



Lower Hunter Estates Development Heritage Impact Assessment

Minmi - Link Road Estate

for Catylis and Coal & Allied

7 June 2011

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Approved by:	<u>Diana Neugeger</u>
Position:	Project Manager
Signed:	
Date:	7 June, 2011
Approved by:	<u>Steve Laister</u>
Position:	Partner
Signed:	
Date:	7 June, 2011

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Coal & Allied

Lower Hunter Lands
Development
Heritage Impact Assessment
Minmi Link Road &
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**Environmental Resources Management
Australia**

Building C, 33 Saunders Street
Pymont, NSW 2009
Telephone +61 2 8584 8888
Facsimile +61 2 8584 8800
www.erm.com

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EXECUTIVE SUMMARY

Environmental Resources Management Australia (ERM) was commissioned by Catylis Pty Ltd on behalf of Coal & Allied Industries Limited (Coal & Allied) to prepare a Heritage Impact Assessment (HIA) for lands at Minmi/Link Road (MLR), which are subject to proposed development under Part 3A of the NSW *Environmental Planning and Assessment Act* (EP&A Act) 1979. The HIA considers the Aboriginal heritage and archaeology, historical archaeology and built heritage of the lands, the potential impacts of the proposed development on these and identifies an impact mitigation strategy.

Coal & Allied owns approximately 4,078 hectares of land in the Lower Hunter Region located within the four local government areas of Newcastle, Cessnock, Lake Macquarie, and Wyong (located in Northern Central Coast region).

The overall aim of this HIA was to ascertain whether there are any heritage values within the Minmi/Link Road development site that may be affected by the proposed development, and, where required, provide relevant mitigation measures for impacts to these heritage values during any future development.

It was found that the Minmi/Link Road development site contains six Aboriginal sites, zones with high and moderate Aboriginal archaeological potential, several locally listed historical heritage items and several newly identified historic built and archaeological sites. All these heritage items are located within a cultural landscape that connects the Aboriginal inhabitation to the historic mining activities and to the communities who reside in and around Minmi today.

Urban planning for the Minmi/Link Road proposed development has taken into account community input for the conservation of heritage sites and mitigation from an early stage. Whilst the proposed development will result in some impact to assessed heritage values, the cultural landscape and some heritage sites within the Minmi/Link Road site, sensible, pragmatic and realistic concept planning has provided for the conservation and interpretation of the most important local heritage items and landscapes.

The overall value of Coal & Allied's conservation lands across this region is enhanced by their ability to aid long term heritage conservation and retention of cultural landscapes in perpetuity for future generations across the greater Lower Hunter region.

ABBREVIATIONS

AHIMS:	Aboriginal Heritage Information Management System
ADTOAC	Awabakal Descendants Traditional Owners Aboriginal Corporation
ALALC:	Awabakal Local Area Land Council
ATOAC	Awabakal Traditional Owners Aboriginal Corporation
AZP:	Archaeological Zoning Plan
Burra Charter:	Australian best heritage practice reference that provides guidance for the conservation and management of places of cultural significance (cultural heritage places).
Coal & Allied:	Coal & Allied Industries Ltd
DECCW:	Department of Environment, Climate Change and Water
DGEARs:	Director General Environmental Assessment Requirements
ERM:	Environmental Resources Management
ESD	Ecologically Sustainable Development
LHRS:	Lower Hunter Regional Strategy
MLALC:	Mindaribba Local Area Land Council
PAD:	Potential Archaeological Deposit
PoM	Plan of Management
SHI:	State Heritage Inventory
SHR:	State Heritage Register
SOHI:	Statement of Heritage Impact
RNE:	Register of the National Estate

INTRODUCTION

Environmental Resources Management Australia (ERM) was commissioned by Catylis Pty Ltd on behalf of Coal & Allied Industries Limited (Coal & Allied) to prepare a Heritage Impact Assessment (HIA) for lands at Minmi/Link Road, which are subject to proposed development under Part 3A of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act). The HIA considers the Aboriginal heritage and archaeology, historical archaeology and built heritage of the lands, the potential impacts of the proposed development on these and identifies a heritage conservation and an impact mitigation strategy.

This report builds upon a preliminary desktop review undertaken for the Minmi/Link Road site and Stockrington conservation lands (ERM 2007). It provides the results of a detailed site survey, comprehensive heritage values assessments, heritage impact analysis and Aboriginal consultation undertaken during August to December 2007, for the Minmi/Link Road site (see *Figures 1.1 and 1.2*).

1.1

PROJECT AND PLANNING CONTEXT

The entire Coal & Allied owned Minmi/Link Road and Stockrington sites are proposed to be listed as a 'State Significant Site' (SSS) in Schedule 3 of State Environmental Planning Policy (Major Development). A draft Schedule 3 listing will be prepared with the Concept Plan Application.

The Concept Plan for a residential subdivision of the Minmi/Link Road site will apply to the entire 537ha Minmi/Link Road and for conservation land transfer to the 1,544ha Stockrington site. The key parameters for the proposed development of the site are as follows:

- Dedication of 1,561ha of conservation land to the New South Wales Government (NSWG) that is identified in the Lower Hunter Regional Strategy and Lower Hunter Regional Conservation Plan, comprising 1,544ha of the Stockrington site and approximately 17ha of the Minmi/Link Road site.
- Maximum dwelling yield of 3,300 dwellings over 520ha.
- Indicative development staging. The number of lots and extent of staging for release areas will be largely dictated by the service infrastructure requirements as well as responding to market forces.
- The provision of associated infrastructure.

- Torrens title subdivision of the Minmi/Link Road site. The Torrens title subdivision of Coal & Allied land will enable the following:
 - To dissect land on either side of the F3 Freeway and to separate the development lot from the conservation land.
 - To enable the transfer of approximately 17ha of land at Minmi/Link Road to the North of the Minmi Rural Fire shed to NSWG for conservation purposes.

Approval was not sought under the Concept Plan for a specific lot or road layout. An indicative lot layout was provided indicating the maximum dwelling yield of 3,300 dwellings could be achieved on the site.

Similarly, approval was not sought under the Concept Plan for subdivision or construction of individual houses. However, the desired future character of the proposed concept plan will be included in Urban Design Guidelines. Urban Design Guidelines will be prepared to inform the Concept Plan in respect of urban form, built form, open space and landscape, access and movement and visual impact for the site.

It is proposed to dedicate land for conservation purposes as part of the Major Project Application via a Voluntary Planning Agreement (VPA) between Coal & Allied and the NSWG in accordance with s.93F of the EP&A Act.

The proposed Concept Plan and a Plan showing the proposed development areas and conservation areas is included in the PEA prepared by Urbis.

On 16 August 2010, the Director General Environmental Assessment Requirements (DGEARs) were issued for the site. The requirements for heritage are:

(1) Provide an archaeological assessment and heritage impact statement in accordance with the NSW Heritage Office Guidelines. The statement should assess the impacts of the application on the area and any significant elements of the site including indigenous heritage.

(2) Provide detail of how the development will incorporate and not negatively impact on site setting, landscapes, landmark elements, heritage items, views and vistas.

(3) Assess the impact of potential development on the historic setting and visual catchment of Minmi and demonstrate how proposed development is to be integrated with the existing development in Minmi.

(4) Provide an assessment in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, July 2005).

1.2

THE MINMI/LINK ROAD SITE AND STOCKRINGTON SITE

This report focuses on the proposed Minmi/Link Road development site. The Stockrington site is to be 100% conserved, and will not be affected by any impacts and therefore is not further considered here for impact assessment. The location of the study area is provided at *Figure 1.1* and the Minmi/Link Road site is shown in *Figure 1.2*.

Discussed within this document are the various precincts that make up the Minmi/Link Road site. These are the Minmi East, Minmi Expansion, Village Centre, Link Road North and Link Road South precincts, these are outlined in the concept plan shown in *Figure 7.1* and the Precinct Plan shown in *Figure 7.2*

1.3

METHODOLOGY

The overall aim of this assessment was to ascertain whether there are any heritage values associated with the Minmi/Link Road site, and whether these values would be affected by the proposed development. Relevant mitigation measures are provided to offset impacts to the identified heritage values during any future development. It was also an aim to 'place' more significant heritage items within open space areas, integrating them into future development for preservation, interpretation and appreciation. To achieve these aims the following objectives were established:

- to undertake a preliminary background desk based review of potential heritage items within and adjacent to the Minmi/Link Road site (c.f. ERM 2007);
- to identify and record all heritage objects and places within the Minmi/Link Road site through field survey;
- to consult with the local Aboriginal community regarding the specific Aboriginal social value of the land and the Aboriginal heritage recommendations;
- to assess the significance of all heritage objects, sites, relics and places within the Minmi/Link Road site in accordance with relevant NSW heritage guidelines;
- to assess the archaeological potential of the Minmi/Link Road site to contain further heritage sites;
- to assess the impact of the proposed development on heritage values through a Statement of Heritage Impact (SoHI);

- to prepare recommendations on the management and mitigation of potential impacts caused by development to any heritage values associated with the Minmi/Link Road site; and
- through consultation with urban designers, integrate certain heritage items into the urban planning, form and design.

ERM's approach to the preparation of the detailed site assessment was based on the following current best practice guidelines:

- NSW Heritage Office *Assessing Significance* Guideline;
- NSW Heritage Office *Statements of Heritage Impact* Guideline;
- DECCW *Draft Guideline for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*;
- The *Australia ICOMOS Burra Charter 1999* (Burra Charter);
- *Rio Tinto Cultural Heritage Management Guidelines for Australian Businesses*; and
- *Rio Tinto Cultural Heritage Management System Guidance for Australian Businesses*.

1.4 ***EXISTING HERITAGE STATUS***

The preliminary background heritage assessment (ERM 2007) included a search of the NSW DECCW Aboriginal Heritage Information Management System (AHIMS) database for all known Aboriginal heritage sites within and surrounding the Minmi/Link Road site. One Aboriginal site is recorded within the Minmi East Precinct of the Minmi/Link Road site. Three other sites are recorded along the southern and eastern boundaries of the Link Road South Precinct of the Minmi/Link Road site.

The preliminary background investigation included a search of the NSW Heritage Office State Heritage Register (SHR) and State Heritage Inventory (SHI), Newcastle Local Environmental Plan (LEP), Lake Macquarie Local Environmental Plan (LEP), the Register of the National Estate (RNE) and the National Trust Jubilee Register.

The current Minmi/Link Road site contains historic places with previously identified heritage values. These values primarily centre on the mining history of the Minmi Township.

It should also be noted that the Newcastle DCP (2005:5.6) contains provisions for the protection and integration of 'heritage' (5.6.1.g) and 'archaeology' (5.6.1.h). This HIA has been guided by the Newcastle DCP provisions for Minmi and provides appropriate management guidelines for the identified heritage items covered by the DCP. The Lake Macquarie DCP has guided this HIA for the Link Road Precincts.

1.5 *REPORT LIMITATIONS*

The field survey of the Minmi/Link Road site was limited within the town of Minmi by the equine influenza quarantine zone. The quarantine restricted access to paddocks around Minmi that contained horses. The study team did not enter these paddocks and thus were unable to attain a close inspection of some potential archaeological relics within the Back Creek and Minmi Creek areas. However, landscape analysis from the margins of these zones, coupled with extensive consultation with Minmi locals (and Douglas Partners) and analysis of their photographs has allowed the preparation of an assessment of historical heritage within the quarantined areas without the need for closer field inspection of these areas.

The survey of some portions of the Minmi/Link Road site was limited due to thick vegetation in the Link Road areas. However, it is considered that a sufficient representative sample of the Minmi/Link Road site was surveyed through inspection of tracks, vehicle paths and transmission lines to provide evidence of landforms, historical impacts and heritage sites and thus determine holistic archaeological potential across the Minmi/Link Road site.

1.6 *REPORT STRUCTURE*

This report is structured as follows:

Chapter 2 outlines the local community consultation undertaken for the Minmi/Link Road site;

Chapter 3 provides the environmental and archaeological context of the Minmi/Link Road site, including known and potential heritage sites within the Minmi/Link Road site;

Chapter 4 provides an overview of the history of the Minmi/Link Road site;

Chapter 5 outlines the methodology and results of the field survey;

Chapter 6 assesses the significance of heritage sites located in the Minmi/Link Road site;

Chapter 7 provides the proposed development Concept Plan;

Chapter 8 provides an overview of Environmental Sustainable Development and the conservation and impacts to heritage items in the project application area;

Chapter 9 outlines the legislative framework and statutory requirements;

Chapter 10 provides heritage impact mitigation and recommendations; and

Chapter 11 provides a brief conclusion outlining the findings of the HIA.

1.7

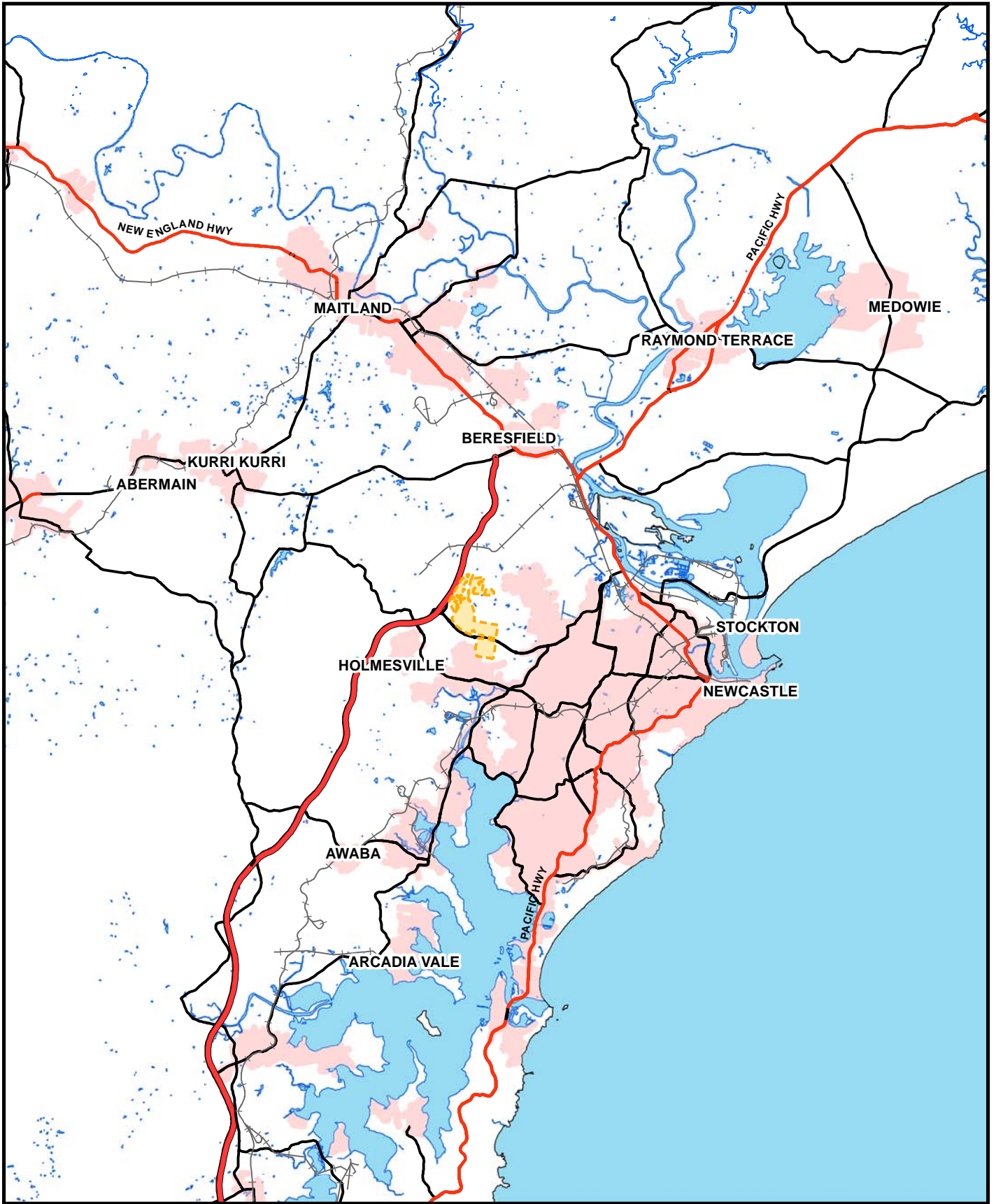
AUTHORSHIP

Dr Tim Owen (ERM Senior Archaeologist) and Louise Doherty (ERM Built Heritage Consultant) conducted the historical archaeological field survey. Louise Doherty and John Hoysted (ERM Principal Heritage Architect) conducted the built heritage field survey. Guadalupe Cincunegui (ERM Archaeologist) and Tim Owen conducted the Aboriginal heritage field survey. Tim, Guadalupe and Louise authored this report. GIS mapping was undertaken by James Shepherd (ERM Archaeologist and GIS Specialist). John Hoysted (ERM Principal Heritage Architect) undertook a technical review of this report. Dr Diana Neuweger (ERM Heritage Consultant) undertook the 2010 update of this report. Steve Laister (ERM Partner) undertook QA review

1.8

ACKNOWLEDGEMENTS

ERM wish to thank all Minmi residents and the Aboriginal stakeholders for their assistance and input into this report. We have been provided with significant historical resources and local knowledge relating to all heritage matters. Without the input of local knowledge this study would not have been possible.



Legend
 Minmi Link Road Site

Client:	Catylis
Project:	Lower Hunter Land Development - Minmi Link Road & Stockington
Drawing No:	0111477s_M_GIS001_R0.mxd
Date:	18/02/2010
Drawn by:	JF
Projection:	GDA 1994 MGA Zone 56
Scale:	Refer to Scale Bar

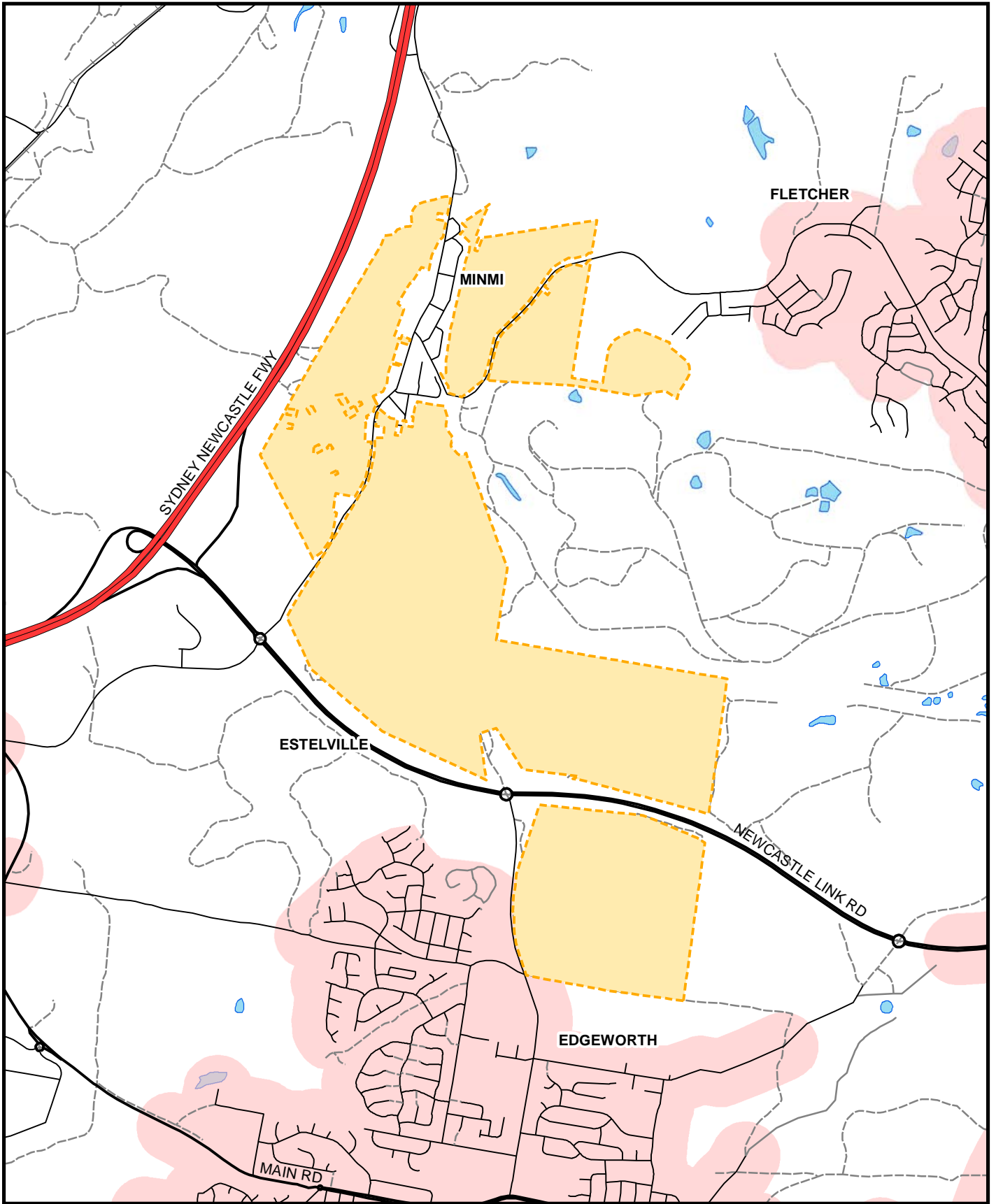


Maps and figures contained within this document may be based on third party data, may not be to scale and is intended for use as a guide only. ERM does not warrant the accuracy of any such maps or figures.

Figure 1.1
Minmi Link Road Site in its Regional Setting

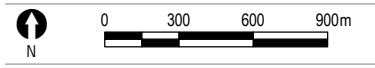
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Legend
 Minmi Link Road Site

Client:	Catylis
Project:	Lower Hunter Land Development - Minmi Link Road & Stockington
Drawing No:	0111477s_M_GIS002_R0.mxd
Date:	18/02/2010
Drawn by:	JF
Reviewed by:	DN
Projection:	GDA 1994 MGA Zone 56
Scale:	Refer to Scale Bar



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Figure 1.2
Minmi Link Road Site in its Local Setting

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This chapter provides details of community consultation undertaken for this project. This includes Aboriginal community consultation which has followed the DECCW's '*DECCW Draft Guideline for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*' (2004). Reference should also be made to *Annex A* for the Aboriginal consultation logs.

2.1 ABORIGINAL COMMUNITY CONSULTATION

2.1.1 Background

Aboriginal consultation is required for any assessment of Aboriginal heritage. The DECCW has released the '*Interim Community Consultation Requirements Guideline*' (2004) for Aboriginal consultation.

The interim guideline sets out a process for inviting Aboriginal groups to register interest as a party to consultation (including local press advertisement), seeking responses on proposed assessment methodology, and seeking comment on proposed assessments and recommendations. The interim guideline requires proponents to allow 10 working days for Aboriginal groups to respond to invitations to register, and then 21 days for registered Aboriginal parties to respond to a proposed assessment methodology. An additional 10 days are allowed for groups to review a draft report and comment on the results and management recommendations made.

The Aboriginal community consultation for the project has been carried out in light of the DECCW guideline, taking into account the Part 3A requirements of the project. The Director General's Environmental Assessment Requirements (DGEARs) for the proposed development state that the DECCW's guidelines should be adhered to and the consultation with the Local Aboriginal Land Council should be undertaken.

2.1.2 Aboriginal Groups Consulted

Letters requesting advice on Aboriginal organisations to consult, and any known heritage issues to be taken into consideration in the area, were emailed on 28 June 2007 to:

- the NSW DECCW;
- Registrar, *Aboriginal Land Rights Act 1983* (NSW);
- Lake Macquarie City Council (LMCC); and
- Awabakal Local Aboriginal Land Council (ALALC).

In addition, a number of other Aboriginal stakeholder groups were already known by ERM for this area, and were also contacted on 22 October 2007:

- Awabakal Traditional Owners Aboriginal Corporation (ATOAC); and
- Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC).

A local press advertisement requesting Aboriginal individuals and groups interested in being consulted on this project to write to ERM was run in the *Leader Newspaper Newcastle* on 1 November 2007. No responses to this advertisement were received.

DECCW identified three Aboriginal parties to be contacted:

- Awabakal Local Aboriginal Land Council (ALALC).
- Awabakal Traditional Owners Aboriginal Corporation (ATOAC); and
- Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC).

These parties were therefore contacted by ERM about whether they wished to be consulted on this project. In addition, each party was asked to identify any further individuals or groups who would be interested in being consulted regarding this project.

During their community consultation process Coal & Allied identified John Thorpe as a potential Aboriginal stakeholder. Consultation was undertaken with Mr. Thorpe on the proposed fieldwork and this report. It should be noted that given his role in the ALALC, he was asked by Ron Gordon (Chairperson ALALC), to represent the Local Aboriginal Land Council on the survey. He participated in the survey within this role and the later Coal & Allied meeting as a Traditional Owner (Kukuyngal Barritjapa).

All registered parties were provided with a proposed assessment methodology. Verbal responses to this methodology were received from all parties, and each indicated their agreement with this methodology.

Fieldwork for the assessment was undertaken from 29 October to 2 November 2007 and included a total of five local Aboriginal community representatives: Kerrie Brauer and Jonathan Hawken from ATOAC; Shane Frost and James Frost from ADTOAC; and John Thorpe (ALALC). These representatives were invited to comment on Aboriginal heritage issues in the field.

No further Aboriginal parties have so far been identified through the consultation process. Further details of the Aboriginal consultation undertaken for the Minmi/Link Road site are provided in *Annex A*.

2.1.3

Requirements for Future Aboriginal Consultation

It is recommended that copies of the draft final report are sent to the registered Aboriginal parties, so that they may comment on its content and recommendations. This should be undertaken during the public exhibition of the EA documents.

Any future work relating to the Aboriginal archaeological mitigation, as stipulated in this report, should include consultation with the relevant Aboriginal stakeholders.

2.2

HISTORICAL HERITAGE CONSULTATION

Historical heritage consultation occurred prior to the field survey, during the field survey, the meeting and post survey. ERM made initial contact with Mrs Kerry Hinds (Minmi resident) who was then able to assist our field investigations at Minmi through her connections to the local Progress Association. Mrs. Hinds was able to provide personal histories to many of the properties, introductions to other local residents, access to the local historical photograph archive and written documents and newspaper reports. Further community consultation was undertaken with Bob Skelton (another long term Minmi resident) who was able to provide anecdotal evidence for the history of many of the heritage sites within the Minmi town.

Further community consultation has been undertaken, especially during the meeting process (see Meeting outputs documents for details). Community consultation during the meeting included discussion of local history, sites (known and unknown to the community), assessment of photographs of Minmi and further site inspections to discuss various landscape elements.

The consultation with the community has been used to determine and assess the social values associated with the Minmi/Link Road site.

3 ENVIRONMENTAL AND ABORIGINAL ARCHAEOLOGICAL CONTEXT

3.1 ENVIRONMENTAL CONTEXT

This section provides a basic environmental overview of the Minmi/Link Road site. These descriptions have been linked to the potential heritage values.

3.1.1 *Physical Description*

The Minmi/Link Road site extends to the south and south east of the township of Minmi into an area of dense bushland. For the purpose of this report the overall Minmi/Link Road site can be divided into two zones – Minmi precincts (relating directly to the Minmi town) and Link Road precincts (relating to all other areas).

It can be seen from documentary and physical evidence that Minmi town and the surrounding area have been extensively cleared in the past and developed for settlement and by industry associated with coal mining. A review of historical aerial photographs showing this activity from the 1950s is presented in *Annex C*.

The Link Road precincts are to the north and south of Link Road and cover an area of dense vegetation, access tracks, and transmission line easements. The relatively easy access to these areas through easements and roads has led to rubbish dumping. Parts of the precincts have been impacted by historical activities associated with coal mining. The areas proposed for new development are further described in *Section 7*.

3.1.2 *Geology*

The Narrabeen geological Group is transitional between the Permian and Triassic systems. It consists predominantly of the Munmorah Conglomerate, which is composed of quartz, lithic sandstones, conglomerates, siltstones and reddish shales (Umwelt 2002:4).

The geology of the Minmi/Link Road site can be linked to the creation of many heritage sites, either directly or indirectly. For instance, Aboriginal grinding grooves have been recorded on fine grained areas of Narrabeen sandstone, whilst the underlying coal measures have been extensively mined during the historical period.

3.1.3 *Topography and Landforms*

The Minmi/Link Road site is located in the area that marks the transition between the gently hilly landscape of the Central Lowlands of the Hunter Valley and the coastal landscape of Newcastle and Lake Macquarie (*Figure 1.1*).

These landforms and topography mean that the most likely Aboriginal site types to be found in this area are stone artefact sites/scatters and grinding grooves. As the Minmi/Link Road site is situated between very hilly country (to the south, east and west) and flat swampy country (to the north), it represents a marginal transition landscape, where abundant ecotones (environmental 'focus' or 'niches' in the landscape) exist. It is suggested that ridges within the Minmi/Link Road site were used to move around the local area (Aboriginal representatives *pers comm.* 2007).

It is likely that the historical town of Minmi was positioned in an area that would have been intensively inhabited by Aboriginal people. However, all evidence of Aboriginal sites in Minmi itself has been removed by the historical activities relating to mining and the town. Minmi's positioning, at the south end of Hexham Swamp, abutting the hilly country, represents selection of the 'best' location for a village in the local region.

This transition between coastal and hilly country means that coal deposits vary greatly in depth; this in turn influenced the methods used to retrieve coal and therefore historical and Aboriginal sites present across the Minmi/Link Road site.

3.1.4 *Drainage*

The availability of water has significant implications for the range of resources available and the suitability of the area for Aboriginal and historic settlement and occupation.

The town of Minmi has two second order creeks (Strahler model) - Minmi Creek runs through the western area of Minmi town and Back Creek runs through the eastern area of Minmi town. Both drain into Hexham Swamp. In addition there are several rivulets (first order creeks) also running through the western portion of the Minmi precincts, which are offshoots of these creeks.

A number of minor creek lines (first and small second order) occur in the areas to the north and south of the Link Road precincts (this includes the source of Back Creek).

In terms of Aboriginal sites it has been asserted (ERM 2007) that Aboriginal stone artefacts and grinding groove sites may be associated with the waterways and proximity to the swamp (see discussion below). However the Aboriginal archaeological potential of the Minmi/Link Road site needs to be correlated against the level of historical disturbance (i.e. open cut mining). This assessment has been refined through this report and heritage assessment.

3.1.5 *Flora and Fauna*

Surveys undertaken by RPS (2006 and 2007) in the project area found that the vegetation occurring at the Minmi/Link Road site generally comprised the following species:

- Coastal Foothills Spotted Gum – Ironbark Forest; and
- Alluvial Tall Moist Forest.

The Harper Somers O’Sullivan report also notes a range of fauna species present or likely to be present in the Minmi/Link Road site, which are predominantly comprised of birds, small mammals, frogs and reptiles. Reference should be made to the updated RPS study (2010) (needs updating) for detailed ecological information.

These vegetation communities (where older than 200 years) contain the potential for Aboriginal scarred and carved trees to occur in the Link Road Precincts of the Minmi/Link Road site.

3.2 *ABORIGINAL HERITAGE CONTEXT*

3.2.1 *Regional Aboriginal Heritage*

Prior to European settlement the Pambalong people inhabited the Hexham Swamp region. They were thought to be a sub-group of the Awabakal people of Lake Macquarie. The natural resources of Hexham Swamp were extensively utilised by the Pambalong people and later by settlers in the Hexham and Minmi district. The Pambalong territory extended from the south bank of the Hunter River west to Tarro and South to Lake Macquarie (Effenberger & Baker 1996:8-9).

3.2.2

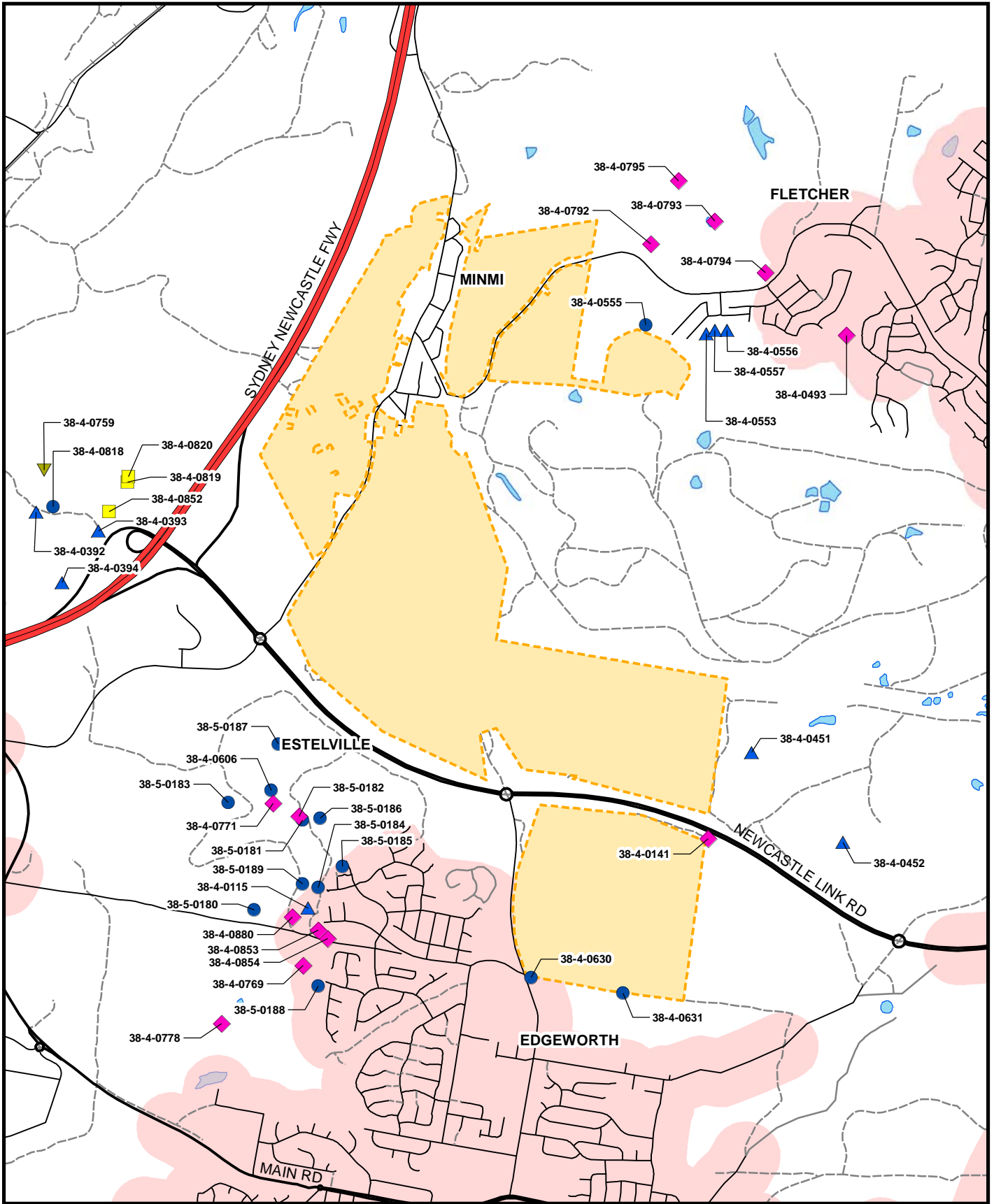
Literature Review

A literature review of the DECCW library was made to understand archaeological sites in the broader region. This review was regionally targeted to studies undertaken close to the Minmi/Link Road site. Key word searches were used to find reports for the locality in the AHIMS Database. *Table 3.1* lists reports that were briefly reviewed and the locality with which they were concerned.

The general patterning of Aboriginal sites in the local area shows that stone artefacts are highly likely to be found in close proximity to Hexham Swamp and undisturbed water sources.

Table 3.1 *Literature Review of Relevant Archaeological Reports from the AHIMS Database*

Author of Report	Distance from Minmi/Link Road site	Type of development/ Report	Locality	Sites Recorded
Effenberger & Baker 1996	On F3 Freeway, approx 1km north of the Minmi/Link Road site	Aboriginal archaeological survey, assessment & test excavation	Two sites along the F3 Freeway – Woods Gully & Black Hill Road	66 test pits yielded extremely high density of stone artefacts, particularly at Woods Gully. Majority were silcrete, with some Nobbys Tuff, and small amounts of quartz and quartzite.
Kuskie & Kamminga 2000	On F3 Freeway, approx 1km north of the Minmi/Link Road site	Salvage Report for Sites recorded by Effenberger & Baker for F3 Freeway construction	Two sites along the F3 Freeway – Woods Gully & Black Hill Road	As above
Kuskie 2006	Approx. 1.5km north east of the Minmi/Link Road site, extending north for several km	Aboriginal heritage assessment for Abel Underground Mine	Two areas on north & south (2750 hectares) of John Renshaw Drive	38 sites comprising stone artefact scatters, grinding groove sites and a scarred tree. 21 of these occur in the southern area, none of which occur in the study area. Only targeted field survey undertaken.
ERM Mitchell McCotter 1997	Forsythe Parade Woods Gully approx. 1.5km north east of Minmi/Link Road site	Application for preliminary research permit for residential development	Lot 422 DP 791776 No 21A Forsythe Parade Black Hill	Project design for sample excavations due to high likelihood of subsurface deposits.
ERM Mitchell McCotter 1996	Forsythe Parade Woods Gully approx. 1.5km north east of Minmi/Link Road site	Flora, Fauna and Archaeology Survey for residential development	Lot 422 DP 791776 No 21A Forsythe Parade Black Hill	One artefact scatter located on the surface comprising yellow mudstone flakes, red mudstone flakes, grey silcrete flake and core and a piece of bone.
Silcox & Ruig 1995	Approx. 2km north east Minmi/Link Road site	Test Excavations	13ha on western edge of Hexham Swamp, adjacent to Ebenezer Park	218 test pits yielded 663 stone artefacts, the majority being indurated mudstone and silcrete, with small amounts of quartz, chert and quartzite. Artefacts included backed blades, flakes and cores.
Umwelt 2002	Approx. 5km south west of Minmi/Link Road site	Aboriginal archaeological assessment for proposed Tasman Mine Surface Facilities	8ha 2km east of Mt Sugarloaf	No sites located
CH2M Hill Australia (1997)	Approx 5km east of Minmi/Link Road site	Aboriginal archaeological survey of the Maryland to Shortland Rising Main, Hexham Swamp	Rising main and pipeline alignment	No sites located



- Legend**
- Minmi Link Road Site
 - Axe Grinding Groove
 - Isolated Find
 - Stone Arrangement
 - Stone Artefact Scatter
 - Stone Artefact Scatter, PAD

Client:	Catylis
Project:	Lower Hunter Land Development - Minmi Link Road & Stockington
Drawing No:	0111477s_M_GIS003_R0.mxd
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Figure 3.1
AHIMS Sites within the Locality of the Minmi Link Road Site

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3.2.3

Local Aboriginal Heritage

The AHIMS Database search indicated several sites of isolated Aboriginal artefacts and artefact scatters (see *Figure 3.1*). These include an isolated find of a single red silcrete flake in the Minmi/Link Road site to the east of the township and on the northern side of Minmi Road (38-4-0555). Three other sites are recorded along the southern and eastern boundaries of the Minmi/Link Road site. These include a stone artefact scatter (38-4-0141) disturbed by vehicular use of an unsealed track; and an isolated find of a silicified tuff (38-4-0630). Also several isolated finds in a disturbed location in a transmission line easement; and a silcrete and quartz flake (38-4-0631) also in a vehicle disturbed location.

The other recorded sites within the vicinity are situated outside the boundary of the Minmi/Link Road site. These comprise isolated artefact finds, artefact scatters, stone arrangements and axe grinding groove sites. It is noted that four of the axe grinding groove sites are located in close proximity to the Minmi/Link Road site boundaries – three are located near the isolated find within the Minmi/Link Road site near Minmi East Precinct and one is located near the eastern boundary of the Link Road North Precinct.

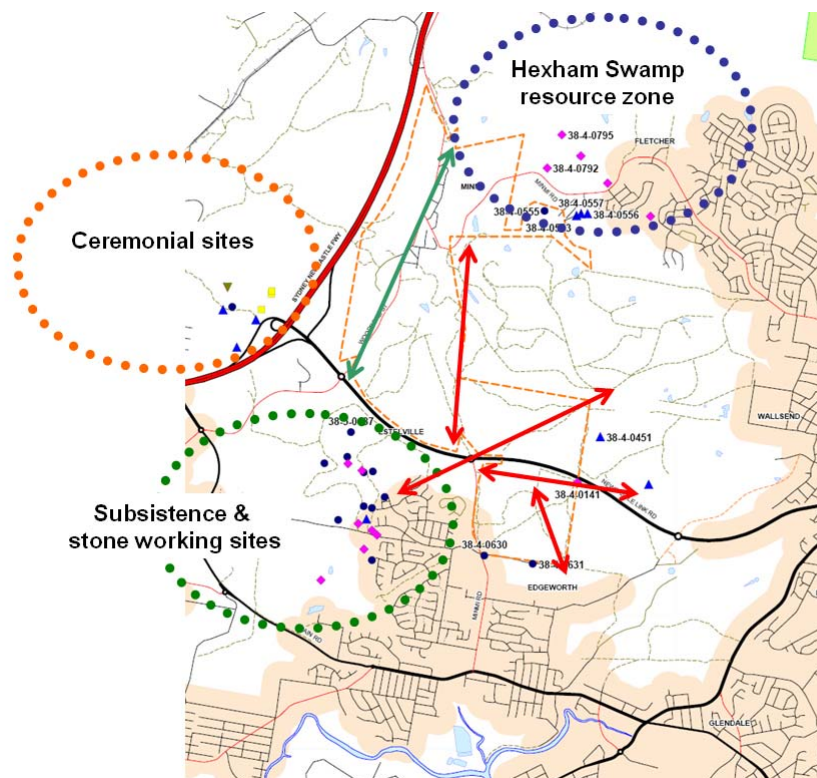


Figure 3.2 *Aboriginal landscape use in the MLR area (based upon AHIMS results and consultation with local Aboriginal representatives). Red arrows indicate routes of movement through the landscape via ridge lines, green arrow indicates movement through the Minmi 'valley'.*

Interpretation of the general Aboriginal site patterning (*Figure 3.2*) suggests that Hexham Swamp provided a focus for Holocene Aboriginal subsistence – it was a resource dense zone. It is known that margins of this swamp feature a high density of Aboriginal sites (AHIMS results and *pers comm.* 2007 all Aboriginal representatives) that have resulted from long term access to the many food sources available. Site patterning provides evidence for some ceremonial sites to the west of the Minmi/Link Road site (AHIMS and Rick Griffiths [Mindaribba LALC] *pers comm.* 2007), which have an association with local stone artefact sites. A dense scatter of sites is also present to the south west, where numerous artefact sites suggest a zone where stone artefact manufacture occurred.

This patterning suggests that whilst the Hexham Swamp provided a subsistence focus, the Aboriginal people were travelling through the hills to the south, where they undertook other activities. Minmi was probably a preferred route – because of the lower topography, although the ridge lines would also have been used too.

3.2.4 *Land Use and Disturbance*

The land around the township of Minmi has been extensively disturbed by mining operations, clearance for settlement, construction of railway networks and roads. The lands in the Minmi precincts that extend eastwards towards Fletcher are densely vegetated in parts, with the understorey cleared around maintenance tracks. The lands within the Link Road precincts are densely vegetated and less disturbed; however there is a wide network of tracks, clearance for transmission line easements and expansion of the Newcastle Link Road to the south.

Annex C contains an overview of historical mining impacts on the Minmi/Link Road site.

3.2.5 *Predictive Aboriginal Heritage Statement*

The environmental context outlined above has a number of implications for archaeology in the Minmi/Link Road site. Firstly, the extent of disturbance in the vicinity of Minmi Creek and Back Creek is such that there is very limited potential for Aboriginal objects to occur within these areas.

Secondly, the surveys and recordings undertaken in the local area indicate that there is some likelihood of artefacts occurring in the Link Road portion of the Minmi/Link Road site, particularly in the vicinity of the creek lines and along the ridge lines. Scarred or carved trees may occur in the less disturbed parts of the Minmi/Link Road site due to the maturity of some of the trees. In addition, given the number of axe grinding grooves recorded in the local area it is also possible that these sites may occur in the Minmi/Link Road site along creek lines.

Stone arrangements and ceremonial grounds (including bora rings) are not anticipated to occur within the Minmi/Link Road site (these appear to be connected with land to the west of the Minmi/Link Road site). A lack of stone outcrops within the Minmi/Link Road site indicates that stone quarry sites, shelter sites and rock art/engravings will also not occur.

The level of disturbance associated with the impact of coal mining and timber industries in the area (including settlement, clearing and mining activity) is extremely high and has affected the archaeological integrity of the area as a whole, and Minmi in particular. This means that the likelihood of intact Aboriginal sites occurring in these areas is considered very low.

A summary of these archaeological site types, their key characteristics and their likelihood of occurrence (most likely listed first) is presented in *Table 3.2* below.

Table 3.2 *Aboriginal Archaeological Site Types (in order of likely occurrence)*

Site types	Definition
Open sites [stone artefact scatters]	Open sites, also known as open campsites, are usually indicated by surface scatters of stone artefacts and sometimes fire blackened stones and charcoal. Where such sites are buried by sediment they may not be noticeable unless exposed by erosion or disturbed by modern activities. The term campsite is used as a convenient label which, in the case of open sites, does not necessarily imply that Aboriginal people actually camped on the sites; rather it indicates only that some type of activity was carried out there.
Scarred trees	Scarred trees bear the marks of bark and wood removal for utilisation as canoes, shields, boomerangs or containers. It is commonly very difficult to confidently distinguish between Aboriginal scars and natural scars or those made by Europeans.
Grinding grooves	Grooves resulting from the grinding of stone axes or other implements are found on flat areas of suitable sandstone. They are often located near waterholes or creek beds as water is necessary in the sharpening process. In areas where suitable outcrops of rock were not available, transportable pieces of sandstone were used.
Shelter sites	Sandstone shelters and overhangs were used by Aboriginal people to provide campsites sheltered from the rain and sun. The deposits in such sites are commonly very important because they often contain clearly stratified material in a good state of preservation.
Burial sites	Burials may be of isolated individuals, or they may form complex burial grounds.
Quarries	These are areas where stone was obtained for flaked artefacts or ground-edge artefacts, or where ochre was obtained for rock paintings, body decoration or decorating wooden artefacts.

