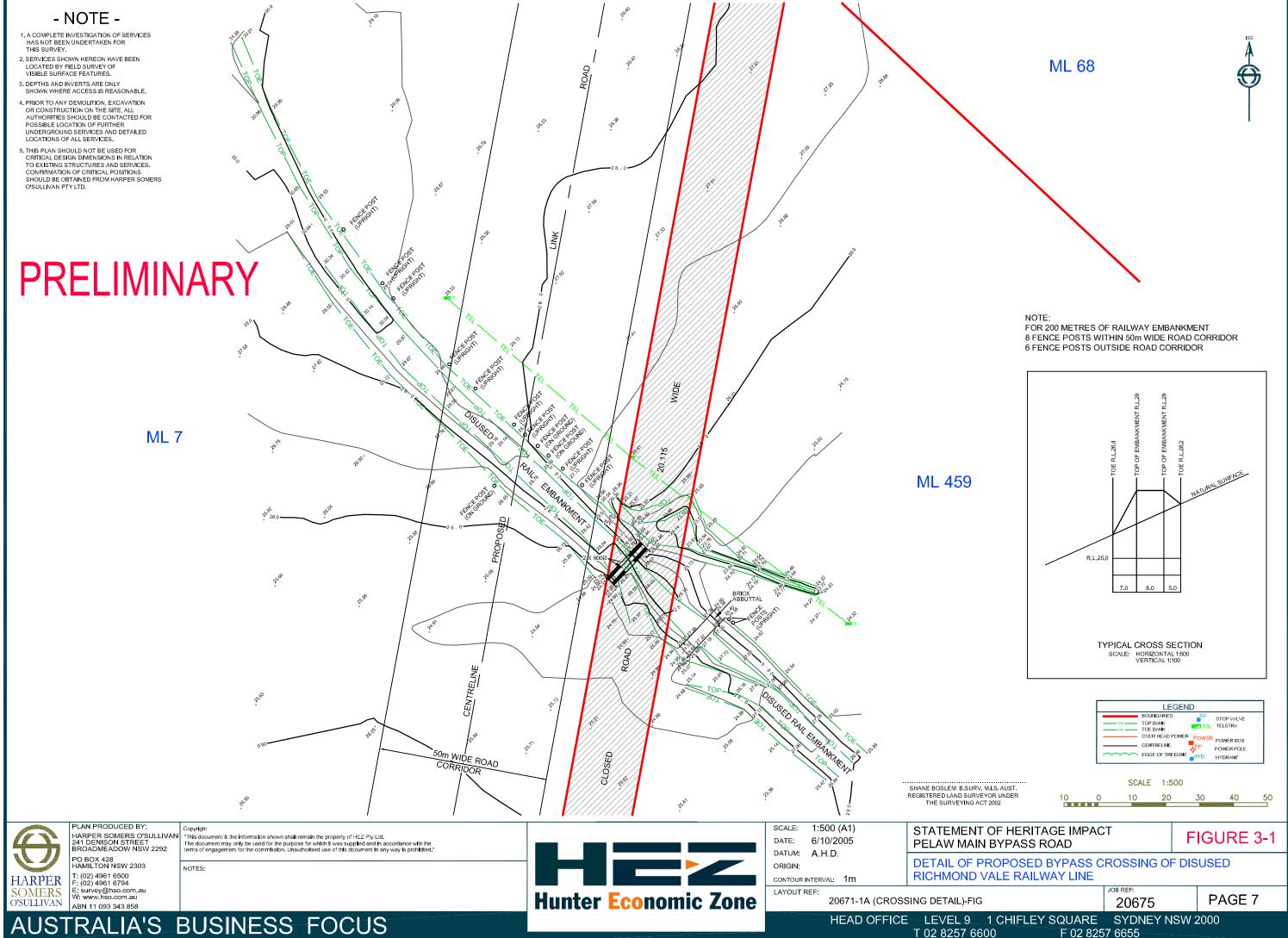
The section of the rail bed where the road will intersect is higher than the surrounding land, approximately 1 metre higher on the northern side and 2.6 metres higher on the southern side. Like the majority of the rail bed of the Pelaw Main Branch Line the surface is highly disturbed.

The development proposal will require excavation through the rail bed with earthworks by mechanical excavators. The width of the cut will be approximately fifty metres wide with the point of intersection of the road and rail bed at an angle of 60°/120°.

