Modification to the Hunter Enviro-Mining Pty Limited Chitter and Tailings Reclamation Project

06_0236 (MOD1)

Prepared

for

Hunter Enviro Mining (Operations) Pty Limited

by

Wells Environmental Services

February 2010

Preparation and submission of Environmental Assessment report prepared under Part 3A of the Environmental Planning and Assessment Act 1979

EA Report prepared by:	
Name:	Alan Wells
Qualifications:	BA; CPP; T&CP (Ord4), FAICD.
Address:	Wells Environmental Services Level 1, 3/95 High Street, East Maitland, NSW. 2323.
Major Projects Application:	06_0236 (MOD 1)
Applicant's name:	Stephen Elliott Hunter Enviro-Mining Operations Pty Limited ABN:
Applicant's address:	P.O Box 470. Kurri Kurri, NSW, 2327.
Land to be developed:	Refer to Schedule 1 of Major Project Application O. 06_0236 dated 24 September, 2008 in **Appendix 1**.
Proposed development:	Modification of Major Project Application No. 06_0236: • To authorise the modification of the approved Aberdare East haulage route, and • The modification of Condition No. 2 of Schedule 2, Condition No. 10 of Schedule 3 and deletion of Condition No. 11 of Schedule 3 of the project approval dated 24 September, 2008.
Environmental Assessment:	☑ An Environmental Assessment Report is attached which addresses those matters contained in the Director-General Requirements dated 20 May, 2009 pursuant to Section 75 W of the Environmental Planning and Assessments Act, 1979.
Certification	Alan Wells of Wells Environmental Services, certifies that the Environmental Assessment for the proposed modifications to Major Project Application 06-0236 of the HEM Hebburn No. 3 chitter and tailing reclamation project contains relevant information that is neither false nor misleading.
Signature:	
Name:	Alan Wells
Date:	10 September, 2009.

Executive Summary

Hunter Enviro-Mining Pty Limited (HEM) was granted project approval from the Minister for Planning for a chitter and tailings reclamation project (Major Project 06_0236) on 24 September 2008. The chitter and tailings reclamation project involves the rehabilitation of three abandoned chitter and tailing emplacements in the Cessnock local government area, in the Hunter Valley of NSW.

The three sites include Aberdare East, Neath and Richmond Main East, with a total of 2.86Mt of chitter and tailings.

The rehabilitation of the sites includes the extraction of chitter and tailings from the three sites by excavator and road registered truck that transport the material along a network of fire trails to the Hebburn No.3 processing plant. The material is processed at Hebburn No.3 to create a saleable product coal suitable for the export market.

Since Project Approval, HEM identified an alternative alignment for a short section of the haulage route from Aberdare East. The small re-alignment is the subject of this application to modify the original project under Part 3A, Section 75 W of the Environmental Planning and Assessment Act 1979. On 20 May 2008, Director General's Requirements were issued for the proposed modification under Major Project Number 06_0236_MOD1.

The approved haulage route consisted of laden trucks turning left from Government Circuit onto Caledonia Street, then utilising the existing level crossing and turning right at the entrance of the Gordon Williams Memorial Cemetery to enter the fire trails. The proposed realignment consists of laden trucks crossing Caledonia Street traversing a section of managed woodland, the creation of a new private level crossing before entering an existing fire trail and merging with the original route.

The realignment results in shortening the length of the approved return haulage route to Aberdare East by almost 1 kilometre, or a reduction of approximately 42,000 kilometres over the life of the project. The shortened haulage will result in significant cost savings in fuel, and environmental benefits associated with reduced emissions.

The realignment of the haulage route will also provide HEM with construction cost savings in the order of $200,000 by not undertaking the construction of the two intersections (Cessnock Street/Gordon Williams Memorial Lawn Cemetery entrance, and Government Circuit/Caledonia Street intersections).

The modified haulage route operations can also occur on a continuous basis and not detract from the activities and visitations associated with the Gordon Williams Memorial Lawn Cemetery.

Economically, the savings in operational and construction costs provides further job security to employees and contractors employed by HEM as the project is more profitable.

Motorists travelling along Caledonia and Cessnock Street will not be delayed because of HEM haulage vehicles. Traffic safety along this section of road would not diminish as the realignment reduces the distance travelled on public roads.

The proposed modifications sought by HEM are justified on economic, social and environmental grounds. The modifications are consistent with the objects of the Environmental Planning and Assessment Act 1979 involving the proper management, development and conservation of natural resources for the purpose of promoting the social and economic welfare of the community and a better environment. In addition the proposed modifications promote the orderly and economic use and development of land, the protection of the environment and utility services which prevail in the area.

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Appendices

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1 INTRODUCTION

Hunter Enviro-Mining Pty Limited (HEM) has commissioned Wells Environmental Services (WES) to prepare an Environmental Assessment (EA) report to support a proposed modification to the Chitter and Tailing Reclamation Project (CTRP) located near Aberdare in the Cessnock local government area of New South Wales. The location of the project is shown by **Figure 1.**

The proposed modification involves realigning a small section of the approved Aberdare East haulage route and amending project approval conditions to reflect this realignment.

1.1 Project Approval Particulars

Table 1.1 below details the key approval details of the Project Approval No. 06_0236 dated 24 September, 2008.

Table 1.1: Hebburn No. 3 chitter and tailings reclamation project.

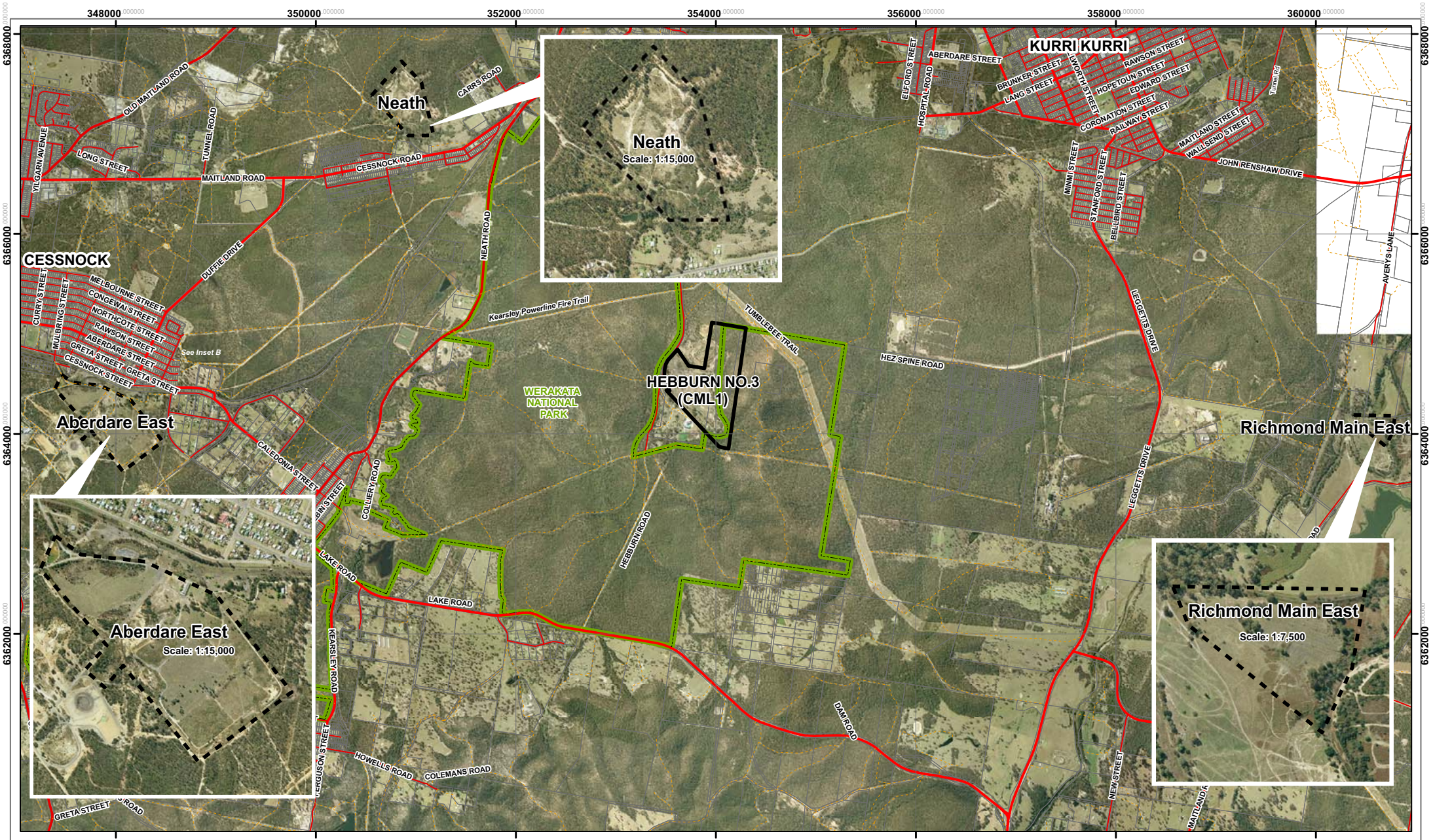
Item	Development Particular
Name and address of applicant.	Hunter Enviro-Mining Pty Limited P.O Box 470. Kurri Kurri, NSW, 2327 Contact: Stephen Elliott
Major Project Reference Number.	06_0236 (MOD 1).
Project Approval date.	24 September, 2008.
Description of project to be carried out under the Project Approval.	The collection, haulage and rehabilitation of emplaced carbonaceous materials (chitter, tailings and coal) from Aberdare East Rail Siding, Neath and Richmond Main East sites. The carbonaceous material will be transported by truck to an approved processing plant located at the former Hebburn No. 2 colliery for processing.
Address and formal particulars of title on which the project is to be carried out.	Refer to Appendix 1.

