



Lower Hunter Estates Development Heritage Impact Assessment

Minmi - Link Road Estate

for Catylis and Coal & Allied

November 2010

0111477

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Environmental Resources Management Australia Pty Ltd Quality System

0111477RP01_Minmi Final

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Coal & Allied

Lower Hunter Lands
Development
Heritage Impact Assessment
Minmi Link Road &
Stockrington

November 2010

Reference: 0111477_Minmi

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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 and the Precinct Plan shown in *Figure 7.1*.

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

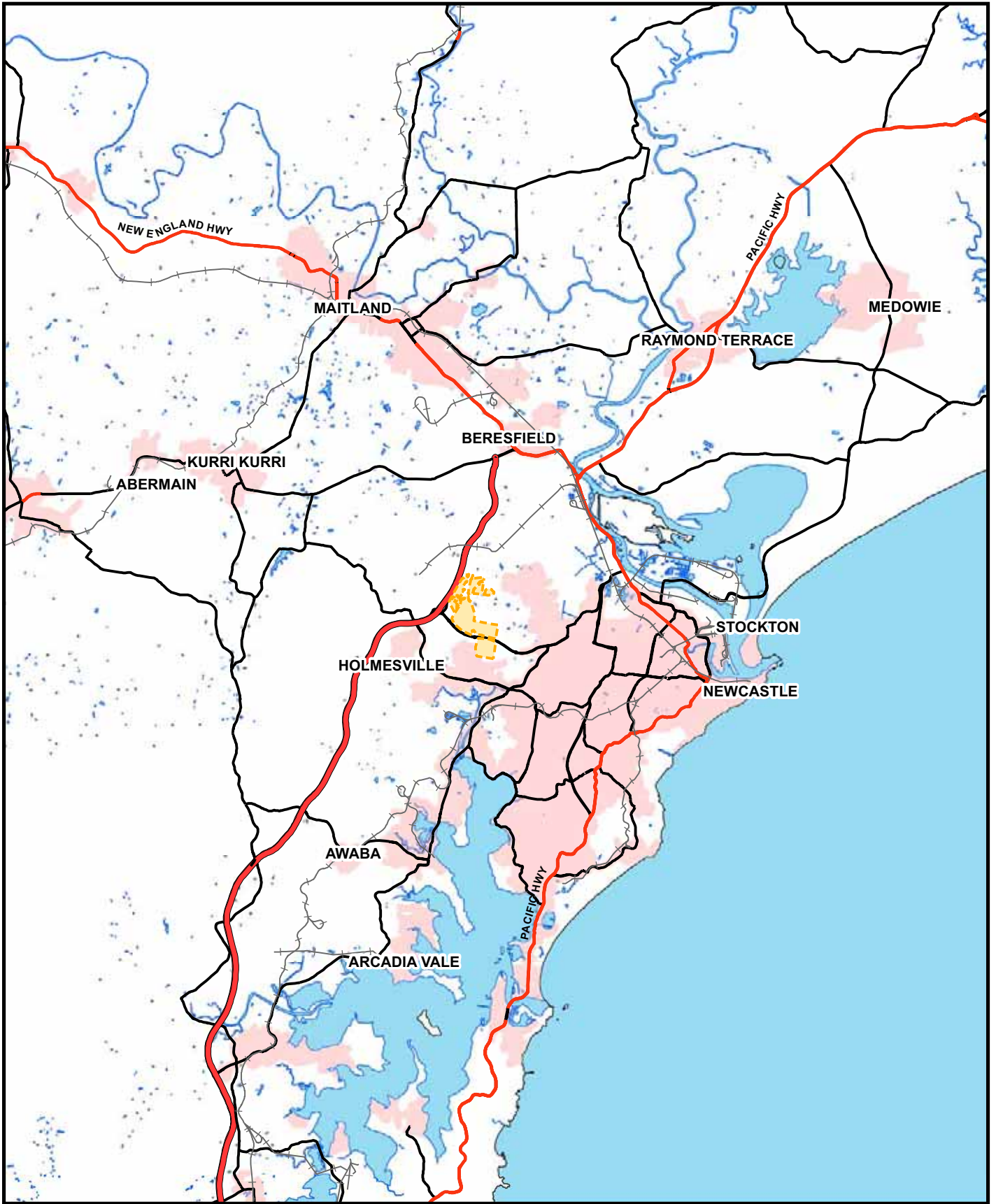
AUTHORSHIP

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
Reviewed by:	DN
Projection:	GDA 1994 MGA Zone 56
Scale:	Refer to Scale Bar

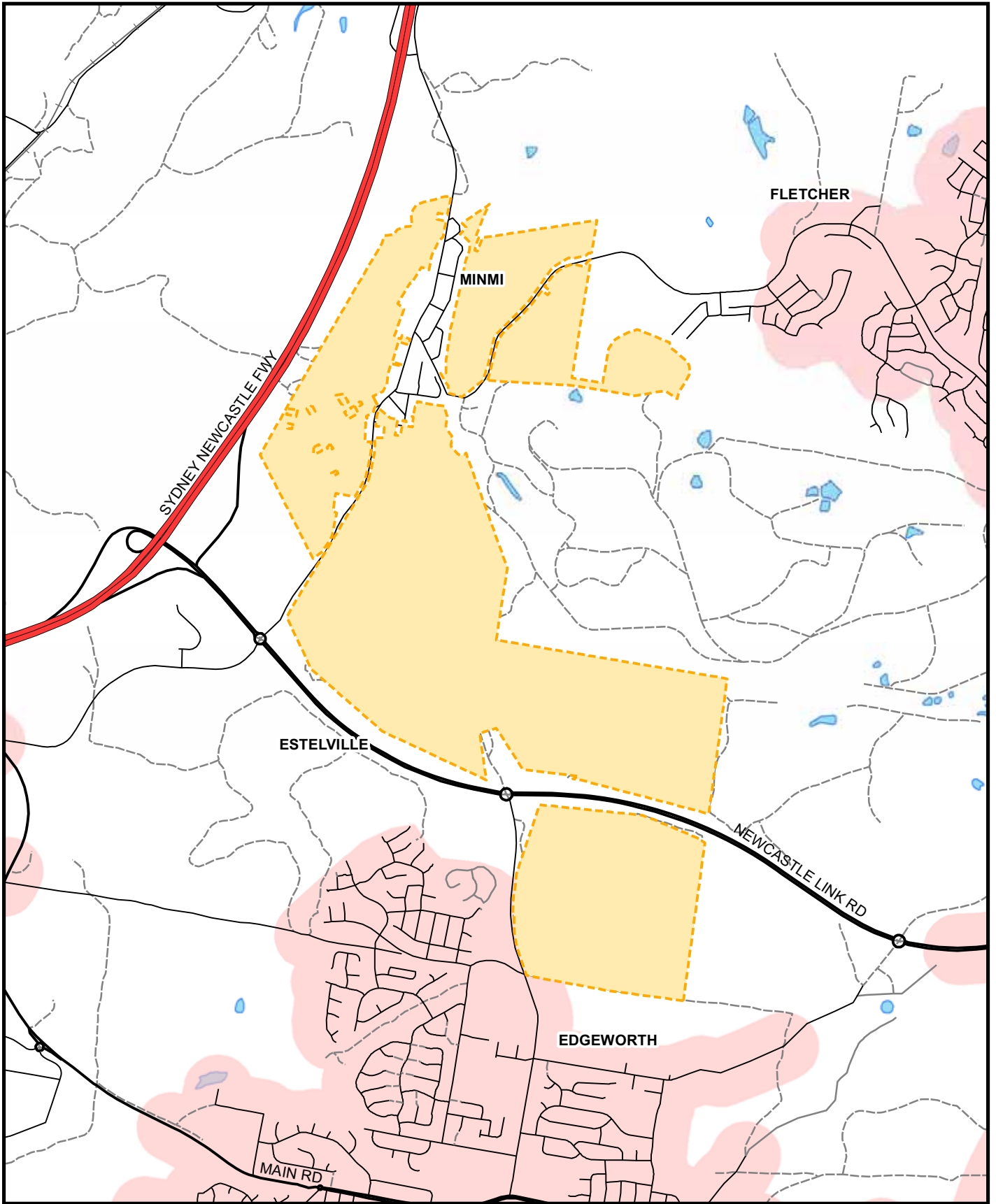


Maps and figures contained within this document may be based on third party data, may not be to scale and is intended for use as a guide only. ERM does not warrant the accuracy of any such maps or figures.