Site types	Definition
Middens	Middens consist of accumulations of shell that represent the exploitation and consumption of shellfish by Aboriginal people. Shell species may be marine, estuarine or freshwater depending on the environmental context and middens may also include other faunal remains, stone artefacts, hearths and charcoal.
Art sites	Aboriginal paintings, drawings and stencils are commonly to be found where suitable surfaces occur in sandstone shelters and overhangs. These sites are often referred to as rock shelters with painted art. Rock engravings, carvings or peckings are also to be found on sandstone surfaces both in the open and in shelters. These are referred to as rock engraving sites.
Stone arrangements, carved trees and ceremonial grounds	These site types are often interrelated. Stone arrangements range from simple cairns or piles of rocks to more elaborate arrangements; patterns of stone laid out to form circles and other designs, or standing slabs of rock held upright by stones around the base. Carved trees are trees with intricate geometric or linear patterns or representations of animals carved into their trunks. Ceremonial grounds and graves were often marked by such trees. Bora grounds are a common type of ceremonial site and they are generally associated with initiation ceremonies. They comprise two circles, generally edged with low banks of earth but sometimes of stone, a short distance apart and connected by a path.

4 HISTORIC HERITAGE CONTEXT

4.1 PREAMBLE

This chapter is divided into two sections. The first provides a history of Minmi; the second concentrates on the existing heritage listings for items with known heritage value within and adjacent to the Minmi/Link Road site. These two sections have been used to underpin the Minmi/Link Road site inspection, consequential heritage assessment and the recommended mitigation measures.

Annexes C, D and E accompany this historical background and the consequential heritage survey and assessment. *Annex C* reviews historical aerial photographs of Minmi and its surrounds from the 1950s onwards. Details of historically significant people associated with the development of Minmi are provided in *Annex D*. Annex E presents the results of research into the history and archaeological potential of Minmi Coke ovens.

4.2 MINMI\LINK ROAD - A HISTORY

4.2.1 *Early Regional Settlement*

The following summary history of the region is drawn from the 1996-97 'Newcastle City Council City Wide Heritage Study' prepared by Suters Architects and the publication *Minmi: The place of the Giant Lily*, prepared by the Newcastle and Hunter District Historical Society (NHDHS) in 1991. It has been supplemented by consultation with local Minmi residents. Further details relating to the technical side of the mining infrastructure at Minmi is presented in Douglas Partners (2007:7-22).

The first European settlement of the area was for agricultural purposes. Later settlement and development of the greater Newcastle area is closely associated with the rich coal seams in the Hunter region. Newcastle was settled in the early years of the 19th century, and the extraction of coal, lime, timber and salt using convict labour ensued over the next twenty years in the region.

The railway network was established in response to the need for reliable transportation of coal in the 1850s, with the construction of what was to become the Great Northern Railway commencing in 1854. At the same time, private railways were constructed to transport coal to the port in Newcastle from recently established mines in Minmi, Wallsend, Lambton and Waratah. This included the Richmond Vale Railway which was commenced in 1857 by John Eales to transport coal between his mine at Minmi to a coal loading wharf in Hexham.

With this improvement in transportation several villages in the hinterland began to grow and would later become suburbs to the city of Newcastle. Many of these towns and villages were closely connected to the development of the coal industry.

4.2.2 *The Town Of Minmi*

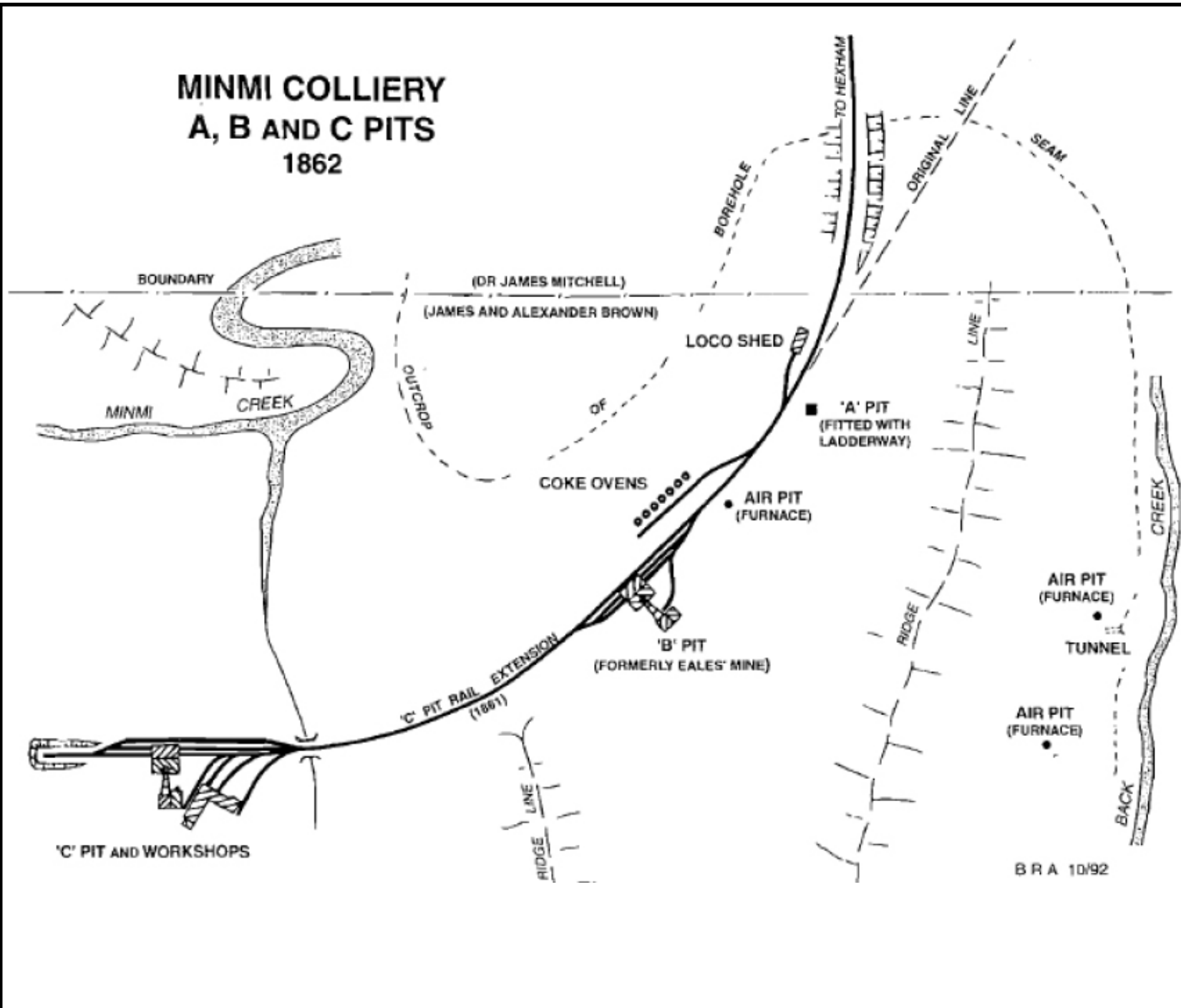
The name *Minmi* is taken from an Aboriginal word for the Giant Gynea Lily which flourished in the swamplands (Effenberger & Baker 1996: 9).

The area of Minmi was first settled as a cattle station in the 1830s (Suters 1996-97: 2/18) and the first recorded discovery of coal in Minmi was made by George Styles in 1835 (it is now known that the Minmi/Link Road site is underlain by two coal seams – the Young Wallsend and the Borehole seams). Five years later there were several mines operating in the area which were run by either William Roberts or the Turner Brothers, all of whom were recorded as being active in the Minmi mining industry at that time.

In June 1853 John Eales was granted 316 acres of land in Minmi. Eales with his partner John Christian were keen to mine their land and commissioned brothers, James and Alexander Brown to sink a shaft. Three pits were commenced (A, B and C – see *Figure 4.1*), which worked the Borehole seam by board and pillar workings. The following year an Act of Parliament allowed the construction of a railway line between Minmi and Hexham, which opened in 1856, and Eales gained permission to build a branch line to his colliery – located in present day Railway Street (*Figure 4.1*).

Realising the potential of the rich coal seam and the newly introduced transport system, J & A Brown purchased the mineral rights for 6000 acres adjoining Eales land in 1857. J & A Brown's mine was known as Duckenfield Merthyr or Duckenfield No 1. The same year the Browns constructed the Duckenfield branch line which connected Eales' Line at Orange Garden Points to the Minmi Hexham Railway line (see *Figure 4.2*).

MINMI COLLIERY A, B AND C PITS 1862



Suffix	Revisions	Date	Init
R0	Preliminary Issue	26-01-08	JS

Figure 4.1
Minmi 1862
Layout of Pits A, B and C

Client: Catylis
Project: Minmi/Link Road

Drawing No: 0073083s_GIS11	Suffix No: R0
Date: 26/03/2008	Drawing size: A4
Drawn by: JS	Reviewed by: TO
Source: Andrews, 2004	
Scale: Not to Scale	



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Building C, 33 Saunders St, Pyrmont, NSW 2009
Telephone +61 2 8584 8888



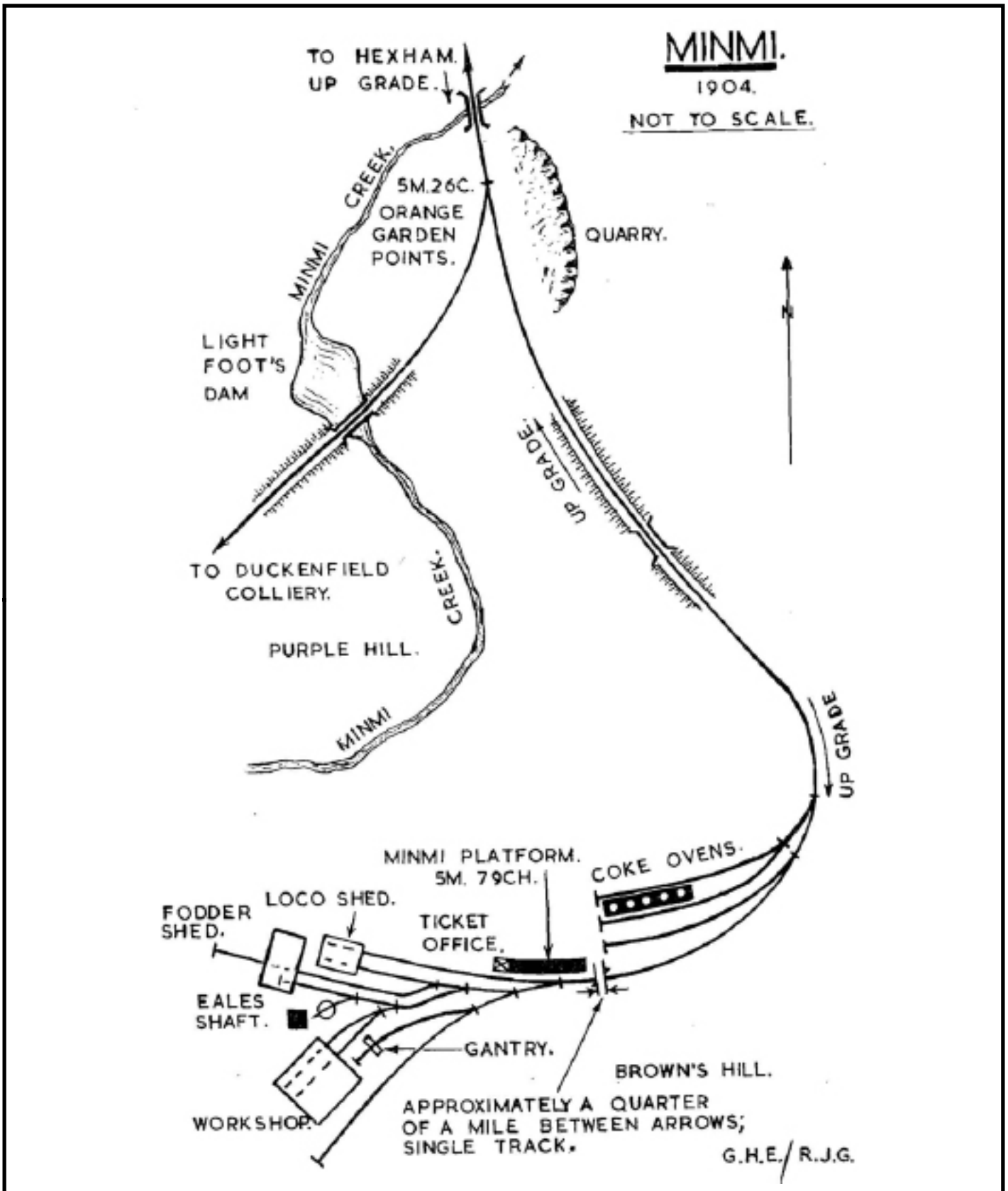


Figure 4.2

Minmi 1905
Layout of the Railway lines and the line to Duckenfield.

Client:	Catylis
Project:	Minmi/Link Road
Drawing No:	0073083s_GIS11
Date:	26/03/2008
Drawn by:	JS
Source:	Earley
Scale:	Not to Scale
Suffix No:	R0
Drawing size:	A4
Reviewed by:	TO

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Despite the money and effort Eales and his partner Christian had put into the development of the mine and associated infrastructure their venture failed in 1859 because of the financial constraints, industrial disputes and a depressed coal market. They were further impeded when their shaft flooded which ultimately forced them to sell to J & A Brown. The Browns converted the shaft to a pumping pit for Duckenfield No1 and used the railways, siding and workshop buildings for workshop facilities (NHDHS 1991:1-3 and see *Figure 4.3*).



Figure 4.3 The Minmi Workshop complex, near Pit C. Source: Personal collection of M. Hinds.

With plenty of mining work available J & A Brown needed to attract workers to the still remote area of Minmi. They did this by renting homes to workers for a shilling a week. Other people who came to Minmi looking for work outside of the mines found that there was very little to offer and that the Browns provided the primary source of employment. In effect, the Browns owned the town and Minmi did not have a town council nor was it presided over by a Local Council making it ineligible for government funding. As a result improvements to the town and the provision of necessary infrastructure were funded by the Browns or by the fund raising efforts of the Minmi community (NHDHS 1991:11).

In 1861, the Browns were still prospering and established a Coke Works at Minmi. This would have enabled them to process their raw coal into fuel by driving off the smoke producing constituents of the coal rendering the coal suitable for use in stoves and furnaces (www.wikipedia.org; see *Annex E* for more details on the Coke works). At peak operation there were 32 coke ovens but by 1898 J & A Brown had closed the Coke Works.

The Browns sold the Colliery to the Newcastle Melbourne Mining Company (NMM.Co) in 1863. The tenure of the NMM.Co was short lived, the mine flooded shortly after the sale and caused the company to be declared bankrupt by the Victorian Supreme Court. The mine was returned to the Browns to liquidate the debt.

The flooding and closure of the mine caused extreme hardship for the mining families of Minmi who by Christmas of 1864 had faced almost two years without pay. The miners had tried to take legal action against the NMM.Co but as a Victorian based company they, at the time, could not be held accountable to NSW Laws. After the mine had been returned to the Browns the miners were able to take successful action against the Browns and received their owed wages (NHDHS 1991: 3-4).

The late 1870s saw the senior Brown's change ownership and operation of the mine. Alexander died in 1877 and shortly thereafter James had a stroke. He transferred the entire business to his three sons John, William and Stephen. In 1882 John became General Manager of the firm (NHDHS 1991: 3-4) and many changes to Minmi occurred under his patronage.

Essential services for a growing town, such as the police station, were introduced in 1879. A two man police station was constructed and the initial location of the police station is unknown. However, it is not thought to be in the same location as the present day Court House as when that building had been finalised in 1893 the *Newcastle Morning Herald* Stated that "Senior Constable Rodgers and family have recently moved into their new residence." (January 31). This is further supported in the same article stating that "there is no road to the station and the constable asserts that at night time it is very dangerous to venture off the Minmi Road." Later newspaper articles allude to the fact that the many of the improvement works to this site, such as drainage, were carried out by the Policemen.

By 1895 the town of Minmi was booming again. The local publication the *Wallsend and Plattsburg Sun* remarked that as well as English, Welsh, Scots and Irish there were also Swedes, Norwegians, French, German, Italian and Portuguese "but no Chinese" (April 6th 1895)¹.

¹ The statement of 'no Chinese' is significant because it is known that Minmi contained a Chinese market garden (see *Section 5.7.5*). The date for commencement of market gardening at Minmi is not known, although it is believed that the last Chinese market gardeners had left Minmi by the 1930s. This statement could suggest a number of different things: that there had been Chinese, but they had left; that Chinese market gardeners were being encouraged to establish gardens at Minmi; or that the Chinese market gardens were present, but the Chinese did not live at Minmi. Either way this statement is too ambiguous to draw a valid conclusion with regard to the commencement of market gardening at Minmi.

The new Post Office was constructed in 1895. Up until 1875 the mail was brought into Minmi using the Hexham Minmi Railway. This had to be reconsidered in 1875 when the Browns stopped using the railway sidings in Railway Street but instead redirected to Duckenfield #2 which branched off a mile out of town. From 1875 until the opening of the new post office the postal service for Minmi was run out of rented premises (NHDHS 1991: 17).



Photograph 4.1 Current condition of 'points' leading to Duckenfield No 2.

Construction of other public facilities in Minmi included three churches and the Public School. There were also several Public Houses.

The present day school, opened in 1961, is believed to be in the third location for Minmi Public School. In 1861 the non-vested school was constructed although its location is unknown. A surge in the local population resulted in a new school being constructed in 1877 - part of this school remains to the present day as a private residence (196 Woodford Road).

In the late 1950s the school was in a dilapidated state and plans for a new school were implemented. This resulted in the present day school located to the centre of Minmi.

Of all the hotels only the Minmi Hotel remains and similarly only St. Andrews church continues to operate as a regular place of worship.

Just as the rise of Minmi had been closely associated with the prosperity of the mine, so too was its decline. According to Suters (1997) the Census of 1911 recorded 1708 people living in Minmi; by 1921 this number had declined by just over 900 people to 803. In a town that had traditionally relied so heavily on the mining industry this decline in population can be almost certainly be tied back to the demand for workers and it is considered that as the jobs diminished the workers moved to more prosperous mines and other sources of employment. This is mirrored by the fact that the Maitland coalfields were willing to pay higher wages to their workers and as a result the miners left in large numbers (NHDHS 1991:78). (Suters report states that in the 1930s the police estimated the town population at 472. It remained around this figure until the 1950s when extensive open cut mining commenced [NHDHS 1991:80]).

In 1924 the mines at Minmi finally closed (NHDHS 1991):

"On January 3rd 1924, the miners at Back Creek returned to work after Christmas holidays. During the morning David Howie, an old pit hand, died at work. The miners took the day off to attend his funeral. John Brown reacted violently. 'Return to work immediately' he demanded, 'or don't return at all, for I will close down the mine and it will not re-open. The miners buried their workmates, John Brown buried the town."

Many people believed at the time, and still believe, that this was convenient for Brown. The mine was nearly exhausted and he took advantage of the traditional day of mourning and wakening to close the mine (Kerry Hinds *pers. comm.* 2007).

In 1949 a plan was formulated to sell the land to the north of Wallsend Road to the Hunter Shire Council. The Council was to sell the land to present or prospective residents, who were willing to build immediately. However this did not eventuate and the Council resumed the land 10 years later where upon it was subdivided and sold off to individual residents for personal dwellings (NHDHS 1991:84).

In the 1950s J & A Brown and Abermain Seaham Colliers Ltd commenced open cut mining. However, open-cut mining operations ceased after only five years leaving *"the slopes of the Purple Hill...ruined – unsightly mullock heaps and deep craters remained and the tree clad bushland by Back Creek was despoiled. Although the bush has grown back the scars remain."* (NHDHS 1991:80).

J & A Brown & Abermain Seaham Collieries Limited became part of Coal & Allied Industries Limited in 1960. Demand from Japan for coking coal saw RW Miller and Co Pty Ltd and the Newcastle Wallsend Coal Company mining the surrounding land to Minmi in 1967. The companies even put back to use the No 9, 12 and 14 shafts.

The land to the south of the Wallsend road known as the 'Old Town' was not sold off and in 1971 householders were issued with 'Notices to Quit'. The residents claimed squatter's rights and by 1980, with local political intervention, they had won the right to purchase the fenced areas surrounding their property (Kerry Hinds *pers comm.* 2007). In 1985 Coal & Allied took over RW Miller and Co Pty Ltd and by 1988 the decline in demand saw the closure of the Minmi Collieries.

In the early 1990s the area to the east of the town was developed with modern residential single storey dwellings.

4.3 LISTED HISTORICAL HERITAGE SITES

Prior to the Minmi/Link Road site survey a complete search of available heritage registers was undertaken. This included the State Heritage Register (SHR), the State Heritage Inventory (SHI), the National Trust Jubilee Register, the Australian Heritage Register and heritage schedules to Newcastle planning instruments.

These searches revealed a number of items listed at the local level, within and adjacent to the current Minmi/Link Road site. The result of these searches is provided below.

No places in Minmi/Link Road site are currently included on the NSW State Heritage Register, Commonwealth and National Heritage Lists or the Register of the National Estate.

4.3.1 *The National Trust of Australia (NSW)*

The National Trust of Australia (NSW) has identified the Cemetery, the Minmi Hotel and the Court House as having historic heritage values and included them on the National Trust Register.

Classification by the National Trust carries no statutory implications, but is regarded as an authoritative statement of the cultural significance of a place and its worthiness for retention and conservation. The National Trust is often consulted when major proposals are being formulated in heritage precincts or in relation to heritage buildings.

4.3.2 Newcastle Development Control Plan (DCP)

The Newcastle DCP includes a section on the township of Minmi. The DCP does not apply to the Link Road section of the development area. The town of Minmi is described within the DCP as having:

“a clear identity, different from other mining villages in the Hunter Valley that reflects its evolution and change. A key element of its identity is the history of the town and its landscape character and setting, with natural woodlands and open spaces between scattered buildings.”

The heritage objectives of the DCP for Minmi seek to:

- retain the existing village character whilst accommodating limited urban and rural residential growth; and
- ensure that the built heritage character of Minmi is preserved through landscape separation.

The built heritage recommendations contained within the DCP includes the:

- extension of the bushland surrounding the cemetery;
- retention of drainage and view corridors to the former courthouse;
- retention of curtilage buffer around former courthouse; and
- preservation of railway embankments and cuttings.

The urban design and heritage provisions of the DCP outline the need to limit new buildings to two storeys in height, maintain views to the surrounding hills, rural and natural landscapes through retention and enhancement of the treed ridgeline to the south of Minmi and sensitive setting and design of new buildings. The bushland around the cemetery is also to be retained and extended (minimum width is 50m) on the northern, eastern and southern boundaries.

4.3.3

Newcastle Local Environmental Plan (LEP) 2003

Minmi includes several places that are listed on the heritage schedule to the Newcastle Local Environmental Plan (LEP) 2003. Refer to *Table 4.1* (and *Figure 5.2*) below for these items and their physical relationship to the Minmi/Link Road site. The items potentially affected by the proposed development are highlighted (these are located within the Minmi/Link Road site). Each item's relationship to the Minmi/Link Road site has been verified through a cross check of Lot and DP numbers. The actual location of each item is shown on *Figure 5.2*, along with all newly identified heritage items.

Table 4.1 *Newcastle LEP heritage items in and around Minmi (shaded items are situated within the Minmi/Link Road site)*

Heritage Item	Location	Relationship to Minmi/Link Road site
Duckenfield Colliery Railway (Relics)	Not provided in LEP	Inside Minmi/Link Road site, network runs from east and west sides of the town
Duckenfield Railway No 1 Colliery Branch Line	Not provided in LEP	Inside Minmi/Link Road site, west of the town
Duckenfield Railway No 2, 3 & 4 Collieries Branch Line	Not provided in LEP	Inside Minmi/Link Road site, south east of the town
St Andrews Presbyterian Church	19 Church Street	Outside Minmi/Link Road site in Minmi central township
Former Police Station and Courthouse	40 Church Street	Outside Minmi/Link Road site in Minmi central township
John Brown's Model Farm	33 Lenaghans Drive	Outside Minmi/Link Road site north of Minmi
Stone Ford	33 Lenaghans Drive	Outside Minmi/Link Road site north of Minmi
Winston Court (residence)	142 Lenaghans Drive	Outside Minmi/Link Road site north of Minmi
Former Railway Cuttings	East of McInnes Street	Inside Minmi/Link Road site on eastern side of Minmi township
Minmi to Hexham Railway	Minmi to Hexham	Outside Minmi/Link Road site to the north east end of main township
Duckenfield No 2 Air Furnace Shaft	141 Minmi Road	Outside Minmi/Link Road site on eastern side of Minmi township
Cemetery	141 Minmi Road	Outside Minmi/Link Road site on eastern side of Minmi township

Heritage Item	Location	Relationship to Minmi/Link Road site
Minmi Reservoir Site	15 Reservoir Road	Inside Minmi/Link Road site to the southern end of Minmi township
Former Reservoir residence	17 Reservoir Road	Inside Minmi/Link Road site to the southern end of Minmi township
Remains of railway Siding	29 Woodford Street	Outside Minmi/Link Road site in Minmi central township
Dairy Cool Rooms	29 Woodford Street	Outside Minmi/Link Road site in Minmi central township
Former Railway Cuttings	29 Woodford Street	Outside Minmi/Link Road site in Minmi central township
Minmi Public School (Foundation stones and bell)	56 Woodford Street	Outside Minmi/Link Road site in Minmi central township
Minmi Coal Carriage	56 Woodford Street	Outside Minmi/Link Road site in Minmi central township
Minmi Train Carriage	96 Woodford Street	Outside Minmi/Link Road site in Minmi central township
Former Post Office	129 Woodford Street	Outside Minmi/Link Road site in Minmi central township
Minmi Hotel	156 Woodford Street	Outside Minmi/Link Road site in Minmi central township
Garden House Site	177 Woodford Street	Inside Minmi/Link Road site at the southern end of Minmi township
Former Minmi Public School and Residence	196 Woodford Street	Inside Minmi/Link Road site at the southern end of Minmi township

There are no heritage listings or heritage based development controls that apply to the Link Road portion of the Minmi/Link Road site. The Lake Macquarie LEP (2004) does not list any heritage sites on the southern side of Link Road in the Suburb of Cameron Park.

This chapter provides an overview of the survey methodology employed for Aboriginal and historical heritage surveys.

5.1 SURVEY METHODOLOGY

A pedestrian survey of the Minmi/Link Road site was conducted from 30 October to 2 November 2007 inclusive. The survey aimed to inspect all zones within the Minmi/Link Road site that contained tracks and paths, areas with soil exposures and zones with low vegetation. Transects were also walked through representative samples of denser bush around and through the centre of the Minmi/Link Road site (the survey transects are presented in *Figure 5.1*).

When heritage sites were identified they were recorded by the survey team for content, GPS location and digitally photographed. Notes were made of soil conditions, evidence of disturbance and possible extent of sites. Specific methodologies are described below.

5.1.1 Aboriginal Heritage

Field survey methods were adopted to pursue the discovery of new archaeological sites, ensure their accurate recording and provide sufficient background information to provide an assessment of cultural significance to the extent that surface survey allows. An assessment of the potential of the Minmi/Link Road site to yield further sub-surface cultural material was made (*Table 5.1*).

The ERM field survey team for Aboriginal heritage (Dr Tim Owen and Guadalupe Cincunegui) were accompanied by five Aboriginal representatives – Kerrie Brauer and Jonathan Hawken from ATOAC, Shane Frost and James Frost from ADTOAC and John Thorpe from ALALC.

A representative sample of the different landforms identified across the Minmi/Link Road site were surveyed, namely slopes, ridges, flats and gullies/creeks (*Table 5.2* and *Figure 5.1*). Creek lines, mature trees, erosion scours and vehicle access tracks were all inspected. In order to ensure the highest likelihood of locating Aboriginal sites, the survey focussed particularly on areas of visibility, water courses and trees. Photographs were taken of key elements to support this report.

The archaeological potential of each landform and site was determined during the field survey. This was undertaken to aid the future management of sites and the landscape during possible future development impacts.

Basically, archaeological potential relates to the possibility of discovering further archaeological material and the likelihood that this material retains sufficient condition and integrity to be scientifically valuable. Definitions of archaeological potential are provided in *Table 5.1*.

Table 5.1 *Definitions of Archaeological Potential*

Rank	Definition	Example
No potential	Artefacts cannot occur in situ.	Reconstructed landscapes, mined areas, and developed areas.
Low potential	Artefacts are not normally found in comparable contexts but could occur in low densities making detection unlikely.	Landforms with no specific focus for use, i.e. with water sources or undifferentiated slopes.
Moderate potential	Artefacts are known to occur in comparable landforms in detectable densities (~1artefact/m ²) and there is an unknown possibility for detection.	Landforms with an environmental focus which may have seen occasional visitation.
High potential	Artefacts are consistently found in comparable landforms or similar environmental contexts and thus will certainly be found in any ground breaking works.	Landforms with known environmental focus encouraging repeat visitation to specific locale, i.e. significant ridgelines or near high order creeks.

5.1.2 *Built Heritage*

The site inspections of the Minmi/Link Road site were undertaken by ERM Built Heritage Consultant (Louise Doherty) and ERM Heritage Architect (John Hoysted).

ERM considered it prudent to understand and appreciate the heritage character of the local area, in addition to possible general constraints and opportunities for the Minmi/Link Road site. Therefore a visual inspection of the neighbouring heritage items, places and areas was also undertaken. The results of this additional survey are presented in this chapter and add to the overall heritage character assessment of Minmi.

5.1.3 *Historical Archaeological Heritage*

The Minmi/Link Road site was surveyed for historical archaeological sites concurrently with the Aboriginal heritage survey. An inspection of all visible soil profiles was made, as well as an inspection of the landscape for former sites, such as house sites, evidence of landscape modification (associated with building, industry and cultivation) and remnant material culture, such as rubbish dumps.

One site located within the Minmi/Link Road site (the Garden House Site) and two sites outside (the Railway Siding and associated relics and John Brown's Model Farm) are included on local heritage registers (see *Table 5.3* below). However, a search of the associated listing does not provide archaeological information. Therefore new descriptions have been prepared for these items.

5.1.4 *Cultural Heritage Values (Social and intangible values)*

An Aboriginal community assessment was made of the Minmi/Link Road site for cultural values. The opinions expressed and voiced during the field survey, along with mitigation measures for potential impacts to Aboriginal sites and areas with high and moderate potential, have been included in this report and form part of the Aboriginal heritage assessment and impact assessment. Further Aboriginal social values assessment has been presented in the Meeting outputs document (Coal & Allied 2007b).

The social heritage values associated with the historical town of Minmi have been assessed through consultation with local residents and research into the local history of the place. The intangible values have been embodied through the historical themes associated with the place and the consequential values assessment.

5.1.5 *Fieldwork Constraints*

The Aboriginal survey was limited by the vegetation cover in portions of the Minmi/Link Road site. However, the survey of this area was able to take in the majority of tracks and paths that had excellent exposures and visibility. Erosion was present predominantly on the vehicle tracks and beneath the transmission lines in the Link Road area. Occasional patches of exposed ground surface in the Minmi/Link Road site mainly occurred in these areas of erosion. In light of these constraints, the survey focused particularly on the patches of visible ground; however a sample of each of the landforms identified was surveyed (see below, and *Annex B*) to ensure that the full range of potential site locations was inspected.

The historical survey was limited because of the equine horse flu epidemic, which prevented some access into areas with horses. This primarily impacted the survey of the zones defined as Archaeological Zones 1 and 2, to the east and west of Minmi (see *Figure 5.2*). The built heritage survey was limited to the external areas of the houses within the Minmi/Link Road site.

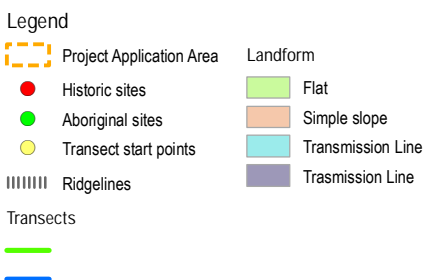
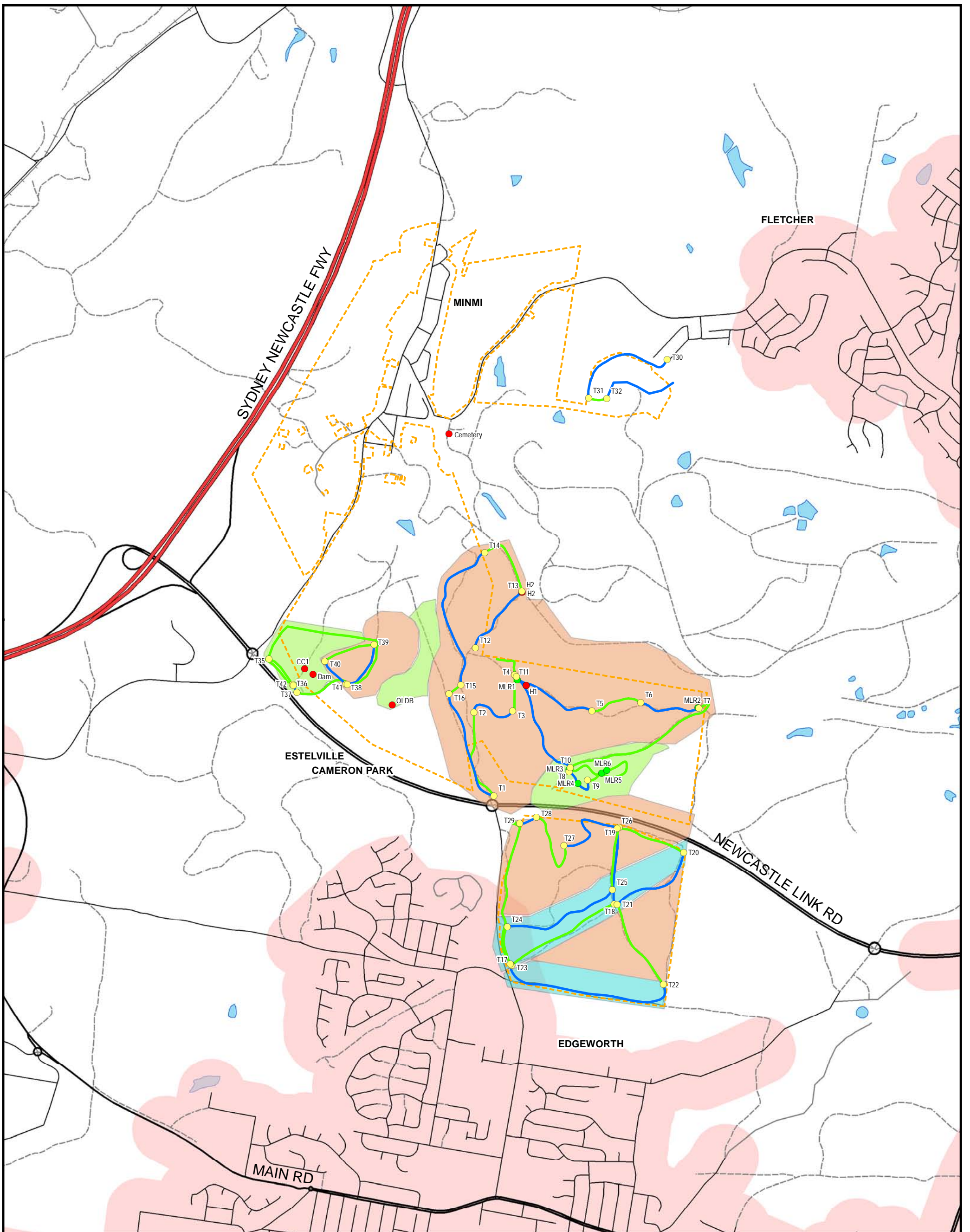
In order to survey a sample of each landform within the Minmi/Link Road site (for Aboriginal sites) and make best use of the areas of exposure available, the Minmi/Link Road site was surveyed in a total of 42 transects, as described in *Table 5.2* and *Annex B*. The route walked is shown on *Figure 5.1*.

The historical survey within the town of Minmi was guided by locals (who were able to identify numerous heritage items), existing listing information, historical research and the mud map shown in the publication "*Minmi – The Place of the Giant Lily*" (1991:12-13). The historical survey confirmed that the area surrounding Minmi had been holistically impacted by historical mining activity and contained no physical Aboriginal heritage sites.

Table 5.2 *Description of Transects Surveyed within the Minmi/Link Road Minmi/Link Road site.*

Transect	Landforms	Description
T1	Slope	Fire trail along bedrock shelf
T2	Slope	Steep track following open depression to the South East
T3	Flat	Bush track alongside flat topped rail embankment
T4	Slope	Bush track heading east
T5	Slope	Bush track sloping downhill
T6	Slope	Steep Bush track
T7	Ridgeline	Cleared for bush tracks and fire line easements
T8	Slope	Slope off side of ridgeline
T9	Slope	Bush track
T10	Slope	Steep slope down one side of the ridgeline
T11	Slope	Bush track
T12	Slope	Bush track
T13	Road	Wide flat road covered with blue metal
T14	Slope	Bush track
T15	Steep bank	Bush track-flat down to transmission line easement
T16	Slope	Transmission line easement
T17	Slope	Transmission line easement
T18	Ridge	Central ridgeline
T19	Upper flat	Bush track running along top of ridgeline
T20	Slope	Slope
T21	Ridgeline	Flat bush track at top of ridge
T22	Slope	Slope off side of ridge
T23	Ridgeline	Bush track along ridge above gully
T24	Slope	Slope down then up
T25	Ridgeline	Sloped track toward ridge top
T26	Upper flat	Flat track along ridge top
T27	Slope	Steep sloping bush track over ridge and gully
T28	Ridge top	Ridgeline adjacent to site boundary
T29	Slope	Sloping bush track
T30	Slope	Sloping bush track

Transect	Landforms	Description
T31	Slope	Slope with extremely low visibility
T32	Ridge top	Wide ridge track
T35	Slope	Flat bush track eroded by water
T36	Slope	Slope down covered in compact road base
T37	Slope	Slope down covered in compact road base
T38	Ridgeline	Top of ridgeline, slight slope down to the east
T39	Slope	Slope down towards SW
T40	Slope	Slope down along ridgeline above gully
T41	Flat	Flat bush track
T42	Flat	Winding/flat bush track



Client:	Catylis
Project:	Lower Hunter Land Development - Minmi Link Road & Stockington
Drawing No:	0111477s_M_GIS004_R0.mxd
Date:	18/02/2010
Drawn by:	JF
Projection:	GDA 1994 MGA Zone 56
Scale:	Refer to Scale Bar

0 200 400 600m

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Maps and figures contained within this document may be based on third party data, may not be to scale and is intended for use as a guide only. ERM does not warrant the accuracy of any such maps or figures.

Figure 5.1
Minmi Link Road & Stockington
Transects and Landforms

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 Brisbane, Canberra, Hunter Valley, Melbourne, Perth, Port Macquarie, Sydney

5.3

FIELD SURVEY RESULTS – ALL HERITAGE

An overview of the results from the Aboriginal and historical field survey of the Minmi/Link Road site is presented in *Table 5.3*. NB this table does not include any items outside the Minmi/Link Road site, which were included in *Table 4.1*.

Table 5.3 *Results of Minmi/Link Road Heritage Survey*

Site/Area Name	Heritage Status	Heritage Type	Basic Description
Former Minmi Reservoir Residence	LEP Heritage Schedule	Built	Free standing single storey house dating from Federation era with some modifications.
Former (Second) Minmi Public School	LEP Heritage Schedule	Built	The remaining portions of the second Public School have been converted for use as a residential property. Much of original structure was destroyed by fire.
Church and Manse	Not listed	Built	Two separately owned single storey properties that have been converted for residential use.
Duckenfield Colliery No2 Railway Branch Line	LEP Heritage Schedule	Built and landscape	Residual embankment within landscape.
Duckenfield Colliery No1 Railway Branch Line	LEP Heritage Schedule	Built and landscape	Residual embankment within landscape.
Dam	Not listed	Built and landscape	Landform creates natural dam, which has been blocked with a semi-circular brick structure.
Minmi Archaeological Zone 1 (AZ1 – eastern side of Minmi), including:			
Chinamen’s Gardens	Not listed	Archaeological	Potential remains for landscaping, buildings and evidence of fields.
Former Residences	Not listed	Archaeological	Potential remains of structural elements and sub-floor deposits relating to mining families residences.
Minmi Reservoir Site	LEP Heritage Schedule	Archaeological	Potential structural remains of the former reservoir.
J. Brown Garden House Site	LEP Heritage Schedule	Archaeological	Remnant vegetation surrounds the potential remains of structural elements and sub-floor deposits relating to the Browns Garden House.
Minmi Archaeological Zone 2 (AZ2– western side of Minmi), including:			
Coke Oven Site	Not listed	Archaeological	Potential remains of the Coke Ovens.
Workshop Area and Eales Shaft	Not listed	Archaeological	Potential remains of railway infrastructure and the mine’s workshop.
Former Residences	Not listed	Archaeological	Potential remains of structural elements and sub-floor deposits relating to mining families residences.
First School site	Not listed	Archaeological	Possible remains relating to the first Minmi school, including the building and yard.

Site/Area Name	Heritage Status	Heritage Type	Basic Description
Aboriginal Heritage Sites - in the Link Road Minmi/Link Road site			
MLR 1	Not listed	Aboriginal-tangible	Axe grinding grooves in the sandstone bedrock of a creek.
MLR 2	Not listed	Aboriginal-tangible	Stone artefact scatter.
MLR 3	Not listed	Aboriginal-tangible	Three stone artefacts.
MLR 4	Not listed	Aboriginal-tangible	Isolated stone artefact.
MLR 5	Not listed	Aboriginal-tangible	Two chert stone artefacts.
MLR 6	Not listed	Aboriginal-tangible	Isolated stone artefact.
Areas with low archaeological potential	Not listed	Archaeological	Zones with a low potential to yield further sites, predominantly sloping zones, with no immediate access to water, away from the Aboriginal walking routes.
Areas with moderate archaeological potential	Not listed	Archaeological	Zones with a moderate potential to yield further sites, predominantly sloping zones, with no immediate access to water, away from the Aboriginal walking routes.
Areas with high archaeological potential	Not listed	Archaeological	Zones with a low potential to yield further sites, predominantly sloping zones, with no immediate access to water, away from the Aboriginal walking routes.
Intangible Social Values			
Aboriginal walking routes	Not listed	Aboriginal-intangible	Significant walking tracks that connected the land. As defined in <i>Figure 3.2</i> and <i>5.4</i> .
Minmi town	Not listed	Historical - intangible	The landscape and setting of the historical town.

The presentation and assessment of the heritage sites provided below are divided into following sections:

- Minmi landscape character;
- Link Road landscape character;
- heritage listed places within the Minmi/Link Road site;
- heritage listed places outside (adjacent to) the Minmi/Link Road site;
- historical heritage items/places not currently listed, within the Minmi/Link Road site; and
- Aboriginal heritage sites located within the Minmi/Link Road site.

This order has been devised to provide a 'top-down' appraisal of the Minmi/Link Road site, where descriptions of the wider landscape are presented followed by individual sites characteristics.

The location of the identified heritage items and values is shown in *Figures 5.2 to 5.7*.

Figure 5.2 - Historical heritage sites and archaeological zones 1 & 2;

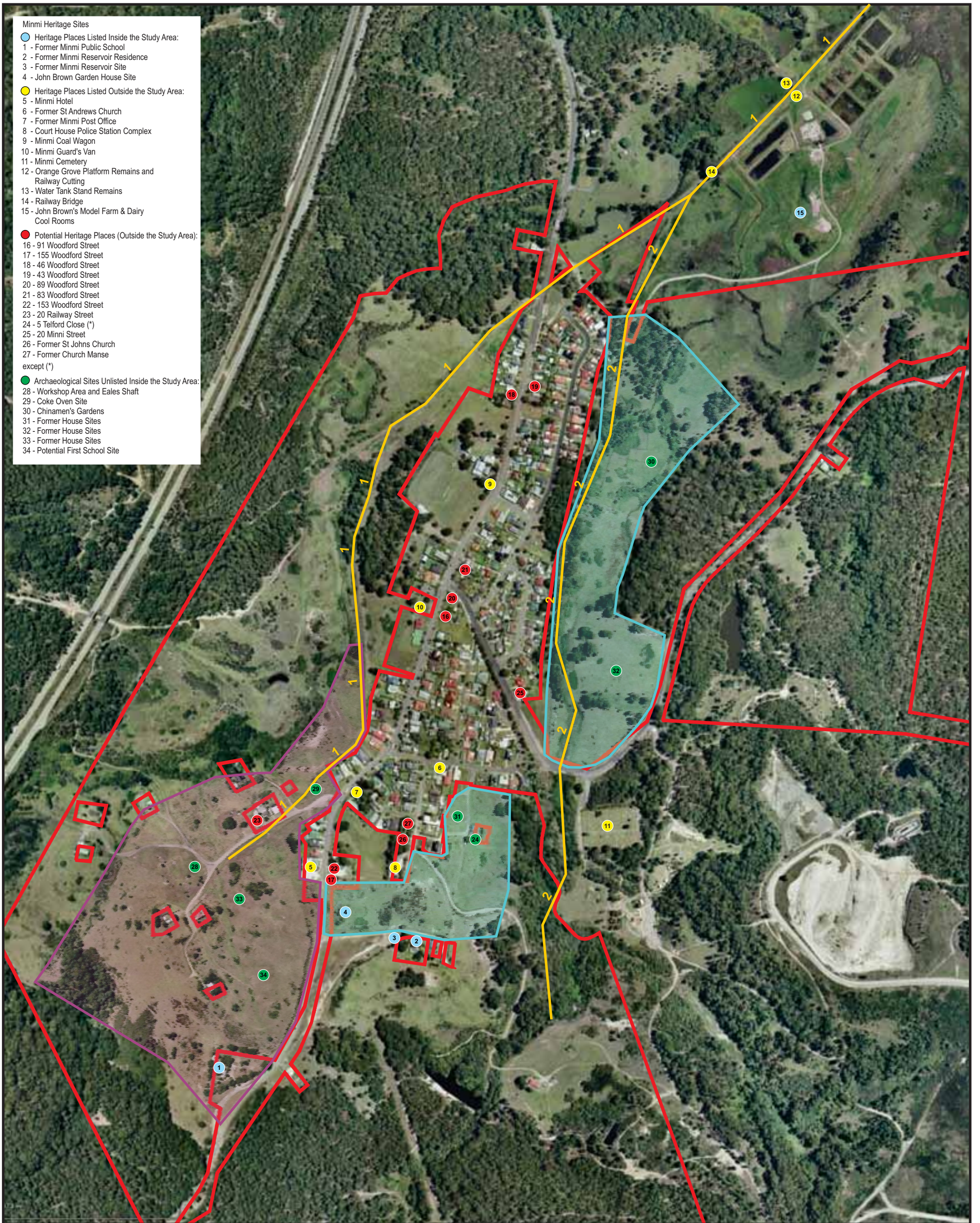
Figure 5.3 - Aboriginal heritage sites and archaeological potential for the Minmi/Link Road site;

Figure 5.4 - Aboriginal heritage walking routes through the Minmi/Link Road site;

Figure 5.5 - c1906 historical view of Minmi (NE) with identified heritage sites;

Figure 5.6 - c1906 historical view of Minmi High Street (S) with identified heritage sites; and

Figure 5.7 - historical views within and across Minmi related to the current layout.