1.2 The Proponent

HEM is a New South Wales based mine rehabilitation company that directly and indirectly employs local employees and contractors of the Cessnock area to undertake the progressive rehabilitation of former coal mine sites. The local presence of this company was initiated by the occurrences of large quantities of carbonaceous materials consisting of a commercially viable coal resource at former degraded coal mine sites. HEM specialises in the safe, profitable recovery and processing of these resources in conjunction with final landform rehabilitation works.

1.3 Project Background

HEM obtained planning approval in 2001 from Cessnock City Council for the construction and operation of a coal washery at the former Hebburn No.2 Colliery to treat chitter and tailings emplacements at this location (HLA, 2001). This processing facility, which has been specifically



Wells Environmental Services

BASE MAP: AERIAL SEPT 2004
PLATEAU IMAGES

Datum: MGA94 / Zone 56
Scale: 1:35,000 @ A3

N
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Legend

- Draft MLA Boundary
- Hebburn No.3 CML1
- Werakata_National_Park

0 500 1,000 2,000 3,000 4,000 5,000

Metres

HUNTER ENVIRO-MINING (OPERATIONS) PTY LIMITED

Chitter and Tailings Reclamation Project
Preferred Project Report

LOCATION OF CHITTER AND TAILING RECLAMATION SITES

Drawn: JPB	13 August 2007	Checked: JPB	04 October 2007
File Name:	PPR_Loco		

FIGURE 1

designed to treat emplaced carbonaceous materials from past coal mining activities, has been in operation since 5 December 2005 and is referred to as the Hebburn No. 3 Project.

The Hebburn No. 3 Project involves the reprocessing of emplaced carbonaceous materials and rehabilitation of the former Hebburn No. 2 Colliery, with additional feedstock acquired from several other carbonaceous material emplacements in the locality. The washery processes the collected material to extract export quality coal which provides revenues to enable rehabilitation activities. Other products of potential economic value derived from the processing of carbonaceous materials include road base and a sandy loam.

On 17 October 2006, HEM submitted an application for project approval for the chitter and tailings reclamation at three sites, namely, Aberdare East, Neath and Richmond Main East. Chitter and tailings recovered from these sites were to be processed at the approved Hebburn No.3 processing plant. This chitter and tailings reclamation project was assigned Major Project Application No 06_0236.

The EA report for the chitter and tailings reclamation project was placed on public exhibition during the months of January and February, 2007. A Preferred Project Report (PPR) was prepared to address comments received during the public exhibition period.

The chitter and tailings reclamation project (Major Project 06_0236) was approved by the Minister for Planning on 24 September, 2008 following an extensive public exhibition period in conjunction with a detailed review by government, community groups and private individuals.

1.4 Original Project Objectives, Need and Justification

HEM's objectives for the chitter and tailings reclamation project are:

- To reprocess emplaced carbonaceous materials to produce saleable coal and other useful by-products.
- To safely, efficiently and profitably maximise the rehabilitation of lands degraded by past coal mining activities.
- To rehabilitate the land forms consistent with the surrounding land uses and zoning.
- To reduce the ongoing occurrence of adverse environmental impacts arising from emplaced carbonaceous materials, such as salt and acid leaching, spontaneous combustion.
- To minimise the impacts of proposed operations on the local community and environment.
- To provide ongoing local employment opportunities.

Technology at the Hebburn No. 3 coal preparation plant allows for the processing of coal reject recovered from historic emplacements in the Cessnock local government area (LGA). The three approved sites (Aberdare East, Richmond Main East and Neath) were previously used to store coal reject. Since the closure of mining operations, these sites have remained undisturbed and no remedial or rehabilitative works have been undertaken. The sites are considered to contain contaminated material and acid leachate soils, having the potential to contribute to environmental degradation and contamination of local waterways.

The project involves the extraction of chitter and tailings with sufficient carbonaceous materials within them to produce saleable coal and other by-products. The project will deliver a number of key benefits, including:

- Employment of up to 57 people for approximately three years.
- Recovery of accessible coal resources that would otherwise be sterilised.
- Upgrades to road intersections in the vicinity of each site and fire trails within the Werakata National Park and neighbouring Crown lands.
- Rehabilitation and revegetation of the sites following extraction.
- Royalty and tax income to the NSW Government.

1.5 Objectives and Benefits of the Modification

The principal objective of the Section 75 W modification is to safely and profitably recover carbonaceous material for processing. The benefits of the modification are as follows:

- Significant financial savings ($500,000) in road intersection costs, effectively the costs associated with constructing two (2) Type B intersections versus one crossing of Caledonia Street.
- Elimination of the potential difficulties associated with the tight right (laden vehicles) and left (empty vehicles) turns at the entrance to the Gordon Williams Memorial Lawn Cemetery.
- Improvement in traffic safety with haulage trucks being on public roads for a reduced travelling distance and time.
- Reduction in possible traffic congestion associated with haulage trucks turning across traffic near and adjacent to the Greta-Caledonia Streets railway level crossing.
- Reduction in a return haulage distance of 1 kilometre (km) over the approved Aberdare East haulage route, which over the course of the project has the potential to save over 42,000km in accumulated travel, associated fuel use and emissions.
- The proposed crossing of Caledonia Street is approximately 375 metres (m) from the Gordon Williams Memorial Lawn Cemetery and reduces the potential for disturbances associated with funerals and activities at the cemetery.

1.6 Location and Land Description

The location of the carbonaceous emplacements at Aberdare East, Neath and Richmond Main East and the haulage routes from these sites to the Hebburn No.3 processing plant is shown by **Figure 2**, the property description of the affected lands is included within Appendix 1.

The proposed modification involves changing a 1 km section of the approved haulage route at Aberdare from the Aberdare East site with a new 500 metre section that includes a new private crossing of the South Maitland Railway line. North bound laden haulage trucks and south bound empty haulage trucks will be required to stop at Caledonia Street and railway crossing intersections before progressing to their destination. There are no other changes to the project.

The modification will not change the original land descriptions (refer to Appendix 1) with the exception of a small parcel of land, and an unformed road reserve bounded by Caledonia Street to the south, the South Maitland Railway to the north and Ellalong Street to the east. The additional lands are described as follows (and noted within Appendix 1):

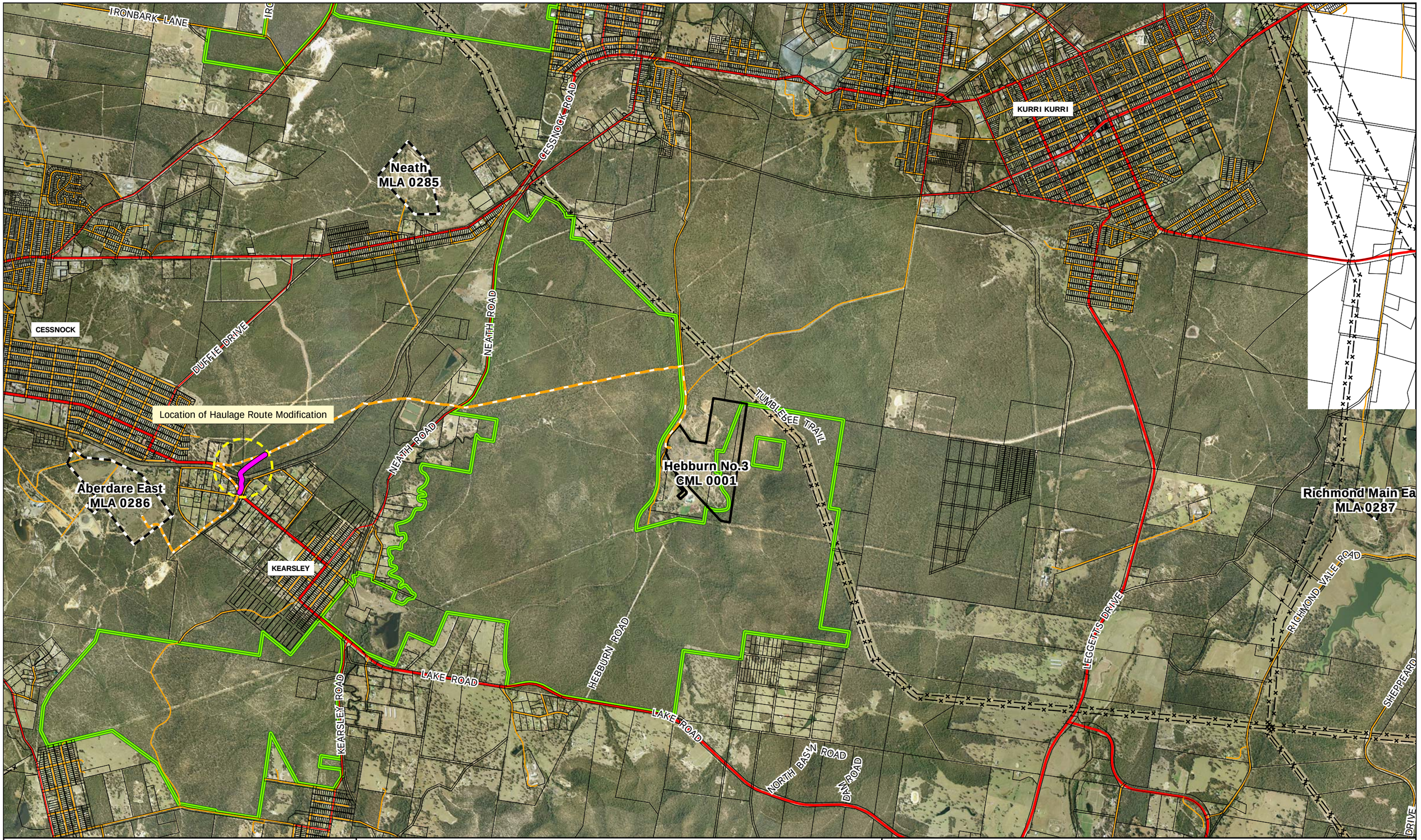
- South Maitland Railway corridor near Cessnock Street, Aberdare, administered by South Maitland Railways Pty Limited.
- Crown land located between Caledonia Street and South Maitland Railway under Parish Reserve 755215 for future public requirements, Kearsley, administered by the Department of Lands.
- Crown “paper” road adjacent to the South Maitland Railway Corridor between Ellalong Street and Caledonia Street, Kearsley.