Figure 1.1
Minmi Link Road Site in its Regional Setting

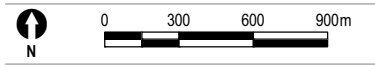
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 Port Macquarie, Sydney





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

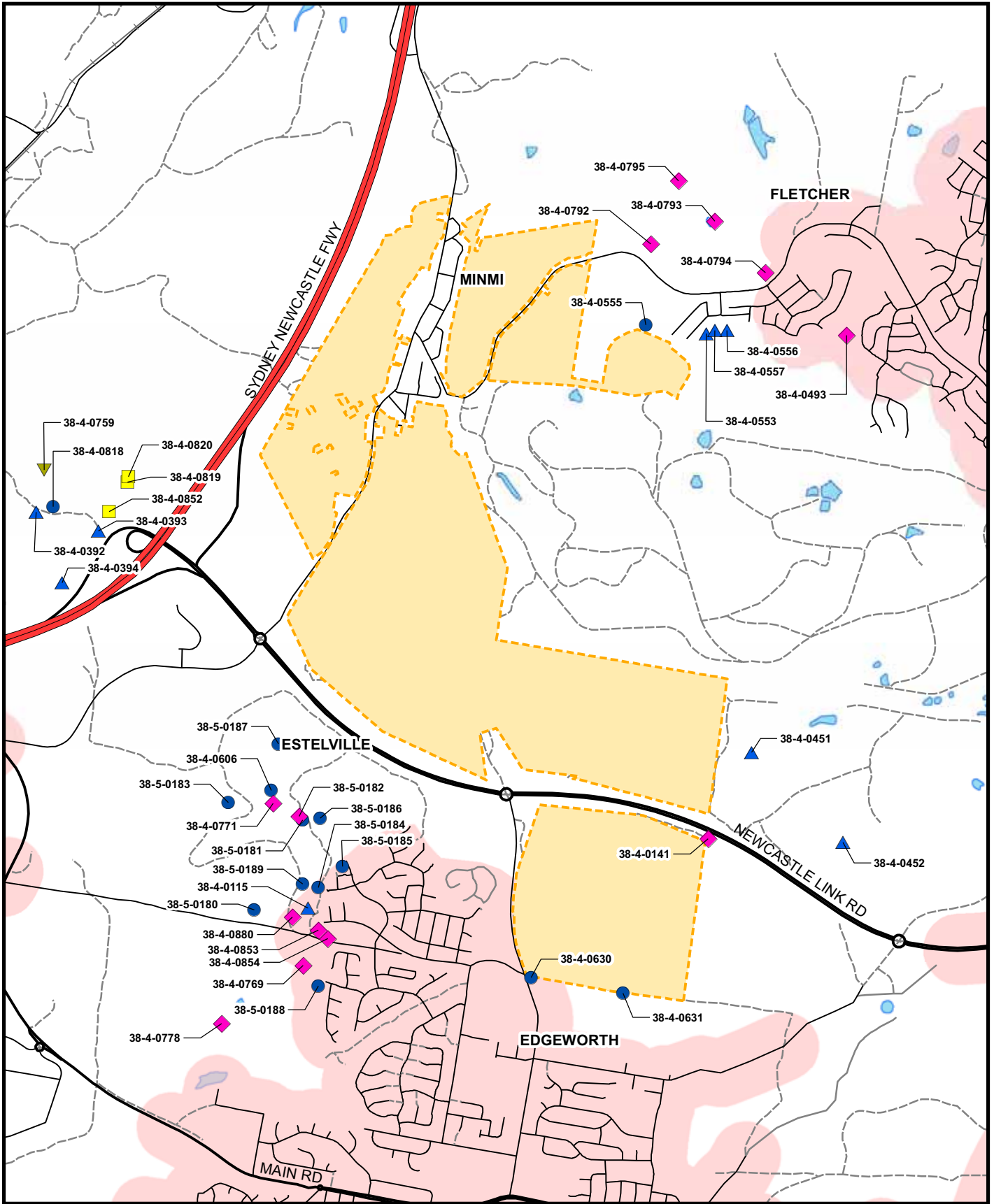
Literature Review

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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Projection:	GDA 1994 MGA Zone 56
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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.

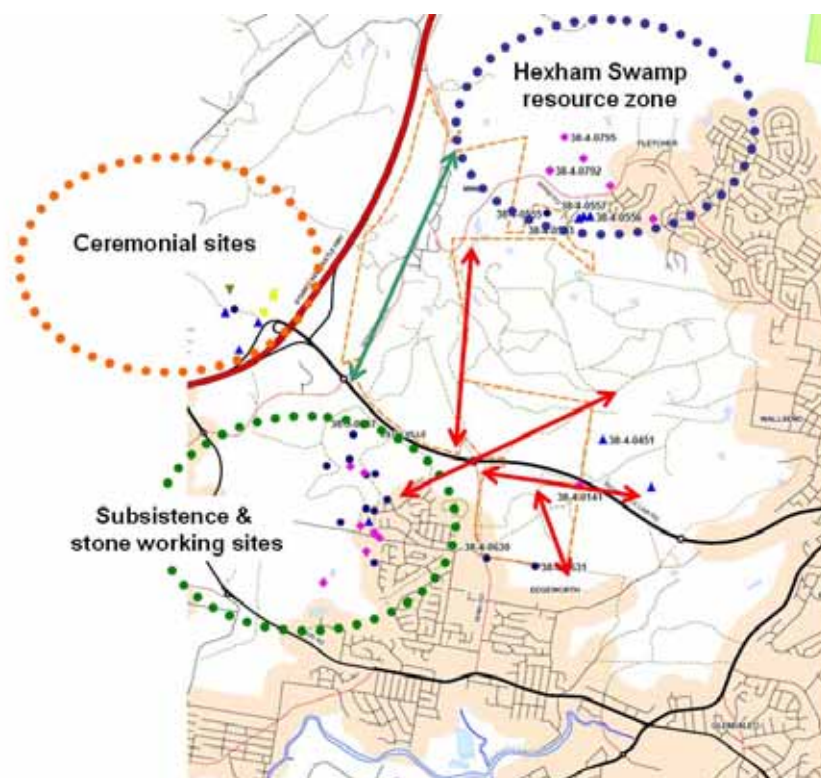


Figure 3.2 *Aboriginal landscape use in the MLR area (based upon AHIMS results and consultation with local Aboriginal representatives). Red arrows indicate routes of movement through the landscape via ridge lines, green arrow indicates movement through the Minmi 'valley'.*