- Minmi Heritage Sites**
- Heritage Places Listed Inside the Study Area:
 - 1 - Former Minmi Public School
 - 2 - Former Minmi Reservoir Residence
 - 3 - Former Minmi Reservoir Site
 - 4 - John Brown Garden House Site
 - Heritage Places Listed Outside the Study Area:
 - 5 - Minmi Hotel
 - 6 - Former St Andrews Church
 - 7 - Former Minmi Post Office
 - 8 - Court House Police Station Complex
 - 9 - Minmi Coal Wagon
 - 10 - Minmi Guard's Van
 - 11 - Minmi Cemetery
 - 12 - Orange Grove Platform Remains and Railway Cutting
 - 13 - Water Tank Stand Remains
 - 14 - Railway Bridge
 - 15 - John Brown's Model Farm & Dairy Cool Rooms
 - Potential Heritage Places (Outside the Study Area):
 - 16 - 91 Woodford Street
 - 17 - 155 Woodford Street
 - 18 - 46 Woodford Street
 - 19 - 43 Woodford Street
 - 20 - 89 Woodford Street
 - 21 - 83 Woodford Street
 - 22 - 153 Woodford Street
 - 23 - 20 Railway Street
 - 24 - 5 Telford Close (*)
 - 25 - 20 Minni Street
 - 26 - Former St Johns Church
 - 27 - Former Church Manse except (*)
 - Archaeological Sites Unlisted Inside the Study Area:
 - 28 - Workshop Area and Eales Shaft
 - 29 - Coke Oven Site
 - 30 - Chinamen's Gardens
 - 31 - Former House Sites
 - 32 - Former House Sites
 - 33 - Former House Sites
 - 34 - Potential First School Site

- Legend**
- ▭ Project Application Area
 - ▭ Historical Archaeological Zone 1
 - ▭ Historical Archaeological Zone 2
 - Minmi Heritage Sites
 - 1 Duckenfield Colliery No 1 Railway Branchline
 - 2 Duckenfield Colliery No 2 Railway Branchline

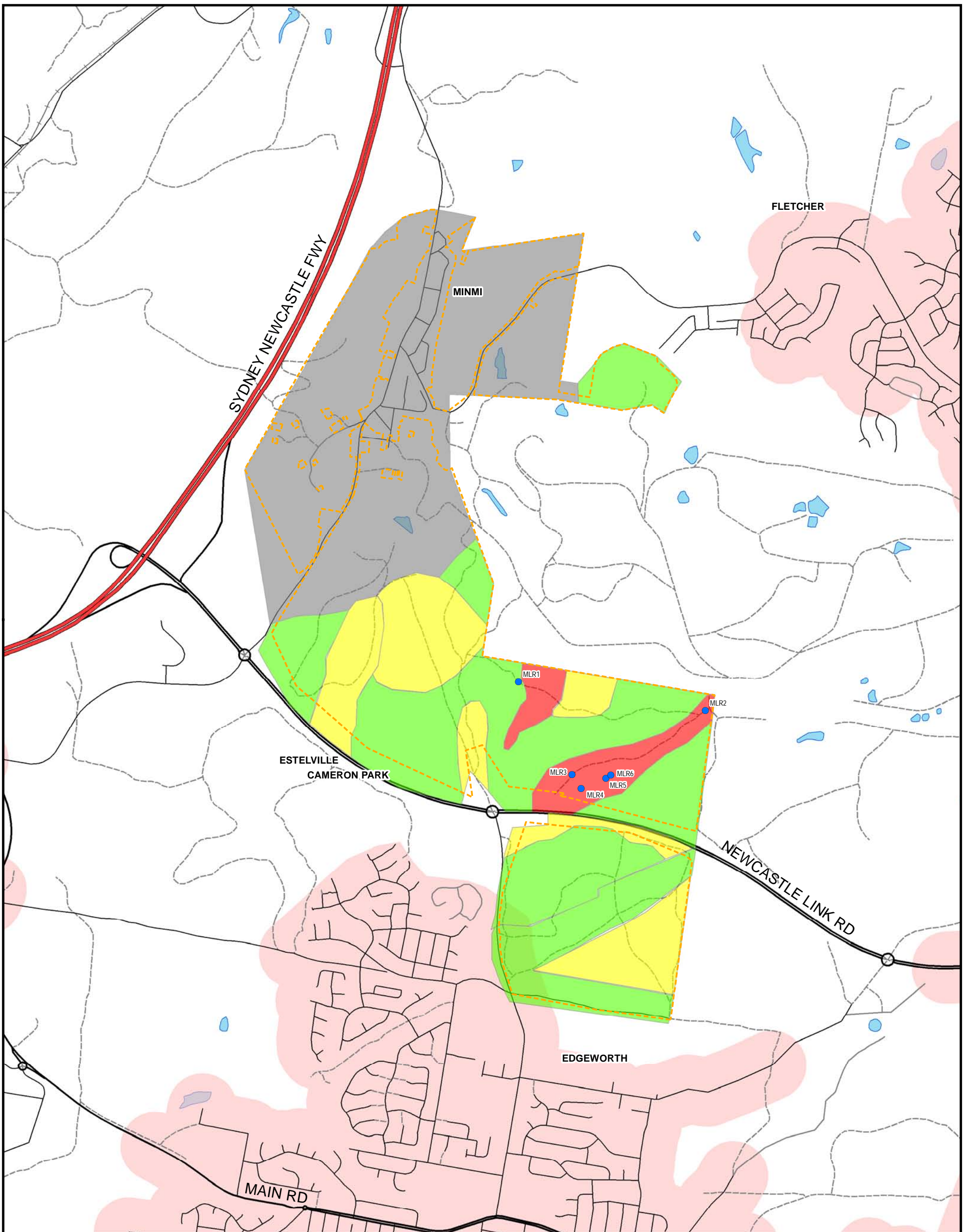
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Drawing No:	0111477s_M_01_R1.cdr
Date:	29/11/2010
Drawn by:	ML
Source:	Google Earth Pro
Scale:	Refer to Scale Bar



Figure 5.2
Minmi Heritage Sites

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- Legend**
- Project Application Area
 - Ridgelines
 - Aboriginal sites
- Archaeological Potential**
- High
 - Low
 - Moderate
 - None

Client:	Catylis
Project:	Lower Hunter Land Development - Minmi Link Road & Stockington
Drawing No:	0111477s_M_GIS005_R0.mxd
Date:	18/02/2010
Drawn by:	JF
Projection:	GDA 1994 MGA Zone 56
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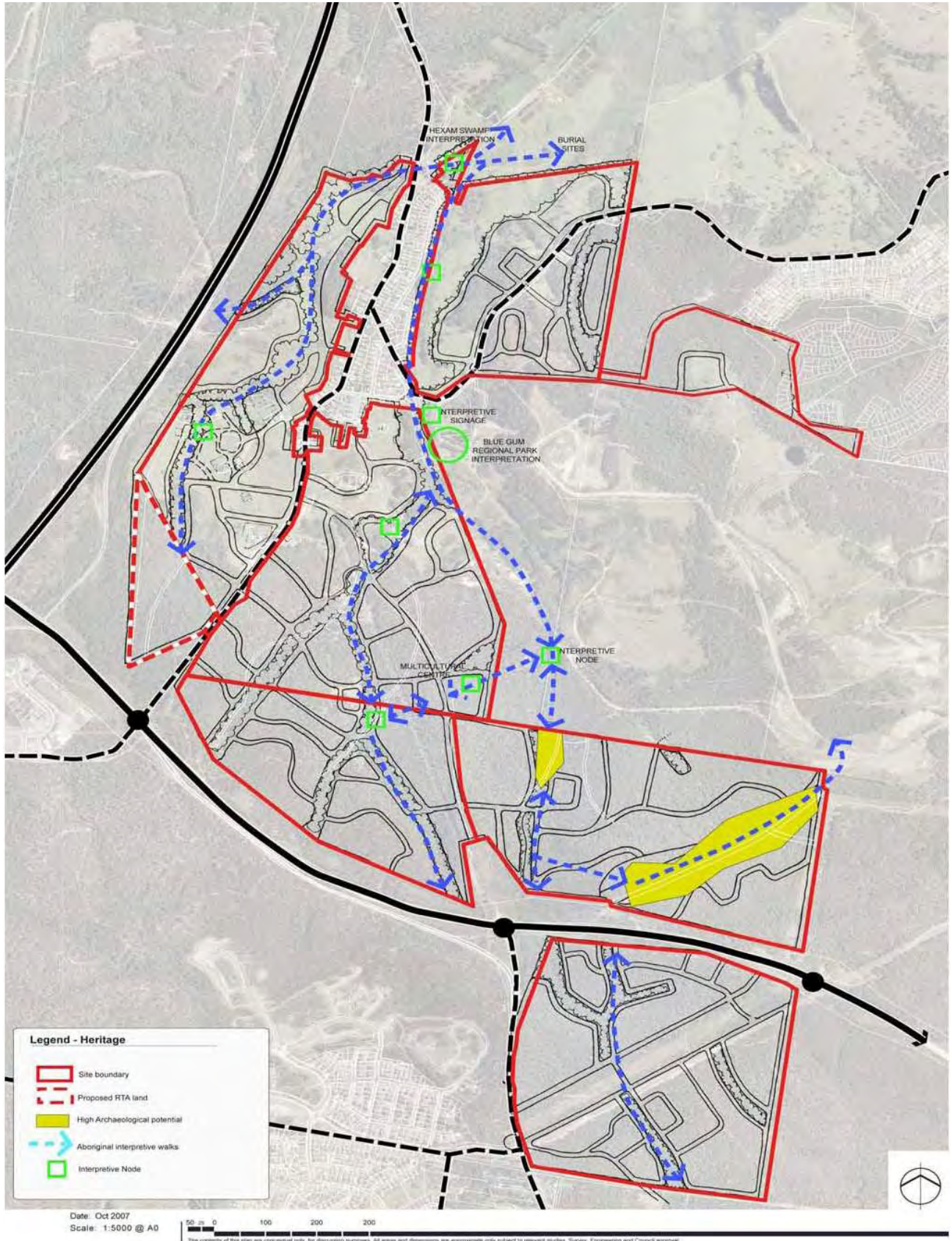
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Figure 5.3
Minmi Link Road & Stockington
Aboriginal Archaeological Potential

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Figure 5.4 Aboriginal Walks



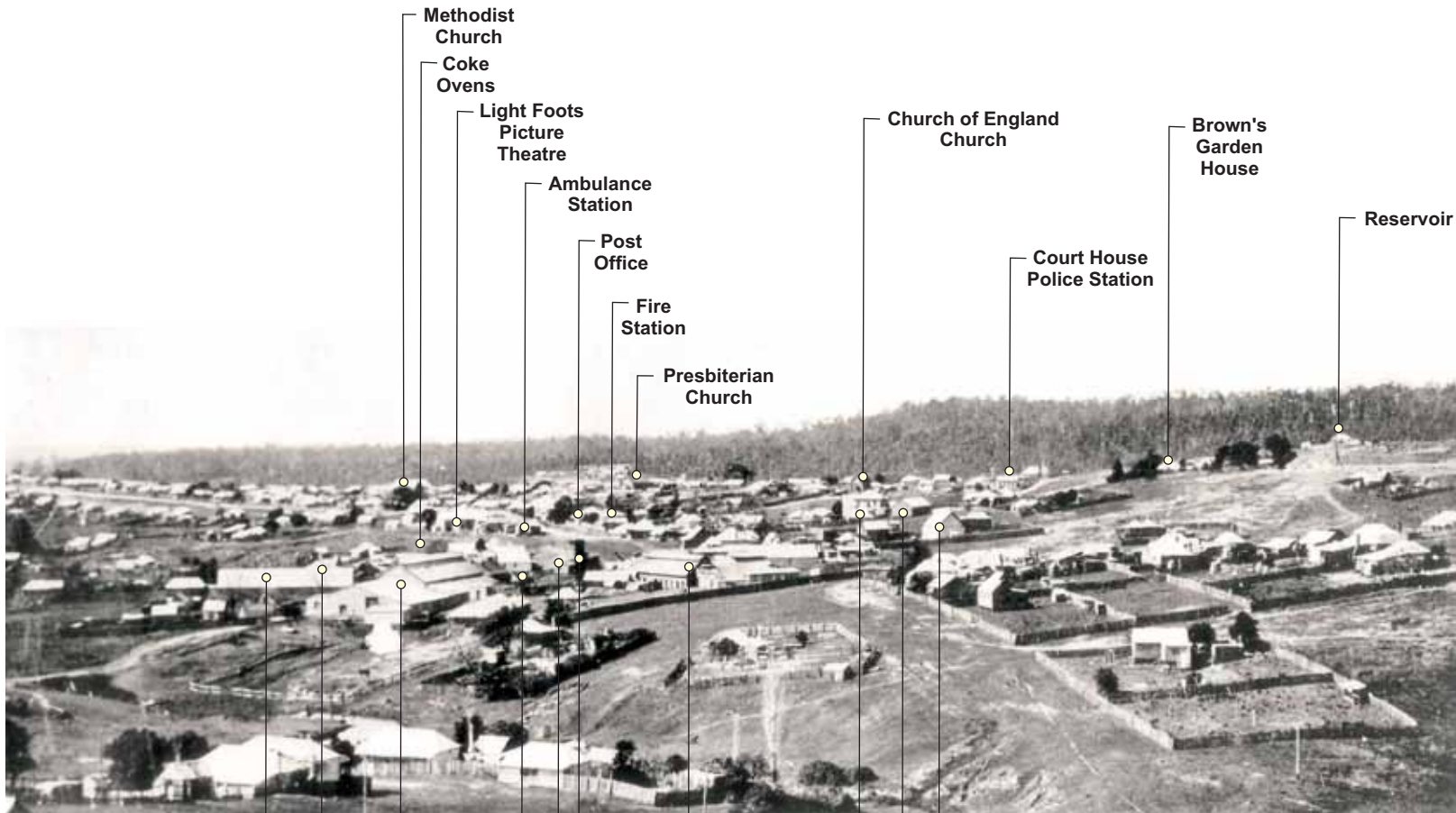
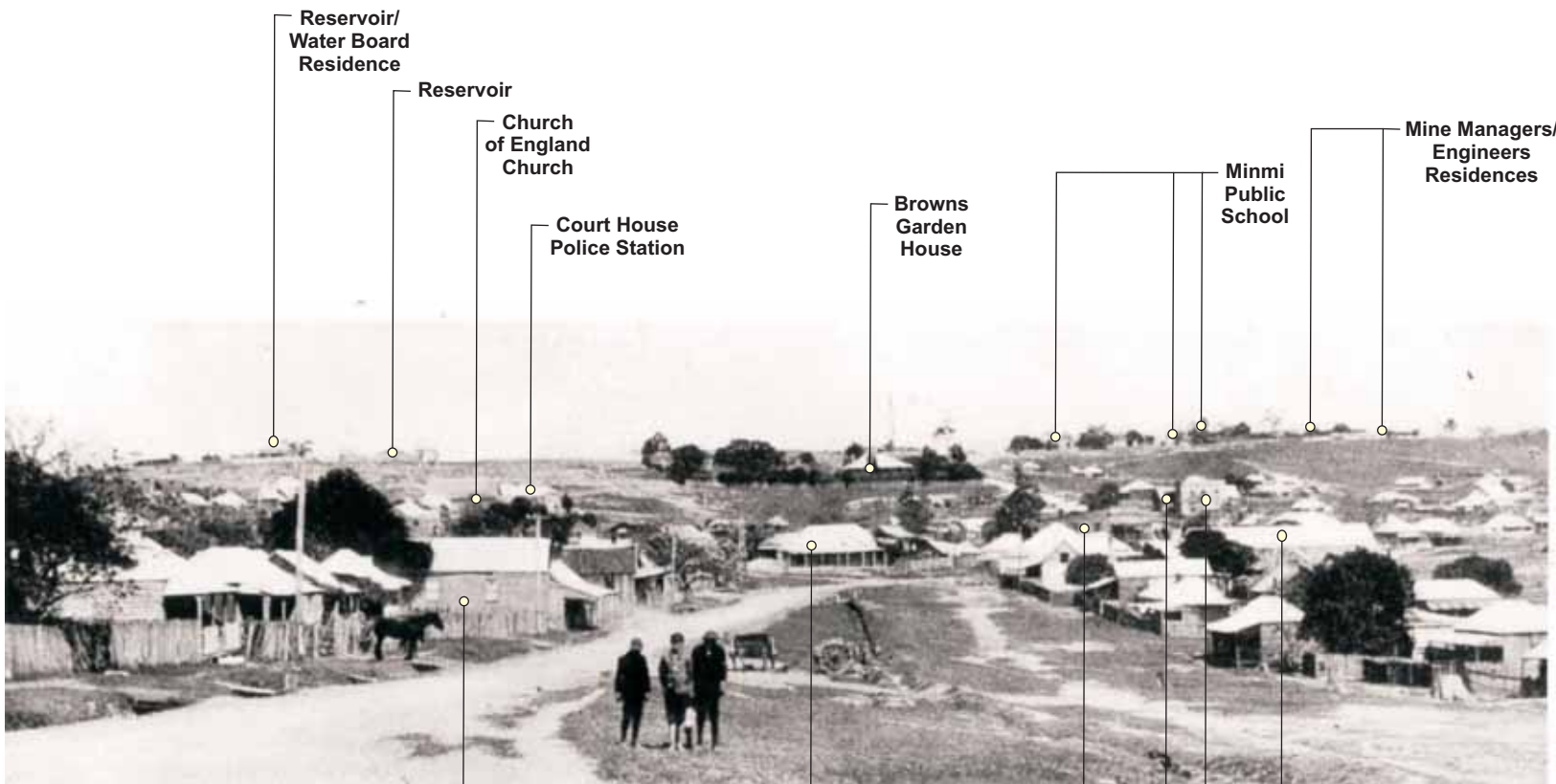


Figure 5.5
Minmi - Workshop and Coke Ovens
Removed After 1906

Client:	Catylis	
Project:	Lower Hunter Land Development - Minmi Link Road & Stockington	
Drawing No:	0111477s_M_02_R0	
Date:	18/02/2010	Drawing size: A4
Drawn by:	GC	Reviewed by: DN
Source:	-	
Scale:	Not to Scale	

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Reservoir/
Water Board
Residence

Reservoir

Church
of England
Church

Court House
Police Station

Browns
Garden
House

Minmi
Public
School

Mine Managers/
Engineers
Residences

Catholic
Church

Commercial
Hotel

Royal
Hotel

Hall
Minmi
Hotel

Minmi
Hotel

Lightfoots
Picture
Theatre

Figure 5.6
Minmi - Looking South Down High Street

Client:	Catylis	
Project:	Lower Hunter Land Development - Minmi Link Road & Stockington	
Drawing No:	0111477s_M_02_R0	
Date:	18/02/2010	Drawing size: A4
Drawn by:	GC	Reviewed by: DN
Source:	-	
Scale:	Not to Scale	

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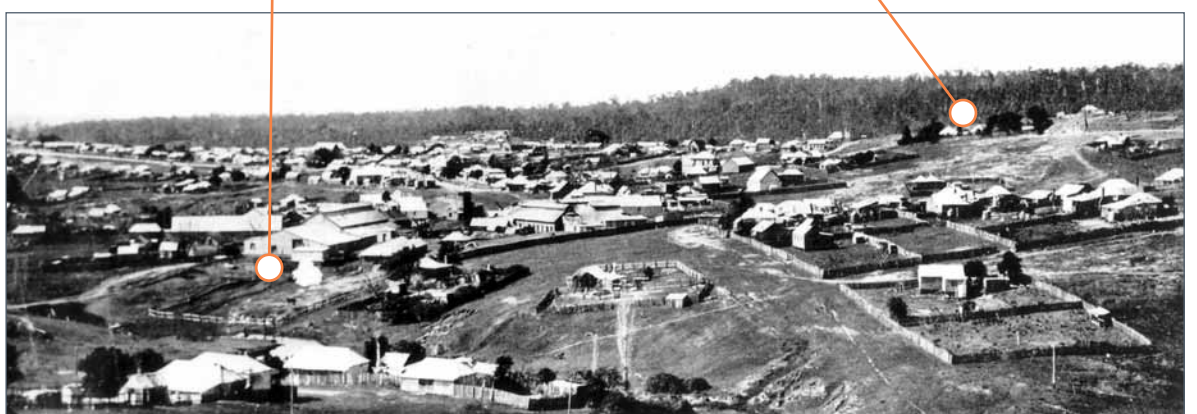
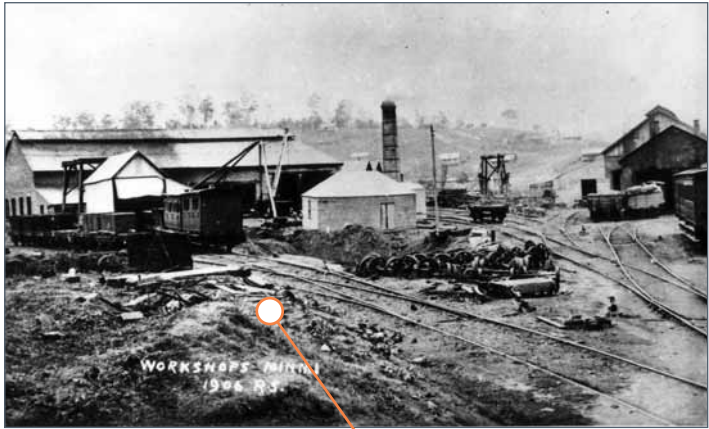


Figure 5.7

Minmi Historical Character & Views

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Project:	Lower Hunter Land Development - Minmi Link Road & Stockington
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Date:	18/02/2010
Drawing size:	A3
Drawn by:	GC
Reviewed by:	DN
Source:	-
Scale:	Not to Scale

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5.4

LANDSCAPE CHARACTERISTICS

The following description provides an overview of the landscape setting for the heritage items/places found within and adjacent to the Minmi/Link Road site. They were used to inform the urban planning and design principles (which are presented in the Meeting outputs document).

5.4.1

Minmi Landscape Character

Today Minmi can be characterised as a small rural village predominantly contained by rolling hills and ridgelines. The village has a central focus along Woodford Street, with several parallel streets containing a dense network of mainly small single storey dwellings. Tree covered ridges are visible to the east, west and south of the village centre; whilst the land between the ridges and village centre has developed into an open rural nature during the late 20th century. To the north, the town unfolds onto the Hexham swamp and its associated wetlands.

The town comprises a mixture of modern and old single and double storey buildings. These buildings dominate the view, but do not overly clutter the place. It should be noted that during the 19th and early to mid 20th century Minmi was not characterised as a rural village but an industrial zone, with large scale buildings, machinery and processes providing the town with a gritty working feel, see *Figure 5.5 to 5.7*. The industrial character can be observed through the remnant historical buildings and archaeology, movable heritage items (such as the coal wagon) and landscape elements, including the railway embankments. Minmi is not purely a historical village as the majority of houses are post 1950 additions (and many of the older buildings have been significantly modified, expanded and changed in terms of their original configurations, material and colours). These post 1950 built additions are not all sympathetic to the heritage form, fabric and character of the place, although sufficient original fabric is retained to provide Minmi with an appreciable mixture of old and new fabric and texture.

Distant views from the town are of the vegetated ridgelines, which have always existed – even during the industrial phases. These views provide Minmi with an enclosed feel, where the dark green vegetation dominates the built form. This character and layout defines Minmi as a place, creating the ambience and village atmosphere. It is the aim of the Newcastle & Lake Macquarie DCPs is to protect and enhance these characteristics.

The Newcastle DCP was written upon principles aiming to conserve this landscape character. These principles have been incorporated into the urban planning and form, as shown in the Concept Plan (see *Figure 7.1*).

5.4.2 *Link Road Landscape Character*

The landscape character of the Link Road area is one of rolling hills, steep slopes, deep gullies and elevated ridges.

The Minmi/Link Road site is located on the periphery between the coastal flat and the inland hills. The zone is densely vegetated with mature trees, and extensive understorey, except in areas de-vegetated for transmission lines and fire trails. Amongst the vegetation may be found some former mine workings, including capped pit entrances and occasional evidence for soil movement and modification to waterways. Extensive water erosion has impacted the steeper slopes of the Minmi/Link Road site, with deep gouges cutting to clay and the underlying bedrock.

Initially appearing as dense bushland, the Link Road precinct carries the evident scars of 100 years of mining activity, with more recent regeneration. However, unlike Minmi, the remnants of mining machinery and landscaping have all but been removed over the course of the late twentieth century.

5.5 *DESCRIPTION AND CONDITION OF HERITAGE LISTED PLACES INSIDE THE MINMI/LINK ROAD SITE*

These descriptions include built heritage and historical archaeological sites within the Minmi/Link Road site that have been previously listed (c.f. *section 4.3*).

5.5.1 *Former Minmi Reservoir Residence, 17 Reservoir Road*

The former Minmi Reservoir Residence is located on the southern side of Reservoir Road to the east of the Reservoir site and commands sweeping views across the valley to its north. The building is constructed in brick and has a dominant tiled hipped roof which continues over deep verandahs that run along its front and return down each side. Verandah posts are timber with simple curved brackets at their tops. The western verandah retains its original configuration; however, the eastern side has been in-filled and extended with a skillion roof to accommodate a two car garage. See *Photograph 5.1*.



Photograph 5.1 Former Minmi Reservoir Residence. View from north east (ERM 2007)Former Minmi Public School, 196 Woodford Street

The former Minmi Public School is located on what is now the southern perimeter of Minmi on the crest of the hill overlooking the township to its north, below. The site originally contained a collection of buildings seen in *Photograph 5.2*. These were constructed in brick and stone, some with shingle roofs and later buildings or extensions having lower pitched corrugated galvanised iron roofing. The later buildings are in the foreground and to the far right of the photograph. Earlier buildings also exhibit late Victorian Gothic detailing with steep pitched roofs, high slender chimneys, roof vents and finial posts.



Photograph 5.2 Minmi Public School c1898 (from personal collection of Kerry Hinds)

Today the two buildings in the foreground of *Photograph 5.2* have been removed and a substantial part of the school building, third from the right, was removed after a fire. Later additions were made to this part of the building (*pers comm.* Kerry Hinds and Bob Skelton 2007). The building to the extreme right of the photograph remains. The extent of the school grounds remains through the evidence of what are now substantial trees. See *Photograph 5.3*. A foundation stone and bell from the former Public School are located at the existing school which opened c 1960.



Photograph 5.3 View from north east towards former Public School site (ERM 2007)

5.5.2 *Duckenfield Colliery No2 Railway Branch Line (includes Railway Cuttings east of McInnes Street).*

This branch line runs from its intersection with the Minmi-Hexham line north of Minmi along the valley directly to the east of the town. It crosses Minmi Road and heads south over Minmi Creek and veers south east along the valley floor towards the Duckenfield No 2 colliery (see historical plans in *Figures 4.1* and *4.2* (the railway line being discussed in this section is not the railway line shown in *Figures 4.1* and *4.2*). At the northern end the line was constructed as an embankment above the flood plain (see *Photograph 5.4*), it then ran at the top of the hill where a cut has been made to accommodate the line (see *Photograph 5.5*). This construction arrangement is carried forward across Minmi Creek where the abutments to the bridge crossing survive (see *Photograph 5.6*). Residential allotments at the northern and southern ends of Minmi back onto the railway alignment with a section in the centre that remains as bushland. The condition and integrity of these landscape features are good and readily interpretable.



Photograph 5.4 View to the north with embankment to the right of photograph (ERM 2007)



Photograph 5.5 View to south along railway line (ERM 2007)



Photograph 5.6 View south east over Minmi Creek showing bridge abutments and railway alignment along the valley floor (ERM 2007)

5.5.3 *Duckenfield Colliery No1 Railway Branch Line*

This line runs directly from the Minmi-Hexham line north of the town and across Woodford Street south west and around towards Railway Street where it terminated at the railway workshop and Coke Ovens. A branch of this line ran west to Duckenfield No 1, 3 & 4 mines. The alignment is discernable in the landscape through the presence of embankments, cuttings and open surfaces that are still in use as farm access (as shown on *Figure 5.2*). This branch line was not closely inspected due to equine influenza restrictions, however, it could be clearly seen that the condition and integrity of these landscape features were good and readily interpretable.

5.5.4 *Minmi Reservoir Site, 15 Reservoir Road*

This archaeological site (within Archaeological Zone 1) is located on the southern side of Reservoir Road on the hill at south end of Minmi. There is no physical evidence of the reservoir structures at the site. Subsurface archaeological remains of the reservoir are likely to be present, which would include concrete and brick formwork. However, local residents (who witnessed the removal of the reservoir) indicate that few intact remains would be present. The site is likely to have poor condition and integrity following its demolition.

5.5.5

Garden House Site, 177 Woodford Street

The archaeological site (within Archaeological Zone 1) is located on the eastern side of Woodford Street at the junction with Reservoir Road. The site slopes down from Reservoir Road facing north. The historic photograph at *Photograph 5.7* shows the house in a dilapidating state. It was constructed in brick that was later rendered with cement which was lined to resemble stone blocks. The photograph shows an attached out building on the south side and a surrounding verandah supported by timber posts with modest brackets and simple three rail balustrade although this may not be an original feature. The hipped roof is clad in corrugated galvanised iron and the four chimneys shown are constructed in brick.



Photograph 5.7 View from east (from personal collection of Kerry Hinds, date unknown)



Photograph 5.8 Site of the Garden House. View from Reservoir Road looking west across the site with the Minmi Hotel in the background

The house and outbuildings have been removed with the only visible material evidence remaining being remnant landscaping and vegetation (including fruit trees), some demolished building material, the house's concrete and brick cistern and possible wall foundations, see *Photograph 5.8*. Further archaeological evidence relating to the footings and construction of the house and outbuildings are likely to remain on the site, although these are buried by soil and vegetation. It should be noted that anecdotal accounts from Minmi locals suggests that this side has been 'gone over' by locals and bottle collectors since the 1970s. Thus, while the condition of archaeological deposits is likely to be fair, the integrity of cultural remains relating to the occupation of the house are likely to be poor.

5.6 *DESCRIPTION OF HERITAGE LISTED PLACES ADJACENT TO THE MINMI/LINK ROAD SITE*

The following descriptions are of listed heritage places that contribute to the overall heritage character and value of Minmi, but are immediately outside the current Minmi/Link Road site. They have been included because new development could potentially impact these items and thus an appreciation and understanding of them is required.

5.6.1 *Minmi Hotel, 156 Woodford Street*

The Minmi Hotel, which is likely to be the earliest surviving building in Minmi, was constructed c1861. It is located towards the southern end of Minmi close to the western side of Woodford Street.

Physical and documentary evidence indicates that the hotel was constructed in several phases with the first being a two storey Colonial Georgian building constructed in brick with a hipped roof. This building, which has a roughly square floor plan, exhibited ground floor entrances at the centre and right hand side with double hung timber windows, one at ground level and three at first floor level. A large picture window to the bar is in evidence in *Photograph 5.9* below. Originally the building had a single storey timber addition to its left which housed the acetylene supply for lighting (Pers comm. Kerry Hinds). There is a skillion roofed addition in this location today.

Late in the 19th century a two storey verandah was added to the front of the building with the central upper window cut down to provide access to the upper verandah via French doors. The verandah was constructed in timber with cast iron balustrades and retains these details today.



Photograph 5.9 Minmi Hotel from south east (ERM 2007)



Photograph 5.10 Minmi Hotel from south east (from personal collection of Kerry Hinds)

By 1911 a further addition had been made to the northern side in the form of a two storey masonry wing with rendered walls and parapet roof. The façade to the street exhibits a heavy cornice with the panel below this with Minmi Hotel in relief and below this are located two symmetrically positioned high windows at upper and lower levels. This addition remains in its original form. More recently a large hip roofed addition, with a verandah to its south side, has been made to the rear of the hotel providing expanded restaurant facilities.

The condition of this building is fair to good. Paint has been sand blasted from the c1860 brick section of the building causing significant surface damage.

5.6.2

Former Minmi Post Office, 129 Woodford Street

The former Minmi Post Office is located on the right hand side of the road on the bend as it sweeps to the right at the bottom of the hill at the southern entrance to the town. It was constructed in 1901 in a Federation style typical of NSW Post Offices and other public buildings constructed in this period designed by Commonwealth Government architect Vernon. The building now serves as a residence. See *Photograph 5.12*.



Photograph 5.11 Minmi Post Office c 1906 (NAA - C4076:HN6187)

The building is constructed in brick and its front runs up to the front boundary with this façade dominated by an asymmetrically positioned gable which has a wide timber barge with a deep soffit supported on heavy moulded timber brackets. The remainder of the corrugated steel clad roof is hipped and is dominated by four high square brick chimneys which have banded and corniced detailing on their shafts and at their tops.



Photograph 5.12 Former Minmi Post Office and Residence view form the west (ERM 2007)

The gabled section contains a large semicircular timber window boarded by soft red brick rubbers and divided into six sections by timber frames. The central lower window had a fixed panel that served as an information board but this has since been glazed. Surrounding windows are divided with small panes. To the left of the gable is a generous verandah supported on timber posts with cast iron balusters beneath a timber rail. This verandah would have provided the entrance porch to the Post Master's residence. On the right of the gable is an enclosed porch with a gabled roof facing south, which served as the entrance to the Post and Telegraph Office. See *Photograph 5.11*

Walls contain low level cast iron floor vents with crown insignia in their centres. Evenly spaced double hung timber windows with contrasting soft red brick rubbers populate the northern elevation. The building appears to be well maintained and is in good condition. No internal inspection was undertaken.

5.6.3 *Former Minmi Police Station Court House, Corner Church And Stephen Streets*



Photograph 5.13 Police Station viewed from the north east.



Photograph 5.14 Court House viewed from the south east.

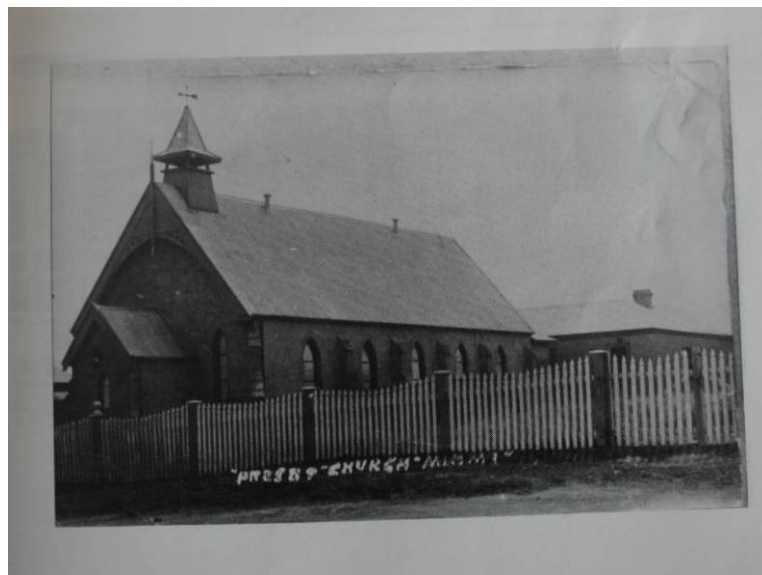
The former Minmi Police Station Court House complex is located in the south eastern quadrant of the town on the corner of Pitt and Stephen Streets. It is sited on level site cut into a westerly facing slope that rises from Woodford Street below.

The complex of adjoining buildings, which were built in two stages with the first in 1895 and the second in the late 19th century, exhibit late Victorian Arts and Crafts design features. The buildings are constructed in brick and have double hung timber windows with multiple pane top sashes and single pane bottom sashes. Roofs are a combination of hipped, Dutch gabled and gabled forms dominated by large brick chimneys with corniced tops and banded shafts. Verandahs wrap around exterior walls and are supported on chamfered timber posts with segmentally arched timber brackets between. Balustrades have bread loaf timber with plain slatted balusters below. These details can be seen in *Photographs 5.13 and 5.14*. No internal inspection was undertaken.

The building appears in good condition but maintenance of the grounds has been deferred recently.

5.6.4 *Former St Andrews Church, Corner of Bell And Stephen Streets*

The former St Andrews Church is located on the corner of Bell and Church Streets with its porch entrance facing Church Street. It has a rectangular floor plan with lancet windows down each side with buttresses between. Historic *Photograph 5.15* shows the building was constructed in brick but this has since been rendered in cement. The roof which was originally a steep gable form has been cut down.



Photograph 5.15 Former St Andrews Church (from personal collection of Kerry Hinds)



Photograph 5.16 View from Church Street (ERM 2007)

5.6.5 Minmi Coal Wagon, 56 Woodford Street

Located in the south east corner of Minmi Public School along Woodford Street the coal wagon is an example of those used in the late 19th century. It was manufactured by A Coninan & Co, Makers, Newcastle. The evolution of coal wagon can be seen in *Photograph 5.17* from 1906.



Photograph 5.17 Evolution of Coal Wagons c1906 South Bulli Colliery. Source: (NLA. pican13595532 24)

A wagon similar to the Minmi example is in the centre. It sits on four 20" cast iron wheels with axles projecting into enclosed bearings which in turn are fixed to multiple leaf springs that attach to the hot riveted channel framed chassis. A lever operated shoe pad braking system is located on each wheel. Buffers and couplings are at each end of the chassis.

The chassis which is 8' long and 4' wide supports a hopper which is lined with hardwood timber which is bolted to a steel frame made up of a combination of angle channel and flat members. The hopper bottom is hinged. To release its load the hopper has a heavy hasp and staple system.



Photograph 5.18 Coal wagon viewed from Woodford Street (ERM 2007)

The coal wagon is not being maintained, however, its robust construction ensures that it is not decaying at an accelerated rate and can be left in its current state; however, a conservation program should be initiated.

5.6.6 *Minmi Guard's Van, 96 Woodford Street*

This example of movable industrial heritage is located in the park to the north of the Minmi Hall. The cabin is supported on a steel channel frame chassis which rides on for 20" cast iron wheels with axles projecting into enclosed bearings which in turn are fixed to multiple leaf springs. The small cabin is constructed in timber and has tongue and grooved vertical cladding with balconies with minimal balustrading at each end. The roof is curved and has been covered in corrugated galvanised iron. A flue extends through the roof from an internal stove once used for heating the cabin and as a cooking facility. See *Photograph 5.19*. The guard's van was restored in 1989 and is in good condition.



Photograph 5.19 Guard's Van from north (ERM 2007)

5.6.7 *Minmi Cemetery*

The Minmi Cemetery is located on the southern side of Minmi Road where it crosses Minmi Creek. The land rises gently from the creek and slopes west. The cemetery is populated by a variety of marble, sandstone and granite masonry monuments dating from the middle of the second half of the 19th century through to the present. See *Photograph 5.20*. Cast iron railings around the older monuments are also in evidence.



Photograph 5.20 View towards the east (ERM 2007)

The general landscape within the cemetery is well maintained, however, a number of the monuments require stabilisation through realignment of vertical tablets and surrounding perimeter walls and repairs to cast iron railings.

5.6.8

Railway Siding Remains and Former Railway Cuttings

The Railway Siding is located approximately 200m north along the Minmi-Hexham Railway from where it crosses Woodford Street. The siding is on the eastern side of the line and remaining evidence consists of a brick platform edge wall approximately 10m long and 0.75m high. See *Photograph 5.21*.



Photograph 5.21 Railway Siding viewed from south (ERM 2007)



Photograph 5.22 View of collapse tank stand piers (ERM 2007)

Directly opposite the platform are the remains of a water tank stand which consists of two brick piers with semi circular tops to cradle a cylindrical iron tank. These piers have collapsed from their original location, see *Photograph 5.22*. The site also contains archaeological evidence in the form of landscaping, relating to the construction of the banks on the western side, subsurface pipes (related to a water delivery system), footings (from the water stand and possibly a further small building/room, which may have been used for storage, and the dam (to the west of the site) which presumably was used as the source of the water for the tank. The archaeological deposits appear to be in a good condition (with stable earth banks and intact bricks at the surface), with no evidence for disturbance, thus also maintaining good integrity.

The archaeological potential of this site to yield further information relating to the water delivery system and its associated buildings can be described as high.

5.6.9 *John Brown's Model Farm and Dairy Cool Rooms*

John Browns Model Farm is located to the east of Woodford Street within the 'land owned by Hunter Water Corporation. Historic *Photographs 5.23* and *5.24* show the farm house constructed in red brick in an Edwardian style with an asymmetric gable flanked by wide verandahs under a continuous corrugated galvanised iron roof. Conspicuous brick chimneys rise above the roof; these have corniced tops and banded shafts.



Photograph 5.23 John Brown's model Farm which has since been demolished (from personal collection of Kerry Hinds)



Photograph 5.24 Out buildings associated with John Brown's Model Farm (from personal collection of Kerry Hinds)

The above ground evidence of John Brown's Model farm no longer exists. However, the Dairy Cool Rooms which are set into the ground and a number of brick and cement foundations apparently survive. ERM was unable to inspect this site due to equine flu access restrictions. Consultation with local residents suggests that the 'Water Board' undertook partial demolition of the brick cool rooms during the 1980s because of potential OH&S issues. It is understood that the site was partially filled with demolition material and soil. The condition of any structural archaeological remains is likely to be fair, but the integrity of the site is likely to be poor.

5.6.10 Duckenfield No2 Air Furnace Shaft

Before mechanical fans were introduced, generally from the 1880s onwards, coal mines used air shafts with furnaces at their foot to produce updraught by convection.

The Air Furnace Shaft which served Duckenfield No2 Mine is located approximately 0.5 kms south of Minmi Road along the alignment of the Duckenfield No2 Railway. The Air Furnace shaft which is constructed in brick has a 4m diameter and the shaft rises approximately 10m. The top section tapers slightly inwards. The shaft has six metal bands that consist of a series of interconnected links 100mm wide.



Photograph 5.25 Air Furnace Shaft Duckenfield No 2 (ERM 2007)

5.7

*ANALYSIS OF HISTORICAL HERITAGE ITEMS/PLACES NOT CURRENTLY LISTED,
WITHIN THE MINMI/LINK ROAD SITE*

This section provide an overview of all other heritage items identified during the field survey that have not previously recorded as heritage items on statutory lists.

5.7.1

Cottages

ERM's field survey of Minmi revealed that a number of cottages and other buildings survive in the town that are likely to date from the later half of the 19th century. Evidence of these is mainly in their stepped hipped and small gabled roof forms as most places have undergone many changes. Only two places were found that have not been excessively altered and these were at 91 and 155 Woodford Street (*Photograph 5.26* and *Photograph 5.27* respectively).

In 2009 155 Woodford Street burned down and the site is now vacant see *Photograph 5.28*.



Photograph 5.26 91 Woodford Street



Photograph 5.27 155 Woodford Street



Photograph 5.28 46 Woodford Street



Photograph 5.29 43 Woodford Street



Photograph 5.30 83 Woodford Street



Photograph 5.31 89 Woodford Street



Photograph 5.32 153 Woodford Street



Photograph 5.33 Railway Street



Photograph 5.34 11 Telford Street



Photograph 5.35 5 Telford Street



Photograph 5.36 20 Minmi Street

5.7.2

Church and Manse 38 Church Street and 1 Neal Close

The former St Johns Church is located on the western side of Church Street with the former Police Station Courthouse to its south.

It is constructed in brick with a steep pitched roof clad in corrugated galvanised steel and has lancet windows between stepped buttresses. It has been adapted for use as a residence and comparison of historic *Photograph 5.37* with the building today *Photograph 5.38* demonstrates that its external form has been little altered.



Photograph 5.37 View from the north east (from personal collection of Kerry Hinds).



Photograph 5.38 View from north east (ERM 2007)

To the north of the former St Johns Church is the former Church Manse. As can be seen in *Photograph 5.39*, it is difficult to determine the exact configuration of this building due to its extensive cover in creeper and the density of surrounding vegetation. However, ERM was able to determine that the building has a tee shaped floor plan and steep roof forms similar to the church although on a smaller scale. The former Manse is constructed in brick also similar to the church.



Photograph 5.39: Former Church Manse from north east.

Both buildings appeared to be in good condition and well maintained.

5.7.3

Dam site

A small brick dam was observed near a capped Duckenfield pit entrance, to the east of Woodford Street, north of the Newcastle Link Road (location shown on *Figure 5.1*). The dam is of double brick (machine cut) construction, with brick buttresses on the down-slope side, with a curved wave shaped face (*Photograph 5.40*). It has been positioned at the top of a small gully that acts as the water shed most probably for the origins of Back Creek.



Photograph 5.40 Wall of the brick dam

5.7.4 *Archaeological Sites - listed and unlisted within the Minmi/Link Road site*

The site survey inspected items listed on the Newcastle LEP heritage schedule (refer to *Table 5.2*) and identified a number of historic archaeological sites not currently included on the Newcastle LEP. These archaeological sites all date from the 19th century. These archaeological sites, including those on the LEP (see *Section 4.3.3*), occupy two distinct areas, described as Archaeological Zone 1 and Archaeological Zone 2 - the location of AZ1 and AZ2 and archaeological sites within these two zones is displayed in *Figure 5.2*.

Minmi Archaeological Zone 1 (AZ1)

AZ 1 is located on the eastern side of Minmi and includes all archaeological sites east of Woodford Street. Four archaeological sites/features are included in this zone:

- Chinamen's Gardens (landscape and possible remains);
- Former Miner's Residences (former house sites);
- Minmi Reservoir Site (listed on the LEP and thus described in *Section 5.5.5*);
and
- J. Brown Garden House Site (listed on the LEP and thus described in *Section 5.5.6*).

Minmi Archaeological Zone 2 (AZ2)

AZ 2 is located on the western side of Minmi and includes all archaeological sites west of Woodford Street. Five archaeological features are included in this zone:

- Coke Oven Site (detailed descriptions and investigation are presented Annex D, an overview is provided in this chapter);
- Workshop Area and Eales Shaft (possible remains);
- Former Miner's Residences (former house sites);
- First School Site (the exact location remains unknown); and
- Remains of railway embankments (listed on the LEP and thus described in *Sections 5.5.3 and 5.5.4*).