HEM has consulted with both the Department of Lands and the operator of the rail corridor, no objection to HEM’s proposed haulage route crossing this section of land has been raised.

Figure 3 shows both the approved Aberdare East haulage route and proposed realignment.

1.7 Structure of the Environmental Assessment Report.

The EA report has been prepared to assist the consent authority and the public in understanding the modifications proposed for the project, its impacts and safeguards and to identify the proponent’s commitments. The EA report is presented in 1 volume. The EA report contains a description of the



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MGA 94
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Pdf File:
Source: S75W Location Plan

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- Location of Haulage Route Modification
- Proposed Haulage Route Modification
- Approved Aberdare East Haulage
- HEM Mining Lease Titles
- Mining Lease Application Areas
- Transgrid Easement
- Werakata NP

HUNTER ENVIRO-MINING PTY LIMITED

Location of Approved Aberdare East Haulage Route and the Proposed Modification

Drawn: JPB
Thursday, 8 October 2009

Figure 2

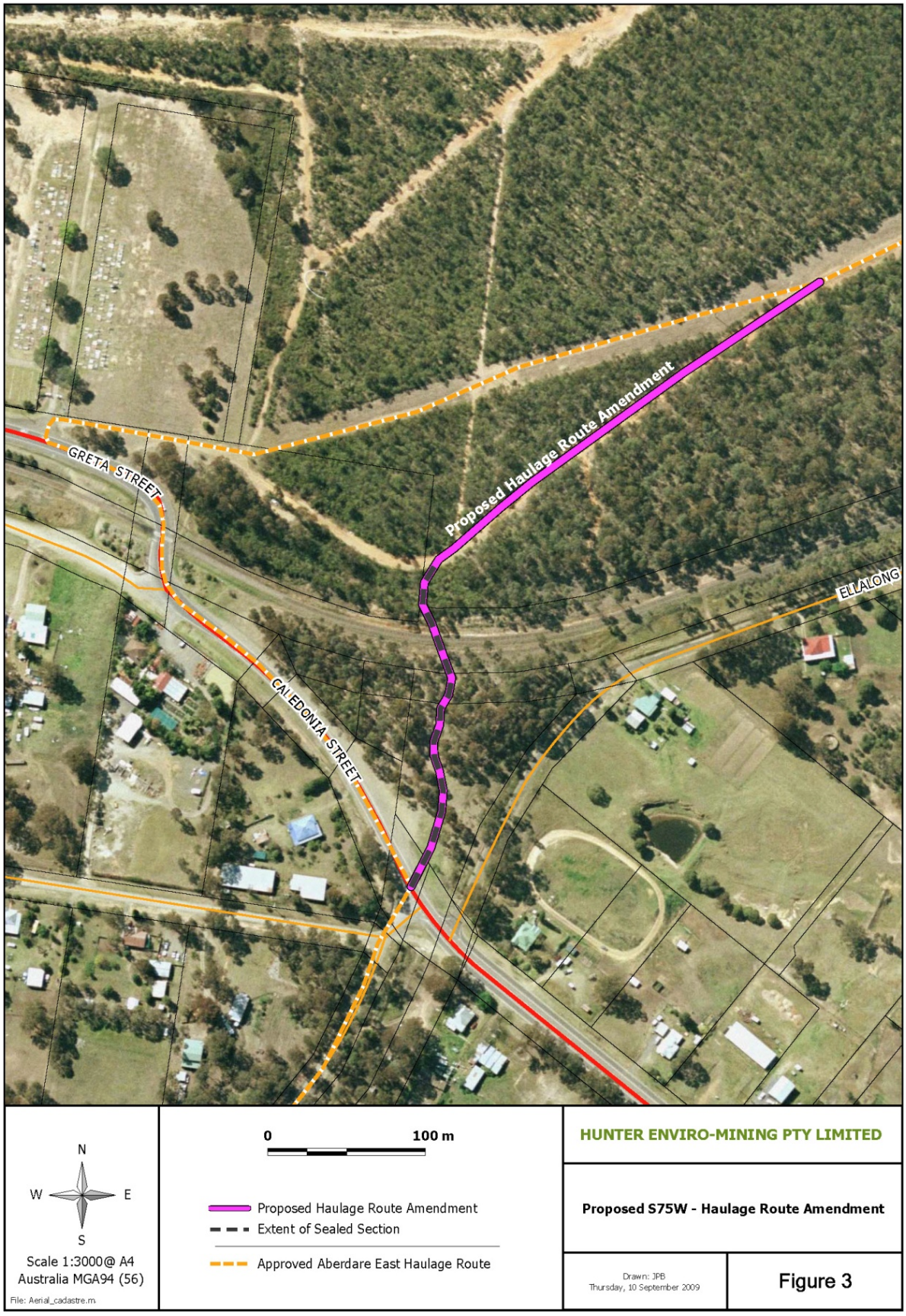


Figure 3: The proposed haulage route modification.

project as approved, the proposed modifications, a description of the statutory planning framework, identification and analysis of environmental interactions and management safeguards. The EA report also contains the proponent's Statement of Commitments, project justification and conclusion, together with a list of references and glossary of terms used within the EA report. The EA report also contain copies of the specialist studies and reports.

1.8 Study Team

This EA report was prepared in association with and assisted by the management of HEM and specialist consultants shown in **Table 1.2**

Table 1.2: Specialist consultants involved in the preparation of the EA Report.

Project Role	Consultant
Project management and EA report writing, assessment of impacts and safeguards.	Wells Environmental Services Pty Ltd.
Flora and Fauna.	EcoBiological.
Air Quality.	PAEHolmes.
Acoustics.	Spectrum Acoustics.
Traffic	Stapes Aust Pty Ltd.

2 PROJECT APPROVAL FRAMEWORK

2.1 Introduction

This section details the relevant New South Wales legislation that applies to the proposed modification.

In New South Wales, the EP&A Act, 1979 is the principal form of legislation that governs, controls and guides land use (planning and development) throughout the state. The EP&A Act, 1979 is supported by a series of State Environmental Planning Policies (SEPPs), and Local Environmental Planning instruments.

The principal legislative provisions relevant to the consideration of the proposed modification for the modification to the project approval assessed in this Environmental Assessment (EA) report are as follows:

- Part 3A, Section 75W of the New South Wales Environmental Planning and Assessment Act 1979 (EP&A Act), which provides the approval process for the modification to major projects.
- State Environmental Planning Policy (SEPP) (Major Developments) 2005 (Major Developments SEPP), which establishes the types of projects that require Part 3A approval, which includes development for the purpose of mining related works that is ancillary to or an extension of another Part 3A project.
- SEPP (Mining, Petroleum Production and Extractive Industries) 2007 (Mining SEPP).
- Section 75U of the EP&A Act, which provides that certain authorities and approvals under other legislation are not required for approved projects.
- Section 75V of the EP&A Act, which provides that certain authorities and approvals under other legislation cannot be refused and is to be issued in terms substantially consistent with any Part 3A approval.
- The Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act), which provides a legal framework to determine controlled activities and protect matters of national environmental significance.

2.2 Core New South Wales Legislation

2.2.1 Environmental Planning and Assessment Act

2.2.1.1 Approval Authority

The HEM Hebburn No. 3 chitter and tailing reclamation project was granted Project Approval under Section 75 J of the EP&A Act, 1979 by the Minister for Planning on 24 September, 2008.

HEM is seeking approval from the Minister for Planning to modify Project Approval No. 06_0236 under Part 3A, Section 75 W of the EP&A Act, 1979.

On 2 April, 2009 WES on behalf of HEM forwarded correspondence to the Director-General, Department of Planning (DoP) to:

- Notify their intention to lodge an application to modify Project Approval No. 06_0236.
- Provided details of the proposed haulage route and identified Condition No 2 of Schedule 2 and Condition No's 10 and 11 of the project approval that the proponent seeks to modify.
- Identified the key issues that are associated with the proposed modification.

- Sought advice regarding the progression of the proposed modification under Section 75 W of the EP&A Act, 1979.