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

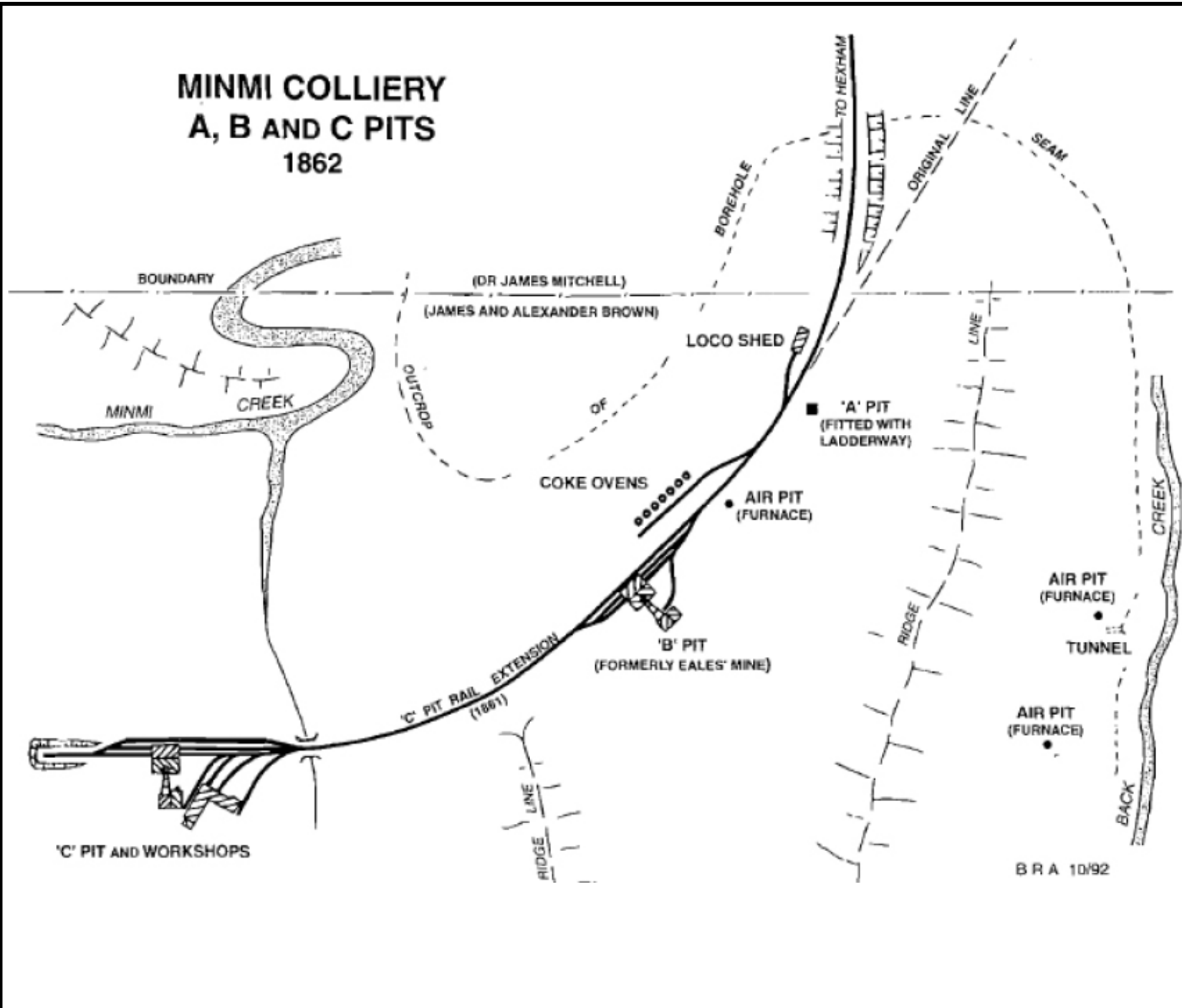
The name *Minmi* is taken from an Aboriginal word for the Giant Gynea Lily which flourished in the swamplands (Effenberger & Baker 1996: 9).

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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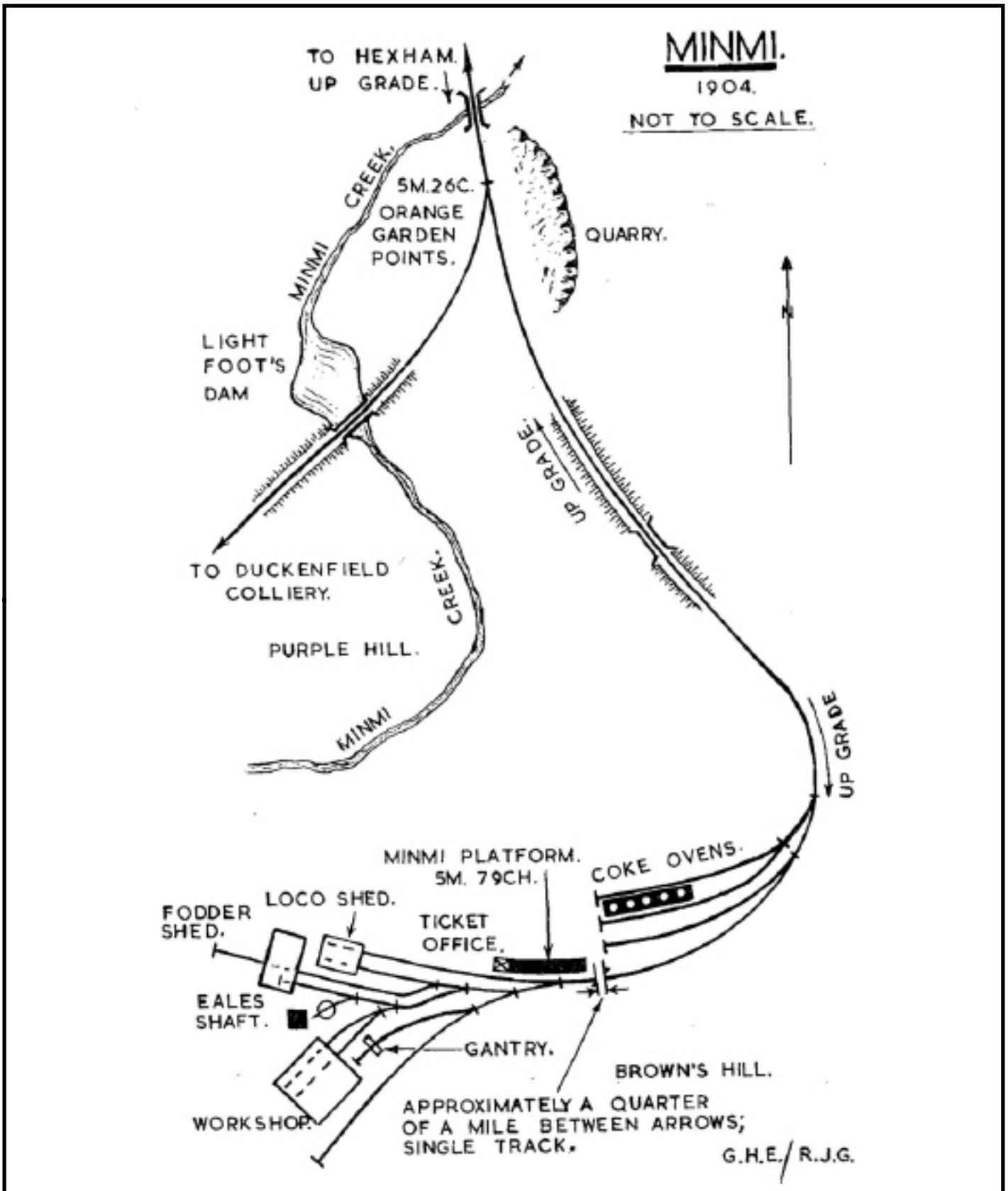


Figure 4.2

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

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

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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*).