The road will surfaced with construction methods following current industry standard.

In addition to the transecting the rail bed it is anticipated approximately 8 fence posts from the original railway fencing will require removal.

See Figure 5-1 - Detail of Proposed Bypass Crossing of Disused Richmond Vale Railway Line



6 HERITAGE SIGNIFICANCE ASSESSMENT AND STATEMENT OF HERITAGE SIGNIFICANCE

6.1 Heritage Significance Assessment

SHR Criteria (a) - Historical

an item is important in the course or pattern of the cultural or natural history of NSW or the local area

The section of the Richmond Vale Railway bed meets the criteria as Richmond Vale Railway is part of the group of structures and works that comprised the holdings of J. & A. Brown. John Brown was one of the most significant and influential people in the development of the coal industry in the Hunter Valley and a leading NSW industrialist of the early to mid twentieth century. The development of a significant portion of the South Maitland Coalfields was largely the result of the efforts of John Brown.

Significance: Local Grading: Moderate

SHR Criteria (b) – Historical Significance - Associations

an item has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons in NSW or the local area

The section of the Richmond Vale Railway bed meets the criteria as J. & A. Brown was the largest coal producer and employer on the South Maitland Coalfields with villages such as Pelaw Main relying almost solely on the mines for work and income. The rail system was an integral link for the complex of mines and mine structures that comprised the holdings of J. & A. Brown transporting not only coal but the workers to and from their employment.

Significance: Local Grading: Moderate

SHR Criteria (c) – Aesthetic Significance

the importance of an item in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement within NSW or the local area

The section of the Richmond Vale Railway bed under consideration does not meet the criteria for *Aesthetic Significance* with regard its positive visual appeal has been more than temporarily degraded.

Significance: Local Grading: Little

SHR Criteria (d) – Social Significance

the existence of a strong or special association between an item and the social, cultural or spiritual essence of a particular community or cultural group within NSW or a local area

The section of the Richmond Vale Railway bed under consideration does not meet the criteria for *Social Significance* as other more evocative sections of the Railway, such as those within the Richmond Main Colliery precinct have been retained.

Significance: Local Grading: Little

SHR Criteria (e) – Research Potential

the potential of an item to provide information that will contribute to an understanding of the cultural or natural history of NSW or the local area. The section of the Richmond Vale Railway bed under consideration does not meet the criteria for *Research Potential* most significantly as the area has little or no archaeological or research potential.

Significance: Local Grading: Little

SHR Criteria (f) – Rarity

the quality of an item to possess uncommon, rare or endangered aspects of the cultural or natural history of NSW or the local area

The section of the Richmond Vale Railway under consideration does not meet the criteria for *Rarity* as only the rail bed, a common item, will be affected.

Significance: Local Grading: Little

SHR Criteria (g) – Representativeness

the demonstration by an item of the principal characteristics of a class of cultural or natural place or cultural or natural environment within NSW or local area

The section of the Richmond Vale Railway bed under consideration does not meet the criteria for *Representativeness* as the rail bed has lost the range of characteristics that define it.

Significance: Local Grading: Little

6.2 STATEMENT OF HERITAGE SIGNIFICANCE

The following is an extract from Cessnock City Council Heritage Inventory. Richmond Vale Railway. Reference Number 87

The complete Richmond Vale Railway system from Hexham to Pelaw Main represented one of the most important privately owned and developed railways in Australia. It is part of the network of private railways that served the South Maitland coalfields. It provides evidence of the history of the development of the coal mining industry in the Cessnock area. Its construction was a major undertaking by John Brown, pioneer of the coal industry in the Hunter region.

7 ASSESSMENT OF THE IMPACT ON HERITAGE SIGNIFICANCE

It is proposed that the Pelaw Main Bypass, a fifty metre wide two-lane rural road, traverse the now-abandoned Pelaw Main Branch of the Richmond Vale Railway. The proposed Pelaw Main Bypass would cut through the rail bed and require the removal of approximately 8 fence posts from the original railway fencing.

The Pelaw Main Bypass has been designed to avoid unnecessary impact on associated railway line structures such as cuttings, culverts, abutments, etc.

The proposed construction of the Pelaw Main Bypass will adversely impact on the Pelaw Main Branch Line and by traversing the defunct rail corridor break the continuity of the rail bed. In considering this impact it is noted that:

- the earlier removal of the rail line and associated transportable items has led to a degradation of the rail bed; and
- the Pelaw Main Branch Line is part of the Richmond Vale Railway network a portion of which has been retained and is currently maintained by the Richmond Vale Railway Museum.