On 20 May, 2009 the Executive Director, Major Project Assessments as delegate for the Director-General of the DoP responded by providing the Director-General Environmental Assessment Requirements (DGR's) under Part 3A, Section 75 W of the EP&A Act, 1979 for the proposed modifications. A copy of the DGR's is contained in **Appendix 2.**

2.2.1.2 Proposed Modification

HEM seeks a modification to the existing Project Approval pursuant to the provisions of Part 3A, Section 75 W of the EP&A Act, 1979 as amended. Section 75 W (2) states that:

> *"The proponent may request the Minister to modify the Minister's approval for a project. The ministers approval for a modification is not required if the project as modified will be consistent with the existing approval under this part."*

The HEM Project Approval 06_0236 has the following key components:

- The collection and road haulage of approximately 1.7million tonnes of tailings and chitter from the Aberdare East Rail Siding site to the approved Hebburn facility for processing.
- The collection and road haulage of approximately 1 million tonnes of tailings and chitter from the Neath site to the approved Hebburn facility for processing.
- The collection and road haulage of approximately 160,000 tonnes of chitter from the Richmond Main East site to the approved Hebburn facility for processing.
- The rehabilitation of the emplacement sites at Aberdare East Rail Siding, Neath and Richmond Main East.

The modifications sought by this application (listed in *Section 5*) will not result in a radical transformation of the existing Project Approval for the following reasons:

- There is no change to the methods to extract the carbonaceous material at any of the sites.
- There is no change to the approved extraction rates at any of the sites.
- There is no change to the environmental safeguards associated with the project as a whole or at any of the sites.
- There is no change to the final destination associated with the haulage of the carbonaceous material from any of the sites.
- The modification to the conditions of the Project Approval will not change the operations associated with the project or the statutory requirements which the proponent must comply with.

Accordingly, when considered against the existing HEM approval the modifications sought by the application are minor. This application does not result in a radical transformation of the existing project approval and it is within the power of the Minister for Planning to modify the existing approval pursuant to Section 75 W of the EP&A Act, 1979.

2.2.1.3 Permissibility

This section provides an overview of the permissibility of the proposed modification.

Land Zoning and Ownership

Cessnock Local Environmental Plan 1989

Land zoning and related uses pursuant to the Cessnock Local Environmental Plan 1989 (Cessnock LEP 1989) for the lands shown within Appendix 1 have not changed since the original application, with the exception of the proposed realignment corridor. **Figure 4** illustrates the proposed realignment overlayed on a map of the Cessnock LEP 1989.

The relevant zonings as specified by *Clause 9* of the Cessnock LEP 1989 include:

- **Zone No. 1(a) Rural 'A' Zone** – the proposed realignment is consistent with the objectives of this zone, and is permissible with consent.

- **Zone No. 5(b) Special Uses (Railway) Zone** – the objective of this zone is to "*enable development for railways and related purposes on railway land, whether in public or private ownership"*, with only "*Dams; railways; utility installations*" permissible with consent.

  The proposed realignment will cross through two parcels of land with this zone to provide access to the northern side of the railway for a period of 2-3 years.

  The northern parcel is the South Maitland Railway corridor, administered by South Maitland Railways Pty Limited.

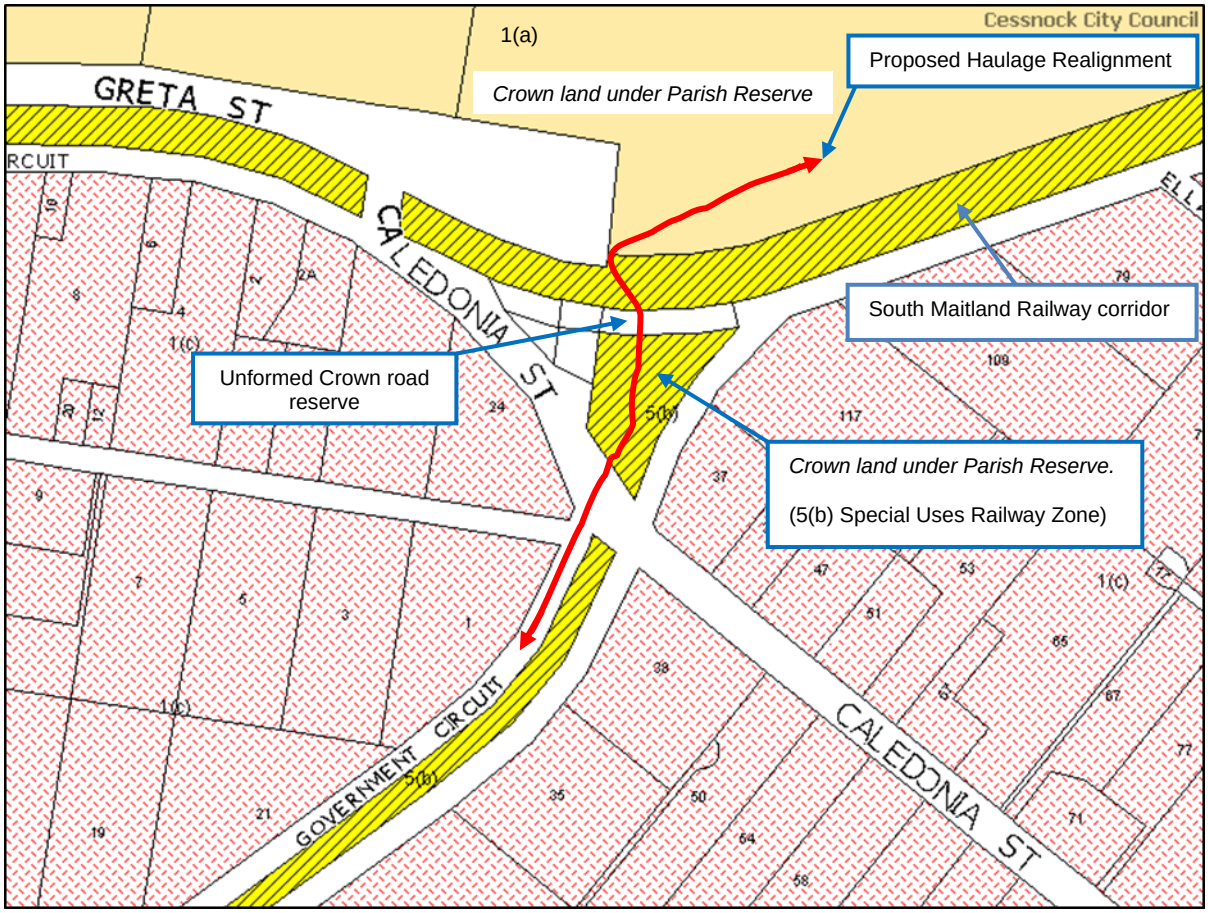


Figure 4: Land zoning under the Cessnock LEP for the haulage realignment.

The southern parcel is Crown land under Parish Reserve 755215 for future public requirements administered by the Department of Lands.

HEM has consulted with both the Department of Lands and the operator of the rail corridor, no objection to HEM's proposed haulage route crossing this section of land has been raised.

Clause 28 – Roads, drainage, recreation areas and parking of the Cessnock LEP 1989 specifies the following:

(1) Nothing in clause 9 shall prevent the Council from, or require the Council to obtain its own consent for, carrying out development on land within any zone for the purposes of roads, stormwater drainage, recreation areas, landscaping, gardening, bushfire hazard reduction or parking.

(2) A person may, with the consent of the Council, (except in the case of landscaping and gardening, which may be carried out without consent) carry out development on land within any zone for a purpose referred to in subclause (1).

(3) The reference in subclause (1) to the carrying out of development for the purpose of roads includes a reference to the winning of extractive material by the Council for the purpose of road construction.

Therefore the proposed haulage route modification is permissible under the Cessnock LEP 1989. Council have been consulted regarding the proposed haulage route modification.

Draft Cessnock Local Environmental Plan 2009

The draft Cessnock Local Environmental Plan 2009 (draft Cessnock LEP 2009) is currently on public exhibition. Under the draft Cessnock LEP 2009 the land is zoned as follows:

- **Zone RU2 Rural Landscape** – effectively replaces the 1(a) zone under the Cessnock LEP 1989, with the proposed road alignment permissible with consent.
- **Zone R5 Large Lot Residential** – applies to the unformed section of Crown road adjacent to the South Maitland Railway Corridor. Roads are permissible with consent within this zone.
- **Zone SP2 Infrastructure** –applies to the land zoned 5(b) under the Cessnock LEP 1989, and permits those uses shown on the plan (i.e. "SP2 Railway") including any development that is ordinarily incidental or ancillary to development for that purpose; group homes; roads.

Summary of Permissibility

Given *Clause 28* (2) of the Cessnock LEP 1989 the proposed haulage road modification is permissible as proposed.

2.2.1.4 Assessment and Determination of the Project Applications

The EA report will be assessed by the Director General of Planning pursuant to Section 75H (2) of the EP&A Act, 1979 to ensure the report adequately addresses the Environmental Assessment Requirements.

Where the EA report adequately addresses the Environmental Assessment Requirements the Director General may accept the report and place it on public exhibition for a minimum period of 30 days.

An assessment of the modification will be prepared by the Director General of Planning and provided to the Minister for Planning for consideration and determination pursuant to Section 75J of EP&A Act, 1979.

2.2.2 Environmental Planning Instruments

The following State Environmental Planning Policies (**SEPP's**) may apply for consideration by the Minister for Planning for the proposed Modification.

2.2.2.1 State Environmental Planning Policy No. 44 – Koala Habitat Protection

This SEPP encourages the conservation and management of koala habitats, to ensure permanent free-living koala populations will be maintained over their present range. The SEPP requires the consent authority to consider whether land the subject of a development application is "potential koala habitat" or "core koala habitat".

An assessment of potential and core koala habitat has been undertaken for the modification area and has determined the area does not contain any potential or core koala habitat.