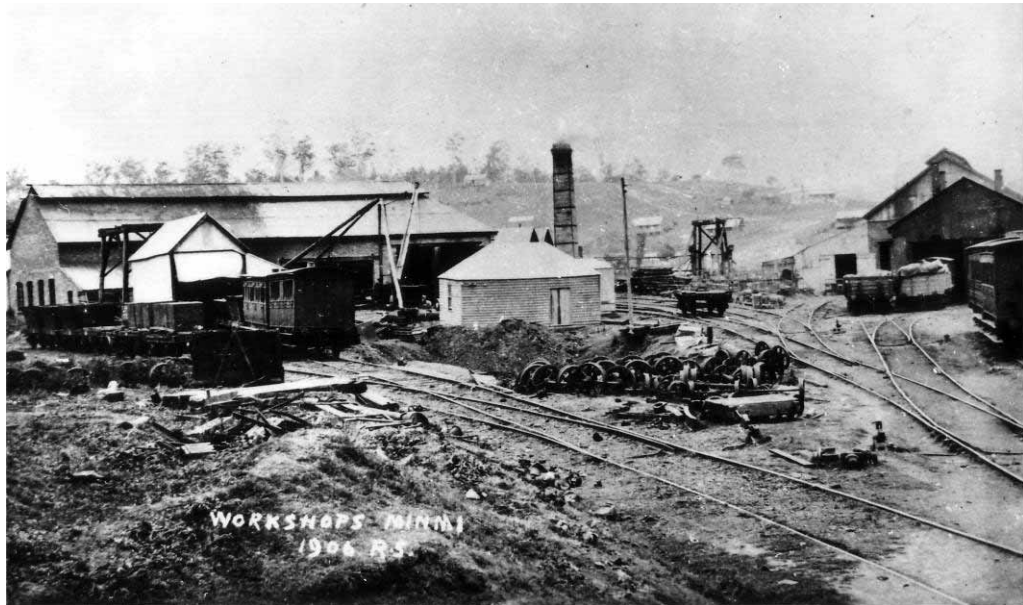


Figure 4.3 The Minmi Workshop complex, near Pit C. Source: Personal collection of M. Hinds.

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.

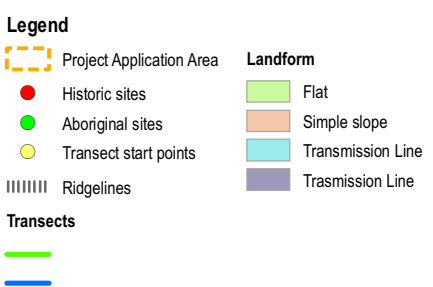
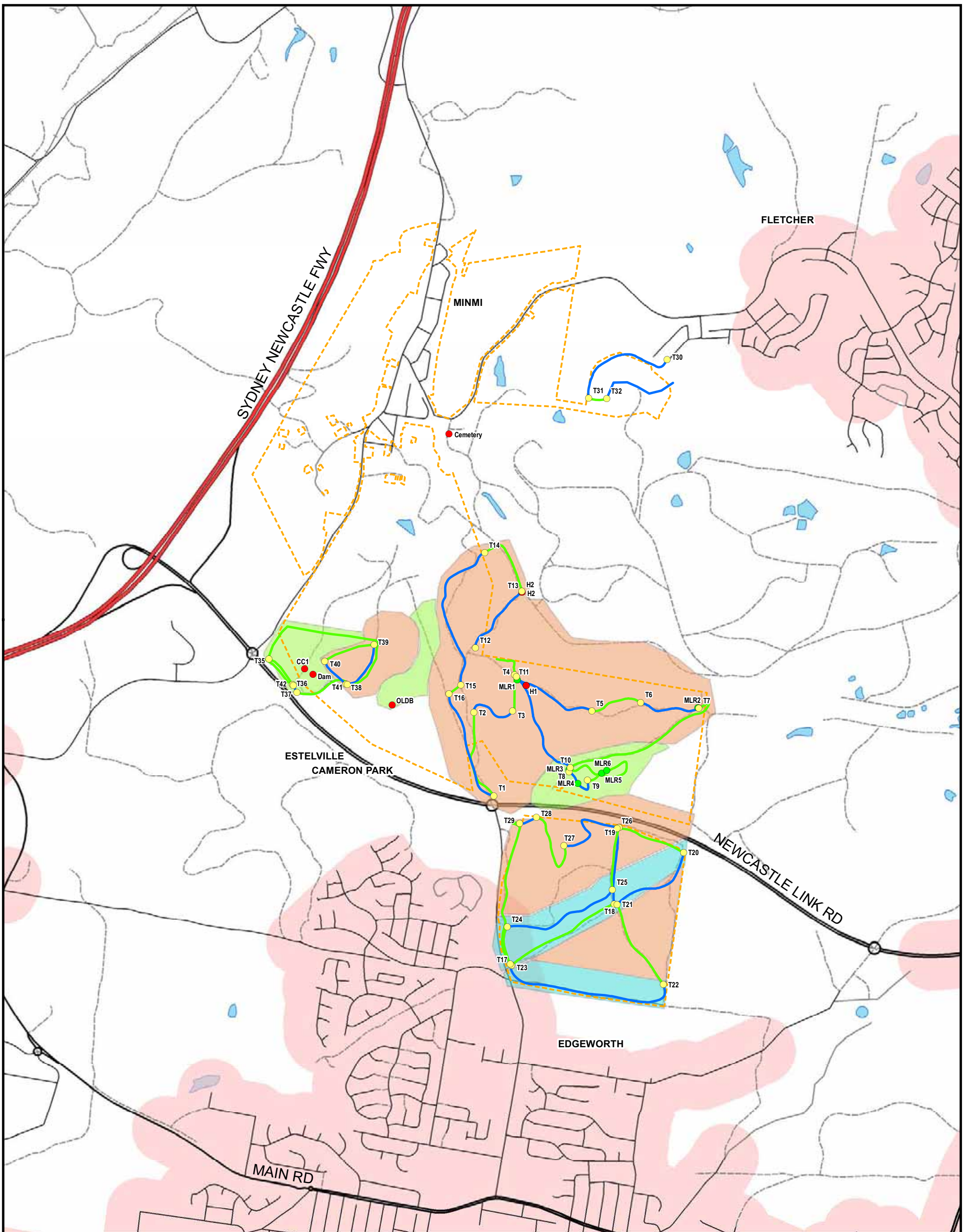
In order to survey a sample of each landform within the Minmi/Link Road site (for Aboriginal sites) and make best use of the areas of exposure available, the Minmi/Link Road site was surveyed in a total of 42 transects, as described in *Table 5.2* and *Annex B*. The route walked is shown on *Figure 5.1*.