It is considered that while the construction of the Pelaw Main Bypass will have an affect on the Pelaw Main Branch of the Richmond Vale Railway the line is already significantly degraded and that important features of the railway have been retained as part of the Richmond Vale Railway Museum site.

8 LEGISLATIVE REQUIREMENTS

Under the *NSW Heritage Act* 1977 there is a requirement for a Section 140 to be submitted for excavations that would disturb any archaeological artefact more than 50 years old.

Advice on the requirement for a Section 140 was sought from the NSW Heritage Office. Personal communication with Siobhan Lavelle, Senior Heritage Officer confirmed that as the rail bed is considered a 'work' and not a 'relic' under the Act that a section 140 would <u>not</u> be required.

9 RECOMMENDATIONS

The following recommendations are made for that section of the proposed Pelaw Main Bypass that impacts on the rail bed of the Richmond Main railway line:

- Impact on rail bed be minimised by restricting construction activity to the immediate area required for the Bypass road.
- Appropriate measures be taken to ensure that during construction of the roadway the culvert and abutment lying to the east of the construction area be cordoned off and protected. Construction workers should also be advised of the sensitivity of the cordoned area.
- Consideration is given to the reuse of old fence posts removed during construction to rehabilitate other sections of the Richmond Vale Railway.
- Consideration is given the possibility of that eh community or Council may consider conversion of the disused rail bed of the Richmond Vale Railway to a cycleway in the future. To facilitate this, if the road proposal is progressed, consideration should be given to ensuring that the descent from the rail bed to the road surface is of a suitable gradient for cyclists.

10 REFERENCES

- Andrews, B. R. 2004. Coal, Railways and Mines The story of the railways and collieries of J. & A. Brown. Iron Horse Press, Redfern.
- Delaney, J 1998. Greta Coal Measures Pelaw Main (available online) http://www.amol.org.au/newcastle/greta/pelaw.html
- Delaney, J 1998. Greta Coal Measures Richmond Main (available online http://www.amol.org.au/newcastle/greta/rmm.html

Eardley, G. 1972. Railways of J.A.Brown. Australian Railway Historical Association.

ENSR Australia Pty Ltd. Dec. 2007. Aboriginal Heritage Assessment - Precinct 1. Pelaw Main Bypass and Station Road Extension. Hunter Economic Zone. Unpublished draft to HEZ Nominees.

Mahon, M. 1998. Richmond Main Colliery. Unpub. Cardiff Heights.

Tonks, E. 1978. *The South Maitland Coalfields Field Study Notes*. NSW Department of Education.

APPENDIX A Site Photographs



Plate 1 - View of rail bed in the vicinity of the proposed road



Plate 2 - Drainage culvert in buff coloured brick.

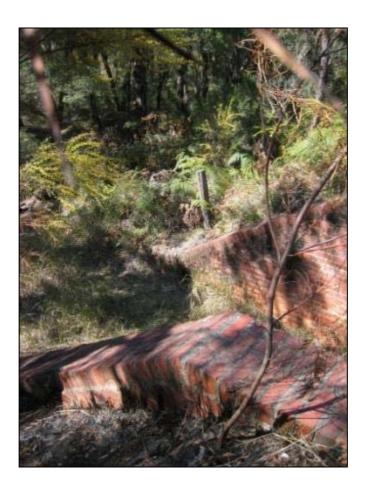


Plate 3 - Red brick abutment looking from rail bed.

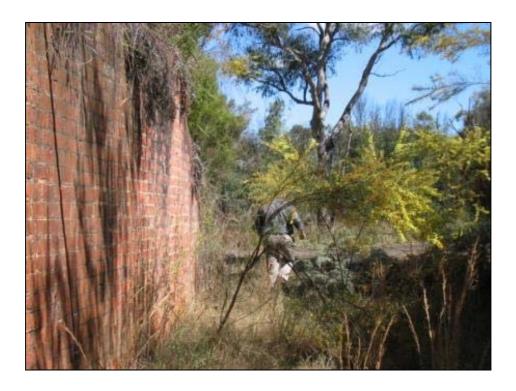


Plate 2 - Red brick abutment at ground level.



Plate 5 - Rail bed visible at waist height of person.



Plate 6 – Railway fence posts.