2.2.2.2 State Environmental Planning Policy No. 55 – Remediation of Land

This SEPP was enacted to provide a state-wide approach to the remediation of contaminated land for the purpose of minimising the risk of harm to the health of humans and the environment. Potentially contaminated sites within the project area may include dips, workshops/machinery sheds used for fuel, chemical and fertiliser storage and landfills.

No contaminated lands have been identified within the project area that will be disturbed by the proposed modification.

2.2.2.3 State Environmental Planning Policy (Major Development) 2005

This SEPP identifies development to which the development assessment and approval process under Part 3A of the EP&A Act 1979 applies and establishes the Minister for Planning as the consent authority for development classified as a "major project".

Development for the purpose of mining related works that is ancillary to or an extension of another Part 3A project (i.e. the proposed haulage road), is considered to be a “major development” under this SEPP.

2.2.2.4 State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

This SEPP aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. The Policy establishes appropriate planning controls to encourage ecologically sustainable development.

Matters for Consideration

The Mining SEPP also establishes relevant matters for consideration by a consent authority. The considerations set out by clauses 12 to 17 of the Mining SEPP are examined and reported upon throughout this EA report, namely:

- Clause 12 requires the land use of the area and surrounding areas to be detailed. This EA report describes the approved and existing land use. The proposed haulage route minimises the distance travelled on public roads and therefore reduces potential for land use conflict.
- Clause 13 details considerations to be had in regard to existing mining and resource recovery in the area. The proposed modification has taken due regard to the use of the South Maitland Railway by the Austar mining operation and will not adversely impact those operations.
- Clause 14 details the possible conditions that must be considered in any approval in order to ensure environmental responsibility. Particularly, these conditions must seek to minimise greenhouse gas emissions, water resource usage and the effect on threatened species and biodiversity. The proposed haulage route modification will result in the reduction of 42,000km travelled and the associated emissions, no threatened species will be adversely impacted and the road will be rehabilitated on completion.
- Clause 15 details considerations required regarding efficiency of resource recovery and waste minimisation. The proposed modification improves the efficiencies of the transport of the resource.
- Clause 16 details the considerations of the effect of the development on the public road system. The proposed modification results in the reduction of travel on the public road system, both the Cessnock City Council and RTA have been consulted regarding the proposed modification.
- Clause 17 details the considerations required with regard to rehabilitation, the handling of waste and public safety issues. The proposed haulage route will be rehabilitated at the completion of its use for haulage, little or no waste will be generated by the proposed modification. *Section 6.1* details the existing and proposed traffic and rail management measures for the purposes of ensuring safe crossing of Caledonia Street and the level crossing.

2.3 Relationship to other New South Wales Legislation

In addition to major project approval under the EP&A Act,1979 the proposed modification will also require authorisations under various laws. These are discussed below.

2.3.1 Section 75U EP&A Act 1979

Pursuant to Section 75U of the EP&A Act,1979 there are a number of authorisations that will not be required for the proposed modification if approval is granted by the Minister for Planning under Part 3A. Relevantly, the authorisations that will not apply because of Section 75U include:

- *Native Vegetation Act 2003* - authorisation to clear native vegetation.

- A permit under Section 87 or a consent under Section 90 of the *National Parks and Wildlife Act* 1974.
- *Heritage Act 1977* - Disturbance to an item listed on a State Heritage Register, Interim Heritage Order or Excavation Permit.
- *National Parks and Wildlife Act 1974* - Preliminary research permit – consent to destroy relics.

2.3.2 Section 75V EP&A Act 1979

Pursuant to Section 75V of the EP&A Act,1979 there are a number of authorisations that must be issued in terms substantially consistent with the Part 3A approval if such approval is required for the conduct of the approved project. These authorisations are (relevantly):

- Consent under Section 138 of the *Roads Act* 1993.

2.4 Commonwealth Legislation

2.4.1 Environment Protection and Biodiversity Conservation Act 1999

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Cth defines actions that are likely to have a significant impact on a matter of national environmental significance as "controlled actions". The EPBC Act prohibits the taking of controlled actions without an approval under Part 9 of the EPBC Act.

MNES include (relevantly) listed threatened species and listed ecological communities and listed migratory species.

Flora and fauna surveys undertaken as part of the assessment for this EA have determined there will be no significant impact or likelihood of significant impact from the proposed modification.

2.5 Summary of Director-General Requirements

On 20 May, 2009 the DoP issued the DGR's. **Table 2.1** provides a summary of the DGR's along with where these specific issues have been addressed within the EA report. A copy of the DGR's is contained in Appendix 2.

Table 2.1: Summary of Director – General Requirements

Specific Issues to be addressed	Reference in EA report
The Environmental Assessment of the modification must include: • An Executive Summary	Before Section 1
• A detailed description of the proposed modification including its need, alternatives considered and plans	Section 1.4, 1.5 and 5
• A detailed assessment of key issues specified below:	
– A description of the existing environment	Section 5 and 6
– An assessment of the potential impacts of the proposed modification taking into consideration any relevant policies, guidelines, plans and statutory provisions.	Section 5 and 6
– A description of the measures that would be implemented to avoid, minimise and if necessary offset the potential impacts of the proposed modification.	Section 5 and 6
– A statement of commitments, outlining the proposed environmental management and monitoring measures.	Section 7

Specific Issues to be addressed	Reference in EA report
– A condition justifying the proposed modification on economic, social and environmental grounds, taking into consideration whether the proposed modification is consistent with the objects of the EP&A Act, 1979.	Section 8
• Transport, including: – A detailed assessment of the potential impacts of the proposed modification on the capacity, efficiency and safety of the surrounding road and rail networks. – A comparison of the relative merits of the proposed haulage route compared to the approved transport route.	Section 6.1 Section 8.1.1
• Flora and fauna	Section 6.2
• Aboriginal heritage	Section 6.5
• Noise and air quality	Section 6.4 and Section 6.3
• References The EA report and assessment of key issues must take into account relevant guidelines, plans and policies.	Section 9
• Consultation During the preparation of the EA report you should consult with relevant local, State or Federal government authorities, service providers , community groups or land owners. In particular you should consult with: – Department of Lands – Roads and Traffic Authority – South Maitland Railway – Department of Environment, Climate Change and Water – Cessnock City Council.	Section 3

3 STAKEHOLDER AND COMMUNITY CONSULTATION

3.1 Introduction

The DGR's require that relevant government authorities, service providers, community groups or affected land owners be consulted during the preparation of the EA report.

This section outlines the consultation that has been undertaken in the course of preparing the EA for the proposed haulage route modification.

3.2 Consultation methodology

3.2.1 Land owners

The following land owners were identified as being directly affected by the proposed haulage route modification:

- South Maitland Railways – crossing of railway line by the modified haulage route.
- Crown land (located between South Maitland Railway and Caledonia Street, and north of the South Maitland Railway line) – construction of modified haulage route access from its "take off point" at Caledonia Street to its linking with the approved Aberdare East haulage route.

Copies of the letters as a result of the consultation are contained within **Appendix 3**.

3.2.2 Government Agencies and Service Providers

Government agencies and service providers identified as requiring consultation for the preparation of EA the report include:

- Cessnock City Council.
  - Site meeting 27 November 2008.
  - Supportive of proposed route, essential South Maitland Railways Pty Limited are consulted.
- Department of Lands.
  - Site meeting 27 November 2008.
  - Letter of Conditional Approval dated September 2009
- Roads and Traffic Authority.
  - Site meeting 27 November 2008.
  - Letter dated 23 December 2008.
  - Supportive of proposed haulage re-alignment.
  - Letter dated 22 January 2010
- Department of Environment, Climate Change and Water.

4 CHITTER AND TAILINGS RECLAMATION PROJECT.

4.1 Key Project Features

The chitter and tailings reclamation project involves the reprocessing of emplaced carbonaceous materials to produce saleable coal and other useful by products from sites located at Aberdare East, Neath and Richmond Main East. **Table 4.1** provides a description of the major components of the chitter and tailings reclamation project, including where those require modification.

Table 4.1: Summary of the Major Components of the Project and required modifications

Project Component	Description	Modification Required
Project life	Up to 3.5 years	No
Reclamation Quantity	Approximately 2.86Mt of chitter and tailings	No
Reclamation Sites	Aberdare East	Haulage route only (See *Section 5*)
	Neath	No
	Richmond Main East	No
Transportation Method	Recovered material would generally be transported to the Hebburn No 3 CHPP using a combination of State roads and fire trails located in Werakata National Park and adjacent Crown Land. Some material from Aberdare East and Neath may be transported directly to either Upper Hunter or Central Coast power stations, or to local collieries, using public roads.	Modification required to a short section of the haulage route from Aberdare East only. (See *Section 5*)
Reclamation Rate	Up to 60 truck movements per hour from all sites (i.e. 30 laden, 30 empty).	No
Operating Hours	7 am to 7 pm, Monday to Friday. Daylight hours only. No operations on weekends or public holidays.	No
Rehabilitation of Sites	The 3 extraction sites would be progressively rehabilitated with grasses and other native vegetation in accordance with conditions 12 and 13 of the Project Approval dated 24 September 2008.	No

4.2 Status of Operations

Since the grant of the Project Approval HEM has prepared and had approved an Environmental Management Strategy together with a raft of Environmental Management Plans associated with the Richmond Main East emplacement.

In addition to the above, HEM has prepared and received approval for the Richmond Main East and Aberdare East Mine Operation Plans and established a Community Consultative Committee. The Community Consultative Committee comprises of Ms Maree Callaghan (Chairperson), Councillor Chris Parker, Mr Brian Howe, Mr Colin Cross, Mr John Sheridan, Ms Heather Masters and Ms Julianne Cripps Clark.