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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Figure 5.1
Minmi Link Road & Stockington
Transects and Landforms

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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;

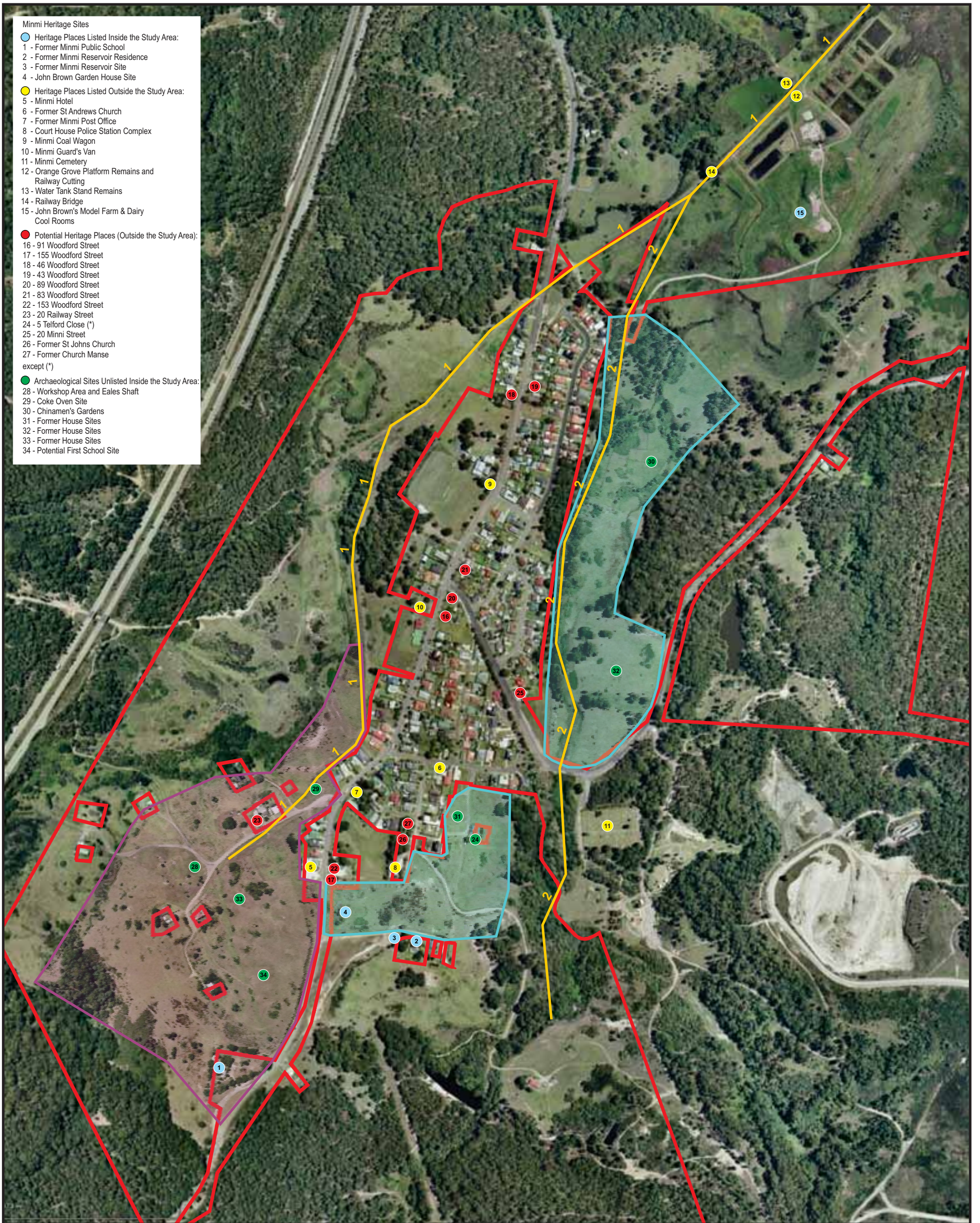
Figure 5.3 – Aboriginal heritage sites and archaeological potential for the Minmi/Link Road site;

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

Client:	Catylis
Project:	Lower Hunter Land Development - Minmi Link Road & Stockington
Drawing No:	0111477s_M_01_R1.cdr
Date:	29/11/2010
Drawing size:	A3
Drawn by:	ML
Reviewed by:	DN
Source:	Google Earth Pro
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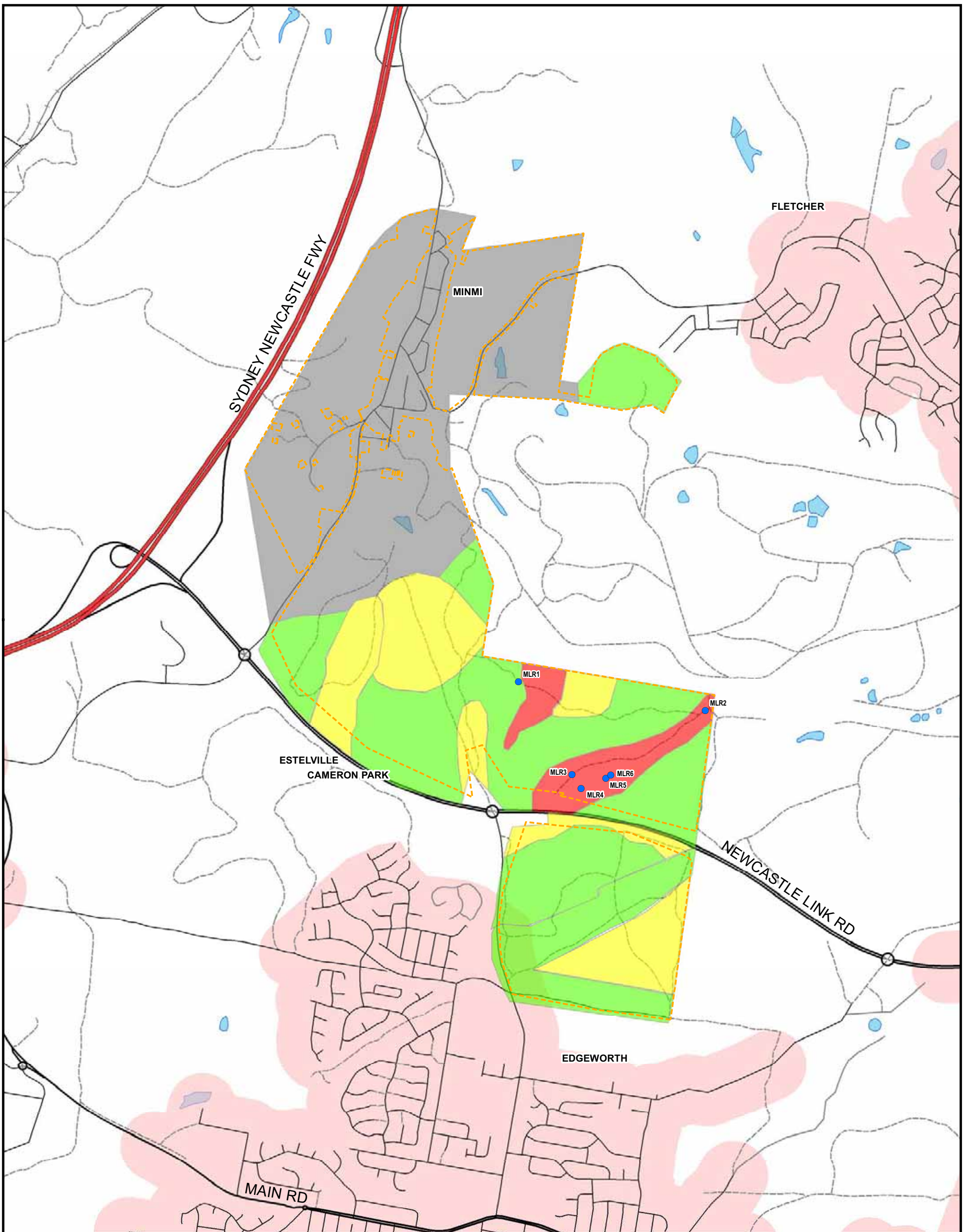