A description and synopsis of the potential relics and archaeological potential of each zone is provided below.

5.7.5 *Minmi Archaeological Zone 1 (AZ1)*

Chinamen's Gardens

The presence of the 'Chinamen's Gardens' is marked on the mud map in the volume "Minmi - Place of the Giant Lily" (NHDHS 1991:13). The location of the site is to the northeast of Minmi, located on the flood plain between Back Creek and the railway embankment, see *Figure 5.8*. The historical aerial (1944) appears to show an outline of 'rectangles', set between creek and railway embankment. These could be the remains of garden beds and paths relating to the market gardens. These features do not appear on all later aerial photographs, possibly because soil conditions were not dry enough to reveal the outlines of the features seen in 1944, or because the area had been buried beneath alluvial material from flooding of Back Creek. However the 2008 aerial appears to show the same network of rectangles, see *Figure 5.9*.

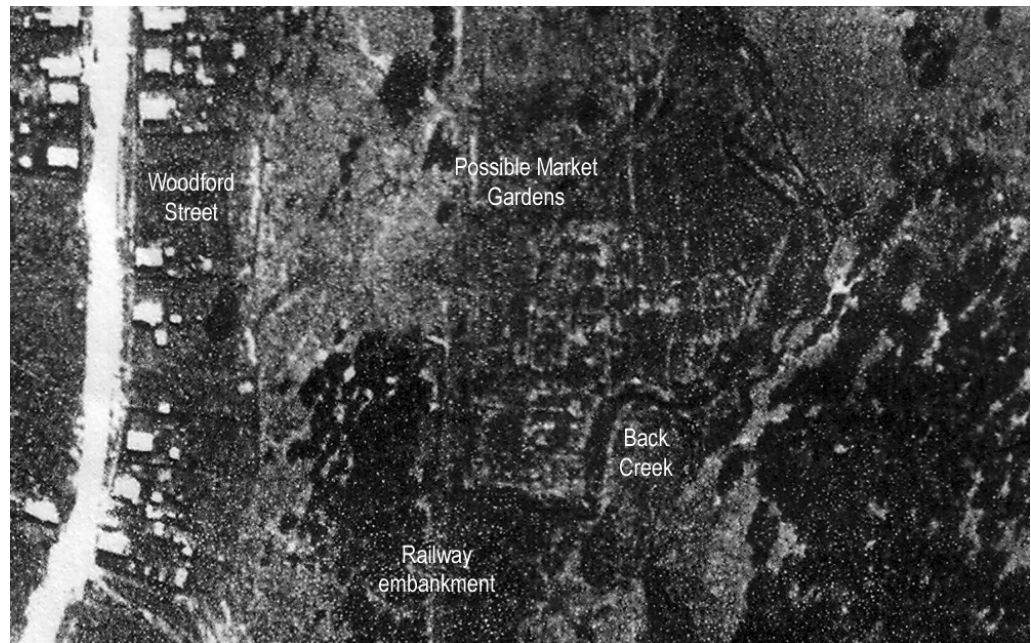


Figure 5.8 Extract from 1944 aerial photograph of Minmi, showing possible market gardens.

It is suggested that the 'Chinese Gardens' were market gardens, established on the edge of Minmi, where mainly unnamed and unknown numbers of Chinese planted vegetable gardens. Little is known about the market gardens, such as the date of commencement, or the layout of the gardens, but it is reported that by the 1930s most Chinese had 'moved away'. "One of the last Chinese was Duck Wan who took his vegetables to the Newcastle markets by horse and cart. Old timers remember him selling his produce around the town from baskets, hanging from a pole on his shoulders" (1991: 71).



Figure 5.9 Extract from 2008 aerial photograph of Minmi, showing possible market gardens.

If archaeological evidence were uncovered relating to market gardening it could present itself through four main forms:

- buildings and infrastructure (structural evidence for buildings, including residual archaeological remains of posts/piers);
- artefact scatters and dumping events (background scatters or glass and ceramic often seen as a 'sheet midden' created from 'fertilisation' of the land with manure from cess-pits; subfloor occupation deposits [primarily associated with housing structures]; and rubbish dumps);
- landscape evidence (garden beds, pipe lines, construction, drainage ditches, duckboards and footpaths); and
- movable heritage (household furniture and fittings, farm tools and machinery, consumables and building materials).

A view across the landscape in 2007 (*Photograph 5.41*) shows that this area is now covered in a low grass, with a few younger trees. No evidence can be seen for deliberate landscaping or modification of the water course. The grass cover prevented an inspection of the zone for cultural relics (such as ceramic and glass), although a well is located within the zone amongst the trees.

The area was presumably selected because of its fertile nature and possible separation from the remainder of the town (NB it is noted that across Australia in rural settings Chinese communities often settled outside of their 'European' counterparts [authors personal observations]). This location was near to the Brown's Model Farm, which also included vegetable gardens.



Photograph 5.41 Montage of the northern section of AZ1 (where the Chinese market gardens were possibly located).

Investigations into other NSW Chinese markets gardens reveal that relatively few have been listed at the local or State level. Four gardens are cited under the NSW State heritage register (Arncliffe Market Gardens, Kyeemagh Market Gardens, Toomevara Lane Chinese Market Gardens and Chinese Market Gardens La Perouse). Overall the significance of these four sites is derived from the long term historical use of the place as a market garden, the connection to an 'ethnic' population, the importance of the market garden for food production and supply on the local level, the modification and appearance of the landscape of the gardens themselves and the mode of horticulture applied and the technologies used and still present.

The historical notes for Toomevara Lane Chinese Market Gardens state "Market gardens such as this [Toomevara] played an important role in food production for the local and regional community, particularly during the Great Depression and Post and Inter-War periods. For much of the Great Depression, Chinese market gardens were the only source of vegetables for urban dwelling Australians." (SHR listing viewed online January 2008). The CMP for the Rockdale sites (including Toomevara Lane) state that the "primary importance is their continuous use for market gardening since at least the 1850s.

This has resulted in the creation of a landscape that bears evidence of continuous work and the marking of the changes that have taken place in the market gardening industry in that time" (Architectural Heritage Service 2002: Exec Summary).

The Minmi Chinese market gardens have a reasonably long period of use, possibly from the end of the 19th into the early decades of the 20th century (possibly 40 years). The market gardens were probably important in supplying Minmi with fresh produce, with sufficient surplus production to sell goods in Newcastle (c.f. Williams 1999:41-44, re: importance of Chinese agriculture to NSW from 1890s-1930s). However, the mode, form and exact location of the gardens are difficult to determine because of site conditions and possibly alluvial fill covering the general area. It is possible that the area retains archaeological deposits (as listed above), which would yield new information on food production and horticulture at Minmi, however the condition and integrity of any archaeological deposits is not possible to determine at the current time. This could possibly be resolved through non-intrusive methods such as a geophysical survey (GPR [ground penetrating radar] or resistivity survey), which could provide evidence for the location of garden beds and paths.

Former Miner's Residences;

Areas adjacent to Back Creek (to the east and west) sloping above the floodplain appear to have been terraced and used for housing across the historical mining period (see *Figure 5.7*). Historical photographs suggest that the houses in these zones mirror others at Minmi, with a basic weather board construction (see *Section 5.7.1*). No above ground physical remains are present, but the landscaping and terracing which occurred is very evident (see *Photograph 5.42*). Potential archaeological evidence relating to these former houses could include:

- buildings and infrastructure (structural evidence for buildings, including residual archaeological remains of posts/piers, foundation trenches, foundations and cess pits);
- subfloor occupation deposits (relating to the occupation of the houses);
- landscape evidence (terracing, formation of gardens and paths around the houses); and
- movable heritage (household furniture, fittings, personal affects and possibly items relating to mining).

The terraces where these houses were located can be correlated with historical photographs of Minmi (*Figure 5.7*) to provide an indication of the house type and possible layout on a lot by lot basis. It is likely that the condition and integrity of archaeological remains relating to house sites in AZ1 is good.



Photograph 5.42 Montage of the southern section of AZ1, with Minmi Road. House sites were located across the slope.

Minmi Reservoir Site

This archaeological site is listed on the Newcastle LEP. It has described in *Section 5.5.5* above.

J. Brown Garden House Site

This archaeological site is listed on the Newcastle LEP. It has described in *Section 5.5.6* above.

5.7.6 *Minmi Archaeological Zone 2 (AZ2)*

Coke Oven Site

A complete overview of the history and archaeological potential/significance of the Minmi Coke Oven site is presented in *Annex E*. This assessment has indicated that any remains relating to the coke ovens are possibly in a moderate condition, however, because of demolition and nearby open cut mining the integrity of the site could be moderate to low. The potential for archaeological deposits associated with this site could be confirmed through geophysical survey (GPR and magnetic survey).

Workshop Area and Eales Shaft;

The historical review of Minmi (*Section 4.2.2*) provides evidence for the location of the workshop and Eales shaft (see *Figures 4.2, 4.3, 5.5 and 5.7*). Eales shaft was started c.1853. The creation of the workshops and sheds etc soon followed, where the layout can be seen in 1905 photograph of the area (*Figure 4.3*). The workshop area included the workshop engineering sheds, steam chimney, Eales shaft, the ticket office, a good shed and two nearby buildings - Northumberland Hotel and Reels Hall.

Today, very scant evidence remains for this industrial zone, as all buildings, infrastructure, railway lines etc. have been removed, sold, scavenged or buried beneath vegetation. Landscape evidence is present in the form of a few flat 'platforms' and pads possibly indicating the location of these buildings and workings (see *Photograph 5.43*).



Photograph 5.43 Location of the workshop area (across middle ground below red roof house)

The archaeological evidence that may remain could include:

- landscape elements (including the mine shaft, terraced pads and banks and drainage channels);
- buildings and infrastructure (structural evidence for the workshop, sheds and other buildings/features, including residual archaeological remains of footings and foundations); and
- movable industrial deposits (from the workings and use of the industrial buildings, which could include machine parts and tools).

Given the historical removal of the buildings from this zone and the extent of open cut mining (during the 1950s) the archaeological condition and integrity of the workshop area is likely to be moderate to low.

Former Miner's Residences;

On the eastern side of Minmi were located a series of larger residences (around seven separate houses, with associated out buildings, can be seen see on *Figure 5.5*). These houses appear to have surrounding garden fences and small out buildings. Possibly occupied by more senior workers from the mine, they may be contrasted (in terms of size, layout and construction) against the workers cottages located in AZ1. The archaeological evidence is likely to be similar to that found in AZ1 (see descriptions above), but comparison of material culture deposits could provide an indication of social and wealth differences between those inhabiting the western and eastern sides of Minmi. The condition and integrity of archaeological deposits relating to these house sites is likely to be moderate to good, with increasing distance from the open cut mining activity.



Photograph 5.44 Landscape with evidence of former house sites

First School Site

Despite being a subject of local curiosity, the precise location of Minmi's first school is not known. Anecdotal evidence is present in NHDHS (1991:13), but this hand drawn plan only provides an approximate context for the location of the school. Local knowledge suggested that the school could be positioned near the house shown in *Photograph 5.45*, although this area was not surveyed because a private residence occupies the lot.

If archaeological deposits relating to the school site were uncovered, then potential evidence could include:

- landscape (modification of the slope for creation of the school and a school yard);
- buildings and infrastructure (possible remains of the school building and infrastructure including cess pits and drainage channels); and
- movable culture, where particular focus should be placed upon subfloor deposits (relating to education and children, such as writing slates and slate pencils, toys and beads etc.).

Given the absence of development and consequential impact to the slopes in the possible area of the first school, the archaeological site could have moderate to good condition and integrity.



Photograph 5.45 Possible location of the first Minmi school (behind middle ground trees)

Remains Of Railway Embankments (See Description Above).

The embankments from the Duckenfield Colliery No 1 and No 2 railway branch lines are listed on the Newcastle LEP. They are described in *Sections 5.5.3 and 5.5.4* respectively.

The local history of Minmi/Link Road site highlights that a number of NSW historical themes are clearly illustrated by both the tangible and intangible values of Minmi and its surrounds. Identification of these themes assists with the following:

- understanding the role and importance of the place in NSW and Australian history;
- developing a statement of heritage significance of the site;
- prioritising management activities in relation to the site; and
- developing an interpretation strategy for the site.

The NSW Historical Themes Guideline and the Australian Historical Themes framework have been used to identify the historical themes for the Minmi/Link Road site. The NSW historical themes for the Minmi/Link Road site, as they align with the Australian Historical Themes, are provided *Table 5.4* below.

Table 5.4 *Historic Themes for Minmi*

Australian Theme	NSW Theme	Discussion
Theme 2 Peopling Australia	Aboriginal cultures and interactions with other cultures	The Minmi/Link Road area contains Aboriginal sites that can be directly linked to the habitation and subsistence patterns of local Aboriginal groups during the mid-late Holocene. The Minmi/Link Road site contains a network of Aboriginal tracks/routes, which were used to move between the swamp areas, other habitation zones and possible ceremonial places.
	Migration	Many migrants were employed as miners within the mines in and around Minmi (particularly from the UK). Chinese migrants undertook market gardening activity at Minmi.
	Ethnic influences	The culture and influence is embodied through the creation of Chinese market gardens and migration of mine workers, from the UK and across Europe.
Theme 3 Developing local, regional and national economies	Agriculture	The establishment of Chinese market gardens possibly played a vital role in providing fresh produce for the relatively isolated town of Minmi. During the 20 th century it is reported that the market gardens also supplied Newcastle.
	Commerce	Minmi was established as a Company Town through the commercial opportunities established by coal mining and coke production. The town grew to include a variety of shops, hotels and other local businesses, which provided sufficient economic prosperity to attract workers to Minmi. The failure of commerce (with reference to the mining industry) shaped the decline of Minmi during the early to mid 20 th century.

Australian Theme	NSW Theme	Discussion
	Environment - cultural landscape	<p>Minmi/Link Road's cultural landscape is apparent on two levels - the Aboriginal landscape and the industrial landscape.</p> <p>The Aboriginal landscape can be seen through the procurement of economic resources from the Hexham swamp and the walking routes traversing the hills in the south.</p> <p>The industrial landscape saw substantial modification to the original landscape form, through the commencement of mining and the development of mining infrastructure (pits and shafts, railway lines and the town of Minmi). These are embodied in the changes that have occurred to the landscape as a result of the mining and development for housing. Minmi town demonstrates landscape modification through selection of the sites for the village (abutting surface exposures of coal and located in a relatively flat basin which is in juxtaposition to the surrounding hilly landscape), habitation (i.e. houses, churches, schools, the cemetery etc), industry (including the railways, workshops, mine infrastructure, coke ovens and pit heads), commerce (mining, public houses, the post office, shops) and small scale agriculture.</p>
	Industry	Industrial practice at Minmi can be directly related to coal mining and coke production. The fortunes of the coal industry can be directly linked to the growth and decline of Minmi. The creation of these two industries spurred the associated buildings, mine workings and railway lines.
	Mining	Although initially established as an agricultural area the discovery of coal and the long history of its extraction were responsible for the booms and the busts of Minmi. Mining was responsible for the establishment of housing, education, transport, law and order and other essential services to the area.
	Technology	The mining, railway and the coke production infrastructure are typical examples from the mid 19 th century. They demonstrate the principles of these industries and were either modified or abandoned once they became outdated.
	Transport	The establishment of the mining industry within Minmi resulted in the introduction of railway networks to the area which was initially used for industry. Later the railway routes were used for transportation of people, mail and goods to Minmi. Evidence of this theme is embodied in the remaining embankments and associated infrastructure (bridges and platform).
Theme 4. Building settlements, towns and cites	Towns, suburbs and villages	<p>The town of Minmi was established to provide housing for the Miners working for J & A Brown. As a Company Town Minmi did not fall within the boundaries of a Council and improvements to the area were reliant on the generosity of the Browns or the fundraising efforts of the towns folk.</p> <p>Evidence of this theme is embodied in the cultural landscape, road network, remaining hotel building, old school site, the courthouse and all archaeological deposits relating to historical occupation. The social history of Minmi and the Brown family is strongly engrained in local culture.</p>

Australian Theme	NSW Theme	Discussion
	Land tenure	The area that became Minmi was originally owned by Eales. He sold the land to the Brown's who established the town of Minmi. Occupation of the town resulted in creation of zones for habitation and use of areas for industrial purposes including industry, mining and agriculture. Eventually some residents were able to purchase their own houses and land, resulting in private ownership.
	Accommodation	The Brown's company owned all housing at Minmi which they rented at a shilling a week to encourage miners and their families into the area. Minmi's cultural landscape (with terracing for houses), early working cottages (remaining standing) and archaeological sites provide direct evidence for this theme. The 'heritage' personification of Minmi is embodied through the type of housing originally created, which has been mimicked in terms of scale and extent by modern development.
Theme 5. Working	Labour	Most of the men in Minmi would have worked in the mine and historic evidence indicates that they would have worked a 6 and a half day week. Other work requiring labour included agriculture, the coke industry, engine sheds and the workshops. These values supported by anecdotal evidence, historical photographs and the remains of some heritage sites,
Theme 6. Educating	Education	This theme is embodied in the evidence of the current and former schools sites as well as the historical evidence gathered by the school. Minmi has always retained a local school, which continues successfully today.
Theme 7. Governing	Law and Order	The number of workers at Minmi required an active police force. This is embodied in the surviving court house and historical evidence such as photographs.
Theme 8. Developing Australia's cultural life	Domestic life	This theme is embodied through the houses that were spread across Minmi, the need for a school and other community facilities not related to mining and industry. Minmi's archaeological resources have the potential to yield cultural material and information relating to the lives of the families who lived within Minmi. This can be supplemented through historical records and photographs.
	Religion	This is embodied in the evidence of the former Anglican and Presbyterian churches in Minmi. Further anecdotal evidence remains regarding additional churches including Methodist and Catholic churches.
Theme 9. Marking the phases of life	Birth and death	The cemetery at Minmi started as a private cemetery. This is unusual because it serviced an entire town rather than a family. This is embodied in the cemetery and the graves that remain.

5.9

ABORIGINAL HERITAGE SITES LOCATED WITHIN THE MINMI/LINK ROAD SITE

The Minmi/Link Road site survey inspected all zones that contained the potential to yield Aboriginal heritage sites and Aboriginal objects. This potential was determined by the extent of historical impacts, particularly open cut mining directly around the town of Minmi. Survey was only undertaken in zones with Aboriginal archaeological potential.

A total of six new Aboriginal heritage sites were identified during the survey. None of the previously recorded Aboriginal sites (*Figure 3.1*) on the periphery of the Minmi/Link Road site could be relocated. This included the zone (north-east) with AHIMS registered grinding grooves. Unfortunately these sites appear to have been impacted or covered through recent development and modification to the creek. Previously recorded stone artefact sites are more than likely to have been impacted by water erosion, which would have moved any surface material from its originally recorded location.

The six recorded Aboriginal sites were labelled MLR (Minmi/Link Road) 1 to 6. *Figure 5.3* displays the locations of these sites.

5.9.1

Description and condition of Aboriginal sites and the archaeological potential of the Minmi/Link Road site

Survey transects covered the majority of landforms and zones within the Link Road Minmi/Link Road site (see *Figure 5.1*). Observations made of soil conditions, landforms and Aboriginal site placement have permitted the extrapolation of results to culminate in Aboriginal archaeological zoning (defined as high, moderate, low or no archaeological potential – see *Table 5.1*) for the Minmi/Link Road site. The Aboriginal archaeological potential zoning is presented in *Figure 5.3*.

Archaeological Potential of the Minmi/Link Road site

In general it was found that the Minmi/Link Road site could be divided into three basic landforms – simple (albeit steep) slopes, flats and ridge lines. These landforms have defined how the Minmi/Link Road site had been used by Aboriginal people in the past.

The ridge lines, shown in *Figure 5.1* and *Figure 5.3*, formed connective walkways between the lower and upper flats and other resource zones (such as Hexham Swamp and the small creeks). As expected (following the predictive modelling, *Section 3.2.5*), it is upon these ridgelines that the majority of Aboriginal sites were discovered. Soil conditions on the ridgelines were generally good, with some residual (A horizon) soil (maximum of 0.2 m where observable), abutting shallow weathered clay (B horizon) and sandstone bedrock. Soil erosion on and adjacent to the ridgelines was evident but generally limited by thick vegetation on the immediate slopes falling away from the ridgelines. Thus some major ridgelines have a high level of archaeological potential to yield further Aboriginal objects/sites.

The slopes connecting the ridgelines were uniformly steep. These again appear to have a substantial vegetation and soil covering, except where they have been used as access routes. In such locations, the slopes were heavily eroded and degraded by wash run-off, culminating in an absence of any (A horizon) soil and deep scars through the yellow (B horizon) clays (maximum 0.4 m, average 0.2 m) to the underlying fragmented bedrock. It is suggested that given the steep nature of the slopes, they are unlikely to contain buried Aboriginal sites and thus have a low archaeological potential.

All slopes lead to ephemeral small creeks, which were generally water worn to the underlying bedrock. Water erosion has carried soil (alluvium) down the slopes, so that some creeks contain deep soil deposits on either bank. Such areas have a moderate potential to contain buried Aboriginal sites beneath slowly accumulated soils.

A number of flats are found between the ridges and slopes, which were covered by low grasses and small trees. These zones have been subject to limited erosion by tracks, water run-off and mining activities. Soils in these areas appeared to comprise of A1, A2 and B horizons, with depths between 0.1 m and 0.5 m (where visible). Flats that had not been subject to erosion or historical impact have a moderate archaeological potential for further Aboriginal sites.

MLR 1

MLR 1 was an axe grinding groove on an area of very flat, smooth sandstone on the bank of a stream within the first area surveyed to the north of Link Road (*Photograph 5.46*). This outcrop of sandstone was the only one visible within the creek margin and appeared to have grooves with various directional strokes. Axe grinding grooves are most commonly found on rock slabs or outcrops of rock, usually homogenous and fairly fine grained sandstone and are generally determined by the presence of suitable rock as well as water (*Hagland 1986:33*).

The zone surrounding MLR 1 has been assessed as having moderate archaeological potential due to the overburden of soil that was present on either side of the stream, and the relatively intact integrity of the stream area.



Photograph 5.46 Detail of MLR 1

MLR 2

MLR 2 was in the area to the north of Link Road and located at the top of a flat cleared section of a ridge. The site was an artefact scatter consisting of ten chert pieces and two cores (*Photograph 5.47*). The cores retained parts of the cortex on the dorsal side and the area showed substantial evidence of stone working, with 6 fragments of heat affected debitage recorded in the vicinity (within 50m). The scatter of artefacts appeared to extend along the ridge to the south west, within an area of 50m.

The ridge where this site was located was quite wide (3-4m) with high ground visibility across the whole area. This location is characterised by the confluence of several transmission line easements and had been greatly changed through the passing of vehicles and the import of gravel surface for a vehicle track. This immediate area of MLR 2 is not likely to contain further Aboriginal material, although the surrounding and un-eroded portions of the ridgeline have a high archaeological potential.



Photograph 5.47 Detail of part of the artefact scatter MLR 2

MLR 3

MLR 3 consisted of 3 pieces of burnt/heat affected debitage approximately 60m to the west of MLR 4 on the same ridge line (this survey transect [#7] also connected to MLR 2). The track (2 m wide) on the ridge had been extensively cleared as part of the transmission line easement and covered with imported gravel. Although there was high visibility throughout the area no original soil landscape was discernable and no bedrock was observed.

The site MLR 3 has been assessed as having a low archaeological potential given the clearance of this area for the transmission line and the import of gravel for the vehicle track. However, the landform (a wide upper flat on the top of the ridgeline) can be described as having a high archaeological potential because immediately either side of the track clearance of original soil profiles is limited.



Photograph 5.48 Detail showing artefacts from MLR 3

MLR 4

MLR 4 site consisted of an isolated find – a large silcrete flake showing indications of retouching along one side. The flake was found on a grassy track in the transmission line easement on an upper flat adjacent to the ridgeline, slightly down slope from MLR 2 and 3.

MLR 4 has been placed within a zone of high archaeological potential because of the association with the ridgeline and the upper flat. It should be noted that zoning in the area of MLR 4 is dependant upon the depth of topsoil and the general absence of impact to buried soil horizons by the transmission line.



Photograph 5.49 MLR 4 Isolated Find

MLR 5

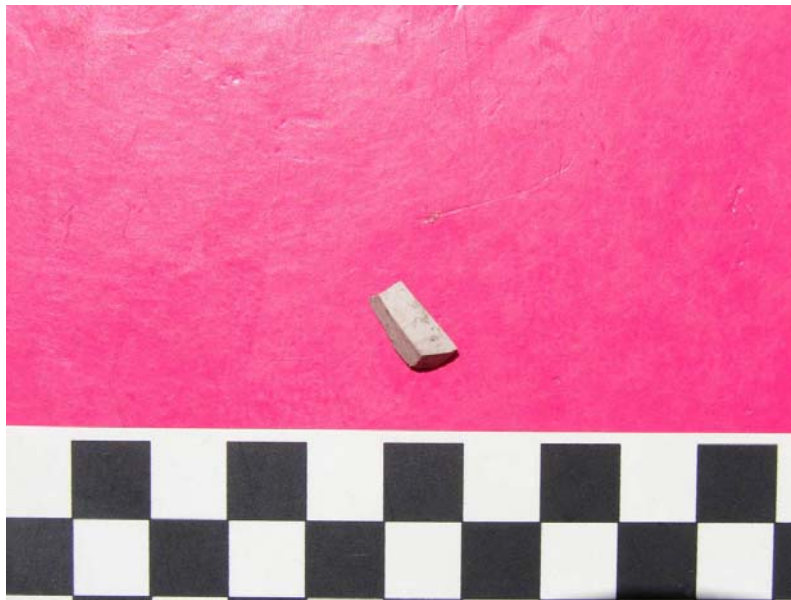
MLR 5 consisted of an artefact scatter of four pieces of chert. These were found in the transmission line easement approximately 55 m to the west of MLR 4. The site has been exposed because of erosion impacts associated with the transmission line, but is located within an area of high archaeological potential through its association with the upper flat and ridgeline.



Photograph 5.50 Detail of artefacts from MLR 5

MLR 6

MLR 6 site consisted of an isolated find of grey chert debitage. The chert was of extremely good quality and was found along the flat bush/walking track at the top of a ridge. The site has been exposed because of erosion impacts associated with the transmission line, but is located within an area of high archaeological potential through its association with the upper flat and ridgeline.



Photograph 5.51 Detail of MLR 6 - isolated find

Synopsis of Aboriginal sites and archaeological potential

The survey revealed a series of small Aboriginal lithic sites along and adjacent to a major ridgeline (identified as an Aboriginal walking track). These sites had been primarily exposed because of the construction of transmission lines. In some cases this construction necessitated the importation of foreign stone material and erosion, the combination of which has significantly impacted the condition and integrity of these Aboriginal sites (resulting in a determination of low archaeological potential). However, the impact zones on the ridgelines are not wide and therefore relevant ridgelines within the Minmi/Link Road site have been designated as having a general level of high archaeological potential to yield further Aboriginal objects/sites where sites will maintain both good condition and integrity.

The community meeting provided the opportunity for the local community (both Aboriginal and historical, residents and non-residents) to further work with ERM to develop their and the Project Team's understanding of the 'social' heritage values associated with Minmi. The discussion ranged across the pre-history, history, built heritage and archaeological, to the values associated with an appreciation of living in the place – both from an Aboriginal and modern point of view. These values, determined at the meeting have been used during the assessment of the place against the NSW heritage criteria, and taken into consideration during the concept plan design and assessment of heritage impact.

Statement From The Minmi Progress Association

“Minmi, what this village means in this busy world.

There are few places that are truly unique, as we see the development of adjacent land that has been completed and the commencement of further development has given us the opportunity to rectify the mistakes made by other developers e.g. total elimination of vegetation, impractical narrow roads and small residential blocks.

Not being adverse to change we accept that the extension to our village is inevitable but would hope that this development can be both environmentally and family friendly. In this stressful world we can honestly say when driving into our village from all directions and are greeted by the rural surrounds, many trees and amazing neighbourhood, we feel we are truly blessed and are grateful that our children will live to appreciate our lifestyle.

We hope that this process can be mirrored in future developments with the wider streets, and recognising the need for larger building blocks. We would like to take this opportunity to thank Coal & Allied for the opportunity of allowing the community representatives to be involved in this very emotive process and congratulate the staff on professionalism and compassion.

Statement Of European Heritage Significance

Minmi Village, its layout, landscape and industrial, social, built and archaeological heritage are significant in the context of NSW's history as they encapsulate the values and vision of establishing and operating a remote industrial community in the Lower Hunter.

The Minmi/Link Road site is significant for its retention of a range of material evidence relating to mining, industry and development of a community within a company town. This significance is demonstrated through the placement of mining infrastructure, workers cottages, community facilities and finally owner's residences.

This pattern of historical development remains apparent today and deserves to be conserved through appropriate consideration with sensible planning and integration in ongoing regional development" (Coal & Allied 2007b:5).

Statements from the Aboriginal Community

The Aboriginal community was represented by both the Local Aboriginal Land Council and Traditional Owners. These groups provided two statements that were authorised by these groups and printed in the meeting outputs document (Coal & Allied 2007b). The manifestation of significant discussions with the Aboriginal stakeholders also led to the development of traditional Aboriginal 'walking routes' within the Minmi/Link Road site. Whilst these are not tangible sites they can be readily appreciated by anyone who moves through Minmi and the bushland within the Link Road portion of the Minmi/Link Road site. These routes were recorded by the author and the design team and are presented in *Figure 5.4*. These routes have been interpreted through the creation of the urban form and character for the Minmi/Link Road site.

"The principles of our cultural traditions still exist today to keep intact the moral and spiritual fibre of this land, enabling the best direction for all who live within it. Our culture and spiritual traditions have a story to tell ... ". 'Welcome to Country' excerpts from Coal & Allied regional forum Meeting, 27 August, 2007 by Nola Hawken, Awabakal, Traditional Owner.

"The Awabakal Traditional Owners have come to participate in the Northern Estates Meeting in good faith and intend to assist Coal & Allied with matters pertaining to our cultural Inheritance to the best of our knowledge and ability.

The principal vision and aims of the Awabakal people is to protect the cultural heritage of our ancestors. Therefore the residual evidence of our people is held in high degree and is regarded as a cultural reminder that unites us with our ancestral country and spirituality. The Black Hill and Minmi areas fall within the confines of the traditional Awabakal boundary and are therefore regarded as culturally significant to the Awabakal descendants.

The Awabakal Traditional Owners see this land as being the cultural bed for our lives, and believe that it is important to protect the heritage of our Ancestors giving support to our unique cultural heritage.

Historically, our ancestral family has been disenfranchised from our cultural environment and this has continued for over two centuries. Therefore, it is imperative for Coal & Allied to enable accessibility to educate our children and share in the stories of our experience, ensuring the 'survival' of our sacred culture.

Our cultural environment is a holistic one that interconnects the spirituality of our land with our past, present and future. Over time our language, tradition and lifestyle have been interpreted by many people. This land is full of meaningful reminders that speak to the present day population through our stories, language, art and a landscape that contains numerous cultural heritage sites... In the context of land development it is disturbing knowing that once more our ancestral family's land is once again being changed forever ... Therefore we believe that it is essential to nurture new visions that are inspired by the cultural integrity of our ancestral family." (Coal & Allied 2007b:3).

"This area and its physical landmarks have been and are of a continuing and great significance to the local Indigenous people. For thousands of years Indigenous people have occupied and used the abundant natural resources to forge a strong cultural identity that like all Indigenous clans are totally unique to this area. But we know we can't keep living in the past and we must make our future our primary focus. Working together with the local Indigenous people, we believe that Coal & Allied can be a pathway to achieving a better future for all Australians regardless of race. It is important that Coal & Allied continue to show respect to the Indigenous people native to the area and help us develop and better our own communities. We have lost a lot as Traditional owners of this area, but knowing Coal & Allied, one of Australia's most successful companies is committed to working with us in a productive and respectful manner can make all the difference in getting Indigenous people to participate in a real and honest way. The land and its people have lost everything but we can regain our pride by becoming community builders and from those roots we are becoming nation builders. We are taking our proper position as people who need to be active in all developments and too see such a great and natural place destroyed gives us great grief, but as was said earlier, we cannot keep living in the past. That is not to say that tradition is lost. It means that along side Coal & Allied we can recover some aspects of our identity and rebuild. We need the capital to make these things happen and with Coal & Allied we know that our needs are central to those of all Australians. We all want a fair and balanced go. And in this proud nation that is one thing we know we can get." (Coal & Allied 2007b:3-4).

This chapter provides heritage significance assessments for Aboriginal and historical heritage items within the MLR Minmi/Link Road site. These assessments are of the heritage items identified in *Chapter 5*. This heritage significance assessment has been used to understand the potential impacts resulting from development across the Minmi/Link Road site (*Chapter 7* and *8*) and develop heritage mitigation measures for these impacts (*Chapter 9*).

The assessment of Aboriginal heritage values is followed by the historical heritage assessment.

6.1

SIGNIFICANCE ASSESSMENT FOR ABORIGINAL HERITAGE

Heritage sites, objects and places hold value for communities in many different ways. The nature of those heritage values is an important consideration when deciding how to manage a heritage site, object or place and balance competing land-use options. The many heritage values are summed up in an assessment of "Cultural Significance".

The primary guide to management of heritage places is the Australia ICOMOS Burra Charter 1999. The Burra Charter defines cultural significance as:

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

Places may have a range of values for different individuals or groups.

The current assessment has attempted to identify Aboriginal heritage objects, sites and places within the Minmi/Link Road site and obtain enough information to allow the values of those objects, sites and places to be determined.

Research and consultation with the Aboriginal community was also conducted to determine whether any heritage value relates specifically to the Minmi/Link Road site regardless of the archaeological evidence. While it is accepted that the Minmi/Link Road landscape is of significance to local Aboriginal people, including the ATOAC, ADTOAC and ALALC, this investigation sought to identify whether the Minmi/Link Road site held specific values either in itself, or as part of a local area of particular significance.

As discussed in *Chapter 5*, the Minmi/Link Road site was determined to contain Aboriginal walking tracks, which linked resource and habitation zones to the north and south. Further Aboriginal heritage sites with archaeological evidence are of value to the Aboriginal community because they represent the tangible connection between the land today and traditional Aboriginal occupation and use.

Scientific value is assessed according to the research potential of a site. Rarity and representativeness are also related concepts taken into account. Research potential or demonstrated research importance is considered according to the contribution that a heritage site can make to the present understanding of human society and the human past. Those heritage sites, objects or places of high scientific significance are those which provide an uncommon opportunity to inform us about the specific Aboriginal modes of economy, demography or society.

The comparative rarity of a site is a consideration in assessing scientific significance. A certain site type may be 'one of a kind' in one region, but very common in another. Artefacts of a particular type may be common in one region, but outside the known distribution in another.

The integrity of a site is also a consideration in determining scientific significance (which has been determined through the archaeological potential of each site). While disturbance of a topsoil deposit with artefacts does not entirely diminish research value, it may limit the types of questions that may be addressed. A heavily cultivated paddock may be unsuited to addressing research questions of small-scale site structure, but it may still be suitable for answering more general questions of stone tool distribution in a region and raw material logistics.

6.1.1 *Aboriginal heritage research questions*

The capacity of a site to address research questions is predicated on a definition of what the key research issues are for a region. In the areas of Minmi/Link Road the main archaeological research questions centre on Aboriginal subsistence and movement through the local landscape, especially with relation to the known subsistence and ceremonial zones to the south, north and west (c.f. *Figure 3.2*).

The background literature review and consultation with Aboriginal stakeholders suggests that future scientific archaeological work could investigate seasonal use of the local landscape, where evidence from inter and intra site assessment could reveal patterns of subsistence and habitation, with possible connections to local later Holocene Aboriginal economy, demography and society.

Archaeological questions could be asked on a local and regional basis. Suitable archaeological research questions focusing on the local Aboriginal archaeology could be considered in order to facilitate further understanding of the Minmi/Link Road site. These may include:

- is there evidence for higher densities of archaeological sites along the ridge lines following the basic patterning observed to date?
- are these sites representative of transitional sites, i.e. temporary use, or are site present that indicate longer periods of habitation within the higher landforms away from Hexham swamp?
- do these sites have the same composition (materials, lithic types and densities) as those adjacent to resource or ceremonial areas?

Regional research questions include:

- how do sites on the ridgelines differ to those in adjacent hilly country or next to Hexham swamp?
- is this indicative of seasonal exploitation or longer term Holocene variability?
- is there evidence for long term Holocene variability, such as social opening or closure, within a regional archaeological pattern?
- how can this be contrasted against Aboriginal subsistence patterns from coastal zones?

6.2 *ABORIGINAL HERITAGE ASSESSMENT OF SIGNIFICANCE*

6.2.1 *Recorded Aboriginal Sites*

MLR 1 (grinding grooves) is considered a representative site. The zone surrounding the site has been assigned a moderate level of archaeological potential. Further research on MLR 1 has the potential to address basic scientific questions on the local level.

MLR 2 (open site) is considered a representative site. The area defined as MLR 2 has been assigned a level of low archaeological potential; however, the zone surrounding the site (the ridge line) has high archaeological potential. Further research on MLR 2 has the potential to address basic scientific questions on the local level.

MLR 3 (open site) is considered a representative site. The area defined as MLR 3 has been assigned a level of low archaeological potential, although as for MLR 2 the surrounding area has a high archaeological potential. Further research within zone has the potential to address basic scientific questions on the local level.

MLR 4 (isolated find), MLR 5 (open site) and MLR 6 (isolated find) are all considered representative sites. The zone surrounding these sites has been assigned a level of high archaeological potential. Further research within zone has the potential to address scientific questions on the local and possibly the regional level.

6.2.2 *Areas With Archaeological Potential*

High Archaeological Potential

All areas with a high archaeological potential are likely to contain representative Aboriginal sites (i.e. stone artefact scatters – in greater density than a background scatter). It is possible that larger stone artefact sites with good condition and integrity and intra site patterning (i.e. knapping floors) could be located within this zone. Any such sites could be able to answer scientific questions on the local and regional level.

Moderate Archaeological Potential

Zones with a moderate archaeological potential could contain representative Aboriginal sites, with some focus or specific activity evident on the intra-site basis. Any such sites could be able to answer scientific questions on the local and contribute to questions on the regional level.

Low Archaeological Potential

Areas with a low archaeological potential are unlikely to contain Aboriginal sites, other than a nominal background scatter. Any Aboriginal objects within these zones are unlikely to be able to contribute to local or regional research questions.

No Archaeological Potential

All other zones within the Minmi/Link Road site have no archaeological potential as these zones have been significantly impacted and modified by historical activities. These areas will not contribute to scientific understanding of local or regional Aboriginal research questions.

6.2.3 Summary Of Aboriginal Heritage Significance Assessment

A summary of the Aboriginal heritage significance assessment is presented in Table 6.1.

Table 6.1 Summary of Aboriginal Heritage Significance

Site	Rare/ Representative	Archaeological potential	Scientific significance
MLR 1	Representative	Moderate	Moderate
MLR 2	Representative	Low	Low
MLR 3	Representative	Low	Low
MLR 4	Representative	High	Moderate
MLR 5	Representative	High	Moderate
MLR 6	Representative	High	Moderate
Areas with low archaeological potential	Likely to be representative	Low	Low
Areas with moderate archaeological potential	Likely to be representative	Moderate	Moderate (local basis)
Areas with high archaeological potential	Likely to be representative	High	Moderate (possibly high) (local and regional basis)
Intangible Social Values			
Aboriginal waking routes		High	Moderate
<ol style="list-style-type: none"> 1. All Aboriginal sites have a high level of Aboriginal social significance 2. Rare/representative described in Section 6.1. 3. Archaeology potential defined in Table 5.1. 			

6.3 ASSESSMENT OF BUILT AND HISTORICAL HERITAGE SIGNIFICANCE

The Burra Charter (*The Australia ICOMOS Charter for Places of Cultural Significance*) has set a standard for assessing heritage significance based on the aesthetic, historic, scientific and social values embodied in an item or place. In New South Wales the *Heritage Act 1977* has established seven criteria for the identification and assessment of heritage values. The NSW Heritage Office, Department of Planning, has developed a guideline to assessing heritage significance against the seven criteria in their publication *Assessing Heritage Significance*. These criteria are:

- 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 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 principal characteristics of a class of NSW’s:*
 - *cultural or natural places; and/or*
 - *cultural or natural environments.*

6.4

ASSESSMENT OF SIGNIFICANCE AGAINST CRITERIA FOR MINMI TOWNSHIP

An assessment of historic heritage significance has been undertaken for the town of Minmi and its surrounds. It takes into consideration the listed heritage items (Newcastle LEP 2003), the archaeological potential, the early mining cottages, the layout, infrastructure of the town and the historical values that have been uncovered during the course of this study.

The role of the existing heritage items (within and adjacent to Minmi) have been recognised with reference to their contribution to the overall heritage values of the place. No further assessment of these items has been conducted. This is due to the fact that the heritage value of the locally listed items have been demonstrated by their inclusion on the LEP and validated by the current field survey.

The existing heritage sites that meet the assessment threshold for their inclusion, at the local level, include the Former Minmi Reservoir Residence (17 Reservoir Road), the Former Minmi Public School (196 Woodford Street), the Duckenfield Colliery No2 Railway Branch Line and Duckenfield Colliery No1 Railway Branch Line, the Minmi Reservoir Site (15 Reservoir Road) and the Garden House Site (177 Woodford Street).

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)

A strong mining industry in the Lower Hunter region flourished during the mid-late 19th century. This helped establish and encourage the growth and development of the wider Newcastle area. The discovery of coal at Minmi and the industrial extraction of that natural resource played a significant part in the history of the NSW coal industry.

Evidence of the commencement, evolution and eventual cessation of coal mining practices within the company town of Minmi is embodied through the cultural landscape and setting of the town and surrounding bushlands, the numerous heritage buildings and associated archaeological resources as well as the oral history and traditions of the town, held by locals, and the collections of photographs, newspaper articles and archives relating to the place.

The cultural landscape contains evidence of deliberate human modification to the natural slopes, valleys and flats to create a landscape where a synthesis existed between the town and the initial (and final) mine sites. This landscape evolved, changed and developed as different coal seams were extracted through a process of subsurface and open cut mining. Remnants of the industrial process and the life of the miners, and their families, who inhabited the town are found in the landscape, the listed heritage items, the former miners houses, open cut mining activities, the rail embankments and numerous archaeological sites.

Individual aspects of Minmi that have not previously been recognised under this criterion include the former St Johns Church and Manse, which reflect the influence of religion at Minmi. Newly assessed archaeological resources at Minmi include the Coke Ovens, the Chinamen's Gardens and the workshop area with Eales Shaft.

The Minmi Coke Ovens, probably the second coke ovens in Australia, are historically important because they represent the introduction of larger scale coal processing and coke production in NSW, utilising the bee-hive oven design. The production of coke from the Brown's mines represents domination of local industry and markets (as evinced by the inability of other producers to enter the market). The Chinamen's Gardens have significance because of their association with the need for local food production connected to the development of local industry and for their association with Chinese immigration and possibly the influence of ethnic communities on local industry. The workshop area and Eales shaft can be described as the initial fulcrum for early mining activity, a hub at the centre of Minmi. This zone contained the original coal mine shaft, the engine sheds and the end of the local railway line.

The described heritage items, places and landscape satisfy criterion (A) at the local level.

There are a number of cottages associated with the 19th century development of Minmi. Field survey has verified the previous assessment that these cottages have been modified to varying degrees and do not meet the threshold for this criterion.

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)

Minmi is considered to have a strong and special association with John Eales, James Brown, Alexander Brown and John Brown.

Eales was a grazier and pioneer pastoralist, who tried to open up the area to the north of the Moreton Bay (Queensland) for grazing. He was part of an effort to establish new shipping lines between Sydney and Newcastle with the result that the Hunter River Steam Navigation Co was established. Eales was a keen supporter of bringing labour from China and India and promoted "coloured migration". His involvement in the Minmi mining area included the construction of the railway which connected the mines with the Hunter River at Hexham. At the time of his death in 1871 Eales was believed to be one of the wealthiest men in the colony.

James and Alexander Brown operated under the name J & A Brown and took over the colliery in 1859 after Eales withdrew. The colliery was handed on to James Brown's son John Brown. The Browns had a considerable influence on the NSW coal industry for over fifty years. Details of the Brown's historical connections are presented in *Chapter 4* and *Annex D*.

The association with John Eales and the Browns satisfies criterion (B) at a local level.

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)

Minmi/Link Road site does not meet the threshold for this criterion.

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

Minmi Township has a strong and special association with the residents of the township. Several local families have been in the area for multiple generations and descend from the miners who originally migrated to the area seeking employment in the mines. This intangible association is embodied through the stories, historical records and fabric of the place.

Minmi/Link Road site has a special connection with the local Aboriginal community. This association relates to the walking tracks and routes that traversed between Hexham Swamp, Minmi and Mount Sugar Loaf. It is likely that prior to historical development of Minmi, the site of the town was used in connection with the economic exploitation of resources at Hexham Swamp.

Criterion (C) is met at a local level for both community groups.

Criterion (E) an item has 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 archaeological resources of Minmi have the potential to yield new archaeological information with regard to the industrial and domestic historical processes associated with Minmi.

Former house sites could yield artefacts belonging to the inhabitants of the houses, where analysis could provide new information about life in the rural and isolated town. Analysis of deposits from houses occupied by different social classes of people could provide evidence for differences (or similarities) between the blue and white collar workers. It is possible that Chinese, and/or European, cultural influences could be established from artefact deposits.

The Chinamen's gardens archaeological site has the potential to yield new archaeological information with regard to the layout and function of the gardens that is not available from other sources. Investigation of this archaeological resource could provide further data on the subsistence base of Minmi during the 19th century.

The Minmi Coke Ovens site has the potential to yield archaeological evidence for the introduction of coke production to Australia and the NSW coal fields. The site could provide evidence for the type of coking technology employed in the mid to late 19th century, with possible evolution over their operational life time. This information would add a different dimension to the archaeological resources currently heritage listed in and around Minmi.

The workshop and Eales Shaft area have the potential to yield new information relating to the operation, function, layout and evolution of this area.

The first school site has the potential to yield new information about early education in the company town. Discovery of the site could confirm the size and layout of the school buildings. Excavation of the site could yield artefacts from local school children and provide evidence of cultural and/or ethnic backgrounds.

The archaeological resources of Minmi meet criterion (E) at the local level.