The removal of carbonaceous material from the Richmond Main East emplacement has progressed smoothly and there remains approximately one (1) month of extraction and removal of materials after which the site will be rehabilitated.

5 DESCRIPTION OF MODIFICATION

This section describes the proposed modifications to the conditions of the project approval and the proposed realignment.

5.1 Modification to Conditions

5.1.1 Modify Condition 2, Schedule 2 – Administrative Conditions

HEM is seeking approval to modify a small section of the haulage route associated with the trucking of carbonaceous material from the Aberdare East Rail Siding site.

This EA provides a description and impact assessment in Sections 5 and 6 of the proposed modified haulage route.

HEM request that Condition 2 of Schedule 2 of Project Approval 06_0236 be modified through the addition of a subclause “ab) Document entitled Project Approval Modification 06_0236 (MOD 1) prepared by Wells Environmental Services.”

5.1.2 Modify Condition 10, Schedule 3 – Traffic and Transport

The Project Approval within Condition 10 of Schedule 3 contains conditions relating to the upgrading of roads which the proponent is to undertake prior to carrying out any development at the Aberdare East Rail Siding site. These road works are required so as to enhance the safety of road users and motorists along the approved haulage route.

In relation to the Aberdare East haulage route Condition No’s. 10 (a), (b) and (c) apply. If the proposed modified haulage rote is approved, Condition No’s 10 (a), (b) and (c) would be modified by their deletion and replaced with fresh or modified conditions.

Fresh or modified conditions will be required to reflect the crossing of Caledonia Street and South Maitland Railway Line associated with the proposed modified haulage route.

5.1.3 Delete Condition 11, Schedule 3 – Traffic and Transport

The Project Approval within Condition 11 of Schedule 3 contains a condition requiring the proponent to *“cease haulage activities past the Gordon Williams Memorial Lawn Cemetery whilst funerals are in progress”.*

The closest distance the proposed modified haulage route is to the Gordon Williams Memorial Lawn Cemetery is 150 metres (as measured from the south-east corner of the cemetery to the nearest part of the modified haulage route) in a south-easterly direction.

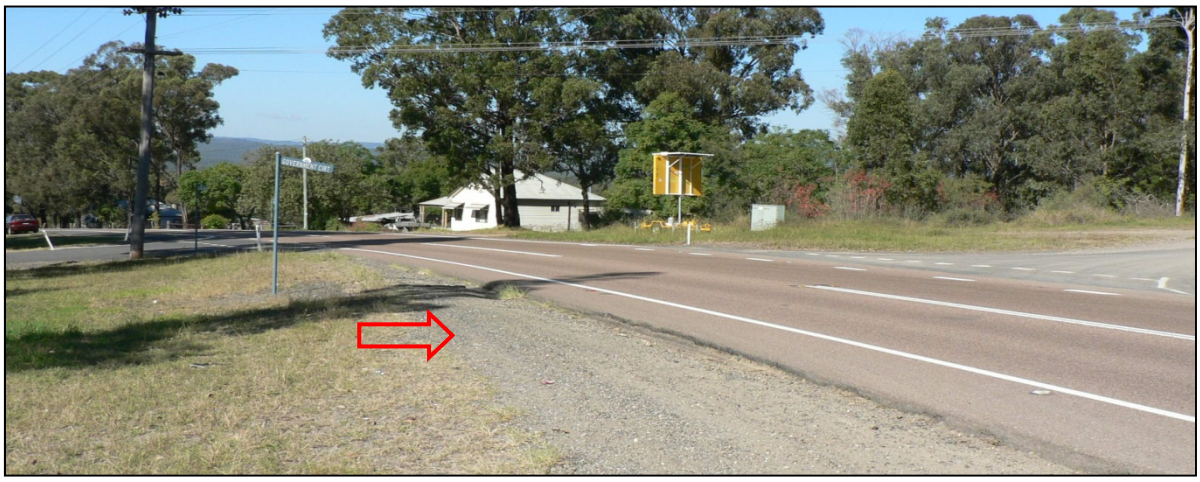
HEM seeks relief from Condition No.11 of Schedule 3 by its deletion.

Commitment 6 b) within the Statement of Commitments included as Appendix 4 of the Project Approval reflects a similar commitment to Condition 11 it is proposed to remove this commitment from the Project Approval.

5.2 The Proposed Haulage Route Realignment

Figure 3 shows the proposed haulage route modification, refer to Figure 2 for its context in relation to the whole Project. **Figure 5** illustrates the proposed intersection with Caledonia Street.

The proposed haulage route modification involves the construction of a road which shall commence on the northern side of Caledonia Street where it intersects with Government Circuit, Kearsley (refer to **Photograph 1**)**.** The haulage route will extend some 150 metres in a northerly direction where it crosses the South Maitland Railway line at which point it will extend a further 33 metres to the north intersecting with an existing 8 metre wide gravel fire trail. The fire trail will be followed for another 300 metres in a northerly easterly direction at which point it links with the approved Aberdare East haulage route.



Photograph 1: Red arrow in photograph shows location of proposed haulage road intersecting with Caledonia Street.

The haulage route from Caledonia Street involves the clearing of natural vegetation (refer to **Photographs 2 and 3)** over the route of the road and have a width of up to 9 metres adjacent to Caledonia Street**.** Where the haulage road crosses the South Maitland Railway line a 12 metre section of the track will be replaced in accordance with the requirements of South Maitland Railways Pty Limited. These works will be undertaken in accordance with Licence Agreements, Rail Safety Act, 2008, Rail Safety Regulations, South Maitland Railway Network Rules and relevant Australian Standards.

Photograph 2: Open forest in the reserve adjacent to Caledonia Street.

Photograph 3: Natural forest on the northern side of the South Maitland Railway line.

There will be no clearing of vegetation along the existing fire trail, refer to **Photograph 4.** The fire trail will be upgraded through minor road remediation procedures and on-going maintenance in particular road edge formation.

Photograph 4: Existing fire trail linking the approved haulage route.

Where the haulage route crosses Caledonia Street the road will be bitumen sealed in a northerly direction to where it intersects with the existing 8 metre wide gravel fire trail. In bound and out bound haulage traffic will be regulated by road markings and sign posting as shown by **Figure 5.**

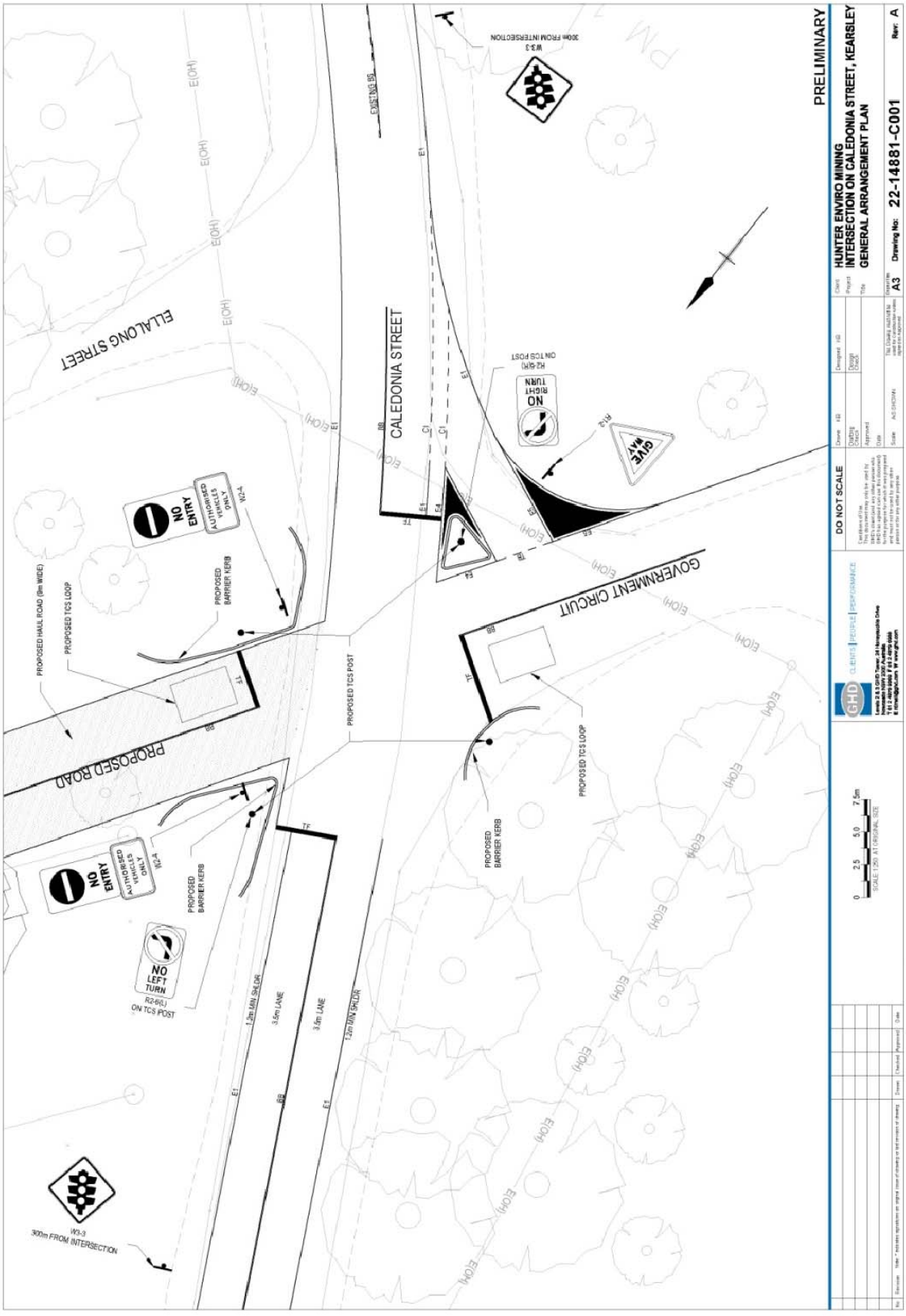


Figure 5: Proposed traffic control plan for the intersection with Caledonia Street.