Figure 5.2

Minmi Heritage Sites

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Legend

- Project Application Area
- Ridgelines
- Aboriginal sites

Archaeological Potential

- High
- Low
- Moderate
- None

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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
Scale:	Refer to Scale Bar

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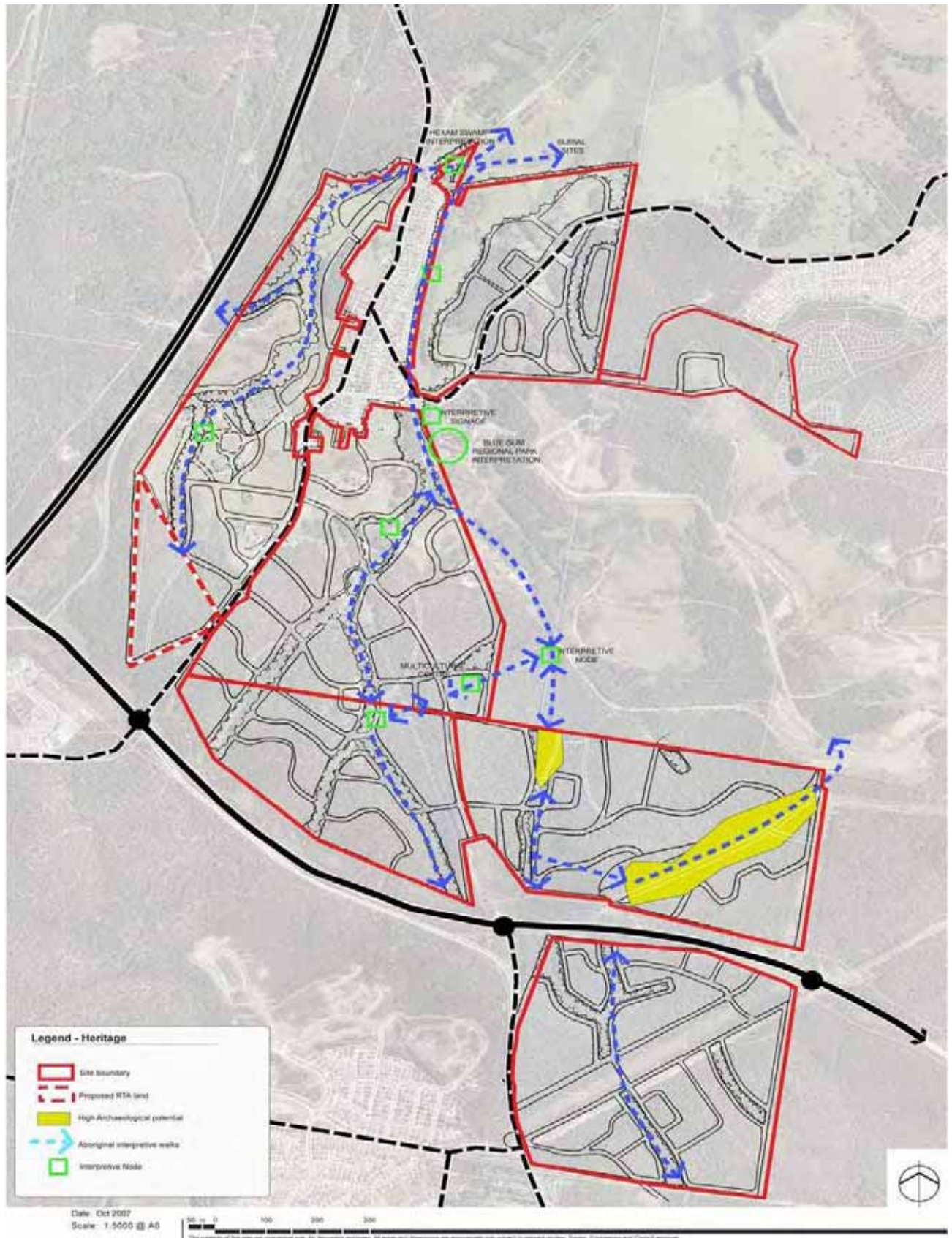
Figure 5.3
Minmi Link Road & Stockington
Aboriginal Archaeological Potential