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)

The presence of 19th century coke ovens does not appear to be rare in itself; however, it is likely that Minmi's ovens are the second coke oven constructed in NSW and the first commercially successful coke oven. The mode of coke production employed at Minmi is now defunct and archaeological remains of the Minmi coke ovens could demonstrate a process which is historically obsolete.

The coke ovens meet criterion (F) at the local level.

Criterion (G) an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; and/or cultural or natural environments.

Minmi was established and developed by the Brown's, the local miners and their families. The town's range of houses, remnant industrial landscape, churches, schools, cemetery and other constituent components, currently listed and unlisted, combine to demonstrate the principal characteristics of a company mining town within rural NSW.

The single (previously unassessed) element within Minmi that demonstrate the principal characteristics are the Coke Ovens. The ovens could provide evidence for 19th century coke manufacture, featuring a technology that was superseded and became defunct in the late 19th century.

Minmi town and the Coke Ovens meet criterion (G) at the local level.

None of the assessed dwellings meet the threshold for this criterion. However, buildings 91 (and 115 Woodford which recently burnt down see *Photograph 5.28*), which have not undergone extensive alterations, could be considered to represent the principle characteristics of working class dwellings, in a former coal mining community. However, this type of building is not considered to be rare and many examples of this type of building can be found within the wider Newcastle area.

6.5

HISTORICAL HERITAGE STATEMENT OF SIGNIFICANCE

Minmi, the company town, comprising its history, cultural landscape, built and archaeological fabric are considered to be significant at local level for their historical association with mining during the 19th century.

The place can be directly linked with John Eales, James, Alexander and John Brown who were the business men that commenced and established mining companies at Minmi. Their connections and business were significant with the local and regional mining community for around half a century.

The local mining community is historically significant because of their efforts to create the town of Minmi and further its progress and development through their own endeavours. The people who inhabited the town represent a wide range of ethnic background from Europe and China. Minmi is still significant to the local community as many families have direct connections to the mining industry of the place. The local Aboriginal community also has connections to the Minmi/Link Road site through their long term Holocene occupation of the region.

In addition to prior heritage assessments, this study has found that a number of additional items have significance at the local level in relation to the history of Minmi and the ability of these items to yield new information.

St Johns Church and Manse reflect the growth of religion at Minmi. The various religious institutes reflect the diversity of ethnic groups who came to work at Minmi.

The Chinamen's Gardens represent the need for localised food production. The site has the potential to further knowledge relating to historical horticulture at Minmi. Studies into the supply of food to Minmi could be used to further determine the transportation of goods between Minmi and Newcastle.

The former house sites and industrial archaeological sites (such as the workshop and Eales Shaft) have the ability to yield new information in relation to the daily lives of the Minmi workers, the social position of these people, access to and use of material in a rural setting etc. The first school site could yield new information with regard to the school regime at Minmi, with the potential to yield artefacts from the younger members of the Minmi community.

The Minmi Coke Ovens are significant because of their history and association with the mining heritage of the town. They represent an integral component of Minmi's 19th century commercial success and the town's growth within the NSW coal fields. The ovens are testament to the expansive business acumen of the Brown brothers, who aimed to dominate and control local and overseas coal markets. The Mimi Coke Ovens appear to be the second set of ovens constructed in NSW and the first to be commercially successful. Their long history of use only appears to have ceased when the technology employed ceased to be profitable, which can also be associated with the initial downturn in the Brown family's fortunes.

The extent of remains for the coke ovens remains unproven, however, if archaeological relics were to be found at Minmi they would be significant as a central component of the mining history of the place. They have the potential to further industrial archaeological knowledge through investigation of the technology introduced to NSW in the 1860s.

7.1 OVERVIEW OF THE CONCEPT PLAN

The concept plan for Minmi\Link Road site is shown in *Figure 7.1*. When compared against the location of heritage items (*Figures 5.2, 5.3, and 5.4*) it can be seen that the proposed development has been designed to avoid and incorporate areas of heritage sensitivity as much as possible:

- all locally listed heritage items will be retained without direct impact;
- most of the 'new' heritage items will be incorporated into neighbourhood green spaces;
- key areas assessed as having high Aboriginal potential will be retained without development;
- many of the archaeologically sensitive areas within Minmi will be incorporated into the urban design, without impact;
- substantial open green spaces are being conserved within Minmi;
- development does not contradict the principles of the Newcastle DCP. The concept plan retains the green ridgelines and primary views across open spaces within Minmi;
- new development will be low to medium density;
- the key vantage point across Minmi (to the east, north and west) is from the Brown's Garden House. This area will be retained as green open public space;
- the open space in front of the Court House will be retained without development;
- the flat open areas in the north of Minmi (opening onto Hexham Swamp) are retained without housing development;
- representative samples of zones with high Aboriginal archaeological potential (and thus some Aboriginal sites) in the Link Road area will be conserved within Riparian corridors; and
- the urban design creates Aboriginal walking routes through walk ways, cycle routes and some roads. These are combined with Riparian corridors, thus combining ecological conservation with historical.

The design and location of the new development is subject to mining constraints and heritage considerations.

A flexible rural residential approach to the design of new development, particularly in the Minmi areas, is proposed in order to retain the existing landscape character (thus following the requirements of the DCP, refer to *Section 4.3.2*).

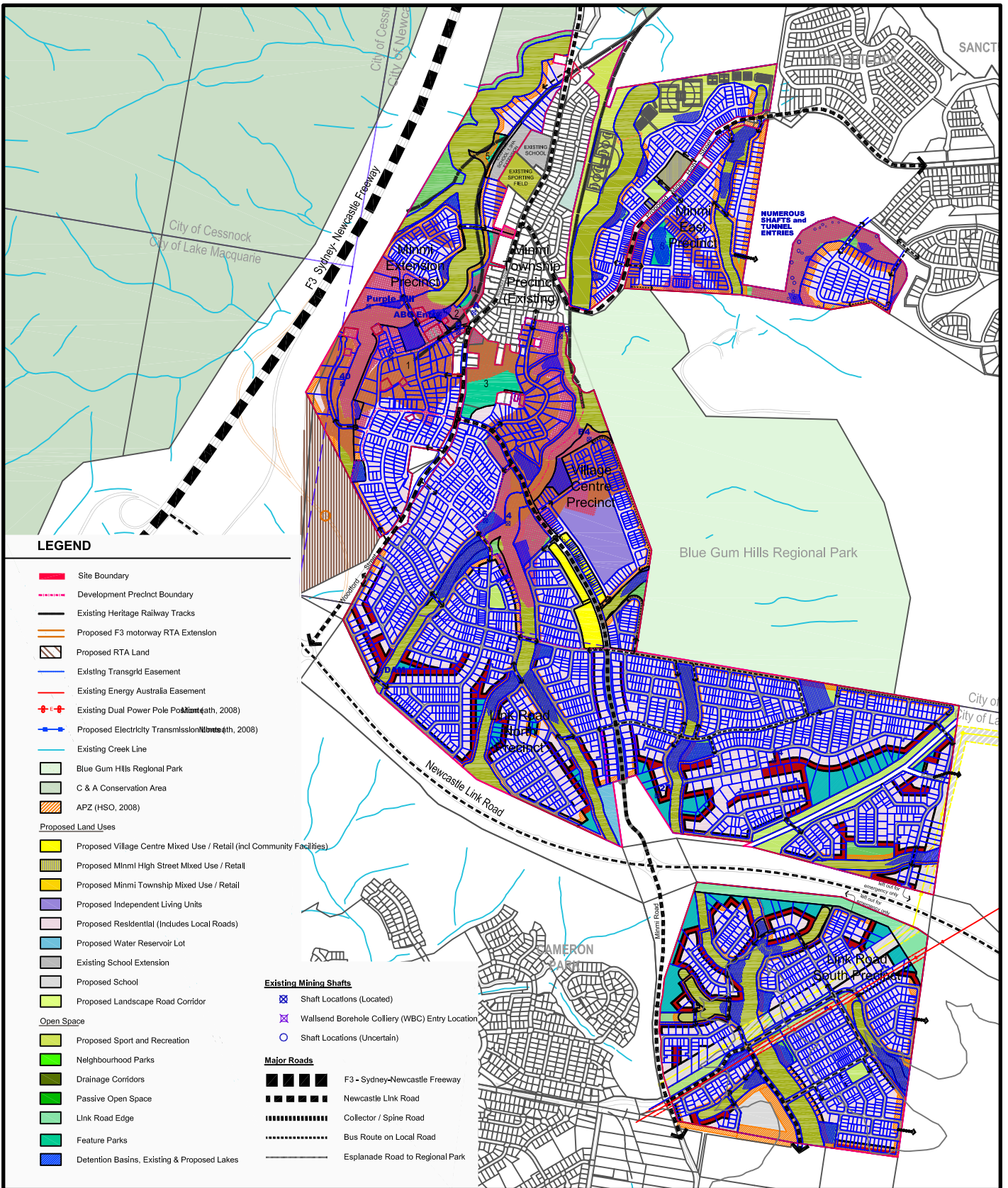
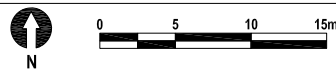


Figure 7.1

Minmi Link Road & Stockington Concept Plan

Client:	Catylis
Project:	Lower Hunter Land Development - Minmi Link Road & Stockington
Drawing No:	0111477s_M_CAD001_R1.dwg
Date:	29/11/2010
Drawing Size:	A3
Drawn By:	ML
Reviewed By:	DN
Source:	Conics Ref: 24311-15M CONCEPT-trans.dwg
Scale:	Not to Scale

Environmental Resources Management Australia Pty Ltd
 Building C, 33 Saunders St, Pyrmont, NSW 2009
 Telephone +61 2 8584 8888



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8.1 PREAMBLE TO ESD

An objective of the NPW Act (1974) is the “*conservation of objects places and features ... of cultural value within the landscape, including ... places, objects and features of significance to Aboriginal people ...*” (s.2A(1(b)(i)).

The DECCW’s publication, *Operational Policy: Protecting Aboriginal Cultural Heritage* (2009), provides guidance to proponents with guidance in term of ESD. The following discussion provides an overview of ESD and its application to the current project.

8.1.1 *Avoiding Or Reducing Impact To Aboriginal Sites*

“DECCW needs to balance the sometimes competing tensions between development activities and environment protection when we make decisions. Although the NPW Act gives a high level of protection to known Aboriginal objects, recent court decisions have reinforced that Part 6 gives the Director General (DG) express powers to consent to the damage, destruction or defacement of Aboriginal objects by development activities. The powers in Part 6 are not inconsistent with the objects of the Act or a requirement to give effect to ESD.” (DECCW 2009: Section 3.8)

The DECCW has three policies that provide guidance with respect to avoiding or reducing impact to Aboriginal sites:

Policy 20

Impacts to significant Aboriginal objects and places should always be avoided wherever possible. We [the DECCW] will promote the development (or amendment) of proposals to avoid impacts and therefore avoid the need for s.90 AHIPs.

Policy 21

Where impacts to Aboriginal objects and places cannot be avoided, we will require the proponent or AHIP applicant to develop (or amend) proposals so as to reduce the extent and severity of impacts to significant Aboriginal objects and places through the use of reasonable and feasible measures. Any measures proposed should be negotiated between the proponent or AHIP applicant and the Aboriginal community.

Policy 22

Once all avoidance, minimisation and mitigation options have been adequately explored, we may also consider the appropriateness of any proposed actions having potential Aboriginal cultural heritage benefit. Any actions proposed should be negotiated between the proponent or AHIP applicant and the Aboriginal community.

ESD has been defined in s.6 of the *Protection of the Environment Administration Act 1991*. This requires the integration of *economic* and *environmental* considerations (including cultural heritage) in the decision-making process. In regard to Aboriginal cultural heritage, ESD can be achieved by applying the principle of intergenerational equity and the precautionary principle. (DECCW 2009: 26)

Intergenerational Equity

“Intergenerational equity is the principle whereby the present generation should ensure the health, diversity and productivity of the environment for the benefit of future generations.

In terms of Aboriginal heritage, intergenerational equity can be considered in terms of the cumulative impacts to Aboriginal objects and places in a region. If few Aboriginal objects and places remain in a region (for example, because of impacts under previous AHIPs), fewer opportunities remain for future generations of Aboriginal people to enjoy the cultural benefits of those Aboriginal objects and places.

Information about the integrity, rarity or representativeness of the Aboriginal objects and places proposed to be impacted, and how they illustrate the occupation and use of land by Aboriginal people across the region, will be relevant to the consideration of intergenerational equity and the understanding of the cumulative impacts of a proposal.

Where there is uncertainty, the precautionary principle should also be followed.” (DECCW 2009:26)

The precautionary principle

“The precautionary principle states that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

In applying the precautionary principle, decisions should be guided by:

- a careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment
- an assessment of the risk-weighted consequences of various options.

The precautionary principle is relevant to DECCW's consideration of potential impacts to Aboriginal cultural heritage where:

- the proposal involves a risk of serious or irreversible damage to Aboriginal objects or places or to the value of those objects or places, and
- there is uncertainty about the Aboriginal cultural heritage values or scientific or archaeological values, including in relation to the integrity, rarity or representativeness of the Aboriginal objects or places proposed to be impacted.

Where this is the case, a precautionary approach should be taken and all cost-effective measures implemented to prevent or reduce damage to the objects/place." (DECCW 2009:26)

With respect to the above DECCW policy (Policy 20-22) and ESD the following sections detail specifications for conservation, potential impact, and possible reductions to impact on the identified Aboriginal sites and values.

8.2 STATEMENT OF HERITAGE IMPACTS

8.2.1 *Aboriginal Heritage*

The survey of the Minmi/Link Road site resulted in the discovery of six Aboriginal sites and assigned archaeological zoning (none, low, moderate and high) to the Minmi/Link Road site (see *Figure 5.3*).

Development will not impact MLR 1, but could impact the remainder of the sites. MLR1 is positioned within a Riparian zone and thus will be conserved during development. This Riparian corridor will also conserve an area zoned with high archaeological potential.

The concept plan for MLR development has located MLR2-6 and the largest zone with high archaeological potential (which was a significant Aboriginal walking route) as an area defined as 'heritage open space'. Heritage open space has been specifically positioned to conserve these sites and areas with potential and provide a new connection through any modern development along the ancient Aboriginal walking path. This has been designed to link by connection the old and new values of the subject lands and provide conservation for an area of Aboriginal significance within Minmi/Link Road. Inclusion of this conservation area shows both respect and consideration for Aboriginal heritage values.

It should be noted that MLR2-6 are located along a ridgeline that is currently zoned as a 'paper road'. This road is unlikely to be constructed in the future because of the proposed road layout of the Concept Plan which provides for a North to South access route in the general vicinity of the paper road. However, if constructed this road would impact these Aboriginal sites and the zone with high archaeological potential.

Any impact to these sites would need to be mitigated, which is described in *Chapter 10*. However, it should be noted that the area adjacent to the route of the road (north and south) is zoned with high archaeological potential. The remainder of this high archaeological potential zone has been located within a conservation corridor that will conserve all further Aboriginal objects and sites associated with this ridge line.

All zones with moderate and low archaeological potential will be impacted (by soil and vegetation stripping) by the proposed development. Development within these zones will be required to follow the mitigation requirements set out in *Chapter 10*. Impacts to Aboriginal intangible values are discussed below.

Built Heritage preliminary assessment (2007) identified that the proposed development had the potential to impact on the listed heritage items under the Newcastle LEP located within the Minmi/Link Road site, as highlighted in *Table 4.1*. This report also considered the view angles from the court house which are understood to add to its amenity as a business and conference centre and are therefore important to the economic viability of this heritage item. This heritage consideration had also been identified within the Newcastle DCP.

8.2.2 *Built Heritage*

An assessment of potential built heritage impacts has been undertaken in accordance with the NSW Heritage Office guideline “Statements Of Heritage Impact”. The potential built heritage issues arising from the proposal relate to:

- protection of views to and from heritage dwellings;
- retention of all listed and potential built heritage items;
- buffer zones between any new development and listed heritage items;
- sympathetic use of materials and building form, of new development in the vicinity of heritage items; and
- provision of vegetative screening between new development and existing heritage places.

The Concept Plan has taken these issues into consideration and has sought to incorporate heritage items into the new urban design and minimise potential impacts. The new development will be comprised of appropriately scaled new buildings to ensure views and the overall setting of existing heritage items are not adversely affected. New development is set back from the central portion of Minmi village and retains a green buffer around the older portions of the town.

An assessment of the impacts to the cultural landscape is presented below.

8.2.3

Historical Archaeological

Some archaeological sites could be impacted by the proposed development, although a representative proportion will be retained and no unique deposit will be impacted by the proposed development.

Further investigation into the archaeological resources within Minmi, triggered by proposed development, represents an opportunity to further expand the heritage knowledge of the place. This assessment has discovered a number of archaeological sites that had not previously been recorded or assessed for their heritage value. The investigations and consequential assessment have allowed further understanding of the historical values associated with Minmi.

Whilst some of the archaeological resources of Minmi will be impacted through the proposed development within the town, it is suggested that the overall consequence of the proposed residential development (from the initial investigation, to future archaeological excavations, interpretation and conservation of particular sites) is positive with regard to recognition, understanding and public appreciation of the local heritage places.

The proposed development incorporates many of the landscape elements (such as the railway embankments) and archaeological sites (including a sample of former houses and all listed archaeological sites) within Minmi.

Portions of the development will impact (remove all subsurface deposits/relics) some of the former house sites, the former first school, a portion of the workshop complex and Eales Shaft and the Chinese Market Gardens. All of the sites to be impacted are either representative of a type (such as the former house sites), where a sample will be retained, or have been assessed to have a low to moderate archaeological potential.

In order to mitigate the loss of historical archaeological sites it is proposed to undertake archaeological excavation on a representative portion of sites and incorporate the excavation and results into a programme of public interpretation (see section 10.2.3).

8.3

VISUAL CATCHMENT IMPACT ASSESSMENT FOR THE COURT HOUSE

The setting and surrounds of heritage items require careful consideration when making changes to these places. This can include views to and from an item that contribute to the aesthetic values of a site. Visual catchment issues in the heritage context for Minmi have therefore been considered in this section. It is focused on information contained in the Newcastle DCP, review of historic photographs and fieldwork observations.

8.3.1 *Impact on Views for Listed Heritage Items*

The Newcastle DCP recognises that the Court House has view corridors to the west of the building. This was confirmed by ERM during the site visit conducted in October 2007. It is considered that these view corridors are essential not only to the retention of the setting of the heritage item but review of historic photographs has confirmed that this area has historically been undeveloped.

Photograph 8.1 shows the current view from the grounds of the Court House. This photograph demonstrates that the area to the immediate west of the building is largely grassed containing some trees. In the middle distance it is possible to see housing backed by sporadically vegetated green hills and to the far west densely forested.



Photograph 8.1 Existing view from grounds of Court House

Proposed Development within the Visual Catchment

The proposed development for this area of Minmi has been guided by the heritage listings and has incorporated a range of heritage input and recommendations from ERM.

The grassed area to the west of the Court House has been designated as an area of “*Neighbourhood Park*” and will remain undeveloped.

A portion of the area described above as the middle distance will be designed with a “*rural residential character*” and will be comprised of a low density area with houses surrounded by farm lands.

A further portion of the middle distance, to the north west of the Court House, will be designed as “*village courtyard lots and traditional lots*” and will comprise of a core of large open lots with smaller lots to the south and north east.

The land further to the west, currently forested, will not be affected by this development. The proportion of the area within the middle distance is to remain undeveloped in its current open paddock, associated with the creek lines.

Analysis

Any development to previously undeveloped land surrounding a conservation area or heritage item will have a visual impact. The key consideration in this respect for the Court House is whether the potential visual impact is acceptable and whether the visual impact directly relates to the heritage values of the conservation area or heritage item.

While it is evident that elements of the proposed development will be visible from this view point, it is considered that overall the proposed layout will pose an acceptable level of impact to the visual catchment of the Court House for the following reasons:

1. the area to the immediate west of the grounds will remain undeveloped as will the forested area to the distance. Both of these elements play an important role in the visual catchment of the Court House.
2. The majority of the proposed new development to the middle distance is proposed to be of rural residential character. While some houses will be added to this area, the surrounding farm land will ensure that this section of the view angle does not appear "crowded" or out of character with the existing development to this area.
3. The area which will be developed with a higher density of houses has the potential to impact views from the court house. Therefore it is important that the design of these houses be in keeping with the principles of the DCP (*Section 4.3.2*), especially in terms of building height, materials and colour.

Statement Of Visual Impact

The potential visual impact of the proposed development on the Court House is acceptable as it does not impact the heritage values of the building, nor is it likely to adversely affect its amenity. The visual catchment of the Court House has been a key consideration in the planning of this area, and the selection of complementary density housing within this zone will ensure that this is not lost or devalued.

8.4

INTANGIBLE HERITAGE VALUES

It is acknowledged that an assessment of the potential impact to intangible heritage values can be subjective. The viewer of an area may have different responses to the appearance of the proposed development depending upon their personal aesthetic preferences and familiarity with the area.

The following assessment describes the impacts to the cultural landscape, which have been recognised through the heritage assessment. This assessment has incorporated the views and opinions of the local communities.

8.4.1

Minmi's Landscape Character

The description of Minmi's cultural landscape is provided in *section 5.4.1* and can be summarised thus:

- as a small rural village constrained by a circumference of rolling hills and ridgelines;
- treed ridges are visible to the east, west and south of the town;
- Minmi has an open rural character where to the north the town unfolds onto Hexham swamp and its associated wetlands;
- the town itself is dominated by views of the extant building (the majority of which are post 1950); and
- distant views from the town are of the vegetated ridgelines that provide Minmi with an enclosed feel, where the dark green vegetation dominates the built form.

Analysis

The proposed development will locate new single storey houses around the town of Minmi within a number of distinct zones (see *Figure 7.1*). Each zone has been located in accordance to restrictions imposed by heritage, mining, ecology and flooding. However, it is important to note the areas of Minmi where no development will be located (i.e. retained as open or vegetated public space). No development will occur on:

- the Brown's Garden House site and the area immediately west of the Court House;
- a portion of the former workshop and the coke oven archaeological sites in AZ2 zone;

- the open landscape area to the west of Back Creek and associated with the north of Minmi and Hexham Swamp; nor
- any visible ridgelines (from the centre of Minmi).

Although development will abut some of the listed heritage items it has been designed to incorporate and feature many areas/items.

Development within the zone to the north-west abuts the existing housing and includes a portion of the former railway embankment. The houses in the zone are proposed to continue the pattern of urban form and will not be visible from the main road, or other significant vantage points within Minmi.

The zone to the east covers the currently treed area to the east of Back Creek. This area was covered in housing c.1900. Development across this zone will be visible from high vantage points within Minmi (i.e. the Brown's Garden House site), although it should be noted that this will mirror former views across this area (c.f. *Figure 5.7*).

The zone to the south-east covers a treed area and abuts existing housing and some of the items within AZ1. However, the majority of these houses are located on the southern side of a ridgeline and will not be visible from within the village. The houses located within the village are located upon a zone of former housing and thus mirror the historical placement of buildings.

The zone to the south-west abuts the former school and covers a portion of AZ1. This zone currently has a rural character, which will be impacted through the addition of new houses. However, it should be noted that historically this zone was an industrial precinct dominated by the workshop complex (c.f. *Figure 5.7*). Locating new houses within this area will create an appearance less cluttered than the historical view. Further all new houses will be positioned below the ridgelines, thus maintaining the domination of the vegetated form over the developed. All new roads need to respond to the landform in a sensitive way, integrating with the natural contours, thus minimising obviously out of place construction.

The small zone to the west covers a flat area to the west of Minmi Creek and below the treed ridgeline. This area was historically open cut mined where the original landscape has been impacted and modified far more substantially than all other areas within Minmi. Its character is current one of significant modification and obvious impact, and can be said to detract from the visual aesthetic of the town. Development in this area represents an opportunity to transform and rehabilitate this modified landscape.

Statement Of Impact

The impact of new development on Minmi is to be managed through the recognition of heritage items, places and landscapes by the Coal & Allied design team. The concept design does not locate new houses in areas with existing listed heritage value and complies with design recommendations as presented in the Newcastle DCP (with regard to the form, sitting, density and proportions of proposed lots). The concept plan has avoided the majority of significant archaeological sites and incorporated landscape elements into the new urban form (such as the railway embankments).

All significant views within and across Minmi have been retained through an absence of development on ridgelines and the maintenance of open spaces. The pattern of new development mirrors the historical model and locates houses within areas where houses existed (c.1900) and other industrial areas.

Access to the heritage items will be maintained so that the public will still be able to appreciate and view all items. Mitigation measures for the overall impact of development will include interpretation of the heritage items which, for several items, will culminate in the ability of the public to appreciate the items for the first time.

8.4.2 Cultural Landscape - Link Road

The description of Link Road's cultural landscape is provided in *section 5.4.2* and can be summarised thus:

- rolling hills, steep slopes, deep gullies and elevated ridges, located on the periphery between the coastal flat and the inland hills;
- densely vegetated with mature trees, and extensive understorey, except in areas de-vegetated for transmission lines and fire trails;
- a series of linked ridge lines, which Aboriginal peoples used to transverse the Minmi/Link Road site, from Hexham Swamp to areas in the south and west; and
- the area carries the scars of 100 years of mining activity, although remnants of mining machinery and landscaping have all but been removed over the course of the late twentieth century.

Analysis

The proposed development will impact the bushland nature of the whole Minmi/Link Road site through the construction of infrastructure, houses, roads and other buildings. This development needs to be considered in the context of Coal & Allied's objectives of regional conservation.

Although the Link Road Precinct will be holistically developed, the concept plan includes the original water ways, along with Riparian corridors, in its design. This inclusion, combined with the topography, means that retention of significant quantities of bushland will occur, which will link into surrounding vegetation communities (i.e. the Blue Gum Regional Park). Limitations to the extent of development mean that taken as a whole the Coal & Allied conservation lands will retain their overall landscape characteristics and values.

Statement Of Impact

Whilst the Minmi/Link Road site itself will be impacted by the development, the zones with high Aboriginal archaeological potential are located within conservation zones and the significant Aboriginal walking routes have been incorporated into the urban design and thus will be conserved for the future. The proposed conservation area means that a significant quantity of recorded and unrecorded Aboriginal and possibly historical heritage sites will be conserved in perpetuity. Further, the effect of the conservation zone is such that it will prevent future development which could have an accumulative long term impact on heritage values.

8.5 SUMMARY OF HERITAGE IMPACTS

Table 8.1 presents an overview of the heritage items within MLR and whether these sites/features/character will be potentially impacted by the proposed development.

Table 8.1 *Summary of Heritage Impacts*

Site/Area Name	Heritage Status	Heritage Impact	Impact mitigation recommended (see Chapter 10)
Former Minmi Reservoir Residence	LEP Heritage Schedule	No direct impact	Interpretation, as component of Minmi
Former (Second) Minmi Public School	LEP Heritage Schedule	No direct impact	Interpretation, as component of Minmi
Church and Manse	Not listed (local)	No direct impact	Interpretation, as component of Minmi
Duckenfield Colliery No2 Railway Branch Line	LEP Heritage Schedule	No direct impact	Interpretation, as component of Minmi, included in landscape design as walking route
Duckenfield Colliery No1 Railway Branch Line	LEP Heritage Schedule	Partially impact	Interpretation, as component of Minmi, included in landscape design as walking route
Dam	Not listed (does not meet local threshold)	No direct impact	No further heritage work required

Site/Area Name	Heritage Status	Heritage Impact	Impact mitigation recommended (see Chapter 10)
Minmi Archaeological Zone 1 (AZ1), including:			
Chinamen's Gardens	Not listed (local)	To be impacted by playing fields	Archaeological geophysical survey, possible excavation of significant areas resultant from geo-phys, and interpretation, as component of Minmi
Former Residences	Not listed (local as group)	Impacted	Archaeological investigation and consequential interpretation as part of Minmi
Minmi Reservoir Site	LEP Heritage Schedule	No direct impact	Very difficult to further interpret, include within Minmi interpretation
J. Brown Garden House Site	LEP Heritage Schedule	No direct impact	Deserves to be further archaeological investigated, conserved and publicly interpreted
Minmi Archaeological Zone 2 (AZ2), including:			
Coke Oven Site	Not listed (local)	No direct impact	Interpretation, as component of Minmi. Possible archaeological geophysical survey and limited excavation could significantly further academic understanding and public appreciation
Workshop Area and Eales Shaft	Not listed (local)	Impacted	Archaeological investigation and consequential interpretation as part of Minmi
Former Residences	Not listed (local as a group)	Impacted	Archaeological investigation and consequential interpretation as part of Minmi
First School site (exact location unknown)	Not listed (local)	Presumed to be impacted	Archaeological investigation into location, possible excavation and consequential interpretation as part of Minmi
Aboriginal sites			
MLR 1	Not listed	No direct impact	Conserve within Riparian corridor
MLR 2	Not listed	Potentially impacted	No archaeological work - mitigation for low archaeological potential zone
MLR 3	Not listed	Potentially impacted	No archaeological work - mitigation for low archaeological potential zone
MLR 4	Not listed	Potentially impacted	Archaeological work required - mitigation for high archaeological potential zone
MLR 5	Not listed	Potentially impacted	Archaeological work required - mitigation for high archaeological potential zone
MLR 6	Not listed	Potentially impacted	Archaeological work required - mitigation for high archaeological potential zone
Areas with low archaeological potential	Not listed	Impacted	No archaeological work - mitigation for low archaeological potential zone

Site/Area Name	Heritage Status	Heritage Impact	Impact mitigation recommended (see Chapter 10)
Areas with moderate archaeological potential	Not listed	Impacted	Some archaeological work required - mitigation for moderate archaeological potential zone
Areas with high archaeological potential	Not listed	Mainly conserved	Archaeological work required (where impacted) - mitigation for high archaeological potential zone Conserve within Riparian corridor where possible.
Intangible Social Values			
Aboriginal waking routes	Not listed	Impacted and conserved	Inclusion within urban design and heritage interpretation.
Minmi town	Not listed	Impacted	Inclusion within urban design following DCP and heritage interpretation.
1. Heritage status - if not listed on the LEP then assessment under this report provided			

This development is to be assessed and approved under Part 3A of the *Environmental Planning & Assessment Act 1979* (EP &A Act). In summary, Part 3A can provide developers with ‘comprehensive’ approval for development, without the need for obtaining further approvals under different State Acts. The Part 3A approval process involves strict requirements established by the Director General of NSW Planning to ensure all environmental factors are adequately considered and addressed.

Until the development is granted Part 3A approval the Minmi/Link Road site and its heritage values remain protected and under the statutory control of the relevant State Acts.

Aboriginal cultural heritage in NSW is protected by the *National Parks and Wildlife Act 1974*. Historical heritage in NSW is protected under the *Heritage Act 1977*. These acts and their obligations are provided below. The obligations under these various acts have been used to devise relevant mitigation measures for the Minmi/Link Road site, which are presented in *Chapter 10*.

9.1 NSW LEGISLATION

9.1.1 *Environmental Planning and Assessment Act 1979 (NSW)*

The EP&A Act requires that environmental impacts are considered in land-use planning, including impacts on Aboriginal and historical heritage. Various planning instruments prepared under the Act identify permissible land use and development constraints.

The DECCW provides guidelines for Aboriginal heritage assessment, including those conducted under the EP&A Act 1979. Where Aboriginal heritage assessment is conducted under the Integrated Development Approval process, a more detailed set of NPWS guidelines applies.

Where a development is approved under Part 3A of the Act, further approvals under the National Parks & Wildlife Act 1974 are not required. In those instances management of heritage sites must follow the statement of commitments included in the Part 3A development approval.

The statement of commitments defines the environmental management and mitigation measures the proponent is prepared to make for on the site. The statement of commitments is made in accordance with *EP&A Act 1979*: Part 3A Division 2 Section 75F [6].

A Draft Statement of Commitments has been prepared as part of the Environmental Assessment. The draft Statement of Commitments defines the environmental management and mitigation measures the proponent is prepared to agree relating to the site.

9.1.2 *National Parks and Wildlife Act 1974 (NSW)*

All Aboriginal objects within the state of NSW are protected under section 90 of the *National Parks and Wildlife Act 1974* (NPW Act).

Under section 5 of the Act, “Aboriginal Object” means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

Sites of traditional significance that do not necessarily contain archaeological materials may be gazetted as “Aboriginal places” and are protected under Section 84 of the Act. This protection applies to all sites, regardless of their significance or land tenure. Under section 90, a person who, without first obtaining the consent of the Director-General, knowingly destroys, defaces or damages, or knowingly causes or permits the destruction or defacement of or damage to, an Aboriginal object or Aboriginal place is guilty of an offence.

Amendments introduced by the *National Parks & Wildlife Amendment Act 2001* which strengthen the provisions of section 90 have yet to commence.

The DECCW is the statutory authority for the protection of Aboriginal objects and places within NSW, with the Director-General of that department the consent authority. Approvals under the NPW Act are not required where a development is approved under Part 3A of the *Environmental Planning and Assessment Act*.

9.1.3 *Heritage Act 1977 (NSW)*

The *Heritage Act 1977* protects the natural and cultural history of NSW with emphasis on non-Aboriginal cultural heritage. It provides automatic statutory protection to ‘relics’. The *Act* defines a ‘relic’ as:

Any deposit or material evidence relating to the settlement of the area that comprises NSW, not being an Aboriginal settlement, which is 50 or more years old.

Sections 139-145 of the *Act* prevent the excavation or disturbance of land known or likely to contain ‘relics’, except in accordance with an excavation permit issued by the Heritage Council of NSW (or in accordance with a gazetted exception under Section 139(4) of the *Act*).

While Aboriginal heritage sites and objects (“relics”) are protected principally by the *National Parks & Wildlife Act 1974*, if an Aboriginal site, object or place is of great significance it can be protected by a heritage order issued by the Minister on the advice of the Heritage Council.

Approvals under the *Heritage Act* are not required where a development is approved under Part 3A of the *Environmental Planning and Assessment Act*.

There are a range of planning controls and guidelines that outline issues to be considered in the management and protection of heritage at Minmi and Link Road Estate. These include:

- Hunter Regional Environmental Plan (REP) 1989 - Heritage;
- Newcastle Local Environmental Plan (LEP) 2003; and
- Newcastle Development Control Plan (DCP) 2005.

The Hunter REP Heritage aims to conserve the environmental heritage of the Hunter Region. It lists 1300 heritage items that are divided in a number of categories; State, regional, local, areas requiring archaeological investigation, and heritage precincts or conservation areas. The Hunter REP Heritage also provides a framework for local government councils to develop, along with the assistance of the Department of Planning, appropriate means for conserving the heritage of their area.

No items in or around Minmi and the Link Roads Estate are included on the Hunter REP.

The Newcastle LEP 2003 includes a range of heritage protection provisions addressing both Aboriginal and European heritage sites, items and areas. The heritage objective of the LEP is to protect and conserve archaeological sites and places of Aboriginal, natural or European cultural significance. The LEP includes provisions to protect heritage in any redevelopment works.

As outlined in *Section 4*, several items in and around Minmi are included on the heritage schedule of the Newcastle LEP for their built and historic archaeological heritage values. No items at Link Roads Estate are included on the LEP.

The Newcastle DCP 2005 includes a range of guidelines for Minmi, as outlined in *Section 4*. The DCP does not incorporate the Link Roads Estate.

9.3 COMMONWEALTH LEGISLATION

9.3.1 *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)*

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* protects areas and/or objects which are of significance to Aboriginal people and which are under threat of destruction. The Act can, in certain circumstances override State and Territory provisions, or it can be implemented in circumstances where State or Territory provisions are lacking or are not enforced. A significant area or object is defined as one that is of particular importance to Aboriginal people according to Aboriginal tradition. The Act must be invoked by or on behalf of an Aboriginal or Torres Strait Islander or organisation.

9.3.2 *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides for the protection of matters of National Environmental significance and the environment generally on Commonwealth land. Impacts on the Aboriginal heritage must be considered as part of environmental impact assessment during land-use planning. A referral must be made to the Department of Environment, Water, Heritage and the Arts (formerly the Department of Environment and Heritage) where a significant impact is anticipated on matters of National Environmental significance or the environment of Commonwealth land.

This assessment has found that no heritage sites are located on Commonwealth land in association with the Minmi/Link Road site and no heritage sites are significant at the National level. Therefore, from a heritage point of view, the EPBC Act does not apply for this development.

This section contains provisions for the mitigation of impacts resulting from the proposed development on the heritage values of the Minmi/Link Road site. Mitigation measures have been informed by consideration of the NSW Heritage Office, DECCW guidelines for historic and Aboriginal heritage impact assessments and the community consultation undertaken for this project.

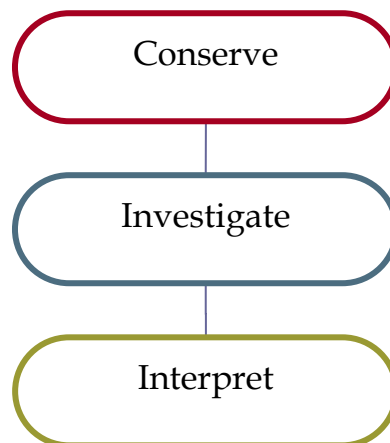
The mitigation measures presented will be used to form the basis of a 'Statement of Commitments' as defined under the *EP&A Act 1979*: Part 3A Division 2 Section 75F[6].

10.1

PREMISE BEHIND HERITAGE MITIGATION

The objectives for mitigation of impacts to the heritage values within the Minmi/Link Road site are to manage potential impacts resulting from development, whilst enhancing and interpreting the heritage values of the identified items.

These mitigation measures are set out under a three stage process:



1. Conserve the existing heritage values through avoidance by development (including planning for unforeseen discoveries) and recognition of the heritage values during all stages of the proposed development;
2. Investigate these values further (especially if they could be impacted by the proposed development); and
3. Interpret the significant heritage values in collaboration with the local community and relevant agencies.

The need for conservation, investigation and/or interpretation of each heritage item was established in *Chapter 8* and is presented in *Table 8.1*.

10.2 CONSERVATION OF HERITAGE VALUES

10.2.1 *General Heritage*

It should be the aim of development to conserve the heritage values and cultural landscapes associated with the Minmi/Link Road site where practicable. This includes the conservation of Aboriginal heritage, including archaeological potential (within areas that are not to be developed i.e. Riparian corridors) and the incorporation of the existing historical heritage sites (built heritage and unique archaeological sites), cultural landscapes and landscape features into the new development.

Conservation strategies enacted during this project should be in-line with the Blue Gum Hills Regional Park, Plan of Management (DECCW 2007) (PoM). The principles presented below align with this PoM.

10.2.2 *Aboriginal Heritage*

An 'Aboriginal Heritage Plan of Management' for the development will be developed in consultation with local Aboriginal stakeholders prior to the commencement of Stage 1 works. The PoM will be agreed upon by all stakeholders before any development works commence. The PoM will include the items discussed in *Sections 10.3 and 10.4*.

Conservation of Aboriginal heritage values should align with other local heritage plans (such as DECCW 2007).

10.2.3 *Historic Heritage*

In order to manage the potential impacts of the proposed development, the following conservation principles will be followed:

- the guidelines as set out in the Newcastle DCP 2005;
- encouragement of adaptive re-use and interpretation of heritage items;
- adequate setbacks, buffering, vegetation and screening between the proposed development and identified heritage items; and
- the use of sympathetic materials and scale during any new construction.

10.3

FURTHER INVESTIGATION OF HERITAGE VALUES

10.3.1

Aboriginal Heritage

The areas identified as having archaeological potential require further work to determine their significance. To adequately address the DoPs requirements excavation of these sites is required so that tangible management can be established for these areas. The following measures will be undertaken in areas identified as having Aboriginal archaeological potential within the survey area. Any future site works, as specified, will involve relevant local Aboriginal stakeholders (as per this assessment):

Area of High or Moderate Archaeological Potential

Figure 5.3 indicates the areas of high and moderate archaeological potential. Some of these areas are located within zones that will be conserved (i.e. Riparian corridors or adjacent to main roads). Such areas will be designated as conservation areas and not impacted by top soil stripping, tree removal or other impacts with the potential to modify intact soil profiles.

For all high and moderate areas of potential, that will be impacted by top soil stripping, infrastructure works or other site works, a research design will be prepared based upon this assessment and the following sampling strategy.

The research design will aim to address local and regional Aboriginal heritage questions, developed during the assessment of the Minmi/Link Road site's Aboriginal heritage values. Investigation of the zones with archaeological potential will include the following sequential steps;

- a sample of grader scrapes (2 m by 20 m) to inspect relevant landforms for evidence of artefacts;
- in the event of further artefact scatters, the integrity of the site and course of action will be determined by an archaeologist in conjunction with the Aboriginal representatives;
- if the site has low integrity or a low density of Aboriginal objects, the Aboriginal representatives could undertake a surface collection of visible artefacts and no further archaeological intervention is required;
- if the site is assessed as being of moderate/high integrity an archaeological test excavation could ensue. This could comprise of setting a grid consisting of 1m by 1m squares over the extent of the site and sampling a representative portion. Soil deposits will be sieved through a 5mm mesh;

- provision will be made to extend sample trenches with a high density of artefacts (i.e. above 20/m²); and
- any artefacts recovered during excavation will be analysed for material and other features. A report will be prepared that details the outcomes of the excavation process, with spatial and artefact usage data.

Areas of Low Archaeological Potential

Figure 5.3 shows the area with low archaeological potential. For these areas is recommended that the Aboriginal stakeholders be invited to monitor topsoil stripping for the purposes of recovering cultural heritage material. This work would not require the presence of an archaeologist. No further archaeological work is required within this area of low archaeological potential unless significant archaeological deposits were uncovered by topsoil stripping.

Repository for Aboriginal Cultural Material

The Aboriginal heritage PoM will include management recommendations for the storage and conservation of all Aboriginal materials excavated from the site. Measures will be agreed with the Aboriginal community prior to any site works. Storage solutions could include reburial at a nearby location, use of the material as a teaching collection or standard artefact repository with the Australian Museum.

Unexpected Finds Protocol

If artefacts or sites are identified during the course of works the following should be undertaken;

- ensure appropriate stop work procedures are in place particularly for the excavation phase of works and all site contractors undergo a site induction that includes information about Aboriginal sites;
- in the unlikely event of discovery of skeletal material, works in the immediate vicinity will cease, the police, relevant local Aboriginal community groups and a suitably experienced archaeologist or physical anthropologist will be contacted to assess the material before determining the correct management action;

- ensure that on-site information about the heritage requirements is in place for the construction phase and the construction team, are briefed;
- during earth breaking activities within areas of archaeological potential ensure that appropriate stop work procedures are in place in the case of unforeseen archaeological discoveries. Any remaining archaeological deposits uncovered will be recorded and monitored by a suitably qualified archaeologist and an Aboriginal community representative; and
- should any artefacts be identified in the course of development (which are not being monitored as above) all works will cease and an assessment of the material will be conducted by an archaeologist.

10.3.2 *Historical Heritage*

Built Heritage

The assessment has determined that there will be no direct impact to built heritage items (listed or otherwise). However, historic photographs have formed a prominent element in the historical research of this report. To ensure that future generations have access to similar resources an archival record will be prepared of the area prior to commencement of development and made available across Council libraries in the region.

Archaeological Heritage

The historical archaeological heritage within Minmi will be partially impacted by the proposed development (see *Table 8.1*). These impacts need to be mitigated prior to development. Further, recent discussion (December 2007 to February 2008) between Coal & Allied, the University of Sydney and ERM have established an archaeological research project within Minmi, which is being supported by the local community (see Annex E). This research project aims to research some of the cultural landscape and other items, such as the Coke Ovens and the Chinese Gardens, at Minmi through non-intrusive archaeological techniques.

Notwithstanding these investigations the following historical archaeological investigations will be undertaken prior to development. These will be undertaken by a qualified historical archaeologist:

- a geophysical survey of the AZ1 and AZ2 (see *Section 5.7.4*) will be undertaken to investigate the possible location of the former school site, former house sites, the suspected location of the coke ovens, any remains relating to the workshop and Eales shaft area and the Chinese Gardens;
- an archaeological research design will be written to investigate a representative portion of sites to be impacted. This design will aim to investigate the former school site, portions of the workshop and Eales shaft areas not conserved, a sample of former houses from AZ1 and AZ2 - a street front would provide a representative sample and a representative portion of the Chinese Gardens. Archaeological excavation will be informed by the likely archaeological potential and deposits at each site and aim to address questions established by this assessment;
- test excavation could be undertaken to determine the condition and integrity of any remains. This would then inform the requirements for further investigations; and
- all archaeological sites should be interpreted for public appreciation (see below).

As a Part 3A project under the EP&A Act, section 75U of the Act suspends the requirements for an excavation permit under section 139 of the *Heritage Act*. However, the requirements for notification under section 146 of the *Heritage Act* would still apply if any archaeological 'relics' (within the meaning of the *Heritage Act*) were to be found as the project proceeds. In this event (and the event of preparing an archaeological research design for the investigation of the above mentioned sites/areas) consultation and advice could be sought on appropriate management from the Heritage Branch of DoP. It will be the aim to establish a working and collaborative relationship between Coal & Allied and the DoP with regard to on going heritage investigations. Such a relationship will serve to enhance the heritage values associated with Minmi.

10.4

INTERPRETATION OF HERITAGE VALUES

The development of an interpretation strategy for Minmi/Link Road site will be considered a key priority for ongoing management and conservation of the Minmi/Link Road site. This strategy needs to holistically consider the cultural landscapes, Aboriginal and historical heritage. The assessment of this Minmi/Link Road site has proven that all heritage values are intertwined, where ancient Aboriginal cultural values have been adopted and integrated into historical periods.

As such a heritage interpretation strategy to guide the provision of on-site interpretation will be developed. This strategy could be informed by the NSW Heritage Office guidelines for *Interpreting Heritage Places and Items* (2005). It will include heritage walks or trails (c.f. NSW Heritage Office [1995] *Guidelines for Heritage Trails*), signage about the history and heritage significance of the area. Links need to be established with the DECCW managers for Blue Gum Hills Regional Park, as any interpretation for Minmi/Link Road needs to be in-line and link into the PoM for the Park (c.f. DECCW 2007: section 7.9).

The scope for interpretation will not be limited, but would need to explain local types of heritage sites and their importance to local Aboriginal and historical people/groups. All interpretation will be subject to involvement and agreement with the relevant local community groups.

All archaeological works could be subject to public interpretation. This will be undertaken on an archaeological site specific basis, but could follow guidelines for archaeological interpretation (c.f. Steele in Jackman and Tuffin 2005: Chapter 16; Owen and Steele 2002).