6 IMPACT ASSESSMENT OF KEY ISSUES

This section of the EA report provides a description of the existing environment associated with the HEM's chitter and tailings reclamation project together with an analysis of impacts (including cumulative impacts) and mitigation measures associated with the key issues contained in the DGR's for the proposed modification.

The key issues identified within the DGR's are transport, Aboriginal heritage, air quality, noise, flora and fauna.

6.1 Transport

HEM commissioned Stapes Aust. Pty Ltd (Stapes) to provide a Traffic Management Plan for the proposed haulage route modification. The Traffic Management Plan focuses upon the proposed haulage route intersection with Caledonia Street, Kearsley. A copy of the Traffic Management Plan is contained in **Appendix 4.** Information from the Traffic Management Plan is summarised below.

6.1.1 Existing Road Network

Caledonia Street – Caledonia Street is an arterial road (Main Road No. 220, Branxton to Toronto) controlled by the Roads and Traffic Authority (RTA) of NSW and comprises of:

- A 7.2 metre wide bitumen sealed and line marked road with 2 x 1.1 metre wide road shoulders.
- The proposed haulage road is situated on the apex of a very gradual horizontal curve with a slight upgrade south to north.
- The road is subject to a 60kph speed limit.
- There is no advance warning intersection signposting provided in Caledonia Street on the approaches to Government Circuit and Ellalong Street.
- The recorded annual average daily traffic (AADT) (recorded counts at counting station 05.546) located at Caledonia Street and the railway level crossing show an AADT figure of 8019 vehicles in 2004 and 7813 vehicles in 2001.

Government Circuit – Government circuit is a local road under the care, control and maintenance of Cessnock City Council. At its junction with Caledonia Street it is controlled by a "GIVE WAY" sign and is sealed to varying widths of approximately 7 metres.

Government Circuit is subject to a 50 kph speed limit, has a relatively level grade and satisfactory sight distance in both travel directions.

Ellalong Street – Ellalong Street is a local road under the care, control and maintenance of Cessnock City Council. At its junction with Caledonia Street it is controlled by a "GIVE WAY" sign and is sealed to varying widths of approximately 7 metres.

Ellalong Street is subject to a 50 kph speed limit, has a relatively level grade and satisfactory sight distance in both travel directions.

6.1.2 Traffic Management for Haulage Route Modification

The crossing of Caledonia Street by laden and unladen road registered haulage trucks has been considered from a traffic safety perspective. A Traffic Management Plan has been prepared and is considered a better traffic solution for this section of the Aberdare East haulage route then that originally proposed and approved.

A separate 9m wide, bitumen sealed access road will be provided on the eastern side of Caledonia Street north of Ellalong Street to form a cross intersection with Caledonia Street and Government Circuit. The proposed haulage road will be sealed between Caledonia Street and the fire trail north of the railway. Traffic movement associated with in bound and out bound traffic from the Aberdare East site being regulated by road marking and signposting and lights in accordance with Figure 5.

Additional truck turning warning signs will be provided in Caledonia Street on the southern approach to the proposed haulage road. Safe Intersection Sight Distances (SISD) satisfies the minimum requirement on the southern approach. On the northern approach to the proposed haulage road SISD also satisfy the minimum requirement.

It is anticipated that up to 12 truck movements per hour/day will use the proposed haulage road and cross Caledonia Street. The proposed haulage road will be in operation from Monday through to Friday excluding Public Holidays for a period of approximately 2-3 years.

6.1.2.1 Requirements for Use

HEM has consulted with RTA regarding the proposed haulage realignment. RTA have granted conditional approval for HEM to construct a four way signalised intersection at the intersection of Caledonia Street and Government Circuit, Kearsley.

The conditions will include:

- Traffic modelling including but not limited to the following:-
  - Current traffic counts
  -95th percentile back of queue lights
  -Delays and level of service on all legs
  - Use of SIDRA or similair traffic model
  - Electronic Input/Output data files for RTA review
- Concept design plans of the intersection showing both horizontal and verticle alignments at the proposed location prepared in accordance with RTA's "Road Design Guide", relevant "Austroads" guidelines and Australian Standards and shall include:-
  - Plans of the intersection both during and post haulage.
  - Intersection lighting in accordance with relevant Australian Standards.
  - Provision for road cyclists through the intersection.
  - Dicouragement of pedestrian activity within reasonable proximity of the signals through fencing.
  -Kerb and Guttering shall be provided on all approaches.
- The developer shall enter into a Works Authorisation Agreement (WAD) for the installation and removal of traffic signals.
  - The WAD shall be executed prior to the issuance of a construction certificate.
- The RTA may consider the option of permitting haulage prior to completion of traffic signals providing the following information is submitted to RTA for review:
  - A Construction Traffic Management Plan (CTMP)
  - A Road Occupancy Licence approved by the RTA prior to implementation of a CTMP.
  - Interim arrangements will only be implemented for a limited duration prior to the completion of the intersection upgrade.
- It is expected that HEM would undertake appropriate consultation with Council and the community with regards to the proposed haulage arrangements.
- Works and property requirements such as aquisition shall be at the full cost of HEM and at no cost to the RTA.

A copy of the RTA consultation is shown in Appendix 3

6.1.3 Rail Traffic

The South Maitland Railway line is operated by South Maitland Railways Pty Limited (SMR). The Austar coal mine is currently the primary user of the South Maitland Railway line and are permitted to transport up to 3Mtpa of product coal, resulting in an average of less than 8 train movements per day (empty and laden) or up to 12 train movements (empty and laden) per day.

6.1.3.1 Requirements for Use

HEM has consulted with SMR regarding the proposed haulage realignment and level crossing. SMR have granted conditional approval for HEM to access SMR land and cross the rail line. The conditions will be specified within a Licence for works that will include:

- A bank guarantee.
- Compliance with all legislative requirements including the Rail Safety Act 2008, the Rail Safety regulation 2008, the Regulator Guidelines and SMR network Rules.
- Comply with the guidelines for; accredited persons to conduct rail work, issuing of certificates of competency for rail work, drug and alcohol program.
- Comply with AS1742.7 2007, Manual of Uniform Traffic Control Devices Pt7 Railway Crossings.
- Comply with AS 4292, Railway Safety Management.
- Comply with AS 4360, Risk Management.
- Erection of permanent barriers such as a locked gate with earthen windrows to prevent access.
- Construction in accordance with engineering construction specifications.
- Replace a 12m section of the rail to required specifications.
- Works to be undertaken in on the line in consultation with an accredited Protection Officer where required.
- Temporary fencing to 1.8m to be erected a minimum of 3m from the rail for the width of the road access works to prevent access to the danger zone.
- Works within the Danger Zone must be carried out in accordance with SMR's rules.
- All rail and civil works are to be certified for both structure and safety.
- Maintenance and repairs to the level crossing to be born by HEM.
- The crossing will remediated within 60 days of the expiry of the licence.

A copy of the SMR consultation is shown in Appendix 3.

6.1.4 Limiting Unauthorised Access

The construction of the sealed realigned section of haulage road may attract unauthorised access off Caledonia Street and with it the associated potential safety impacts associated with unauthorised vehicles using the level crossing.

HEM will erect "STOP" signs on both sides and signage at the public road entrance to the site advising of the road being a private haulage road with frequent heavy vehicle movements. A gate will be erected with a short section of fence or earthen windrow either side of the gate to deter vehicles driving around the gate if necessary.

The gate will be closed and locked outside haulage hours or when the road is not in use for periods of more than 2 hours. Unauthorised users will be advised that their presence is not authorised, with repeat offenders reported to the Department of Lands and the police if required.

6.2 Ecology

HEM engaged EcoBiological to undertake a flora and fauna assessment of the Aberdare East haulage route modification. A copy of the flora and fauna assessment is contained in **Appendix 5.**

6.2.1 Existing Ecology

EcoBiological undertook a field survey of the proposed haulage route modification on 21 July, 2009. The survey involved a meandering flora transect covering a width of 20 metres along the centre line of the proposed haulage route from Caledonia Street to the existing gravel fire trail.

The proposed route will involve clearing of natural vegetation communities. The Lower Hunter Central Coast Regional Environment Management Strategy (LHCCREMS) shows the proposed route will be constructed in Lower Hunter Spotted Gum Ironbark Forest, which is listed as an Endangered Ecological Community (EEC) under the NSW Threatened Species Act 1995 (TSC Act).

6.2.1.1 Survey Findings – Flora

The flora survey found 42 native species and 21 introduced species. One threatened species was identified in the surveys, *Eucalyptus parramattensis* subsp. *decadens*. One (1) Eucalyptus parramettensis is located at the northern side of the rail line (between the fire trail and the rail line) and another is located north of the fire trail easement. Both trees are located at a suitable distance from the centre line of the proposed route and will be protected from any potential disturbance. *Grevillea montana (*ROTAP 2VC) was also found on the southern side of the rail line and is outside the minimum road construction corridor and will not be impacted.