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Figure 5.4 Aboriginal Walks



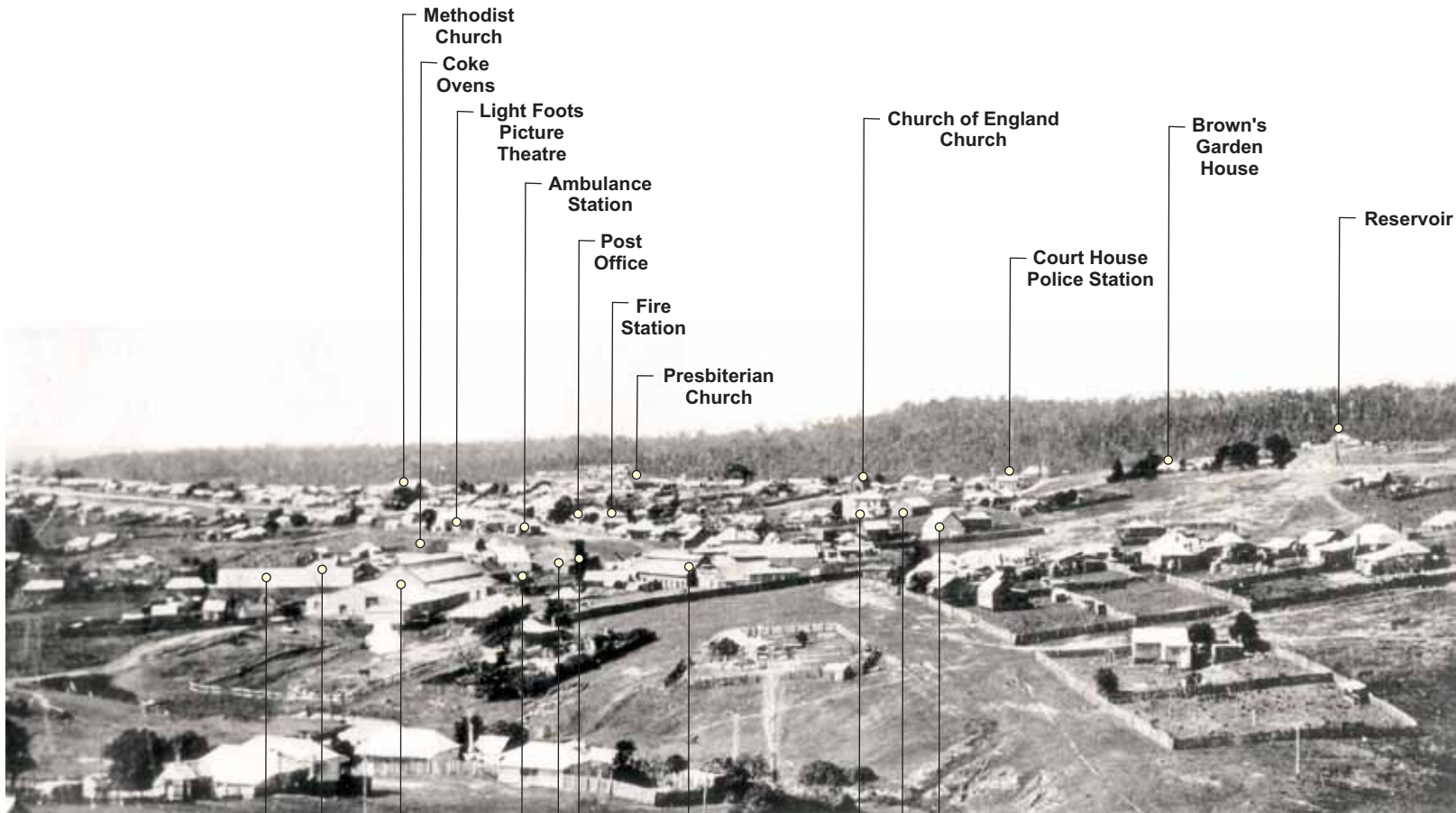
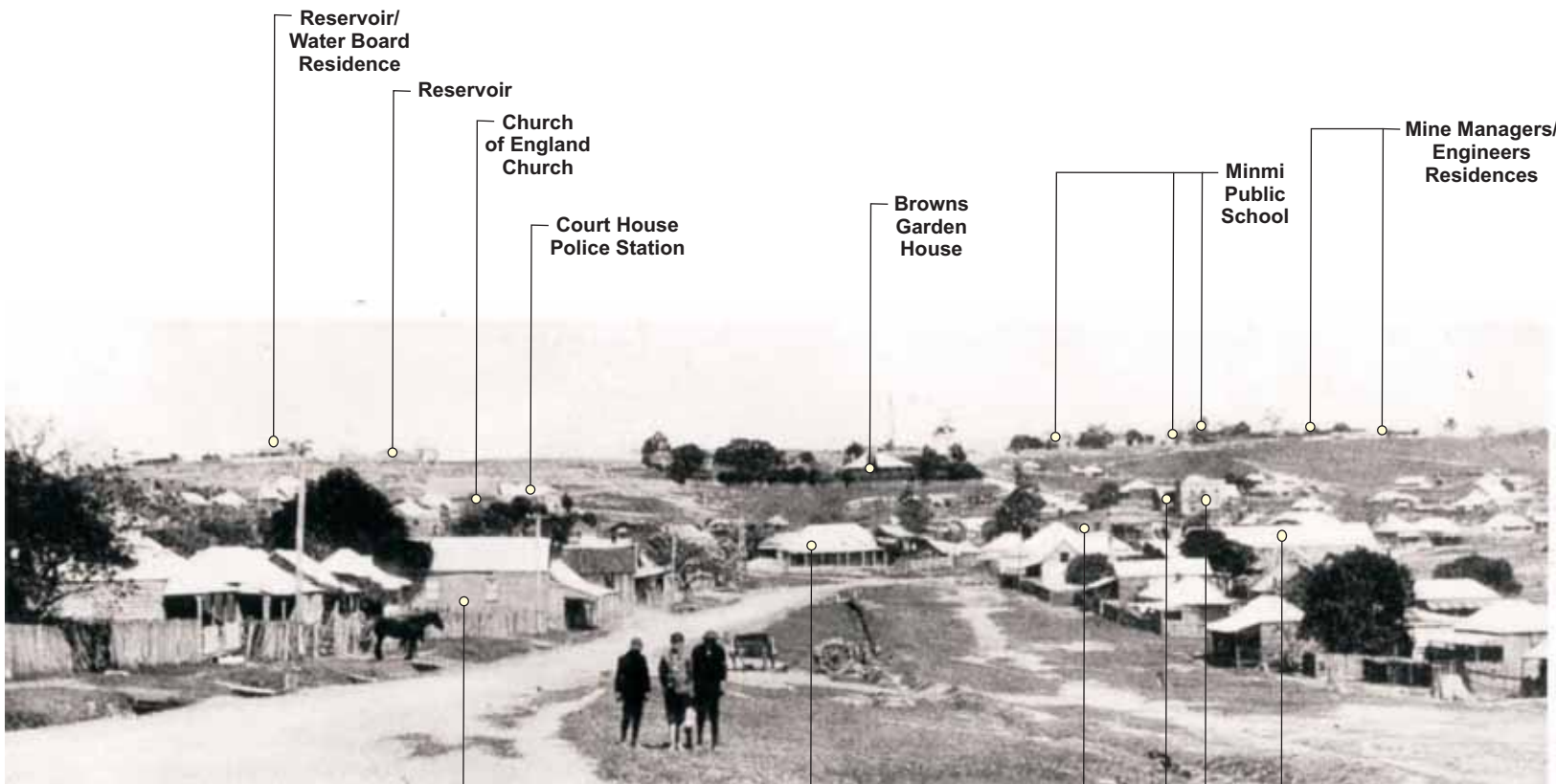