CONCLUSION

This HIA has found that the Minmi/Link Road site contains numerous Aboriginal and historical heritage sites set within a significant cultural landscape. All sites have been assessed to have heritage value at the local level. Most heritage sites also have an element of scientific and research potential that could further knowledge of the Minmi/Link Road site.

This HIA has determined that the proposed development at Minmi and Link Roads has the potential to have some impact on the cultural landscape, Aboriginal heritage values, historic buildings and archaeological areas of potential in and adjacent to the Minmi/Link Road site. Provided the mitigation measures outlined in this HIA are implemented, the potential impacts on the heritage values will be avoided and/or managed to an acceptable level. Mitigation, especially conservation and interpretation, can be used to enhance the recognised heritage values.

All mitigation measures will be undertaken by relevant heritage professions with the collaboration and support from the local community.

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Annex A

Aboriginal Consultation Log

Table A.1 Consultation Stage 1: Advisory Requests

Date	Organisation/group/individual	Contact Name	Details
28-Jun-07	Native Title Services	N/A	Search of NNTT website of Lake Macquarie LGA shows 7 claimant applications, none of which are active. Three of these were for Wonnarua Tribal Council and were discontinued, one was for the Boongary Clan of the Taurai People which was discontinued, one was for Jamie Roy Denniss which was discontinued, one was for Mimaga Wajaar Traditional Custodians Wanuruah Claim and was dismissed, and one was for the Wonnarua People and was discontinued.
28-Jun-07	DECCW	Brendan Diacono	Email requesting groups to consult. Letter received 4/07/07 identifying three Aboriginal parties who may be interested in being consulted: Guringai Tribal Link Aboriginal Corporation (who we're already consulting), Mur-Roo-Ma Inc. and Arthur C. Fletcher.
28-Jun-07	Registrar of Aboriginal Owners	Megan Mebberson	Email requesting groups to consult. Email received 29/06/07 specifying that no Aboriginal owners are known for the area.
28-Jun-07	Wyong Shire Council	Chris Ferry	Email requesting groups to consult. Email received 4/07/07 directing us to contact DECCW, which we have already done.
28-Jun-07	Lake Macquarie City Council	Mary Loder	Email requesting groups to consult. Resent on 25/07/07 as no response had been received. Email received 8/8/07 saying to contact LALC.
1-Oct-07	Wallsend Leader newspaper	N/A	Ad to appear on 1 October 2007, given response date of 15 October 2007 -no responses received
19-Oct-07	Awabakal Local Aboriginal Land Council	Ron Gordon	Phone call discussing project and checking whether a representative would be available for survey. Email to this effect giving details, map and requesting groups to consult.
19-Oct-07	Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	Phone call discussing project and checking whether a representative would be available for survey. Email to this effect giving details, map and requesting groups to consult.
19-Oct-07	Awabakal Descendents Traditional Owners Aboriginal Corporation	Shane Frost	Phone call discussing project and checking whether a representative would be available for survey. Email to this effect giving details, map and requesting groups to consult.
19-Oct-07	Kukuyngal Barritjapa	John Thorpe	Phone call discussing project and checking whether he would be available for survey. Email to this effect giving details, map and requesting groups to consult. Following consultation with Local Aboriginal Land Council, decision made that John Thorpe would represent the ALALC on survey.

Table A.2 Consultation Stage 1: Aboriginal Group Registrations Received

Date	Organisation/group/individual	Contact Name	Details
19-Oct-07	Awabakal LALC Awabakal Traditional Owners	Ron Gordon	Phone call registering interest.
19-Oct-07	Aboriginal Corporation Awabakal Descendents Traditional	Kerrie Brauer	Phone call registering interest.
19-Oct-07	Owners Aboriginal Corporation	Shane Frost	Phone call registering interest.
19-Oct-07	Kukuyngal Barritjapa	John Thorpe	Phone call registering interest.

Table A.3 Consultation Stage 2: Briefing and Methodology Advice Sent

Date	Organisation/group/individual	Contact Name	Details
22-Oct-07	Awabakal LALC Awabakal Traditional Owners	Ron Gordon	Email of methodology and invitation to participate in fieldwork; survey date of 29 Oct to 2 Nov 2007.
22-Oct-07	Aboriginal Corporation Awabakal Descendents Traditional	Kerrie Brauer	Email of methodology and invitation to participate in fieldwork; survey date of 29 Oct to 2 Nov 2007.
22-Oct-07	Owners Aboriginal Corporation	Shane Frost	Email of methodology and invitation to participate in fieldwork; survey date of 29 Oct to 2 Nov 2007.
22-Oct-07	Kukuyngal Barritjapa	John Thorpe	Email of methodology and invitation to participate in fieldwork; survey date of 29 Oct to 2 Nov 2007.

Table A.4 *Consultation Stage 2: Aboriginal Comments Received*

Date	Organisation/group/individual	Contact Name	Details
22-Oct-07	Awabakal LALC Awabakal Traditional Owners	Ron Gordon	Phone conversation to confirm scope of the survey, route, intended participants and any further comments. Agreed with ERM's approach.
22-Oct-07	Aboriginal Corporation Awabakal Descendents Traditional Owners Aboriginal Corporation	Kerrie Brauer	Phone conversation to confirm scope of the survey, route, intended participants and any further comments. Agreed with ERM's approach.
22-Oct-07		Shane Frost	Phone conversation to confirm scope of the survey, route, intended participants and any further comments. Agreed with ERM's approach.
22-Oct-07	Kukuyngal Barritjapa	John Thorpe	Phone conversation to confirm scope of the survey, route, intended participants and any further comments. Agreed with ERM's approach.

Table A.5 Consultation Stage 3: Draft Report Sent

Date	Organisation/group/individual	Contact Name	Details
22 Mar 11	Awabakal Descendents Traditional Owners Aboriginal Corporation	Shane Frost	Report sent via Mail requesting response in 21 days
22 Mar 11	Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	Report sent via Mail requesting response in 21 days
22 Mar 11	Mindaribba Local Aboriginal Land Council	Tammy McDonald	Report sent via Mail requesting response in 21 days
22 Mar 11	Kukuynjal Barritjapa	William Thorpe	Report sent via Mail requesting response in 21 days
17 Apr 11	Awabakal Descendents Traditional Owners Aboriginal Corporation	Shane Frost	Email Sent reminding response period closing
17 Apr 11	Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	Email Sent reminding response period closing
17 Apr 11	Mindaribba Local Aboriginal Land Council	Tammy McDonald	Email Sent reminding response period closing
17 Apr 11	Kukuynjal Barritjapa	William Thorpe	Email Sent reminding response period closing
27 Apr 11	Awabakal Descendents Traditional Owners Aboriginal Corporation	Shane Frost	Letter sent giving more time to respond to reports, no closing date for responses given.
27 Apr 11	Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	Letter sent giving more time to respond to reports, no closing date for responses given.
27 Apr 11	Mindaribba Local Aboriginal Land Council	Tammy McDonald	Letter sent giving more time to respond to reports, no closing date for responses given.
27 Apr 11	Kukuynjal Barritjapa	William Thorpe	Letter sent giving more time to respond to reports, no closing date for responses given.

Table A.6 *Consultation Stage 3: Draft Report Aboriginal Responses Received*

Date	Organisation/group/individual	Contact Name	Details
14-May 11	Awabakal Descendents Traditional Owners Aboriginal Corporation	Shane Frost	Letter received outlining response, letter provided below
18-May-11	Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	Letter received outlining response, letter provided below
19-May-11	Mindaribba LALC	Steve Talbot	Letter received, letter provided below

Table A.7 *Consultation Stage 3: Comments on Responses*

Date	Organisation/group/individual	Contact Name	Details
07-Jun-11	Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	ERM Comments on responses sent via email on ERM letter head.
07-Jun-11	Awabakal Descendents Traditional Owners Aboriginal Corporation	Shane Frost	ERM Comments on responses sent via email on ERM letter head.
07-Jun-11	Mindaribba LALC	Steve Talbot	ERM Comments on responses sent via email on ERM letter head.

Date: 14 May 2011

Attention: Diana Neuweger (Senior Archaeologist)
ERM Australia
Building C, 33 Saunders Street
Pymont, NSW 2009

Re: Coal & Allied Northern Estates-Comments on Final Draft, Lower Hunter Estates Development Heritage Impact Assessment, Minmi-Link Road Estate.

ALLA Diana,

This letter is in response to your correspondence requesting feedback/comments from the **Awabakal Descendants Traditional Owners Aboriginal Corporation** in regard to the **Final Draft- Lower Hunter Estates Development Heritage Impact Assessment, Minmi-Link Road Estate**. The overall contents and construction of the draft report and the management recommendations are in most instances reasonable, addressing the majority of issues that can affect the integrity of our Cultural Heritage in regard to the proposed development area and its footprint. Saying this, we would like to take advantage of the invitation afforded to us to add some comments that we believe could be implemented to provide what we as Awabakal People believe to be a greater degree of protection and preservation for our Cultural Heritage. The **Final Draft- Lower Hunter Estates Development Heritage Impact Assessment, Minmi-Link Road Estate** will be referred to in the following correspondence as the '**draft report**'.

Please Note: We were advised by the archaeological consultants (ERM) that we had a maximum of 21 days to review and respond to all five (5) Coal & Allied draft reports (Gwandalan, Nords Wharf, Catherine Hill Bay, Minmi and Black Hill) all dating from four (4) years ago. This has presented quite a few problems for us as we have had to review all of these draft reports in such a short period of time (we have had some extra time granted to us to comment on this Minmi-Link Road Estate draft report) but still consider it to be insensitive and unacceptable to expect these timeframes to be imposed to such a degree to cause the stress and anxiety it has. In a way, it seems to have been put back on us to hurry up and we again feel as if we have been the ones holding the process up when in reality we should have been sent these draft reports four (4) years ago by the archaeological consultants (ERM) for review!! To review and respond to these draft reports in such a short timeframe is an expectation that we believe is inappropriate, unrealistic and unacceptable. Why should we constantly have to be the ones to rush what is important to us? Why is it always our Cultural Heritage that has the potential to be impacted and is always left to the last minute and we are put into positions that try to force us to make hasty decisions that will ultimately affect the future of our Cultural Heritage? As already stated we think the manner in which this matter has been handled to be quite unacceptable and grossly negligent and it causes us distress to think that our contribution could be forgotten about for four years and very nearly overlooked in the process. It makes one wonder if we are just consulted in the first place as a tokenistic gesture!!

Our comments for this draft report are as follows:

- Firstly, if you have not already noticed, we take this opportunity to convey our utter disappointment with the time frame that has been allotted for us to appropriately review and respond to these documents and any concerns we may have with this matter. We are supposed to believe that the proponent has given sufficient consideration for our Cultural Heritage when we ourselves have been expected to drop everything else and respond to these documents with minimal consideration offered. It may be acceptable if we were just sitting around doing nothing but we aren't and we do have other ongoing matters of concern that need attention. It is unfortunate when others think that their time schedules and quandaries are more important than those of other people's!!

We would then ask:

- a. Why is it that everything Aboriginal gets left to the last minute and always needs to be rushed, with the end result, in all probability, compromising our Cultural Heritage??
- b. Why has there been so little time allocated for Aboriginal Stakeholders to review and respond to the contents of (Five) 5 draft reports when they have been finished for near on Four (4) years??
- c. Why weren't we contacted previously, giving us an appropriate amount of time to review and respond??
- d. Would those that have placed us in this predicament be satisfied with this timeframe if the shoe was on the other foot and it was imposed upon them??
- e. Would they drop everything else they were doing to reply??

The expectations in this whole matter are very unreasonable!! We are not impressed and feel it could have been handled in a much better way if people had been afforded some common courtesy in the process.

Recorded Aboriginal Occupation of the Lake Macquarie and Newcastle area

- There are many historical documents which report the fact that this area was inhabited by Awabakal People. The 'Return of the Black Natives belonging to Lake Macquarie and Newcastle 21st May 1828'¹ recorded by the Rev. L.E. Threlkeld at his mission station at Belmont (only several Kilometres to the south of this area) is one of those sources. In it he records the names of our direct Ancestors as belonging to a group of Aboriginal People that inhabit this area; he described these People as 'old Jacky's Tribe'². The Nominal Returns from Jonathon Warner (Warners Bay area deriving its name from Jonathon Warner who was the Brisbane Water Police Magistrate and who lived on his estate at the northern end of Lake Macquarie from 1830's to 1840s') in 1833 being a list of names of the Aboriginal People from the Lake Macquarie and Newcastle district shows the names of many of our People.³ Again Threlkeld records the names of our People from this and other areas from the returns he made in 1836.⁴ There are many other references from the early contact period of European settlement which are related in colonial newspapers and correspondence of the time. One of these sources is in regard to the Pambalong People (also known by Jonathon Warner in his returns of 1833 as the 'Swamps' District). Also articles regarding the Pambalong People a clan (not a sub group as portrayed on page 16 of the **draft report**) of the Awabakal can be found in the Wallsend and Plattsburg Sun as reminiscences from old residents of the area.

*These early ethnographical resources can be used to help build a picture of the area and occupation at the time our People were still dependant on their Traditional Lands for their resources.

Aboriginal Significance

- Newcastle and Lake Macquarie as part of the Traditional Tribal Country of the Awabakal including the region which is known as the Hexham Swamp area (which is in very close proximity to the proposed development area) is considered by our People and many Archaeologists as extremely significant in regard to our Cultural Heritage (as can be seen on page 14 section **3.2 Aboriginal Archaeological Context**). There are many and varied reasons our People have utilised this and other locations over thousands of years. One of the earliest ethnographic records of the importance these areas played in the lives of our People is attributed to the Rev. L.E. Threlkeld. He reports, sometimes on a daily basis from his diaries, the many resources used by our People from these areas around the lake and the bush and records that these places, having spiritual significance because of certain objects or features, were found within the landscape. Some of these very features still exist within close proximity to the proposed project area. There are other early accounts within an array of documents which detail the Aboriginal occupation of these areas and relate the subsequent impacts that settlers have had on the Cultural Heritage and ultimately impacted the lifestyle of our People as the settlers moved into areas outside of what were then the known limits of the settlement.
- It must also be acknowledged that even though there has been some modification from European pursuits in the past, this does not mean that all areas or the archaeological record of our Cultural Heritage sub-surface have been affected by these alterations. There has been varying levels of modification but not all areas have been affected by these modifications within the footprint of the proposed project area.

The Archaeological Field Survey

- Once again for the Northern Estates, as was the case with the Southern Estates, we believe as do some of the other Aboriginal Stakeholders, that some aspects of the survey were conducted in quite a rushed manner and that some areas were not appropriately surveyed or considered and due to this, some of our Cultural Heritage may have been overlooked which then renders it vulnerable to disturbance or damage.
- Your attention is also drawn to the area covered by the Aboriginal stakeholders for the archaeological Cultural Heritage survey in **Figure 5.1** of the draft report regarding transects. We believe these transects were insufficient and the area was not surveyed as it should have been. In **Figure 5.1** it can be seen that these transects did not cover all of the area proposed for development. At least half of

¹ Page 360-361 of *Australian Reminiscences & Papers of L. E. Threlkeld, Missionary to the Aborigines, 1824-1859*, Neil Gunson

² Page 241 of *Australian Reminiscences & Papers of L. E. Threlkeld, Missionary to the Aborigines, 1824-1859*, Neil Gunson

³ Page 362-364 of *Australian Reminiscences & Papers of L. E. Threlkeld, Missionary to the Aborigines, 1824-1859*, Neil Gunson

⁴ Page 366-368 of *Australian Reminiscences & Papers of L. E. Threlkeld, Missionary to the Aborigines, 1824-1859*, Neil Gunson

the proposed development area can be seen without any transects from the Aboriginal stakeholder survey team. We believe that without these areas having been surveyed by the Aboriginal stakeholders, it then opens up the door for the possibility of our Cultural Heritage to be destroyed by this proposed development and has disadvantaged us and compromised our Cultural Heritage in the process. This area, as can be seen on the AHIMS map **Figure 3.1** shows that this area is of great importance because it is closer to the Hexham Swamp area (to the north east) and to the west of this unsurveyed area is the ceremonial sites as shown in **Figure 3.1** and **3.2** on page 18 of the **draft report** that are all highly significant. Transects of this area have been missed in regard to the Aboriginal archaeological survey as seen in **Figure 5.1** and need to be inspected to allow us to assess if these areas do contain visible evidence of our Cultural Heritage before they are developed. Not to do this makes a mockery of the **Statutory, Legislative and Regulatory Requirements** as described in section 9 of the **draft report** put in place by the various government departments and authorities to protect Cultural Heritage. Failure to thoroughly survey this area would be unacceptable considering the implications of overlooking such a significant area containing remarkable Cultural Heritage sites.

Ground Visibility, Surface Exposure and Subsequent Impacts to Aboriginal Cultural Heritage

- Many Aboriginal Cultural Heritage assessments suffer due to the poor visibility which very often presents itself when a field inspection is undertaken. It is expected that during a normal field inspection/assessment approximately 1-2 percent of the surface of the overall area to be surveyed will be clear of vegetation as stated on page 36 section **5.1.5 Fieldwork Constraints** of the **draft report** which says **'The Aboriginal survey was limited by the vegetation cover...'**. It is suffice to say then that in nearly all of these field inspections the visibility plays, to a great extent, a pivotal role in what decisions will be arrived at concerning the existence of Aboriginal Cultural material present within the landscape (with some exceptions). Unfortunately the visibility question can be misleading and it is a common practise to assume that if there are little or no visible evidence/signs of Aboriginal Cultural Heritage then it is ok to assume there is none or only a small amount present. Adopting this attitude could be no further from the truth.

Ground visibility during this field survey (as with others) was limited to some small areas that had been subject to impacts such as pedestrian tracks and areas that were eroded or areas disturbed by use from motorbikes etc. However, it would be wrong to conclude that, because of the lack of visibility or detection of Aboriginal Cultural materials in other locations within the study area (precluding those locations that Cultural sites were found) there would be no Aboriginal Cultural Heritage within these other areas. On the contrary; the study area and that surrounding it has been used by our People for thousands of years for a variety of purposes from ceremonial to procurement of resources from Lake Macquarie and other smaller associated creek lines not to mention the Hunter River to the east of the project area all being within close proximity.

- To demonstrate the possibility of what could be contained sub-surface and subsequently disturbed during any excavations in the event of a proposed development, provided is a quote which sums up the possibility of disturbing, or worse, destroying Aboriginal Cultural Heritage objects or sites;

'Once discarded on the ground surface, artefacts are often readily incorporated into the topsoil horizons through the process of bioturbation. Most commonly, dense artefact deposits exist hidden beneath the upper surface, unobservable by the casual observer.'
(c.f. Wandsnider and Camilli 1992; Fanning and Holdaway 2001).⁵

- Also another example we have been involved with personally was an AHIP was obtained to excavate an area of which was believed may produce a minimal amount of artefacts. One of the sections chosen was believed to be nothing more than a couple of shells visible on the surface. After starting the excavation attitudes were changed dramatically, the archaeologist admitting they would have stated beyond a shadow of doubt that it was only a couple of shells scattered on the surface. It was found we were within what would be considered a quite large midden site (but was not visible) and what resulted from this excavation was the collection of many artefacts along with an undisturbed and virtually intact hearth surrounded by stones lying about 2 and a half feet below the surface underneath about 2 feet of midden shells. If we had employed the fact that what we could see is the extent of what we may find, then we would never have uncovered such an important and Culturally significant site as we did.

*******We then must reiterate again that just because there is low visibility or just a small quantity of Aboriginal Cultural Heritage located, it does not mean the area is not rich in Aboriginal Cultural Heritage sites or objects!!!**

⁵ Page 3, Hunter Water Stage 2 Aboriginal Heritage Assessment Shortland Street, Newcastle 5.1.1 Archaeological Potential. (ERM2009)

Disturbed Areas (Potential for Cultural Heritage)

- In **Figure 5.3 Minmi Link Road & Stockrington Aboriginal Archaeological Potential** is a map, designed with the purpose of showing (in the archaeologist's opinion) the areas of high, low, moderate and no archaeological potential. We would question how such a specific answer can be arrived at?

In the legend of **Figure 5.3** the potential for the area shown in grey is classified as '**None**'. This area shown in grey may have previously been subject to impacts from mining and other uses but it does not allow someone the right to say definitively that there is no archaeological potential. How can this statement be made and be accepted as 100% correct. No one really knows what Cultural Heritage is contained subsurface!! We didn't even get the chance to walk this area to see if there were any artefacts still visible on the surface or that may have been unearthed from past mining or agricultural practises. So the question is, how can a map be so precise as to show exact places there will or will not be potential for Cultural Heritage? Unless all of the areas (including the grey area) have been surveyed 100% and this would also have to include being excavated to ascertain the true nature of what is to have survived, then this would then nullify the purpose of this map. In reality, this map is based only on assumption and no one knows or can assume what is contained subsurface.

As stated in the **draft report** on page 101 section **6.1 Significance Assessment for Aboriginal Heritage** third paragraph, even the very author of this draft report says '**A heavily cultivated paddock may be unsuited to addressing research questions of small scale site structure, but it may still be suitable for answering more general questions of stone tool distribution in a region and raw material logistics**'.

Please Note: We therefore believe it would be negligent to use assumptions as a marker for potential. We have grave fears for the wellbeing of our Cultural Heritage if this area is classified as no potential and believe this particular area is as significant as any of the others, especially being the closest area to the ceremonial grounds containing the stone arrangements. We need to remember that the Newcastle freeway has not always been there to divide the ceremonial grounds (on the western side of the freeway) from what is on the Minmi (eastern) side. If we don't survey or investigate thoroughly the grey area represented on this map, then the only **100%** assurance of **potential** will be that, not everything has been done to be confident that our Cultural Heritage is being protected!!

AHIMS Database Search

- It would be reasonable to presume there will be a variety of sites represented within the context of this particular location as information from the AHIMS database search points out in the **draft report** on page 16-19, **AHIMS Search**. There were 40 recorded sites counted on the DECCW AHIMS Database map **Figure 3.1**, which incidentally, does not include all recently recorded sites to date but only those recorded and entered presumably as of the time of the original writing of the **draft report** and the AHIMS search, being July 2007). These 40 Cultural Heritage sites are all shown to be within reasonably close proximity to the study area.
- As indicated previously, there has been 4 years elapse since the search of the AHIMS Database for the provision of information for this proposed project. **Therefore, this information is out of date and should be considered as such.**
- Since this time (July 2007) there have been many more significant Aboriginal Cultural Heritage sites added to this AHIMS Database, many being within close proximity to this very area, and this new information should be supplied within this draft report to bring the information within it up to date.

Significance of the Artefact Scatters, Isolated Finds and Axe Grinding Grooves

- For us as Awabakal People the artefact scatters, isolated finds and the axe grinding grooves are all part of our Cultural Heritage and are considered by us to be of high significance. For archaeologists there is a clinical 'put it in a box' view 'so it can be categorised and accessed when stacked up against criteria that someone has formulated to fit it into their bigger picture' type of response. This is fine in some circumstances but it doesn't always work. Not always can we narrow things down to squeeze them into the box of our choosing that we want them to fit into. We are talking about the influence of a lot of variables over many centuries. Therefore to restrict something to a standard that is only defined by someone who formulates a process so as to control or have it conform to their opinion, is not looking out to see what is there, but confines their perspectives which then limit the true boundaries of that same process. We should look past those things that limit and constrain us; there is always more than meets the eye!!

Cultural Pathways-Connections Through the Landscape

- As indicated on page 18 **Figure 3.2** within the **draft report**, this map is an attempt to show that there were certain areas that were used by our People to travel through the landscape. These routes were utilising certain landscape features to make travel easier or to bring those walking these routes

closer to resources such as food, raw materials for tool making and sometimes areas offering shelter. They were also used to convey People to and from certain areas that were considered to be of great significance in regard to ceremony and spirituality and thus these routes are not just tracks but are Cultural Pathways that give a holistic view to the connectedness of Cultural Heritage sites within a greater area and distance from each other. The Minmi area is as shown by the sites occurring in close proximity to it and Hexham Swamp, an area that is of very high importance within the context of this landscape and the Cultural Heritage of our People and should be considered as such.

Excavations/Ground Disturbance

- As discussed during the field survey and again is highlighted in the **draft report**, there is the possibility that any disturbances to the proposed development area from any subsurface excavations or ground disturbance works (including vegetation clearance/removal of trees etc/grading) will impact on Aboriginal Cultural Heritage.

It has been demonstrated from the assessment and subsequently reported in the **draft report** that there are identified Aboriginal Cultural Heritage sites within the area that is proposed for development and that it is most likely that there will be other Aboriginal Cultural Heritage sites (which were not discovered during the survey) that can and would be impacted/damaged or disturbed if excavations were to take place within this area proposed for development.

Objections to Removal of Topsoil from the Proposed Development area and Construction Site

- We object to removal of any topsoil from the site. All topsoils disturbed by any excavations should be retained within the confines of the development footprint and not transported off the construction site due to the possible inclusions of Awabakal Cultural Heritage within the soil.

Mitigation Management for Cultural Heritage

A. Mitigation/Management

- As reported, ground visibility was minimal in most areas in which we surveyed but Aboriginal Cultural Heritage was still found (**six previously unrecorded sites**). This would suggest that if there were to be impacts to the ground surface brought about due to excavations, clearing of vegetation or infrastructure/utilities such as roads, paths, water, electricity, sewer and telephone we believe this could impact on the integrity of our Cultural Heritage and cause disturbance or damage which would be unacceptable. Therefore we agree with the recommendations in section **10** regarding the heritage mitigation measures outlined within the **draft report**. Further to these recommendations, we would stress the need for systematic archaeological investigations to be carried out over the entire project application area proposed for development. If it is expected that ground clearance/disturbance through the use of grading or other machinery that will disturb the ground surface within the study area designated by the boundary line shown in **Figure 5.1: Minmi Link Road & Stockrington Transects and Landforms** within the **draft report**, we would like to see;

- a. Subsurface investigation prior to commencement of any disturbances so as to ascertain the variety/density of archaeological material contained subsurface within the entirety of the study area including those areas deemed to be 'High' 'Low' 'Moderate' and 'None'. This should include areas highlighted within the **draft report** as being probable areas for archaeological material and should also include areas (as set out above) that are identified by the Aboriginal Stakeholders to be significant. The **draft report** certainly underlines and promotes the necessity for archaeological investigations and we support these recommendations. Also on page 15 section **3.2.2 Literature Review** of the **draft report** it gives another indication for the potential that archaeological material may be present especially subsurface around the watercourses and swamp. It states in the second paragraph that **'The general patterning of Aboriginal sites in the local area shows that stone artefacts are highly likely to be found in close proximity to Hexham Swamp and undisturbed water sources.'**

- b. This investigation could be achieved through a series of test pits placed at specified locations within the areas to be affected by any subsurface excavations or ground disturbing works within the study area. It would be expected that the information gained from this investigation would ultimately contribute a source of reliable and valuable data for future archaeological investigations within this particular area. Currently information on subsurface archaeology within the study area is at present lacking and untested when compared to the local and regional archaeological context.

*Because we have located Cultural material within several locations around the study area, this then should be a marker to investigate further, not to do so would be in our opinion, negligent!!

B. Further Survey

- We would like to see further field survey take place to cover the areas previously missed (grey area) as described above and as shown lacking in transects on the map in **Figure 5.1** of the **draft report**.

C. Protection and Preservation of all Cultural Heritage Sites

- Therefore considering the implications that the above information presents, we believe that taking into account the location of the study area, the fact that Awabakal Cultural Heritage sites are located within this locale it is imperative that;
 - a.** All necessary steps should be taken to Locate, Protect and Preserve our Awabakal Cultural Heritage. As Awabakal Descendants the Preservation and Protection of our Cultural Heritage is paramount and this extends to all of our Cultural Heritage whether visible or not.
 - b.** Consideration should be given to the fact that if this area is developed, there will be subsurface excavations and disturbances to the study area. It has already been shown that this has the potential to disturb, damage or destroy as yet undetected Awabakal Cultural Heritage sites or objects that lay contained within the subsurface stratigraphy.
 - c.** In the event of possible development of this study area, there should be consultation with the Aboriginal Stakeholders so as to formulate the best possible outcome for the Protection and Preservation of Awabakal Cultural Heritage. This could be achieved by a sequence of procedures that address certain aspects and criteria of any proposed development using timeframes to formulate an investigation period which precedes excavation works so as to establish whether Awabakal Cultural Heritage is present subsurface and ultimately not compromise the expected completion date of each phase of any proposed development.
 - d.** We also believe as an additional measure, an observance and collection program should be instituted during all proposed subsurface excavations intended by the developer and their contractors. This would involve a process in which the proponent engages the Aboriginal Stakeholders to observe all sections of the excavations (ground surface impacts) so as to afford collection of any artefacts that may be disturbed by the subsurface excavations. This would allow the Aboriginal Stakeholders to collect any Awabakal Cultural Heritage that would subsequently be uncovered during this phase of the process and allow for these artefacts to be reburied. We believe that if this observation and collection process is not instigated and implemented during subsurface excavations by the proponent and their contractors, then our Cultural Heritage is being compromised and could be viewed or considered as disrespectful and neglectful of Awabakal People and our Cultural Heritage that (as shown by the sites recorded on the DECCW AHIMS Database) continues to exist within this area.
 - e.** All artefacts collected during this observation and collection process should then be relocated and reburied on site by the Aboriginal Stakeholders at a location that is designated for conservation, this would be at the completion of the proposed development.
 - f.** We believe there should be **NO IMPACT** whatsoever to any Cultural sites. Any proposed works or excavations etc around or within close proximity to these areas should trigger a management solution through the PoM and alert the developer to consult with the Aboriginal Stakeholders to mitigate any disturbance or damage to the Cultural Heritage sites.

D. Development Related Impacts

- It is naturally anticipated that due to the arrival of new residents to the proposed subdivisions and due to this increased activity there will be the possibility of impacts to the Aboriginal Cultural Heritage sites located within the proposed development areas and also those sites within close proximity but outside of the proposed development area/footprint.

This is why it is imperative for this **draft report** and a **Plan of Management (PoM)** to:

- a.** Adequately address any issues that could possibly affect the integrity of Awabakal Cultural Heritage sites or objects from this proposed development.
- b.** It also needs to be taken into account and has been overlooked in the draft report the probable impacts from the increased pedestrian traffic which is likely to occur to these sites if the proposed development is realised. These impacts would be expected to take place and result from the increased visitation to the sites which could result from the influx of new residents to the proposed subdivision development that will be utilising the conservation corridors (as walkways) where the Cultural Heritage sites will be reportedly protected?
- c.** Address what mitigation measures have been put in place to alleviate and reduce the effects that the increased population and visitation may have on this and other sites located within the area.

E. Awabakal Names for Streets/Parks/Walkways/Conservation Areas

- As a sign of respect for the Awabakal People and the many thousands of years of occupation of this area, we would like to see the developer use words from the Awabakal language to name the streets/parks/community/conservation areas within the proposed development. We believe this would create a positive step in creating an enthusiasm within the community to look into the meanings of these names and the Cultural Heritage of our People.

F. Interpretive Signage and Artworks for Parks/Walkways/Community Areas

- Interpretive signage/artworks could be utilised by the developer in areas that are designated for pathways etc to raise awareness within the community and educate people in regard to the Cultural Heritage of the Awabakal. They could show the close relationship our People have with the Land and emphasise the significance of the area and highlight the importance for us all today to continue this caring for Country that they themselves live in. We see the development of signage/artworks as collaboration between the developer and the Traditional Awabakal People which would promote the uniqueness of Awabakal Cultural Heritage within this area.

G. Aboriginal Heritage Plan of Management

- We agree with the recommendations in the *draft report* on page 132 section **10.2.2 Aboriginal Heritage** that states '**An Aboriginal Heritage Plan of Management for the development will be developed in consultation with local Aboriginal stakeholders prior to the commencement of Stage 1 works. The PoM will be agreed upon by all stakeholders before any development works commence. The PoM will include the items discussed in sections 10.3 and 10.4.**'

H. Aboriginal Stakeholder Notification by Proponent & Cultural Awareness Training for Construction Workers

- We would also like to see a commitment by the proponent which would require them to notify all the Aboriginal stakeholder groups in the event of any Aboriginal Cultural Heritage and archaeological evidence of any kind being uncovered or found during construction. We consider we have lost enough of our Cultural Heritage in the past and mitigation/management processes should be implemented and enforced so we don't lose any more of our Cultural Heritage.
- There should also be compulsory Cultural Awareness Training included in the induction process for all contractors and workers on site, particularly those undertaking any excavations within the footprint of the proposed development area. This would be developed and delivered by the Aboriginal stakeholders and archaeological consultants to allow all workers and contractors some form of basic knowledge, recognition and detection of artefacts if uncovered during the excavation/construction phase of the site works. Otherwise how do the construction workers know what is an artefact or what they look like if they are not shown?

I. Aboriginal Stone artefacts and Watercourses

- In the draft report on page 15, paragraph three, section **3.2.2 Literature Review** it makes a statement that says '**The general patterning of Aboriginal sites in the local area shows that stone artefacts are highly likely to be found in close proximity to Hexham Swamp and undisturbed water sources.**'

Also again on page 91 of the *draft report* second paragraph it states that '**All slopes lead to ephemeral small creeks...some creeks contain deep soil deposits on either bank. Such areas have a moderate potential to contain buried Aboriginal sites beneath slowly accumulated soils**'.

This is one detail that has not been satisfactorily addressed in the *draft report* or the subsequent mitigation and management recommendations for this proposed development.

Hexham Swamp including Minmi Creek and Back Creek and other watercourses in the area would have been utilised by our People for a variety of uses such as procuring food sources and fresh drinking water, therefore allowing the opportunity for both long and short term campsites to exist within close proximity to these creeks and watercourses. The very fact that there are several creek lines running through the proposed development area is an indication that we should be aware that artefacts will be hidden here by the dense vegetation or be located subsurface. Based on a predictive model by Kohen in 1986 we have provided an example below which outlines his studies:

His study showed that a large portion of artefact scatters occurred close to river and creek lines: 65% being within 100 metres of a permanent water supply (Kohen 1988 cited in Attenbrow 2002: 49-50). Kohen concluded that availability of water was the most

important factor influencing the distribution of sites across the landscape (Kohen 1986: 292).⁶

This is why it is imperative to make sure appropriate decisions are made and a suitable management and mitigation process put in place so as to afford the protection and preservation that the Cultural Heritage of our People deserves and that still exists within the very landscape of this proposed development area. It also goes without saying that this information reveals why it is imperative that more in-depth investigations are required. Without this protection and preservation, there will be little left for future generations to appreciate, therefore negating what we pride ourselves on and call today **Intergenerational Equity**.

- a. Any proposed works or excavations around or within close proximity to these areas should trigger a management solution through the PoM and alert the developer to consult with the Aboriginal Stakeholders to mitigate any disturbance or damage to the Cultural Heritage contained within the margins/extremities of the Hexham Swamp area and the creeks and watercourses.
- b. Before any potential disturbances from subsurface excavations or ground disturbances within close proximity to these areas, there should be a series of test pits placed along the watercourses to establish the level of Cultural Heritage within these locations.

Conclusion

- We hope that it has been shown here that this site is significant to us as Awabakal People and there is a great need to protect and preserve what is left of the Cultural Heritage of our People. We all need to regard the question of Intergenerational Equity as being of the utmost importance so that future generations are not disadvantaged in relation to what has or has not been left for them to appreciate and learn from. As the draft report states on page 138 '**This HIA has that the Minmi/Link Road site contains numerous Aboriginal and historical heritage sites set within a significant cultural landscape**' and again '**This HIA has determined that the proposed development at Minmi and Link Roads has the potential to impact on the cultural landscape, Aboriginal heritage values... and archaeological areas of potential in and adjacent to the Minmi/Link Road site.**' This again is why it is imperative to make sure appropriate decisions are made and a suitable management and mitigation process put in place so as to afford the protection and preservation that the Cultural Heritage of our People deserves and that still exists (as already shown) within the very landscape that this development is proposed for.

A. Intergenerational Equity

- What is intergenerational Equity?? We see **Intergenerational Equity** as a provision for future generations to benefit from what has transpired in the past and to have been left as much as the previous generation.

Below are provided three (3) examples we have included, quoted from international organisations/standards from around the world, which explain what **Intergenerational Equity** represents;

- a. **Intergenerational equity:** A core proposition is that future generations have a right to an inheritance (capital bequest) sufficient to allow them to generate a level of well-being no less than that of the current generation. Also refers to fairness in the treatment of different members of the same generation.⁷
- b. **Intergenerational equity:** Meeting the needs of the present without compromising the ability of future generations to meet their own needs.⁸
- c. **Intergenerational equity:** The principle of equity between people alive today and future generations. The implication is that unsustainable production and consumption by today's society will degrade the ecological, social, and economic basis for tomorrow's society, whereas sustainability involves ensuring that future generations will have the means to achieve a quality of life equal to or better than today's.⁹

⁶ *Aboriginal Archaeological & Cultural Heritage Assessment (Updated) – Hoxton Park 2008, Austral Archaeology Pty Ltd. page 21*

⁷ *From Website 'www.traditionalknowledge.info/glossary.php'*

⁸ *From Website 'www.konsult.leeds.ac.uk/public/level1/sec17/index.htm'*

⁹ *From Website 'www.ic.gc.ca/eic/site/ee-ee.nsf/eng/h_ef00016.html'*

- Intergenerational Equity is an issue that has not been satisfactorily addressed within this **draft report**. We believe this is an important objective which can preserve and protect our Cultural Heritage and it is our concern that if this is not adequately addressed at this preliminary stage of the process then it may be overlooked as this development progresses, subsequently leaving our Cultural Heritage vulnerable.

Statement of Significance of this area to Awabakal Traditional Descendants

This area as part of what is the Traditional Awabakal Country is considered by our People to be of great importance within our Cultural Heritage. There are a variety of reasons our People have benefited from using this location over thousands of years. As described previously, one of the earliest accounts of the importance of this area is attributed to the Rev. L.E. Threlkeld.

This area has not just a physical presence within the Cultural Heritage of the Awabakal People but it is part of our oral history and a place of spiritual significance. The landforms and resources of this locale fulfilled not just the basic needs that underpinned our Peoples subsistence but also satisfied the many other aspects that made up what can be described here as being part of the very Cultural foundations of our People.

Our people have had a long history within this area which is unsurpassed. Our apical Ancestor, Mahrahkah, an Awabakal woman and her two daughters were recorded by Threlkeld and Warner as living in and around these areas which all formed part of their Traditional Country. This apart from everything else makes it a very important location for our family, knowing that Mahrahkah walked these areas before any white man was ever seen in the Newcastle and Lake Macquarie areas. She was intrinsically acquainted with her Land and she has left a legacy for us to carry on in this day and age and to pass onto our Descendants. This area is of very high significance to our People and therefore it would be expected that after the many generations of our People that have walked the pathways of their Ancestors, it is obvious that there would be many areas that contain evidence of this connection, resulting from occupation on varying levels by our people. Traditionally these areas were the supply of rich resources especially around Hexham Swamp, of which our people have depended on for thousands of years. There are physical reminders left by our Ancestors, some in the form of stone tools (artefacts) and grinding grooves which provide us as Descendants of the Awabakal People an opportunity to make a connection through time with our Ancestors. This connection is manifest in a variety of ways; one is through the physical senses such as touch or knowing we are seeing where they lived or what they used, or by holding or touching something our Ancestors handled or something they made, possibly many thousands of years previously. This connection is one of those avenues that produce in us the sense of perception, appreciation, familiarity and recognition of who we are and where we belong as Awabakal Descendants.

We thank you Diana for the opportunity to contribute these comments in regard to this project. We hope this addresses any queries you may have, if not and further information is required please don't hesitate to contact us ASAP. Our contact details are as follows.

NGI NOA

Shane Frost: Managing Director-Awabakal Descendants Traditional Owners Aboriginal Corporation
Email: shanefrost@bigpond.com Phone: 49964362 Fax: 49964325 Mobile: 0428320671

Cultural Heritage Sites - Physical reminders of our Ancestors; once they are gone, they are gone forever and impossible to bring back!! THINK first and make WISE decisions last!!



18 May 2011

Dr Diana Neuweger
ERM
Locked Bag 24,
Broadway NSW 2007

Dear Diana,

Re: Comments Regarding the Coal & Allied Lower Hunter Estates Development Final Draft Report for the Lower Hunter Estates Development Heritage Impact Assessment for the Minmi – Link Road Estate

This letter is in response to your request for comment from the Awabakal Traditional Owners Aboriginal Corporation (ATOAC) with regard to a letter sent by Dr Diana Neuweger on Tuesday 22nd March 2011, requesting our Comments for the Coal & Allied Lower Hunter Estates Development Final Draft Report Heritage Impact Assessment for the Minmi – Link Road Estate.

Considering that ERM had sent four (4) additional Reports for Comment regarding the Northern and Southern Estates for Coal & Allied, we believe that additional time should have been allocated, as comment for *all* five (5) Reports were requested within the minimal 21 day period. Although we have been granted some extra time to respond, we have found that the timeframe to respond to all 5 Reports to be unreasonable, and believe that we are being required to make hurried decisions concerning the future of our Cultural Heritage.

At this juncture we must express our distress and concern regarding this and other **Reports** pertaining to the Coal & Allied Northern and Southern Estates, as we believe that the **Reports** fail to reflect the Coal & Allied Ongoing Commitments and Social Benefits which is stated within the cover letter and therefore should have been included within the **Report**.

With regard to the Final Draft Report for the Minmi and Link – Road Estate Heritage Impact Assessment, we recognise the evaluation by ERM appears to be reasonably comprehensive.

We would like to take this opportunity to commend Coal & Allied for proposing to dedicate 1,561 ha of the Stockrington and Minmi - Link Road sites of Coal & Allied land for conservation purposes. Therefore we recommend that it is imperative for the Awabakal Traditional Owners of this land to assist with the management and strategy development process of the conservation areas, as historically, our ancestral families have been disenfranchised of our cultural environment for over two centuries.

Statement of Cultural Significance of the area to the Awabakal Traditional Owners

The Minmi Region is an iconic landmark that features prominently within its surrounding landscape. This regions mythology, mystery and organic presence that are quite simply, uniquely Awabakal still to this day has an undeniable amount of fascination and attention regarding its cultural value and purpose.

The Awabakal Traditional Owners have a personalised and ever-revitalised bond with our ancestors' culture, tradition & heritage. This inexplicable connection is reverberated within the surrounding landscape of the Awabakal region.

Additionally, we appreciate our unique role and responsibility for the care and protection of the integrity of this landscape, for and on behalf of its original First Peoples and their descendants.

We would like to take this opportunity to assert our focus on the critical flow of intergenerational equity and aim to ultimately safeguard the immeasurable life-changing impact to this and future generations. Intergenerational equity lays the foundation for identifying, assessing, protecting and maintaining the important cultural and heritage values of landscapes, resources, places, objects, customs and traditions so that we, and generations to come, can enjoy, learn from them, and appropriately manage these values.

The Minmi Region is organically and historically imbedded into the Awabakal landscape and is romanticised, photographed, talked about, visited, fought over, and all the time having its substructure relentlessly undermined for its natural resources. And yet, this landscape still hums a very distinctive 'human story' that still reverberates today.

We believe that the principles of the Awabakal tradition and culture still exist today to keep intact the moral and spiritual fibre of this land. Equally, we also believe it is essential to nurture new visions that are inspired by the cultural integrity of our ancestral family and we are encouraged that so many people in this town are focused on gaining an ever growing respect and understanding for the Awabakal Peoples, this land and environment.

This land has had a wealth of knowledge walk over it, with each one of us deepening the footprints of our ancestral family, the Awabakal People (Awabakal Traditional Owners Aboriginal Corporation 10 & 30 March 2010).

Our comments to the contents of the Draft Report are as follows:

The Aboriginal heritage assessment process involves both a cultural values assessment and an archaeological assessment.

"The participation of Aboriginal communities and Aboriginal owners in archaeological field assessments is based on the principle of Aboriginal partnership in all facets of Aboriginal heritage management. Such participation should not be construed as 'consultation'. It is not a substitute for an assessment of Aboriginal cultural interests or values in a particular area of land or particular sites, such assessments being separate from archaeological assessments. A 'cultural assessment' should not be thought of as a mere component of an archaeological assessment or investigation" (NPWS 1997, *Aboriginal Heritage Standards and Guidelines Kit, Partnership with Aboriginal Communities section, p2*).

Page 3, Cover Letter, We believe that the reference made to 'local Aboriginal community groups' and 'Aboriginal community representative' within the cover letter on page 3 should be changed to 'Registered Aboriginal Stakeholders', as the meaning of 'community' has a wider group connotation, whereas the meaning of 'Stakeholders' refers to independent parties who are registered for this project and is more accurate and specific.

Page 2, With regard to the Director General Environmental Assessment that was issued in August 2010 for the site, we are perplexed as to how the requirements are to be achieved if the Heritage Assessment Reporting Process is being based on a **Report** that is now four (4) years old.

Page 4, 1.4, With regard to the Existing Heritage Status section within the **Report**, we consider that the information relating to recorded Aboriginal sites within and surrounding Minmi - Link Road development area to be outdated. We believe that *all* the **Reports** should reflect current recorded documented evidence regarding Aboriginal Cultural Heritage, as the details within the **Reports** are now four (4) years old.

Although the DECCW AHIMS Database may not necessarily have "up-to-date" or current information due to many unreported or unfinished site assessments pertaining to projects within and/or close proximity to the Minmi –Link Road project area, we therefore advocate that there would be some information recorded and documented that would bring additional environmental context pertaining to Aboriginal sites within this **Report**.

We have spoken with the EPRG North East Branch of DECCW because your project falls within their area of expertise and their responsibility for reviewing it. Regarding the time period of surveying and reporting against the proposed impacts, this region operates under 2 years which is the minimum acceptable period between these factors.

We recommend that ERM may need to consider the value of 'place' within the Predictive Aboriginal Heritage Statement weighting within this section of the **Report**, as this consideration is to insure the protection and conservation of Place & Objects which impact significantly on the spirituality, cultural, historic and general legacy needs of Aboriginal people to address inequalities in social and community well being.

Typo within Figures - 1.1, 1.2, 3.1, 5.1, 5.2, 5.3, 5.5, 5.6, 5.7, 7.1, which reads...Minmi Link Road & 'Stockinton', should be 'Stockrington'.

Page 10, We believe that the reference made to the 'local Aboriginal community representatives ' within the **Report** should be changed to 'Registered Aboriginal Stakeholders', as the meaning of 'community' has a wider group connotation, whereas the meaning of 'Stakeholders' refers to independent parties and is more accurate and specific. Therefore, we would like the **Report** to consistently refer to the 'Registered Aboriginal Stakeholders' instead of a generic 'local Aboriginal community'.

It is our interpretation that Aboriginal communities consist of Aboriginal people many of whom have relocated into other Aboriginal Nations traditional lands and should therefore respect the culture and heritage of the region and the rights of the traditional descendants of the area. The Hunter and Lake Macquarie regions consist of many Aboriginal community members who have no cultural association with this land; nonetheless they feel a sense of belonging.

Page 14, 3.2.1, We believe that the reference to another group of the Awabakal People being referred to as "sub group" is offensive to the Awabakal people and is a misleading assumption, as these groups are commonly called 'clan groups'. It would be appreciated if the reference to 'sub group' was changed to 'clan group' within this and all future **Reports**.

With regard to the clan areas of the Awabakal people within the **Report**, we would also like to mention that the writings of the Reverend Lancelot Threlkeld who was a missionary to the Aborigines of Lake Macquarie 1824-1859; in whose correspondence and accounts with the Awabakal people of the Hunter and Lake Macquarie region are the earliest recorded.

An example by L.E Threlkeld referring to Old Jacky's Tribe Usual place of Resort...*"The landed [sic] bounded by S. Rieds Mistake the entrance to Lake Macquarie, N by Newcastle & Hunter's River, W by the Five Islands on the head of Lake Macquarie 10 miles W of our station. This boundary, about 14 miles N and S, by 13E, and W, is considered as their own land..."* Further to Threlkeld's description of old Jacky's Tribe, there is an interpretive variation regarding the greater cultural boundary of the Awabakal Nation.

Page 15, 3.2.2, With regard to the Literature Review, AHIMS Database and Table 3.1, we believe that the DECCW AHIMS Database may not necessarily have "up-to-date" or current information due to many unreported or unfinished site assessments pertaining to projects within and/or close proximity to the Minmi and Link Road project area.

This is evident as the Figure 3.1 Map shows that there have been 40 sites recorded and documented in 2007, and therefore now renders this information obsolete which may have an adverse on other subsequently recorded and documented sites within close proximity to the proposed development site.

We are concerned that the **Report** is continually referring to information related to data that was obtainable in 2007. We express a high level of alarm and distress that the Information Reporting Process within the **Report** will have an adverse affect on the decision making process regarding the structure and context of the landscape within and surrounding the Minmi and Link Road areas.

Although empirical evidence demonstrates that the area has a history of poor cultural heritage recording and reporting, there have been a large amount of recorded Aboriginal sites surrounding the Minmi project area since 2007.

We have spoken with the EPRG North East Branch of DECCW because your project falls within their area of expertise and their responsibility for reviewing it. Regarding the time period of surveying and reporting against the proposed impacts, this region operates under 2 years which is the minimum acceptable period between these factors.

Page 19 - 20, 3.2.5, With regard to the Predictive Aboriginal Heritage Statement, we believe that it should not be assumed that additional Aboriginal artefacts do not exist within the proposed development area given that for thousands of years our people have occupied this area prior to colonisation.

At this juncture we believe that the contents relating to the Predictive Aboriginal Heritage Statement within this **Report** is insufficient, based on the lack of additional recorded information regarding the Minmi and Link-Road areas. Since 2007 the ATOAC have been active in assisting with recording our Cultural Heritage within close proximity to the Minmi and Link Road regions, and again would like to draw attention to our concerns that the **Report** continues to refer to information related to data that was obtained in 2007.

Page 36 - 37, 5.1.2 - 5.2, With regard to the Fieldwork Constraints within this section of the **Report** we agree that the Aboriginal survey was limited due to the vegetated ground surface. However, we believe that the majority of the field inspections concerning the decision making process regarding Aboriginal Cultural Material within the **Report** have been based on an insignificant survey sample. In addition we believe that some of the aspects pertaining to

our Cultural Heritage during the survey may have been overlooked, as the general consensus considered that the pace of the field survey had been rushed. This is evident by Figure 5.1 which outlines a limited Transect coverage for the Minmi, Link Road and Stockrington Heritage Impact Assessment.

We also believe that the Aboriginal survey limitations should be added to the Historical survey within Zones 1 and 2, as the Aboriginal assessment within sections of Zone 1 and 2 with area of horses were also avoided because of the equine horse flu epidemic.

Therefore in the case of the Minmi project area we believe that the Heritage Impact Assessment Information Reporting and Decision Making Process outcomes regarding the Aboriginal Cultural Heritage within this **Report** have been hindered by the Fieldwork Constraints.

Page 48, With regard to the 'grey area' outlined within Figure 5.3 that has been categorised as containing No Aboriginal Archaeological Potential, we believe that although the 'grey area' may have been previously disturbed by mining activity, it is not known if Cultural Heritage material remnants are contained within the ground subsurface. We would also like to mention that we were not afforded the opportunity to inspect this area during the Heritage Impact Assessment.

At this juncture we are concerned that the emphasis of the Minmi and Link Road seems to mainly focus on the colonial aspects of the development area, and believe that the Aboriginal perspectives pertaining to the Cultural Heritage Values and Significance of the development area and what the region means to the Awabakal people seems to be omitted from the **Report**.

Page 101, 6.1.1, With regard to the research questions within this section of the **Report**, we believe that since 2007 there has been several Aboriginal sites recorded within the Minmi, Newcastle and Lake Macquarie regions that would bring research context to the Aboriginal research questions within this **Report**.

Page 116, 8.2.1, We believe that the **Report** has not taken into consideration for any possible Cultural Heritage material that may be concealed below the ground surface. The site assessment and observation of the Minmi and Link Road sites indicates that there is potential for additional Aboriginal cultural material to be concealed below the ground surface as a result of the general use of the area.

We hold grave concerns regarding the discovery of the six Aboriginal sites within the development site, as the **Report** had indicated that MLR 1 will not be impacted by the development, but could impact on the remainder of the Aboriginal sites. Therefore we are most alarmed and anxious that these Cultural Heritage sites are considered to be at risk of damage and/or complete destruction.

We would prefer that any topsoil removal to remain on site, as there may be a possibility for cultural material to be concealed within the soil profile, as we believe that there is the possibility that the proposed development will impact on known and unknown sites and believe that any ground disturbance and/or sub-surface excavations will have the potential to impact on our Aboriginal Cultural Heritage.

Therefore we highly recommend that a Aboriginal Heritage Plan of Management (PoM) be implemented to include a subsurface investigation be proposed prior to the commencement of any groundwork, to establish and ensure that the Minmi and Link – Road study areas will realise the diversity and integrity of the site in appropriately determining the future conservation of Aboriginal Sites within the proposed development area.

If we are to achieve due diligence within a comprehensive process through a greater understanding of Aboriginal Cultural Heritage, both archaeologists and proponents need to take into consideration what these investigations mean to Aboriginal people as part of the healing and self-determination process.

We would recommend that consideration be given to undertake the development of a Cultural Heritage Awareness Training perspective either through an Oral and/or PowerPoint presentation for Staff and Contractors involved in the proposed development project.

The Awabakal Traditional Owners (ATOAC & ADTOAC) have both previously been involved with Cultural Heritage Awareness Training presentations and therefore would consider that this type of approach would resolve any difficulties for the Staff and Contractors involved to be aware of and to also recognise Cultural Heritage Material for this and future projects.

With regard to the Aboriginal interpretation within the development site, we would like Coal & Allied to consider using Awabakal words to name roads, streets, community recreation and conservation areas within the proposed development area as a sign of respect for the Awabakal People and their Cultural Heritage.

Page 131–137, 10–10.4, With regard to the Heritage Mitigation Measures within the Report we agree in principle with the Conserve, Investigate and Interpret perspectives to manage the potential impacts from the proposed development. We agree in principle with the Conservation of Heritage Values pertaining to the Aboriginal and Colonial perspectives within the development site. We agree in principle that the Report identifies that the area identified as having archaeological potential requires further work to determine their significance.

However, we believe that the Heritage Mitigation Measures have not taken into consideration any issues that could possibly affect the integrity of Awabakal Cultural Heritage sites or objects from the proposed development, in addition to any relevance to current Conservation of Aboriginal Heritage Values that may align with the other local heritage plans (such as DECCW 2007) outlined within this section of the **Report**.

We believe that the Mitigation Measures have not considered any possible impacts from the increase of pedestrian traffic and visitation within the conservation corridors as there has been an indication of proposed walkways within these areas.

We believe that the Mitigation Measures have not considered any possible additional areas that may contain archaeological potential that may require further work to determine their significance within the development site, considering that the **Report** is now than 4 years old.

We believe that the Mitigation Measures have not considered any precautionary procedures concerning the several creek lines that run through the proposed development area, as these areas are considered to contain Aboriginal Cultural material. Therefore we highly recommend that the Aboriginal PoM provide the opportunity for a series of test pits placed along the watercourses to establish the level of Cultural Heritage within these locations before any proposed earthwork disturbances within close proximity to these areas.

We believe that the Mitigation Measures have not considered the Care and Control perspectives pertaining to the collected Aboriginal artefacts within the development site. Therefore we highly recommend that *all* artefacts collected during the observation and collection process should be reburied within an appropriate location that is designated for conservation by the Aboriginal Stakeholders, and propose that this would be finalised at the completion of the proposed development.

In summary with regard to the Heritage Mitigation Measures within the Report, our Comments and Recommendations are those:

- we agree with the Coal & Allied ongoing Commitments and Social Benefits and believe that the Coal & Allied ongoing Commitments and Social Benefits should be included within the Report
- we are highly concerned that *all* the **Reports** pertaining to the 2007 Coal & Allied Southern and Northern Estates are now outdated and believe that *all* the **Reports** should reflect documented evidence regarding current recorded Aboriginal sites
- aspects pertaining to the Cultural Heritage perspective of the Awabakal Peoples lifestyle would have indeed broaden the Aboriginal context within the Report
- the reference made to 'Aboriginal communities' within the Report and cover page should be changed to 'Aboriginal Stakeholders'
- there are a number of statements within the Report that may need further clarification
- further field survey take place to cover the areas previously missed within the grey area shown on Figure 5.1 Map
- all necessary steps should be taken to locate, protect and preserve our Awabakal Cultural Heritage
- there should be NO IMPACT whatsoever to any Aboriginal Cultural Heritage sites
- an Aboriginal Heritage Plan of Management (PoM) should be developed and agreed upon between Coal & Allied and the Aboriginal Stakeholders before any site works commences
- the Plan of Management (PoM) include an Impact Mitigation Strategy for the six Aboriginal sites
- *all* artefacts collected during the observation and collection process should be reburied within an appropriate location that is designated for conservation by the Aboriginal Stakeholders
- we agree with the Conserve, Investigate and Interpret perspectives within the Heritage Mitigation Measures to manage the potential impacts from the proposed development
- the Heritage Mitigation Measures needs to contain a strategy for any possible impacts from the increase of pedestrian traffic within the conservation corridors
- we highly recommend that within the Plan of Management (PoM) a subsurface investigation be initiated to realise the diversity of Aboriginal Heritage in appropriately determining the future conservation of the site
- It is important for the Traditional Owners of this land to assist with the management and strategy development process of the conservation areas, as historically, our ancestral families have been disenfranchised of our cultural environment for over two centuries

- a Cultural Heritage Awareness Training be implemented either through an Oral and/or PowerPoint presentation for staff and contractors involved in the project
- to consider using Awabakal words to name roads, streets, community recreation and conservation areas
- additional time should have been allocated for comment response considering that four (4) additional Reports regarding the Northern and Southern Estates for Coal & Allied were all requested within 21 days.

We would like to take this opportunity to reiterate our family connection to the Awabakal People, as being direct descendants of the Traditional Awabakal People (the Lake Macquarie and its surrounding region). We as Awabakal descendants are connected with the Awabakal Culture and Heritage through our ancestral families.

As Awabakal Descendants our primary association with our cultural area (Awabakal region) is derived through the history of our apical ancestors Margaret and Ned of the Awabakal People, the original inhabitants of the land.

Margaret and Ned are a well documented Aboriginal couple of whom numerous newspaper articles and several books have recorded their lives within the Awabakal Nation. Margaret and Ned are remembered and celebrated in Lake Macquarie and have two Bays at Swansea respectfully named in their honour, Black Neds Bay and Margarets Bay. Margarets Bay was officially named by her descendants, and is adjacent to Parbury Park which in 1880 was part of a reserve set aside for the use of Margaret and her children.

The principle vision and aims of the Awabakal People is to protect the cultural heritage of our ancestors. Therefore, any artefacts and/or residual evidence of our people are held in high regard and are considered a cultural reminder that unites us with our land and sea country, our past and spirituality and provides us with a visual generational legacy.

We reserve the right and reluctance to share our cultural heritage with others in respect to aspects of the cultural significance that connects us to our country. It is believed by our people that those who shouldn't be privy to this cultural knowledge have no rights or entitlements to it.

We would like to thank ERM for the opportunity to comment and would ask for a copy of the finished report to be forwarded to us at your earliest convenience demonstrating how you have addressed all the Aboriginal Stakeholder comments provided.

If you require any further information please do not hesitate in contacting me.

Yours sincerely,



Kerrie Brauer
Director | Administration

Awabakal Traditional Owners Aboriginal Corporation
ABN: 90 203 408 390 | ICN: 4411
PO Box 253 Jesmond NSW 2299 Australia
T: 61 2 49 58 81 70 | E: info@awabakal.com.au | www.awabakal.com.au



Mindaribba Local Aboriginal Land Council

Phone: 49348511 & Fax: 49348544

Tmcdonald2@bigpond.com

PO Box 401 East Maitland NSW 2323

1A Chelmsford Drive Metford

ABN: 82826020881

Diana Neuweger
Heritage Consultant
PO BOX 7338
Cloisters Square
WA 6850

RE: COAL AND ALLIED NORTHERN ESTATES

Dear Diana

Mindaribba Local Aboriginal Land Council is requesting all reports done prior and after this project was deemed 3A project and who was involved and also who signed off on the management plan. I am also requesting a foot print of all the works on this projects total plan.

You may not be aware the black Hill is a important area to Aboriginal people and was the minster and the department of planning aware of the sensitivity of the area prior to giving approval. Once I have received a copy of all the documents and agreement for the project I will not support any development or consents and management agreements until Mindaribba LALC has all documents relating to this project.

Thanking you

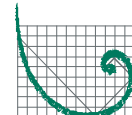
Steve Talbott
Sites Officer
Mindaribba Local
Aboriginal land Council
0401927449

7 June 2011

Shane Frost
Awabakal Descendants Traditional Owners Aboriginal Corporation
Awabakal_to@bigpond.com

Our Reference: 0111477 Responses to ADTOAC Comments Minmi

Dear Shane,



ERM

RE: ERM RESPONSE TO STAKEHOLDER COMMENTS ON MINMI

Provided below are the points and statements raised in the Awabakal Descendants Traditional Owners Aboriginal Corporation Letter dated 11 May 2011. The stakeholder statement is shown in italics with an explanation of how the stakeholder statements have been addressed, indicated below.

Period of Review too short for all the reports

The period of review was extended, to allow the groups to review the Northern Estate reports. The northern estate applications were lodged concurrently and as such the reports were sent out at the same time for review. A subsequent letter was sent to all registered stakeholders on 27 April 2011 to ensure that all stakeholders were aware that the period of review was extended and offering to meet individually with them to discuss any aspect of the reports. No new date was provided but all stakeholders were asked to provide responses at their earliest convenience.

Archaeological field survey rushed

The comment is made that the field survey was rushed and some areas inappropriately surveyed. The report reflects that there was limited ground visibility and as such, archaeological sites are difficult and often impossible to identify. Sub-surface testing has been recommended and will be a commitment of this project. A further survey of the area will occur at the time of the testing, when there has been clearing of the ground cover.

Lack of survey

Limited ground visibility was a factor for this project. In response, monitoring of the works during top soil removal in the areas of low potential for heritage and sub surface testing in the high and moderate potential areas has been

recommended. Once the areas of high and moderate potential are cleared of vegetation, prior to sub-surface testing, these areas will effectively be re-surveyed during the process of selecting pit locations for sub surface testing.

Disturbed areas

The term “none” for potential should be changed and “limited” should be used. The principal point here is that because of the mining history of the area it is anticipated most if not all soil horizons have either been removed or so highly disturbed as to have no context.

AHIMS site search out of date

The reports were originally commissioned and fieldwork undertaken in 2007. Any management plan that is created in 2011 or beyond for the project will update the AHIMS search to ensure all current and known sites are identified prior to works commencing.

Object to topsoil removal

The management plan can accommodate the request and include recommendations that topsoil excavated at the site be kept on site and reused within the development. If subsequent testing of top soil indicates any contamination this management measure may need to be revised, in which case the Stakeholder groups will be contacted and informed of any required change.

Systematic archaeological Sub-surface Testing

The report recommends that sub-surface testing be conducted in areas of high and moderate potential. Additional survey of these areas, will be undertaken as part of the testing strategy to determine the location of the test pits, once the ground surface has been cleared and prior to the commencement of site works following development consent, which will aid the visual inspection. Areas of limited potential will not be part of this resurvey as historical disturbance to these areas has resulted in a limited potential for sites to be present, however Coal & Allied will support the monitoring of top soil removal in these locations.

Additional survey in the grey area

Coal & Allied agree to stakeholders conducting a visual survey over the area indicated in grey in the report. This should be carried out after surface clearing and prior to the commencement of site works following development consent, to provide the best opportunity to identify any archaeological remains.

Protection and preservation of cultural heritage

The protection and preservation of cultural heritage is important to Coal & allied. Once clearance and sub surface testing has determined whether any further sites are present in the study area, management measures will be developed to protect and preserve the cultural heritage wherever practicable. Any management measures recommended from the sub-surface testing will be undertaken in consultation with the Aboriginal Stakeholders.

Observance and collection program

Artefact collection and monitoring can be added to the management plan once sub-surface testing has indicated which, if any, locations within the study area hold artefact scatters or archaeological potential.

Reburial in a conservation area

Reburial of artefacts can be undertaken in a conservation area and interpretation of what has been found on site will be part of the interpretation strategy of the study area.

Increased traffic due to new residence not addressed

The sub-surface testing will define the type and location of sites present. The potential for increased traffic to impact upon any sites identified will be considered in the management plan, and management measures will be discussed with the Aboriginal Stakeholder Groups.

Awabakal names

Coal & Allied will undertake appropriate stakeholder consultation with regard to the use of Awabakal names for roads, parks and walkways within the development.

Interpretative Signage

Interpretation is part of the commitments already made by Coal & Allied and interpretation will include the Awabakal people's use and understanding of the subject area.

Notification and cultural awareness training


Coal & Allied is committed to continuing consultation with the registered stakeholders for this project; notification of the ongoing process will form part of

that commitment as well as the involvement of the Stakeholders in the further management and mitigation of cultural heritage undertaken within the study area. Cultural Heritage Awareness training will be provided to all contract staff prior to excavation works and will form part of the on-site induction process.

Aboriginal archaeological sites around water courses

Sub-surface testing will be conducted in proximity to creek lines. The management plan will include 'chance find/stop work' procedures and appropriate management measures, should additional sites be identified.

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd



Dr Diana Neuweger
Heritage Consultant

7 June 2011

Kerrie Brauer
Awabakal Traditional Owners Aboriginal Corporation
Kerrie@awbakal.com.au

Our Reference: 0111477 Responses to ATOAC Comments Minmi

Dear Kerrie,



RE: ERM RESPONSE TO STAKEHOLDER COMMENTS ON MINMI

Provided below are the points and statements raised in the Awabakal Descendants Traditional Owners Aboriginal Corporation Letter dated 18 May 2011. The stakeholder statement is shown in italics with an explanation of how the stakeholder statements have been addressed, indicated below.

Use of the term 'community'

Future reports will use the term 'stakeholder' or 'traditional descendants' rather than the term 'community'.

Currency of report data 4 yrs old

Any management plan that is created in 2011 or beyond for the project will update the AHIMS search to ensure all current and known sites are identified prior to works. In the Plan of Management the AHIMS site search and predictive modelling will be updated.

Grey area

Coal & Allied agree to stakeholders conducting a visual survey over the area indicated in grey in the report. This should be carried out after surface clearing and prior to the commencement of site works following development consent, to provide the best opportunity to identify any archaeological remains.

Object to topsoil removal

The management plan will accommodate this request and include recommendations that topsoil excavated at the site be kept on site and reused within the development. If subsequent testing of top soil indicates any

contamination this management measure may need to be revised, in which case the Stakeholder groups will be contacted and informed of any required change.

Sub-surface Testing

The report recommends that sub-surface testing be conducted in areas of high and moderate potential. Additional survey of these areas, will be undertaken as part of the testing strategy to determine the location of the test pits, once the ground surface has been cleared and prior to the commencement of site works following development consent, which will aid the visual inspection. Areas of limited potential will not be part of this resurvey as historical disturbance to these areas has resulted in a limited potential for sites to be present, however Coal & Allied will support the monitoring of top soil removal in these locations.

Cultural awareness training

Coal & Allied is committed to continuing consultation with the registered stakeholders for this project; notification of the ongoing process will form part of that commitment as well as the involvement of the Stakeholders in the further management and mitigation of cultural heritage undertaken within the study area. Cultural Heritage Awareness training will be provided to all contract staff prior to excavation works and will form part of the on-site induction process.

Awabakal names

Coal & Allied will undertake appropriate stakeholder consultation with regard to the use of Awabakal names for roads, parks and walkways within the development.

Interpretative Signage

Interpretation is part of the commitments already made by Coal & Allied and interpretation will include the Awabakal people's use and understanding of the subject area.

Increased traffic due to new residence not addressed

The sub-surface testing will define the type and location of sites present. The potential for increased traffic to impact upon any sites identified will be considered in the management plan, and management measures will be discussed with the Aboriginal Stakeholder Groups.

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd

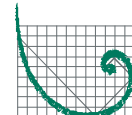
A handwritten signature in black ink, appearing to read 'D. Neuweger', with a long horizontal flourish extending to the right.

Dr Diana Neuweger
Heritage Consultant

7 June 2011

Steve Talbot
Mindaribba Local Aboriginal Land Council
Tmacdonald2@bigpond.com

Our Reference: 0111477 Responses to MLALC Comments Black Hill



ERM

Dear Steve,

RE: ERM RESPONSE TO STAKEHOLDER COMMENTS ON BLACK HILL

Provided below are the points and statements raised in the undated letter of Mindaribba Local Aboriginal Land Council. The stakeholder statement is shown in italics with an explanation of how the stakeholder statements have been addressed, indicated below.

Additional reports requested

There were no additional reports prepared for this project. The development foot print plan was sent to the Land Council with the report.

The management plan has not yet been produced and the Mindaribba Local Aboriginal Land Council will be consulted during its development.

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd



Dr Diana Neuweiger
Heritage Consultant

Annex B

Effective Coverage Table

Table B.1 Effective Coverage

Transect	Landform	Length (m)	Width (m)	Area (m ²)	Visibility	Exposure	Visible area (m ²)	Area available for detection (m ²)	% Effective coverage
1	Slope	542	3	1626	100%	100%	1626	1626.0	100%
2	Steep Slope	308	10	3080	100%	100%	3080	3080.0	100%
3	Flat	207	10	2070	100%	100%	2070	2070.0	100%
4	Slope	536	3	1608	100%	100%	1608	1608.0	100%
5	downhill slope	279	2.5	698	90%	100%	627.75	627.8	90%
6	steeper slope	371	2.5	928	90%	100%	834.75	834.8	90%
7	Ridgeline	1010	2.5	2525	90%	100%	2272.5	2272.5	90%
8	Slope off ridge	382	2.5	955	100%	100%	955	955.0	100%
9	Slope	924	0.5	462	100%	100%	462	462.0	100%
10	steep slope down ridge	731	1	731	100%	100%	731	731.0	100%
11	Slope	324	0.5	162	100%	100%	162	162.0	100%
12	Slope	462	1	462	100%	100%	462	462.0	100%
13	Road	418	3	1254	0%	100%	0	0.0	0%
14	Slope	876	1.5	1314	100%	100%	1314	1314.0	100%
15	steep bank	133	1	133	0%	100%	0	0.0	0%
16	Slope	650	3	1950	100%	100%	1950	1950.0	100%
17	Slope	701	8	5608	100%	100%	5608	5608.0	100%
18	Ridge	436	3	1308	100%	100%	1308	1308.0	100%
19	upper flat	403	5	2015	100%	100%	2015	2015.0	100%
20	Slope off ridge	507	5	2535	100%	100%	2535	2535.0	100%
21	Ridgeline	561	3	1683	100%	100%	1683	1683.0	100%
22	Slope off ridge	1021	3	3063	100%	100%	3063	3063.0	100%
23	Ridgeline	288	3	864	100%	100%	864	864.0	100%
24	Slope	681	4	2724	100%	100%	2724	2724.0	100%
25	Ridgeline	377	3	1131	100%	100%	1131	1131.0	100%
26	upper flat	473	3	1419	100%	100%	1419	1419.0	100%
27	steep slope down ridge	472	2	944	100%	100%	944	944.0	100%
28	ridge top	200	1	200	100%	100%	200	200.0	100%
29	slope down ridge	801	1	801	100%	100%	801	801.0	100%
30	Slope	647	2	1294	100%	100%	1294	1294.0	100%
31	Slope	100	1	100	0%	100%	0	0.0	0%
32	ridge top	492	1	492	100%	100%	492	492.0	100%

Annex C

Review of Historical Aerial Photographs

C.1 *HISTORICAL AERIAL PHOTOGRAPHY*

Historical aerial photographs were obtained of the Minmi area for the years 1954, 1966, 1975, 1984 and 1996 (*Figures C.1 – C.5* respectively). The extent of each of these photographs varies slightly but is still able to provide valuable information regarding the development of Minmi presenting an overall view of the progression of open cut mining in the area over a 40 year period. The 1984 aerial is shown below (*Figure C.4*) with annotations which are made reference to in the text. Each area of open cut mining is labelled A through F to allow for easy identification of the points made reference to in the following text.

C.1.1 *1954*

The 1954 aerial (*Figure C.1*) photograph shows the southern end of Minmi and the forested land to the south and west of the town. This image demonstrates a buffer of around 100 metres of relatively un-forested grassland and open cut mining (Point A on aerial) extending around 300 metres into a ravine to the south-eastern edge of this grassland.

C.1.2 *1966*

The 1966 aerial photograph (*Figure C.2*) shows a greater extent of the area around Minmi particularly to the south. It is apparent that the south west mine has been extended and open cut mining has occurred to the north of A (Point B on aerial). This image also demonstrates further mining to the western edge of Minmi (Point C on aerial).

C.1.3 *1975*

This aerial (*Figure C.3*) shows greater detail of the northern part of Minmi, revealing a small area of what is thought to be open cut mining to the north end of the Minmi/Link Road site (Point C on aerial). At this time the mining operations in the south-eastern edge of Minmi have become more clearly visible and two distinct, areas of mining can be seen (Points E & F), the beginnings of which were first seen in 1966.

C.1.4 **1984**

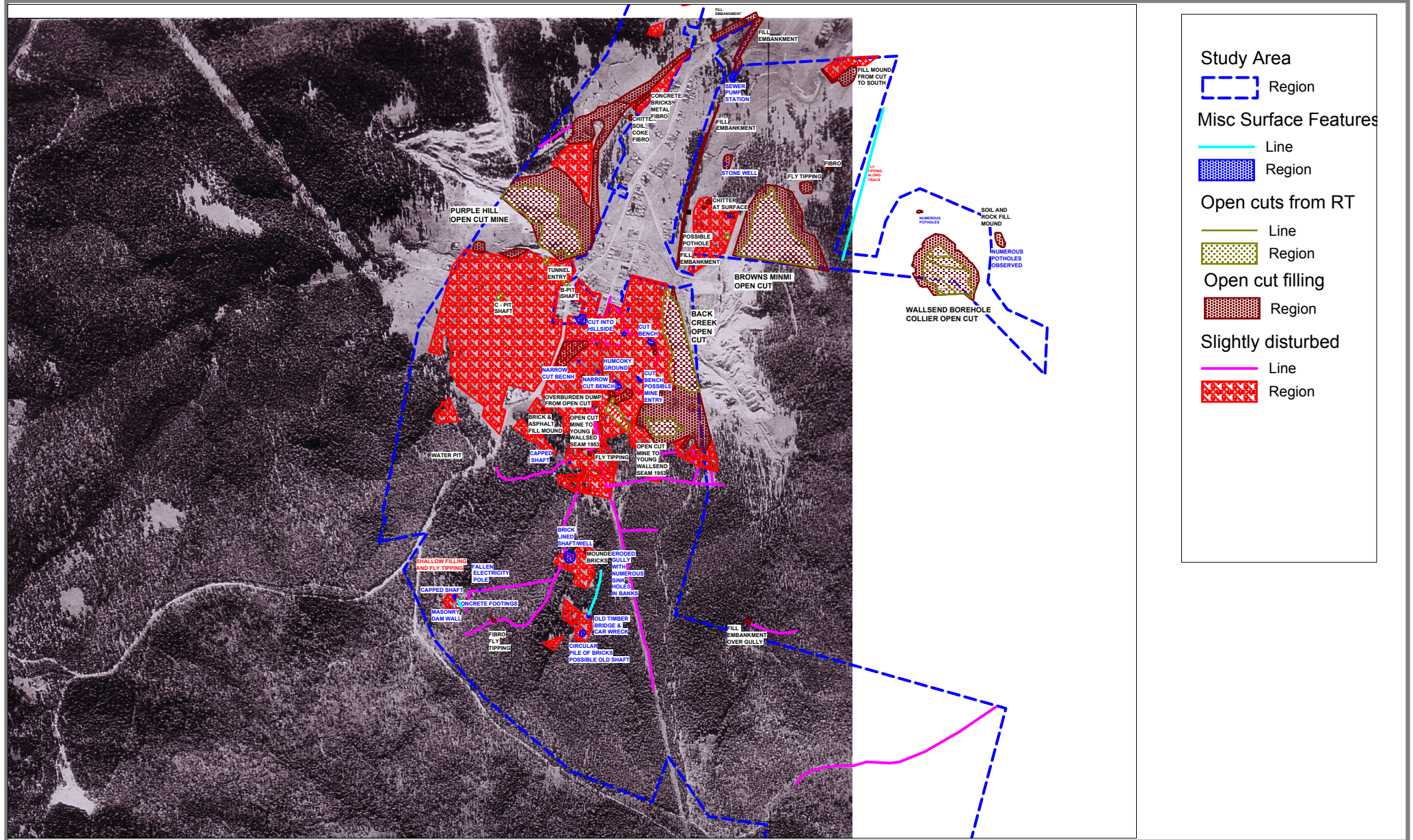
In the 10 years following 1975 the mining operation to the south-east of Minmi appears to have increased significantly, as shown by the 1984 aerial photograph (*Figure C.4*). The two areas of mining mentioned earlier (Points E & F) remain distinct from one another and have expanded in a North-South direction. At this time the more western of the two mines extends approximately 1 kilometre north to south whilst the eastern mine is around 1.5 kilometres north to south, tapering at the northern end. The 1984 aerial shows that there is minimal expansion of the other open cut mines.

C.1.5 **1996**

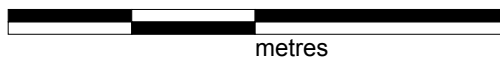
By 1996 it appears that the mines are no longer in use as the aerial photograph (*Figure C.5*) of the area shows the surrounding bushland beginning to reclaim the area. The two aforementioned sites of open cut mining in the south-east of Minmi are still clearly distinguishable at this time.

C.2 **SUMMARY**

Over the 42 years between 1954 and 1996, the extent of the area of un-forested grassland surrounding the town of Minmi appears to have changed very little, and evidence of an expanding mining operation is clearly visible. The main concentration of this mining was to the south-east (Points E and F), outside the Minmi/Link Road site. There are a few, smaller open cut mines visible: to the north (Point B) of the point where the main operation began (point a); the northern extent of Minmi (Point D) and; on the eastern edge of the town itself (point C). All of these other, smaller areas (Points B, C and D) fall within the Minmi/Link Road site. Mines B, C and D appear to have not been in operation after 1975.

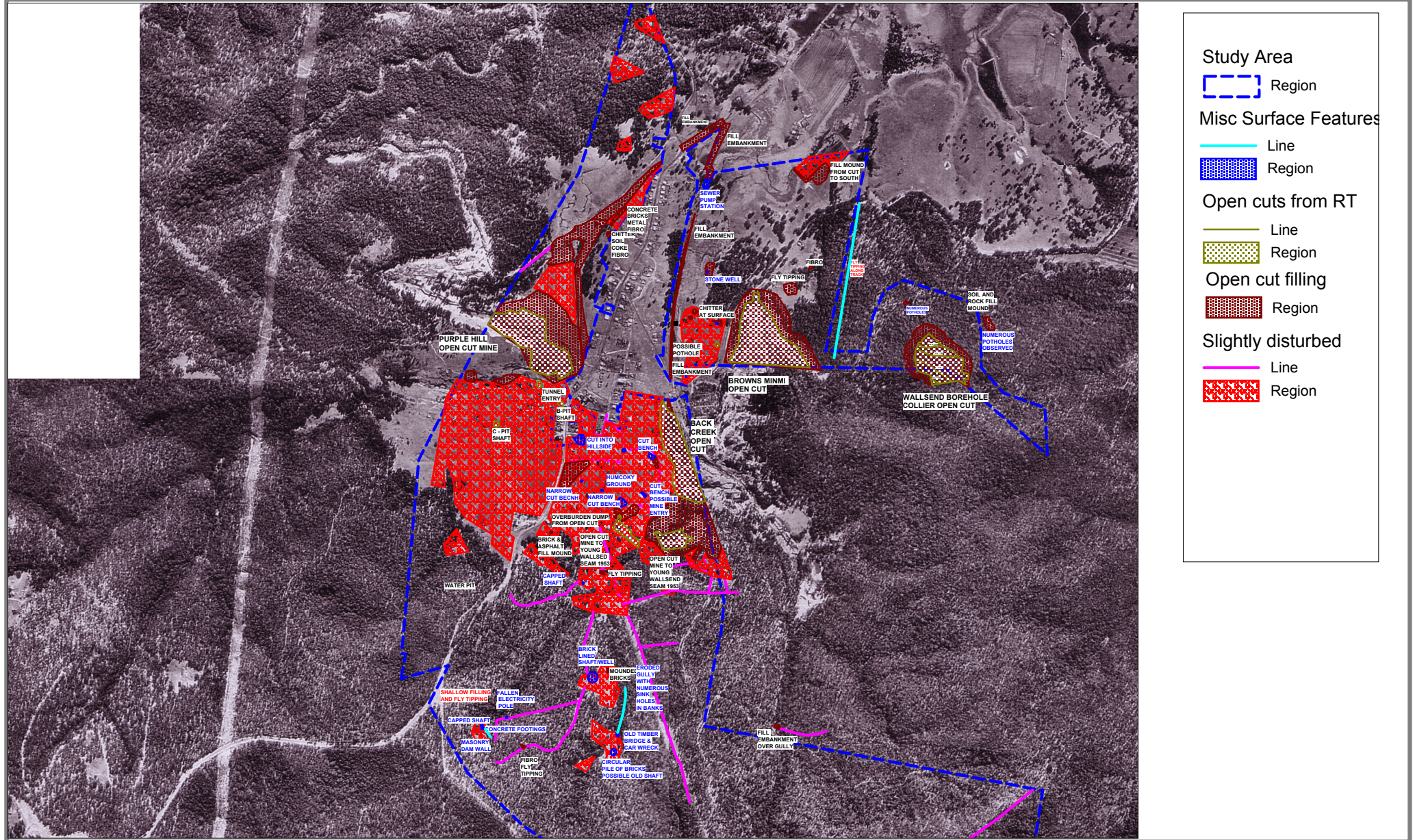


0 450 900



metres

Figure C.1 1954 Aerial



0 450 900

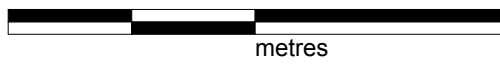


Figure C.2 1966 Aerial



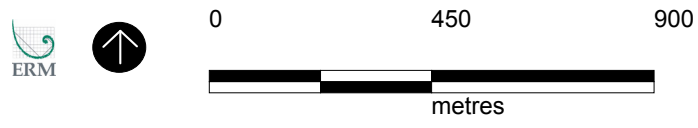
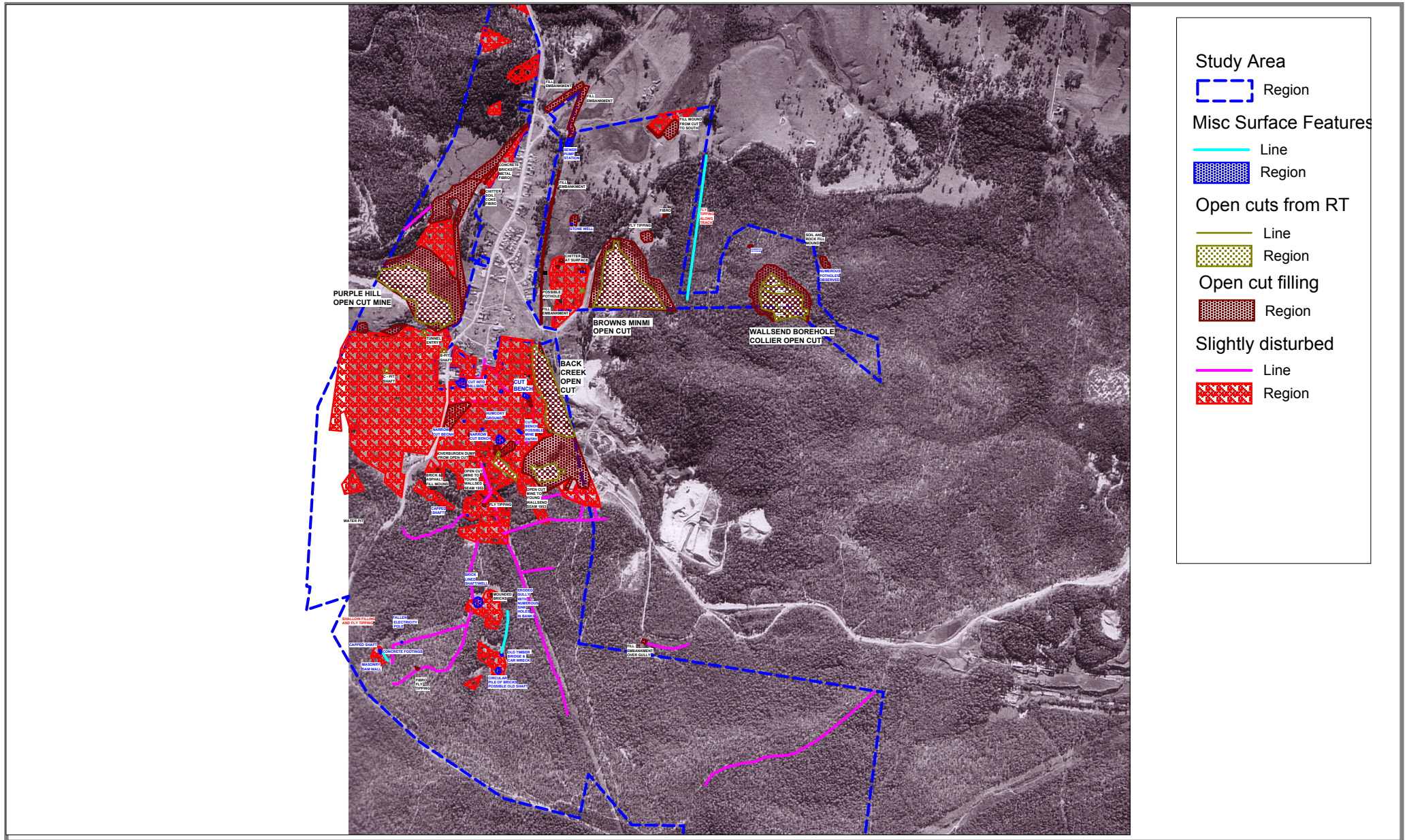
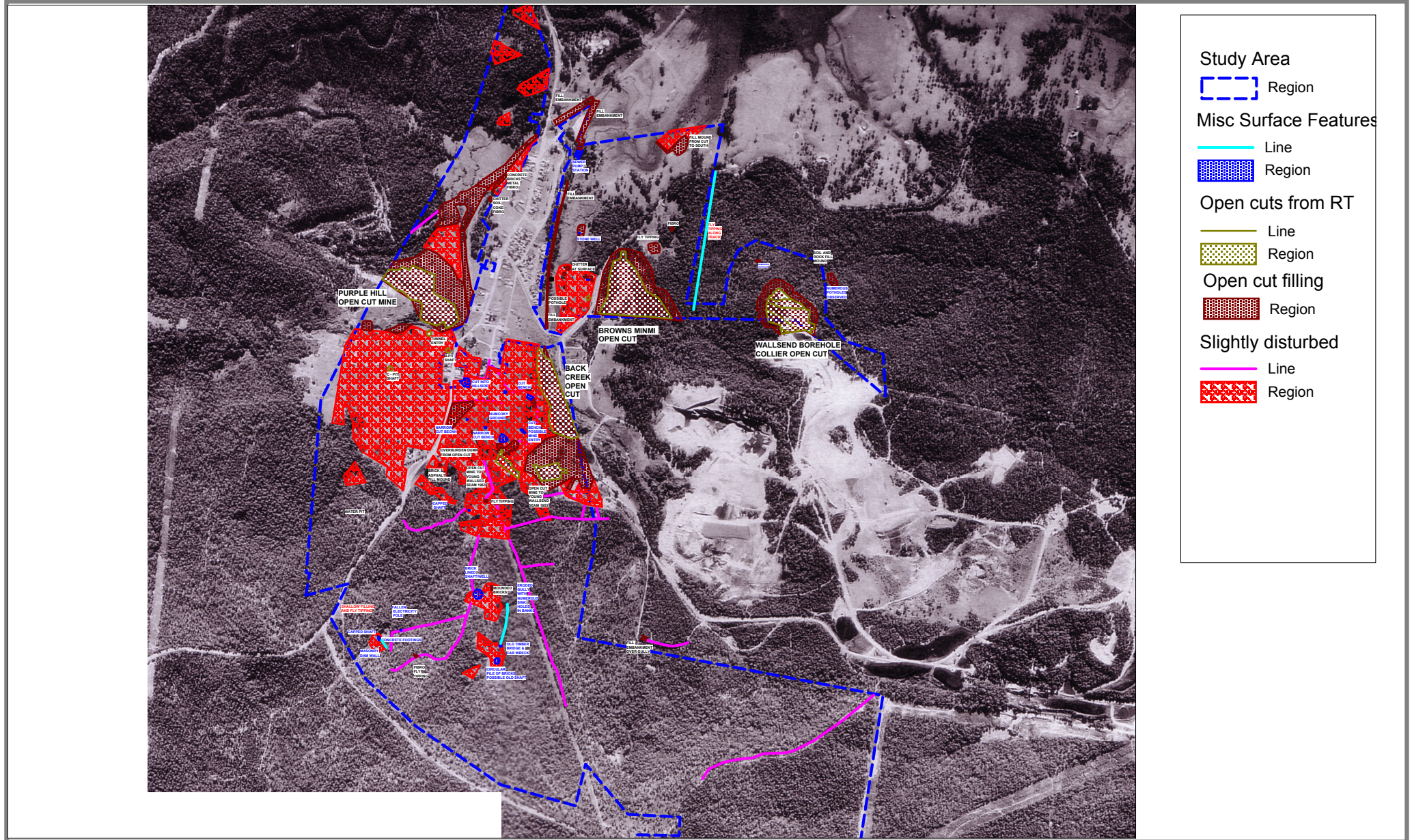


Figure C.3 1975 Aerial



0 450 900

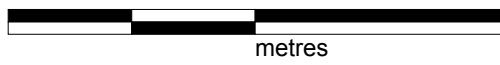
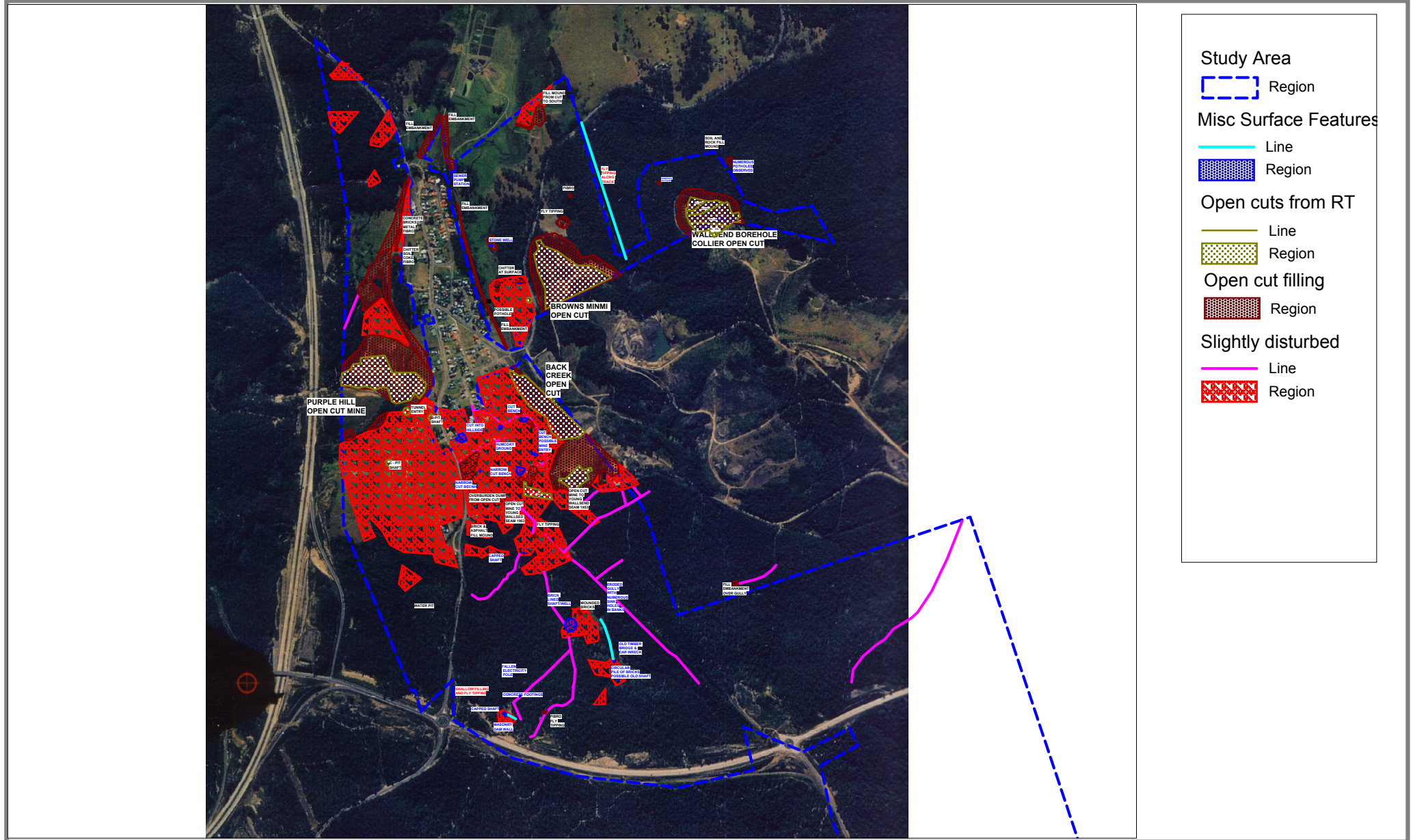


Figure C.4 1984 Aerial



0 450 900

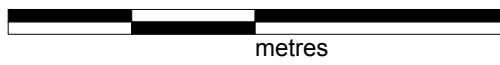


Figure C.5 1996 Aerial

Annex D

Minmi Significant Historical Characters

D.1

MINMI SIGNIFICANT HISTORICAL CHARACTERS

The following information on John Eales and members of the Brown family is extracted from the Australian Dictionary of Biography available online.