Figure 5.5
Minmi - Workshop and Coke Ovens
Removed After 1906

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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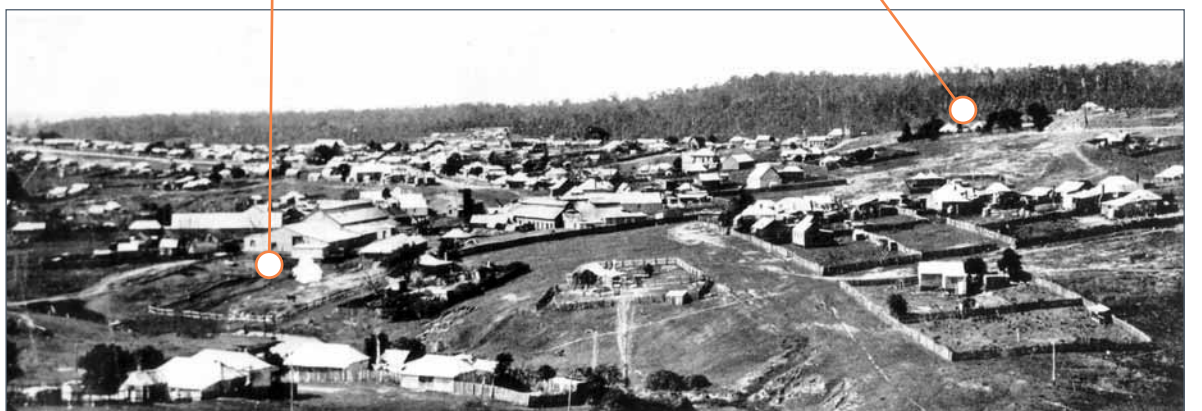
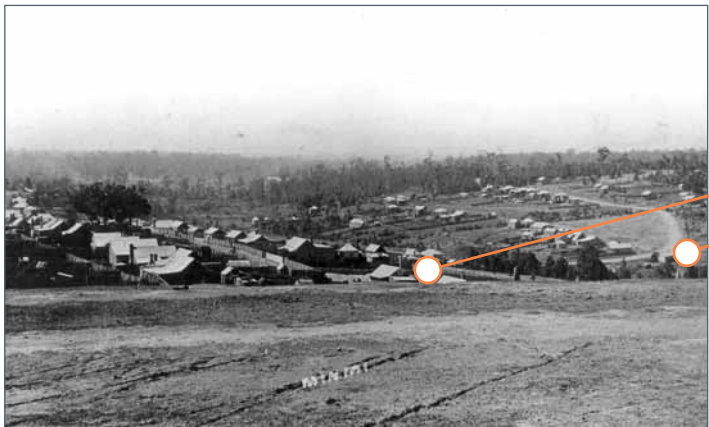
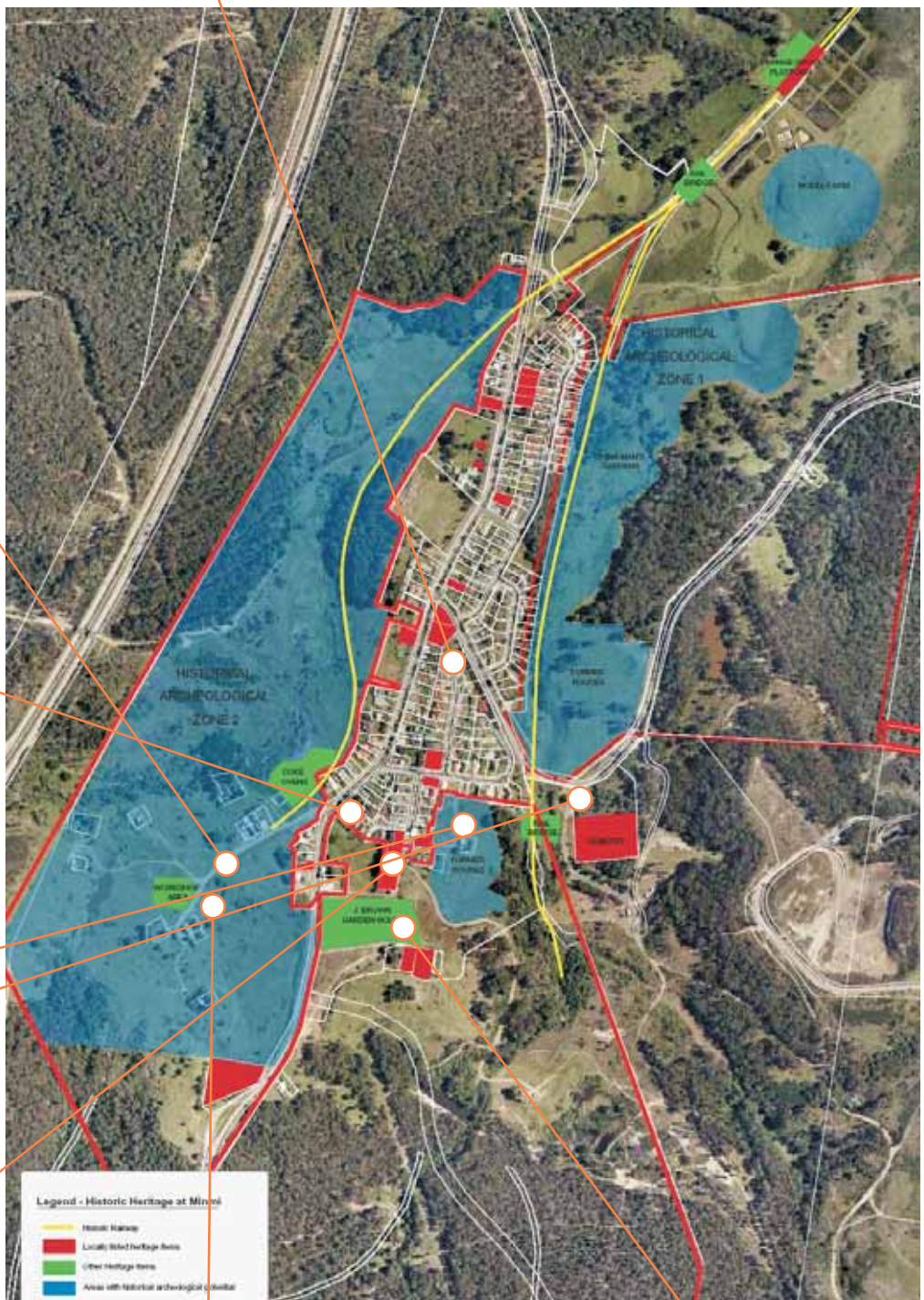
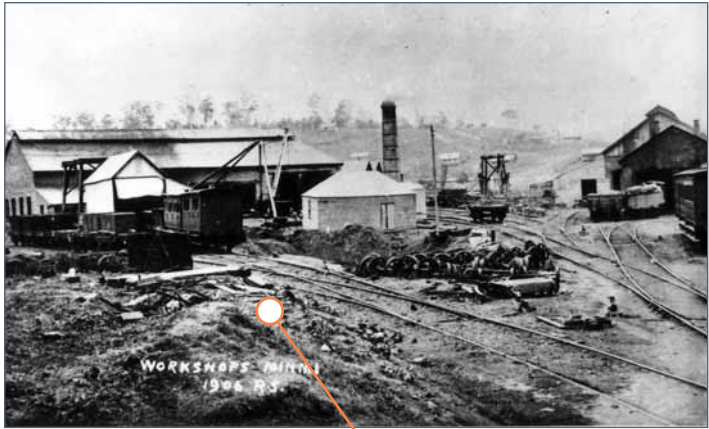


Figure 5.7

Minmi Historical Character & Views

Client:	Catylis
Project:	Lower Hunter Land Development - Minmi Link Road & Stockington
Drawing No:	0111477s_M_04_R0
Date:	18/02/2010
Drawn by:	GC
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*.

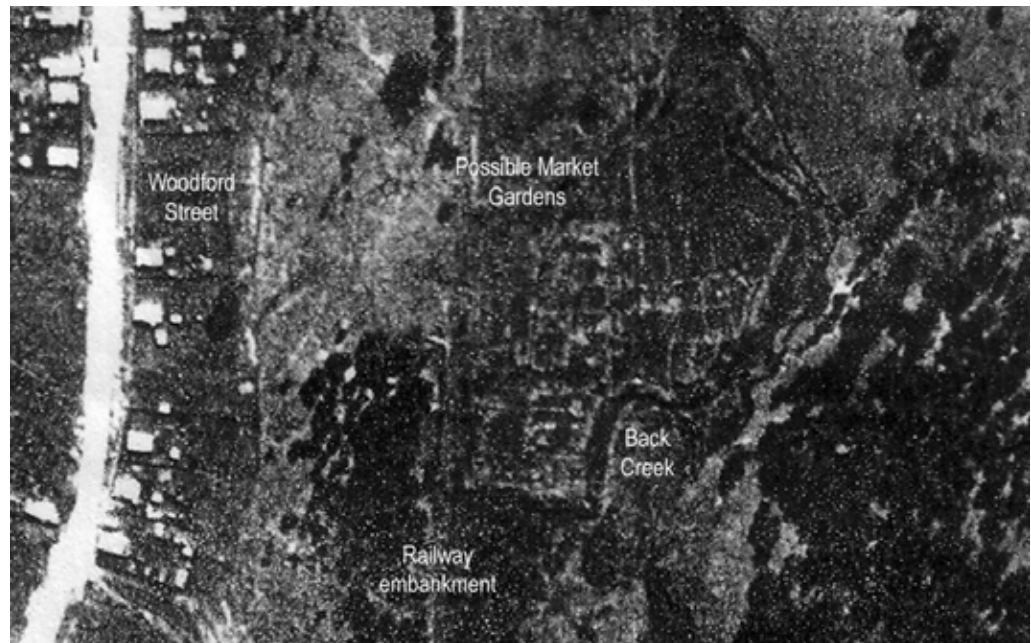


Figure 5.8 Extract from 1944 aerial photograph of Minmi, showing possible market gardens.

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	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. 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.

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
1. All Aboriginal sites have a high level of Aboriginal social significance			
2. Rare/representative described in <i>Section 6.1</i> .			
3. Archaeology potential defined in <i>Table 5.1</i> .			

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.