D.1.1

John Eales

EALLES, JOHN (1799-1871), grazier and pioneer pastoralist, was born on 28 March 1799, at Ashburton, Devonshire, England, the son of John Eales, farmer, and his wife Elizabeth, née Leaman. The name Eales dated back to Norman times, the family seat being Berry Pomeroy Castle at Totnes, Devonshire.

Deciding to emigrate to New South Wales, Eales applied to Earl Bathurst, a family friend, for rights to select land in the colony, which he received on 24 October 1822. He arrived at Hobart Town on 19 August 1823 in the *Francis*, with letters of introduction to Governor Sir Thomas Brisbane. After a brief stay he went to Sydney and thence to the Hunter River district, where he selected his grant of 2100 acres (850 ha) about four miles (6.4 km) from Morpeth. With the aid of one servant, 'Jim-the-Londoner', he cleared some 200 acres (81 ha) and planted it with wheat. The estate, which he named Berry Park, soon became one of the finest in the district and by 1831 was yielding an annual return of 10,000 bushels. Trouble with rats forced him to build giant iron tanks to hold grain, possibly the first silos used in the colony.

Soon afterwards his interest turned to grazing, and in the 1830s he acquired by purchase and squattage a number of runs on the Liverpool Plains, the largest being Walholla and Queepolli. In the early 1840s he became the pioneer pastoralist of the Maryborough district, although it is doubtful that he himself ever visited the area. About 1842 he sent his superintendent, Joliffe, on an expedition to the area north of Moreton Bay to report on the suitability of land for sheep and cattle grazing. Joliffe explored the country around Wide Bay and sent glowing reports. Impressed with his findings, Eales bought some 20,000 sheep and authorized his superintendent to take up a large amount of land on his behalf. Joliffe established a head station at Tiaro, some twenty miles (32 km) south of the present Maryborough, and out-stations at Gigoongan and Owanyilla. In March 1843 Dr S. Simpson, commissioner of crown lands, visited these stations and in his journal spoke favourably of them. Soon afterwards Joliffe began to have trouble with attacks by Aboriginals on sheep and shepherds. In June 1844 the *Sydney Morning Herald* noted that Eales had been forced to send most of his sheep to Moreton Bay because, although the land to the north was excellent for grazing, difficulties with Aboriginals and supplies prevented its profitable occupation. A month later many of his sheep were seized by the commissioner for crown lands at Moreton Bay to enforce payment of a large sum due for assessment, but later the claim was withdrawn. After some years Eales had to abandon the northern stations altogether.

At the end of the 1830s Eales turned his attention to the development of shipping services in the north. Alarmed at the uncertain and irregular shipping between Morpeth and Sydney, and its effect on exports from the Maitland district, he convened a meeting of interested parties in Sydney in July 1839 to discuss the formation of a new shipping line. As a result the Hunter River Steam Navigation Co. was established with a capital of £40,000 in two thousand shares of £20, Eales being a principal shareholder and a director. Almost immediately an order was placed with Fairbairn & Co., shipbuilders of England, for three steamers. These ships, the *Rose*, the *Shamrock* and the *Thistle*, began services between Morpeth and Sydney in the 1840s. In 1841 Eales built a dry dock for the use of the company's vessels, on the river at the base of his property. Ten years later the company was incorporated as the Australian Steam Navigation Co., with Eales still on the board of directors.

At the beginning of the 1840s, he established a boiling down works at Berry Park. In August 1844 the *Sydney Morning Herald* claimed that he was a pioneer in boiling down on his own property instead of sending sheep and cattle to public establishments for treatment. Although the prevailing feeling in the colony was against the importation of coloured labour, Eales brought out a number of Chinese to work on his estate, and in 1842 his name appeared as a member of an association formed to promote the immigration of Indian labourers to the colony. In 1844 he was one of a number of graziers who protested vigorously against the new squatting regulations of Governor Sir George Gipps. As a result of a public meeting held in Maitland in April 1844 he was appointed to a district committee who drew up a petition for an inquiry into the system of letting lands beyond the boundaries, and the means of imposing and collecting tax on cattle and sheep in these districts.

About this time coal was discovered on his estate. Recognizing the possibilities of the youthful coal-mining industry, he began mining near Minmi in defiance of the Australian Agricultural Co.'s monopoly. Within several years he was exporting large quantities of coal from the Duckenfield collieries, and in 1848 the Sydney Gas Co. chartered the *Currency Lass* to carry his coal to Sydney. By an Act of parliament Eales and his partner Christie gained official sanction to build a railway line connecting the mines with the Hunter River at Hexham. About 1859 Eales sold the mine and railway to the brothers, James and Alexander Brown.

In company with many other large landed proprietors, Eales suffered from the effects of the depression in the early 1840s but soon made good his losses. He had more than 16,000 acres (6475 ha) of freehold in the Maitland district and some twenty stations in New South Wales. In 1853-54 he sold many of these stations and a number of his suburban allotments. About this time he began building a mansion on the Duckenfield estate. The mansion, Duckenfield Park House, was completed and enlarged by his son John.

Throughout his life, Eales was actively interested in horse-racing, and as early as 1833 had organized the first race meeting held in the Hunter River district. At Duckenfield he made a private race-course and bred blood stock. He died at Duckenfield on 1 April 1871. Known to many as the 'One-Man-Settler', Eales was reputedly one of the wealthiest men in New South Wales. A man of great versatility and independence, everything he touched seemed to prosper.

He had married Jane Eleanor Grisley, née Lavers, at Upper Paterson in February 1828 and had five children. One son, John Eales junior (1831-1894), became a noted breeder of blood stock, and in 1880-94 was a member of the Legislative Council.

(<http://www.adb.online.anu.edu.au/biogs/A010328b.htm>)

D.1.2

Alexander Brown

BROWN, JAMES (1816-1894) and ALEXANDER (1827-1877), colliery proprietors and merchants, were born in Lanarkshire, Scotland, sons of Alexander Brown and his wife Mary, née Hart. Like his father, James (b.3 August 1816) was a hand-loom weaver and agricultural labourer before the family migrated to Sydney in 1842. As a bounty immigrant he had engaged to work on a farm but the family settled at Newcastle and James worked in James Mitchell's tweed factory at Stockton. In 1843 he leased eighty acres (32 ha) of land at Four Mile Creek, near East Maitland, and assisted by his brothers John (1823-1846) and Alexander (b.26 June 1827) began to mine outcropping coal for sale in Maitland and Morpeth.

Since the coal in this land had been reserved by the Crown in an agreement with the Australian Agricultural Co. designed to protect its investment in mines at Newcastle, the Browns were warned to stop mining or face prosecution for intrusion. The company had been tolerating small-scale mining for local use but took action when the Hunter River Steam Navigation Co. accepted Brown's tender to supply about 4000 tons of coal a year at 5s. 11d. a ton: it had been paying 13s. a ton for Australian Agricultural Co. coal. Other producers were entering the Sydney market and competition had reduced the price of coal to 7s. by 1847. These price reductions and the threat of legal action drove almost all the newcomers from the industry but James Brown persisted.

In the Supreme Court in August 1845 Brown's counsel argued that the agreement between the company and the British government was illegal as it tended to promote a monopoly, and also disputed the Crown's right to reserve coal on land which it sold. James Brown was found guilty of intrusion, fined 1s. and ordered to pay the costs of the action. To recover costs the bailiff forced the family from the lease at such short notice that the twelve dwellings built there had to be left and a further £147 was lost in the move. The barristers, Richard Windeyer and Robert Lowe, who had represented Brown in the first trial, sought a retrial. Similar legal arguments were used and again rejected by the Full Court: 'a variety of topics ... with which we have, as Judges, nothing to do and which were of too popular a character, merely, to justify further notice by us'. The Australian Agricultural Co., anticipating further difficulty in maintaining its position, hastened to negotiate the end of the agreement on advantageous terms and its termination was announced in Sydney on 17 August 1847. The advent of open competition and the lower price of coal in 1845-52 were largely due to the challenge of James Brown.

Meanwhile James had formed a partnership with John Eales, whose land grant predated the company's agreement, and continued to supply the steamships which linked Sydney and Maitland. After several more years of small-scale mining in the East Maitland area James and Alexander Brown, now partners, moved to the Burwood estate south of Newcastle in 1852 to develop a new mine which yielded large quantities of coal at a time when it was selling for as much as £1 10s. a ton in Newcastle. By 1857 the brothers owned valuable property in Newcastle, a ship-chandlery and import-export business, and at least one ocean-going ship. Alexander emerged as the more enterprising of the partners and after the amalgamation of the Burwood estate mines in 1856 he became the manager before taking one of their own ships to Java in 1857. His outward cargo was coal and on the homeward run the ship carried rum, sugar and coffee, the first direct import of such goods to Newcastle.

The brothers returned to mining in 1859 by acquiring the Minmi colliery and its railway to Hexham. They increased its output 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. Simultaneously the Minmi private township was developed and one of the most elaborately equipped engineering workshops in the colonies was set up there to service their locomotives and steamships. The firm was already employing the first screw collier used in Australian waters and had bought a tug, the second in Newcastle and first of a long line operated by the Browns. These achievements enabled the brothers to sell a half interest in their Minmi property for £75,000 in 1863 to a company formed for the purpose. Some of this money was then invested in pastoral properties in Queensland and elsewhere; managed by James Brown they did not prosper, but involved losses estimated at £25,000 over the next two decades.

The failure of the Minmi Co. and their financial problems forced them back to mining in 1865 and preoccupied them thereafter. Two new mines were developed and, though one failed, J. & A. Brown was once more the largest producer in the colony in 1868. These were difficult years for the Browns as coal was selling for about 7s. a ton and the low price hampered their complete recovery until the first coal vend was formed in 1872. This organization shared trade between the proprietors and enabled them to raise the price of coal to 14s. a ton and to maintain it near this level until 1880, thus making a golden period of mining in the Newcastle district. In these years James devoted himself to colliery management while Alexander continued his efforts in the foreign trade, visiting England in 1874 and being acclaimed by his peers the businessman of Newcastle on his return, for meeting 'the merchant princes of England' and impressing them with their claims for 'reciprocity of trade' and for his advocacy of the port. Among his many other ventures Alexander had bid for a franchise of coal mining in Tasmania in 1861, visited the United States on a business tour in 1863 and acquired valuable gold leases on the Gulgong field in 1872. He also gave evidence to a large number of select committees on railways and mining. He dominated the firm until his death at Newcastle on 31 May 1877. He was buried in the Presbyterian cemetery at East Maitland. He was unmarried and his property, popularly estimated at £250,000 but sworn for probate at £100,000, was left principally to his nephews.

At St Andrew's Presbyterian Church, Sydney, on 20 December 1847 James Brown had married Elizabeth Foyle. He died at Newcastle on 27 September 1894, survived by his wife, four sons and a daughter. In 1886 he had made over his interest in the firm to his sons. The most influential of them was John who managed J. & A. Brown until his death in 1930.

In 1843-86 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. Their success can be attributed to their early start and to the complementary talents of the brothers, one an experienced, able and persistent mine manager and the other a shrewd, enterprising man of commerce. Alexander Brown in particular appears to have played a significant role in the development of the overseas trade which was to absorb about a third of all coal produced in New South Wales in 1860-1914.

(<http://www.adb.online.anu.edu.au/biogs/A030503b.htm>)

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(<http://www.adb.online.anu.edu.au/biogs/A030240b.htm>)

D.2.1

John Brown

BROWN, JOHN (1850-1930), 'coal baron', shipowner and racehorse breeder, was born on 21 December 1850 at Four-Mile Creek near East Maitland, New South Wales, eldest son of James Brown and his wife Elizabeth, née Foyle. He was educated at Newcastle, and at 14 began work in the Newcastle office of his father's and uncle's firm, J. & A. Brown. After experience underground, then as a colliery clerk, surveyor and pit-manager at the Minmi mine, he was sent overseas—to China on the firm's business and to inspect its London agency. He also studied the latest technology and working methods in mines in Britain and the United States of America. In the 1870s he managed the Minmi mines. On 25 January 1881 at Govan, Lanarkshire, Scotland, he married Agnes Bickers Wylie with the forms of the United Presbyterian Church. However she died in Sydney on 17 August the same year.

In 1877 Brown's uncle Alexander had died leaving his £100,000 estate to his nephews; in 1882 James appointed John general manager and handed over his coal interests to his sons in 1886. John Brown remained in control of policy. He extended the Minmi mine and benefited from membership of the Vend, a cartel which regulated prices and shared the trade between Newcastle coal-proprietors, but he left it in 1890.

Free to reduce prices and with no shareholders to satisfy, he embarked on a period of trade expansion which contributed to the dissolution of the Vend and thereby helped to impoverish the district. In 1896, when many collieries were idle, his Minmi mines worked on 256 out of a possible 280 days and next year were active on 264: the firm's annual output exceeded 300,000 tons in 1897-1901. In the early 1900s Brown expanded his South Maitland interests, acquiring the high-producing Pelaw Main and Richmond Main collieries, and by 1904 had connected both to the firm's Minmi-Hexham railway. He also built up the fleet of tugboats which operated in both Sydney and Newcastle.

In order to develop the export trade Brown spent much time abroad and opened offices in San Francisco, Valparaiso and in London, where he mostly lived in 1888-93 and 1899-1904 while the business was managed by his brother William. William then claimed the right to participate in the firm's management and from 1905 pursued his claim in the Equity Court. In November 1909 the partnership was dissolved by order of the court and John was appointed receiver and manager; his appeal to the Privy Council against the dissolution was dismissed.

Early in the century, Brown became famous for his horse-breeding and racing exploits. In 1893 he had begun to race horses as 'J. Baron', and 1897 won the Australian Jockey Club Doncaster Handicap with Superb. In 1902 he imported the stallion, Sir Foote, for his stud, Wills Gully, near Singleton. Sir Foote's most famous son was Prince Foote: in 1909-10 he equalled Poseidon's record in winning the A.J.C. and Victoria Racing Club Derbys and St Legers and the Melbourne Cup in the same season – as well as the A.J.C. Sires' Produce Stakes and the three-mile Australasian Champion Stakes. That season Brown topped the winning-owners' list with £14,610 in stakes. Duke Foote carried his pale blue colours with yellow sleeves and black cap to victory in several important races, but was the unplaced favourite in the 1912 Melbourne Cup won by William Brown's Piastre. In 1919 John's Richmond Main dead-heated with Artilleryman in the A.J.C. Derby and won the Victoria Derby. He bred other notable horses including Prince Viridis, Prince Charles, winner of the 1922 Sydney Cup, Leslie Wallace and Balloon King. Between 1910 and 1924 he reputedly won £90,094 in stakes. Terse with trainers, he frequently changed them, but he pampered his horses. Although by 1930 he owned 240 brood mares and seven stallions he usually refused to sell any horses even if he did not want to race them. He exhibited and imported prize dogs, poultry and turkeys, and bred stud cattle. He bought Darbalara, near Gundagai, another stud near Scone, and in 1927 Dalkeith, near Gundagai, to grow maize and lucerne.

Confirmed in sole management, Brown expended much capital in his desire to be self-contained. Before World War I the firm had two-thirds of Sydney Harbour's towing and carried out much ocean salvage work, also controlling the Newcastle pivot system until it was taken over by the government.

He spent large sums on the latest mining plant, colliers, rolling stock and his Hexham shipping point and engineering works, which serviced steam and locomotive engines for other firms: on one excursion abroad he spent over £1 million on locomotives, mining equipment and a steamship to carry them home. In the 1920s he opened up the Stockrington mine and for many years he had a contract to supply the Australian Gaslight Co. In 1930 he had a large collier, 5 coastal colliers, a schooner and 10 tugs, including the *Rollicker*, one of the most powerful in the world – but there was little work for her. He abhorred the idea of turning his firm into a public company.

Brown's 'antagonism to unionism was bitterly unequivocal and even ruthless', and 'his passion for riding the whirlwind and defying the storm of popular disapproval' in his relations with his miners was well known; he was also extremely reluctant to accept the State and Commonwealth arbitration systems. At Pelaw Main, from 1903 he installed modern cutting machinery manned by American technicians and free labour. In defiance of the Colliery Employees' Federation, in 1913 he persuaded the Minmi miners' lodge to sign a local agreement for five years. He acquired a reputation for severity, denying his Minmi miners the opportunity to buy the land on which their homes were built, and refusing to renew long leases, so they could be threatened with eviction during strikes, but he believed it was his responsibility to provide employment so long as the miners accepted the exigencies of the industry. In late 1914 he issued a writ against the Colliery Employees' Federation for £100,000 damages for loss of trade and payment of demurrage. For much of World War I Brown was chairman of the Northern Colliery Proprietors' Association.

In the troubled 1920s when the price of coal was depressed and the export trade dwindling, Brown closed Minmi mines (in 1922) when the men refused to accept lower wages (although allegedly he secretly arranged to pay their bills at the local store). He repeatedly warned the government that the coal trade was in jeopardy and advocated a reduction in wages. On 4 March 1929 he began 'something in the nature of a lockout at the Richmond Main and Pelaw Main Collieries', because he could not sell coal interstate or overseas at its current price. It was announced in the House of Representatives that he would be prosecuted; but in April the charge was dropped, to the indignation of the Labor Party which revived the question in September.

Brown died childless at his unpretentious home in Wolfe Street, Newcastle, on 5 March 1930, and was buried in the family vault in the Presbyterian cemetery, East Maitland; huge crowds watched his funeral procession. He left the residue of his personal estate, valued for probate at £640,380, and shares in J. & A. Brown to his general-manager Thomas Armstrong and to Sir Adrian Knox, as tenants in common, to carry on the firm under the same name during the lifetime of his brother Stephen.

'Shrewd, analytical, and taciturn', Brown shunned publicity and was an enigmatic and legendary figure, who might have stepped out of the pages of a Galsworthy novel.

He was tall, spare and upright, and continued to dress in sober broadcloth, glossy black boots and ties' with a high square bowler hat. Although he was the focal point for much industrial ill-will and Labor oratory, the *Australian Worker* admitted that in 'his personal relations with his employees he was by no means wholly unkind; indeed, at infrequent times, he was comparatively generous'. He had a 'strong strain of theatricality' and liked playing the part of the relentless capitalist. Nevertheless he made a practice of getting out among the miners.

His brother William (1862-1927) shared his interest in racing: as well as Piastre, he had other winners in Haulette, Thana and Colbert. For a time he managed the Duckenfield colliery at Minmi and was consul-general for Chile. He died unmarried at his home 153 Macquarie Street, Sydney, on 2 February 1927, leaving his estate to his brother John and sister Mary Stephen Nairn. Their youngest brother Stephen (1869-1958) was educated at Newington College, Sydney. After John's death the firm's interest in tugboats was sold to the Waratah Tug & Salvage Co., and from 1931 Stephen was a partner in and a director of J. & A. Brown & Abermain Seaham Collieries Ltd after its amalgamation. He travelled widely, enjoyed fishing and at Segenhoe grew prize dahlias and chrysanthemums. He died unmarried on 19 November 1958 at 153 Macquarie Street, Sydney, and left his estate, valued for probate at £149,977 to (Sir) Edward Warren.

Brown's first cousin Alexander (1851-1926), merchant and politician, was born on 9 February 1851 at Maitland, New South Wales, son of William Brown, medical practitioner, and his wife Mary, née O'Keefe. He was educated at West Maitland, then articled to his stepfather Joseph Chambers, and admitted as a solicitor in 1873. On 8 August 1872 at West Maitland he married Mary Ellen Ribbands. He entered J. & A. Brown and, after his uncle Alexander's death in 1877, took over the Newcastle office. In 1883, following an overseas trip, he was dismissed by his uncle James after selling the Ferndale colliery without approval. Next year he unsuccessfully claimed in two Supreme Court cases that he was a partner in the firm.

Alexander relinquished his interest in J. & A. Brown in return for his cousins' share in the New Lambton mines, which he thereafter managed and turned into the New Lambton Land & Coal Co. Ltd in 1891. During industrial disputes he pursued an independent line from other proprietors and occasionally supported the miners. In 1885 he became manager of the Newcastle branch of Dalgety & Co. Ltd and in 1905 managing director. He also built up extensive pastoral interests.

In 1889-91 Alexander represented Newcastle in the Legislative Assembly as a Protectionist and supporter of (Sir) George Dibbs, who was a director of the New Lambton Land & Coal Co. Defeated in 1891 Alexander was nominated to the Legislative Council on 30 April 1892.

In 1892-96 he was first president at a difficult period of the Hunter District Water Supply and Sewerage Board at £300 a year; repeated questions were asked in the assembly about his anomalous position of holding an office under the Crown while a member of parliament. In 1895 a select committee investigated the cost of construction works and in 1897 there was a royal commission into the board's management, but Brown emerged well from these inquiries. Although strongly conservative, he was regarded as 'a fair fighter'.

Alexander was president of the Newcastle Chamber of Commerce in 1888 and 1892. He was Belgian consul in Newcastle in 1882-1926 and was appointed chevalier of the Order of Leopold in 1902; he was also consul for Italy. He died on 28 March 1926 at his home, Cumberland Hall, East Maitland, and was buried in the Presbyterian cemetery. He was survived by five sons and three daughters of his first marriage, and by his second wife Edith Mary, née Adams, a nurse whom he had married on 27 March 1920. His estate was valued for probate at £60,871.

(<http://www.adb.online.anu.edu.au/biogs/A070448b.htm>)

Annex E

Coke Oven Research

E.1

INTRODUCTION

The industrial heritage and history of Minmi and its surrounds has been documented through past publications, such as the Newcastle and Hunter District Historical Society's *Minmi: The Place of the Giant Lily*. These documents have been used to provide a context for the historical background and consequential assessment that appears in this report. This research has been supplemented through the oral history and historical documents and photographs kindly provided by many of the Minmi residents.

However, during the course of this research it became apparent that Minmi contained a potentially significant archaeological site, which warranted further and more detailed investigation - the Minmi Coke Ovens.

This site was potentially significant because of its antiquity and as such deserved to be investigated further. This annex has been written to underpin the assessment of the Minmi Coke Ovens archaeological site. It provides a background context against which the consequential assessment has been made. It can also be used as the basis for future historical research into this archaeological site.

E.2

COKE PRODUCTION - A BACKGROUND

The following details regarding coke production have been taken directly from CSIRO (2007) and Harper (1916:11-26).

Coke is required for use in the blast furnace process (and other metallurgic workings), which produces molten iron. An ideal coke is dense, quick to heat, maintains a high uniform temperature during burning and burns without impurities being imparted (i.e. ash, sulphur and phosphorus) into the metal being heated.

Coke is produced from crushed coal by heating it in a coke oven. In the 21st century a coke oven is a refractory lined box that is heated by flues on the vertical walls. Historically the process of coke production began in the early 17th century, but it was not until the 19th century that the industry was developed to any great extent - this development being associated with improvements in the manufacture of iron and steel.

Coal was originally cooked in mounds or heaps in the open air, similar to charcoal, until bee-hive ovens were introduced. Bee-hive ovens (see *Figure E.1*) are so called because of their shape; this shape advanced towards the end of the 19th century to become rectangular, but these ovens still operated on the bee-hive principal i.e. top heat only or constructed with flues which cause the heat to be applied all round the charge. The advantage of the rectangular shape was that it enabled the use of a surface ram for discharging the coke, instead of the universal manual discharge from the true bee-hive pattern.

At the end of the 19th century bee-hive patterns were predominantly found across NSW, although other technologies had been invented (such as the 'retort oven' [in 1861 - involving the complete exclusion of air from the cooking chamber] and the 'by-product' saving oven [1869] where by-products were recycled).

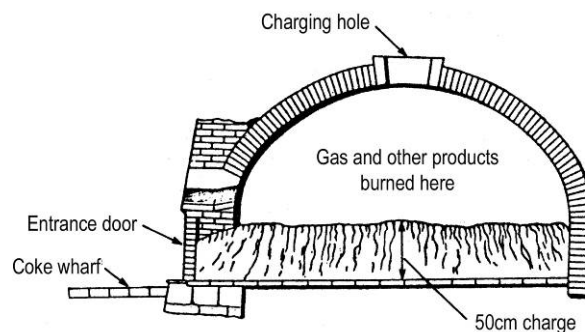


Figure E.1 *Structure of a Bee-hive Coke Oven (Source: Rogers 1988:13)*

The process of coke production is quite simple. Basically during the heating process, the crushed coal first gives off moisture, then softens and releases volatile gases. At higher temperatures, it resolidifies to form coke.

Coal can be divided into two broad categories - coking and non-coking, obviously non-coking coal cannot be used to manufacture coke. A coking coal is one which when subjected to heat, is generally fusible, with the result that individual fragments become caked together. By 1916 there were three principal seams of good coking coal in NSW - the borehole seam in the Northern Coalfields (including the current Minmi/Link Road site), the Bulli seam in the Southern fields and restricted area of the Lithgow seam in the Western field.

The coke production process in 1916 is described by Harper (1916: 17-27) and summarised here from his publication. Reference is made only to methods employed during the use of bee-hive ovens, as this is of relevance to the current study.

“By far the largest proportion of coal used for coke making in NSW is in the form of screening of slack and ranges in size from coal dust up to fragments the size of walnuts.... Crushing a coal before it is charged into ovens improves the quality of coke produced. Fine crushing makes the distribution of impurities more uniform, and subsequent breakage of the coke is reduced... [The] coal is charged to the oven from canisters running along the top and discharged into one or more ports, after which it is levelled off by hand... local conditions and requirements must entirely govern the question of charging coal to the ovens in either a moist or dry environment [it is possible that some moisture is added prior to firing]... coking [in a bee-hive oven] was dependant upon top heat only, the oven in NSW being generally built on the double-row principle, that is, back to back...

The essential features of the beehive oven are a circular vaulted brick chamber with a port-hole in the top, through which the coal may be charged, and the products of combustion escape. An arched opening is left at the bottom to admit the air necessary for combustion and for the quenching and withdrawal of the coke, such being temporarily bricked up during the coking process, with the necessary air-vents so manipulated that the supply is more or less under control all the time... Some are built with side flues in which the evolved gasses are burnt whilst passing between the oven walls; other have bottom flues only, with a similar object; whilst a third type are fitted with both side flues and bottom flues, thus assuring a more general distribution of the heat...

The period occupied in burning a charge of coke varies not only with the size of the charge, and the nature of the coal, but also with the amount of air admitted into the oven... In NSW, with the ordinary type of rectangular oven, it is, found most advantageous to arrange the burning period on a 72 hour 96 hour basis...

In coke-making it is desirable, as soon as ever the charge is ‘ripe’ i.e. thoroughly coked, to terminate combustion as rapidly as possible, for if this is not done, the coke commences to burn itself away, with resultant loss in the form of ash. In the old type of true beehive oven, internal quenching was of necessity adopted, that is the oven door having been removed, a jet of water was played upon the incandescent mass within the oven.”

E.2.1

The Minmi Coke Ovens

The coke ovens at Minmi have been mentioned in a number of secondary historical sources. These sources have been reviewed to present the available evidence on their history. This has been supplemented by field assessment to determine the extent of possible archaeological remains. Finally a brief review of historically comparable coke ovens in NSW has been undertaken. This assessment has allowed for the historical archaeological assessment of the Minmi coke ovens.

An excellent description of the Minmi coke ovens and their mode of operation have been provided by Harper (1916:11-12). Harper was charged by the NSW Minerals Council to undertake a review of the coke industry in Australia. His review included a historical appraisal, which is provided here:

“Apparently no official record of the first manufacture of coke in New South Wales was kept, but from the following information collected by Mr. J.G.Hutton, Inspector of Collieries, it would appear that the first ovens were erected at Minmi about the year 1861, the coal used being won from the Borehole Seam [this is potentially disputed by other historical records – see discussion below].

Mr. Chas. Brown, a surface overseer at Duckenfield Colliery, Minmi, supplied the following statement:-

“The coke ovens were going at Minmi when I first came to the district 40 years ago (1876). My wife is 58 years of age and came to Minmi 54 years ago, and the ovens were there then. She remembers quite distinctly playing near them when she was going to school at 8 years of age. They were put up by Mr. Eales, who was the owner before Mr. Brown”...

Mr. Wm Woods, a man 54 years of age, and at present working on the surface at Brown’s Minmi Colliery, made the following statement to Mr. Hutton in April, 1916:-

“I have been at Minmi for fifty years. The coke ovens were at Minmi from my earliest recollection. For a number of years I was a coke burner, in the early ‘eighties’. There were 32 ovens, two rows of 16 each, built back to back. They were circular inside [the bee-hive design], and flat bottomed, the side walls being straight up for about 3 feet or 3 feet 6 inches, and they domed over. There was a round chimney, 18 inches in diameter at the top, and the diameter of each oven was 9 feet. The height of the oven inside was 6 feet, and the outside walls were built straight up, and the top was flat, to enable workmen to walk about on them when necessary. In front of each oven there was a doorway or opening 3 feet 6 inches high, and 2 feet 3 inches wide. The charge was a wagon lode (seven tons) of small coal direct from the screens. The bottom of the wagon was let down, and the small coal allowed to run on to the ground in front of the oven door or opening. It was then shovelled into the oven, and the openings were closed, and a damper put over the chimney. The oven was left in this sealed state for three more days, when the bricks in the doorway or opening were taken out (the damper being left on the chimney) and the coke withdrawn by means of a long iron rod with two prongs turned down at one end. The damper was left on top of the chimney while the drawing was being done to prevent the coke burning up again. The coke was red-hot when taken out of the oven, and no water was used to cool it, but it was spread on the platform to cool, and then stacked.”

According to the records at the Duckenfield Colliery, operations ceased at these coke ovens in June, 1898, and they were pulled down a few years prior to 1911.

E.2.2 *Primary Sources*

This section includes information gathered from primary sources.

Historical Photographs

Two historical photographs, shown below, provide evidence for the Minmi Coke Ovens. *Photograph E1* shows a small low structural item located to the west of Woodford Street, west of the Railway Street junction. The item appears to comprise of a series of sixteen ‘entrances’. Analysis of this photograph and comparison against other historical photographs (post 1906 following the removal of the Coke Ovens) suggests that these ovens measure approximately 1.5 - 2 m in height. The number of openings (16) corresponds to the known historical documents, as noted above, suggesting sixteen back-to-back ovens. *Photograph E1* provides little evidence for the configuration of the railway at this point, although, given the mode of loading (described from historical sources) the railway must have been located either side of the ovens.



Photograph E.1 Source: Minmi Historical Society. Crop of 1906 Minmi photograph, facing east. Shows the remains of the Minmi Coke Ovens, post operation, prior to demolition.



Photograph E.2 Source: Minmi Historical Society. Crop of a Minmi Ambulance Station photograph, facing southwest (date unknown). Coincidentally it shows a faction of the Minmi Coke Ovens.

The only close up view of the Minmi Coke Ovens appears in the background of a photograph of the ambulance station - *Photograph E2*. This photograph shows the entrance to a single oven (the opposite side to that in *Photograph E1*) with the workshop complex in the background. The oven has an arched entrance with a 'decorative' line above the entrance. The front face is flat and appears to have a flat area in front of the oven - possibly showing a railway line. The flat top of the oven has been built up and is now devoid of its chimney and covered with soil and grass. The oven's entrance appears to have been blocked by wood or bricks - possibly being used as a wood store.

This photograph compares favourably with the historical description of the oven, as provided by Mr. Woods.

2007 Field Survey

The quarantine zone for the equine influenza epidemic prevented a walk over of the possible coke oven site; although it could be observed from the road, see *Photographs E3 and E4*.



Photograph E.3 *Photograph montage to coke oven site, facing N. Railway Street is the road on the right. Post Office can be seen on right centre. Ambulance Station stood where red brick house now is.*



Photograph E.4 *Photograph montage across coke oven site, facing NE. Post Office can be seen on mid-centre. Ambulance Station stood where red brick house now is.*

Photographs E3 provides an unobstructed view north across the landscape to the western side of Minmi.

Land to far right of this photograph was impacted by 1950s open cut mining, but it is possible to see the path of the historical railway line meandering from the central distance to the right foreground. The route of the railway provides an approximate delineation between the open cut and residual soils at Minmi.

This photograph provides a context, with the Post Office building being situated on the right centre. The location of Ambulance Station (as seen in *Photograph E2*) has been replaced by a modern red brick dwelling. It can be assumed that the fence of this Lot cuts across the coke oven site and the route of the railway.

Photographs E4 provides a view of the flat zone which would have contained the coke ovens and railway. There are no immediate obvious landscape elements or residual fabric defining the former location of the oven. However, the flattened area extends from the rear gardens of the houses to Railway Street. It is possible that the railway divided and run either side of the coke oven, rejoining to form a single track that led into the workshops.

E.2.3 *Minmi – The First NSW Coke Ovens?*

As discussed above, it is reputed that the first coke oven constructed in NSW were at Minmi in 1861 (Harper 1916:11). The origin of Harper's claim is a reputed source – the 'Inspector of Collieries'.

This claim is backed by the secondary historical sources of the Newcastle & Hunter District Historical Society (1991:8):

“At an early date, possibly 1861, J. and A. Brown established a coke works which was reputed to be the first to operate in NSW... Before they ceased operation in 1898, thirty-two ovens had been erected. They remained derelict until they were dismantled in 1912.”

and the Australian Heritage Commission's 'Mining Heritage Places Assessment Manual' (AHC 2000: Model Type Profile 1 Cole):

“The first coke ovens in NSW were built at Minmi near Newcastle in 1861, and coke manufacture started in the Illawarra coalfields in 1875. In Queensland the first coke ovens were built in 1869 to supply coke to the railways for fuel, and a series of coke ovens were in operation on the Ipswich coal fields up until 1958.”

Further Rogers [a professional historian] cites Harper's claim in his history on the Wollongong coke works (Rogers 1988:12).

These secondary sources (two academically and professionally reputed) would suggest that the Minmi Coke works are the earliest in Australia.

However, an online search of the NSW Heritage Office State Heritage Inventory (SHI) has revealed a listing for the 'Newcastle Coke Ovens' (NSW Heritage Office 2007). This listing states that the Newcastle Coke Ovens were constructed prior to those at Minmi:

“The site marks the place of the first Coke Ovens in Australia and has been assessed by industrial archaeologists as being of state significance.

The coke ovens were started in 1853. By March, 1854, the first was in production and four more were being built. In 1855 three more were at work. The company had hoped to sell coke to South Australia to use to smelt South Australian copper, but the copper companies found it cheaper to import Welsh coke in otherwise empty ore ships. The coke ovens ceased production in 1861. Council workmen uncovered the remains of the ovens during work on Frederick Street in the 1930s.”

No information is provided with regards to the condition, integrity or presence of archaeological remains at the Newcastle site. The on-line listing states that the site is significant at the State level under NSW heritage assessment criteria A, E and F. The information was compiled by Suters Architects Snell in 1996 for their Newcastle City Wide Heritage Study.

Therefore, at the current time, it would appear that the Minmi Coke Ovens are the second set built in Australia and NSW (see *Table E.1*). However, it should be considered an imperative for future research to confirm the validity of primary historical sources for either claim.

Table E.1 *Summary of early Coke Ovens in NSW (and others known in Australia)*

Location/Name	Dates	Years of Operation	Number of Ovens	Source
Newcastle Coke Ovens (NSW)	1853-1861	8	Unknown	NSW Heritage Office 2007
Minmi Coke Ovens (NSW, by Eales)	1861-1898	37	32	Harper 1916; NDHS 1992; Rogers 1998; AHC 2000
Queensland - misc	1869-on			AHC 2000
Flagstaff Point (Wollongong, NSW, by Ahern and Osborne)	1875-1879	4	12(?)	Harper 1916; Rogers 1998
Plattsburg (Wallsend, NSW, by Co-operative Colliery), see <i>Figure E2</i> .	1875-1916+	40+	?	Harper 1916
Wallsend (NSW, by Purified Coal and	1877-1916+	38+	?	Harper 1916
Tasmania - Tamar	1876-on		Min 40	Rogers 1998
Flagstaff Point (Wollongong, NSW, by Ashley)	1885-1890	5	Min 2	Harper 1916; Rogers 1998

1. This list is not exclusive and is based upon the historical documents assessed. It is likely that outside NSW further coke ovens were constructed during this period.

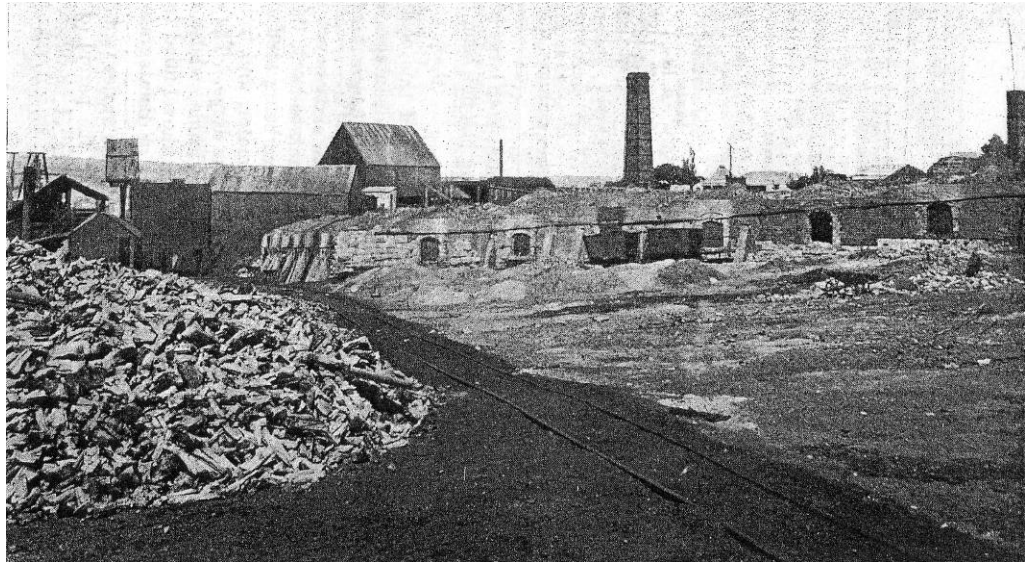


Figure E.2 Co-operative Coal and Coke Co.'s Plant, Wallsend (Source: Harper 1916-60)

E.2.4 Commercial Operation of the Minmi Coke Ovens

“Before they ceased operation in 1898, thirty-two ovens had been erected [at Minmi]. They remained derelict until they were dismantled in 1912” (NDHS 1991:8).

This statement is all that has been found with regard to the commercial operation of the Minmi coke ovens (although additional archival research could possibly provide company records). Further to this statement the commercial success of the Minmi ovens can be gauged through comparison with the fortunes of other Australian (especially NSW) coke producing facilities.

Table E.1 provides an overview of historical coke ovens in NSW, which can be supplemented by Roger’s commentary on the fortunes of the 1875 coke ovens at Wollongong (c.f. Rogers 1988).

Rogers’ historical research focused upon the two companies operating at Wollongong from 1875. His research has proven that the first Wollongong coke company (Ahern and Osborne) failed financially because of their ‘over-optimistic assessment of the potential market’ (1988:15).

“The partners seem to have held the naïve belief that once they had a product of good quality, sales would automatically follow. However, they quickly found that glowing endorsements from Sydney foundries were not orders in their books; foundry proprietors apparently were unwilling to sever ties with established suppliers in favour of an untried manufacturer.” (1988:15)

This suggested that it was difficult for a new company mass producing coke to enter the Australian market because of existing competition and their business ties. Given that only three NSW companies were operating in 1875 (numbers outside NSW unknown for this research) it is proposed that the local market was dominated by the Hunter Valley producers (and an unknown quantity of coke imported from the UK). This is evinced by the Wollongong company initially supplying a manufacturer in Tasmania, who immediately established their own coke ovens – see *Table E.1*.

Therefore, Minmi's position in the 19th century Australian coke market can be described as significant. They had a relatively large number of coke ovens (32) and operated for a long period of time (37 years). The cessation of their operations, in 1898, appears to have coincided with the advent and uptake of new technology in the coke manufacture industry (as described by Harper 1916), which by 1916 included 'over 530 ovens in the district...' (1916:13).

E.3 OTHER LISTED NSW COKE OVENS

A search of the NSW SHI reveals that five other coke oven sites are listed at the local level (i.e. on respective LEPs). These sites are:

- Blast Furnace Site (Lithgow);
- Coke Ovens, Coalcliff Colliery (Wollongong);
- Coke Ovens, Endeavour Drive (Wollongong);
- Newcastle Coke Ovens, Merewether (Newcastle); and
- Rids Creek Coke Ovens & Associated Works, New England Highway (Singleton).

A search of the RNE reveals a further two listed coke oven sites (both on NSW):

- Asgard Mine and Coke Oven, Victoria Falls Road (Mount Victoria); and
- Coke Ovens at Newnes Shale Oil Plant, Wolgan Road (Newnes).

Photographs of these seven sites (as available online) show that all are ruins, except the Coalcliff site, which is still operational. All are listed for the historical, research, rarity and representative values. Some assessments state that this significance is at the State level, although none have been listed on the SHR.

An assessment of the Minmi Coke Ovens against the NSW Heritage Office Assessment Criteria (from the publication 'Assessing Heritage Significance') results in the following significances (criteria deleted if not applicable - this assessment has also been presented in the main report):

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);

The Minmi Coke Ovens are historically important because they represent the introduction of larger scale coal processing and coke production in NSW, utilising the bee-hive oven design. The Minmi Ovens are probably the second coke ovens in Australia. The production of coke from the Brown's mines represents domination of local industry and markets (as evinced by the inability of other producers to enter the market).

This criterion is met at the local level.

Criterion (e) – an item has 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 Minmi Coke Ovens has the potential to yield archaeological evidence for the introduction of coke production to Australia and the NSW coal fields. The site could provide evidence for the type of coking technology employed in the mid to late 19th century, with possible evolution over their operational life time.

This criterion is met at the local level.

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);

The presence of 19th century coke ovens does not appear to be rare; however, it is likely that Minmi's ovens are the second coke oven constructed in NSW and the first commercially successful coke oven. The mode of coke production is now defunct and archaeological remains of the Minmi coke ovens could demonstrate a process which is historically defunct.

This criterion is met at the local level.

*Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW's:
cultural or natural places; and/or
cultural or natural environments.*

The Minmi Coke ovens demonstrate the principal characteristics of 19th century coke production.

The ovens could provide evidence for the coke manufacturing and may be some of the last historical relics at Minmi that demonstrate the former mining history of the town.

This criterion is met at the local level.

E.4.1 *Statement of Significance*

Minmi's Coke Ovens are significant at the local level because of their history and association with the mining heritage of the town. They represent an integral component of Minmi's 19th century commercial success and the town's growth within the NSW coal fields. The ovens are testament to the expansive business acumen of the Brown brothers, who aimed to dominate and control local and overseas coal markets. The Mimi Coke Ovens appear to be the second set of ovens constructed in NSW and probably the first to be commercially successful. Their long history of use only appears to have ceased when the technology employed ceased to be profitable, which can also be associated with the initial downturn in the Brown family's fortunes.

The extent of remains for the coke ovens remains unproven, however, if archaeological relics were to be found at Minmi they would be significant at the town as a central component of the mining history of the place. They have the potential to further industrial archaeological knowledge through investigation of the technology introduced to NSW in the 1860s.

Condition & Integrity

The condition and integrity of the Minmi coke ovens is difficult to assess, because no obvious or proven relics are present above ground at the site. However, following demolition of the coke ovens (c1912) the site has not been developed or otherwise impacted (although it is difficult to gauge any impacts from the adjacent open cut mining). Removal of the coke oven, presumably for building materials, may have removed all residual fabric from the site, although it is likely that the lower courses of bricks would remain.

Given an absence of obvious 20th century impacts to the site, it is possible that any coke ovens remains are retained in a moderate condition, however, because of many unknown factors, it is possible that the integrity of the site is moderate to low.

Research Potential

The archaeological research potential of the Minmi Coke Ovens can be described as high. If archaeological remains for the ovens were to be proven, and the site was in good condition and had a high level of integrity, then the site could contain the remains of the second oldest coke ovens in Australia.

As the Newcastle coke ovens site remains archaeologically untested, then it is difficult to gauge the comparative rarity of early coke oven remains in NSW prior to those from Wollongong. Certainly the Minmi site would be comparably significant to that at Wollongong.

Any residual fabric would be significant to the town of Minmi, because of its direct link to the local mining industry and employment.

E.4.2 *Recommendations for the Coke Ovens*

Until the exact location of the Coke Ovens can be proven it is recommended that a 'buffer zone' surrounding the site be created. This zone should either be avoided by development or archaeological 'tested' to determine the extent of the coke ovens site.

It is recommended that:

- a geophysical survey of the site be undertaken to determine the possible extent of the coke oven relics (GPR or conductivity should yield suitable results);
- archaeological test excavation could be undertaken to determine the condition and integrity of any remains;
- the site deserves to interpreted for public appreciation; and
- if development is to impact the coke oven's archaeological zone, then a program of geo-physics and test excavation could be used to investigate the extent of the site, the coking technologies employed and the site's relationship to the railway. If substantial remains were uncovered, these could be considered of sufficient local significance to warrant partial in-situ conservation, along with public interpretation.

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Environmental Resources Management

Building C, 33 Saunders Street
Pyrmont NSW 2009
Locked Bag 24,
Broadway NSW 2007

T: 61 2 8584 8888
F: 61 2 8584 8800
www.erm.com