The vegetation survey confirms the existence of Lower Hunter Spotted Gum Ironbark Forest community. This forest is dominated by Eucalyptus fibrosa (Red Ironbark) and Corymbia maculata (Spotted Gum). The mid stratum was dominated by Melaleuca nodosa. The shrub stratum had Bursaria spinosa (Box Thorn), Acacia parvipinnula (Silver Stem Wattle) and Hakea sericea (Needle Bush). The herbs and low shrubs were Daviesia ulicifolia, Acacia ulicifolia (Prickly Moses), Pultenaea spinosa, Cheilanthes sieberi, Phyllanthus hirtellus and Chrysocephalum apiculatum (Yellow Buttons). The ground stratum had native grasses Austrodanthonia bipartita (Wallaby Grass), Entolasia stricta (Wiry Panic) and Microlaena stipoides (Weeping Grass) and other species such as Dianella revoluta (Flax Lily) and Lomandra filiformis subsp. coriacea.

6.2.1.2 Survey Findings – Fauna

A search of the NSW Wildlife Atlas database (**Table 6.1**) identified a total of 22 threatened fauna species listed within 5km of the site. All of these species are considered to be highly mobile and may use the subject site for opportunistic foraging and as a movement corridor.

Table 6.1: Threatened fauna species recorded from within a 5 km radius of the site

Scientific Name	Common Name
Callocephalon fimbriatum	Gang-gang Cockatoo
Climacteris picumnus	Brown Treecreeper
Dasyurus maculatus	Spotted-tailed Quoll
Erythrotriorchis radiatus	Red Goshawk
Falsistrellus tasmaniensis	Eastern False Pipistrelle
Hamirostra melanosternon	Black-breasted Buzzard
Lathamus discolor	Swift Parrot
Lophoictinia isura	Square-tailed Kite
Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)
Miniopterus australis	Little Bentwing-bat
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat
Mormopterus norfolkensis	Eastern Freetail-bat
Myotis adversus	Large-footed Myotis
Petaurus australis	Yellow-bellied Glider
Petaurus norfolcensis	Squirrel Glider
Phascolarctos cinereus	Koala
Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)
Pteropus poliocephalus	Grey-headed Flying-fox
Pyrrholaemus saggitatus	Speckled Warbler
Scoteanax rueppellii	Greater Broad-nosed Bat
Stagonopleura guttata	Diamond Firetail
Xanthomyza phrygia	Regent Honeyeater

6.2.1.3 Impacts to Ecology

The clearing of natural vegetation will occur within a 70m long by 8m wide (560m^2) portion on the southern side of the rail line (being managed woodland). This area is regularly managed and did not have a mid stratum or shrub stratum, the ground stratum is mown to approximately 10cm. The proposed road construction is likely to require 9 trees to be removed. Photograph 2 shows the current vegetation structure for this portion.

A 33m long by 8m wide (264m^2) portion on the northern side of the rail line (natural forest with a low level of disturbance) will also be cleared. This portion has an intact mid, shrub and ground stratum. Photograph 3 shows the current vegetation structure for this portion.

The vegetation adjacent to the fire trail is unlikely to be impacted and the road works will be confined to within the existing corridors, refer to Photograph 4.

No trees within the surveyed area had habitat hollows.

EcoBiological undertook an assessment of significance (refer to Appendix 4) in relation to species Eucalyptus parramattensis, Grevillea parviflora, Rutidosis heterogama, Callistemon linerifolius and concluded that none of these flora will be impacted by the proposed, modified haulage route.

In relation to the Lower Hunter Spotted Gum Ironbark Forest EEC the proposed haulage road will disturb part of this community. The proposed haulage road will result in disturbance to 824 m^2 of the Lower Hunter Spotted Gum Iron Bark Forest.

EcoBiological concluded that with appropriate sedimentation, erosion, nutrient runoff and weed control measures in place the proposed haulage road is unlikely to have an adverse effect on the Lower Hunter Spotted Gum Ironbark Forest.

In addition, EcoBiological recommended that at the cessation of the project that the land be rehabilitated so that land or habitat is not isolated from other areas of habitat in the locality.

All threatened fauna previously recorded within a 5km radius are regarded as being highly mobile and as such, the assessment of significance for all of the threatened species was condensed into one overall assessment.

EcoBiological concluded that the minimal amount of clearing required for the proposed haulage road is unlikely to impact on highly mobile fauna species and would not affect the life cycle of any species such that a viable local population is likely to be placed at risk of extinction.

6.2.1.4 Ecology Mitigation and Management

The proposed clearing of the Lower Hunter Spotted Gum Ironbark Forest will require monitoring throughout the operation of the modified haulage road to determine that the vegetation community is not being adversely affected from weed infestation, erosion or other unforseen impacts. HEM will adopt the following mitigation measures:

- An ecologist being onsite to supervise the clearing of vegetation.
- The surrounding vegetation community is protected through weed control and sediment erosion measures and management.
- Monitoring of both sides of the haulage road be undertaken to assess the health of vegetation, targeting weed infestation, die back and erosion.

After the operations, all impacted areas will be rehabilitated with a vegetation composition representing that prior to clearing. A plan will be prepared as part of the Aberdare East Rehabilitation Plan that:

- Provides a plan for revegetation to prevent erosion.
- Rehabilitate land across the haulage road easement to replicate the natural vegetation structure and composition of the EEC.

Considering the net public benefit from the chitter and tailings reclamation project in the rehabilitation of the abandoned mine sites, the revegetation proposed at the Aberdare East site, and the revegetation of the haulage alignment following its closure, no additional offsite offsets are considered necessary to maintain or improve the biodiversity of the local area.

6.3 Air Quality

In 2006, Holmes Air Sciences (now PAEHolmes) prepared the Air Quality and Greenhouse Gas Assessment for the chitter and tailings reclamation project. PAEHolmes was engaged to undertake an assessment of the proposed modification to the Aberdare East haulage route. The assessment is contained in **Appendix 6**.

PAEHolmes have not undertaken air dispersion modelling for the modified haulage route. With the sealing of the proposed modified haulage route from Caledonia Street to where it intersects the gravel fire trail there will be a reduction in dust and greenhouse gas emissions when compared to the approved haulage route, given the extent of sealing and shorter haulage distance. PAEHolmes concluded that proposed haulage route modification will have minimal impact on local air quality.

6.4 Acoustics

In 2006, Spectrum Acoustics prepared the Noise Impact Assessment for the Hebburn No. 3 chitter and tailings reclamation project. Spectrum Acoustics was engaged to undertake an assessment of the proposed modification to the approved Aberdare East haulage route. A copy of the acoustical assessment is contained in **Appendix 7**.

6.4.1 Assessment of Modification Against Acoustic Criteria

The Preferred Project Report (PPR) discussed the issue of potential noise impact of haulage vehicles using non-public roads. Within the PPR it was noted that an exceedance of the Industrial Noise Policy (INP) based Project Specific Noise Level (PSNL) criteria at numerous receptors would occur.

In relation to the proposed haulage route modification Spectrum Acoustics note that the proposed haulage route modification will be a private road and that noise from vehicles travelling along it must be assessed against the project specific noise goals contained within the INP and shown below. The project specific noise goals are Aberdare East **38dB(A) $_{Leq}$ (15min).**

Figure 6 shows the location of five (5) closest residences that will be potentially impacted from the truck haulage noise from the proposed haulage realignment. The results in **Table 6.2** show received noise levels at each dwelling. Noise levels will exceed the Aberdare East site noise goal by between 5 and 9 dB(A) L_{eq} (15 min). It should be noted that properties 1, 2 and 3 would be expected to experience similar noise levels under the original haulage alignment, but the levels would be assessed against an ECRTN criteria for local roads of 55dB(A) or potentially collector road criteria of 60dB(A)

Table 6.2: Received noise levels at each dwelling.

House number/	Distance to receiver	Received Noise Level dB(A) Leq (15min)
1	70m	47
2	100m	46
3	75m	47
4	110m	46
5	175m	43

6.4.2 Acoustical Impact of Haulage Route Modification

Construction

During construction of the modified haulage road HEM will adopt the following Spectrum Acoustic recommendations:

- HEM liaise closely with the occupiers of dwellings contained in Table 6.2 and be notified of the proposed works.
- HEM provide the occupiers with company contact details to deal with any complaints arising from truck haulage operations.
- All personnel working on the Aberdare East haulage route be made aware of their obligations and that works are occurring in proximity to residential receivers.
- Mechanical plant should be silenced using best available control technology. Noise suppression devices should be maintained to manufacturer's specifications. Internal combustion engines should be fitted with appropriate and well maintained mufflers.
- Machines which are used intermittently should either be shut down in the intervening periods between work or throttled down to a minimum.
- Any portable equipment with the potential to create high levels of noise e.g. compressors, generators etc should only be selected for use if it incorporates effective noise control. This equipment should be located where practical so that natural ground variers or site sheds etc are between it and the nearest potentially affected receivers.

Operations

With regard to the exceedance of the PSNL, calculated for the modified non-public haulage road it should be noted that if the project was to utilise the approved existing public road haulage route the road traffic noise levels from the development would meet the ECRTN noise level of 55 dB(A) Leq (1-hour) or 60 dB(A) Leq (1-Hour) for local and arterial roads respectively. Cessnock City Council at its meeting of 21 March 2007 resolved to endorse the proposed haulage routes having regard to traffic and the reduced burden on the community.

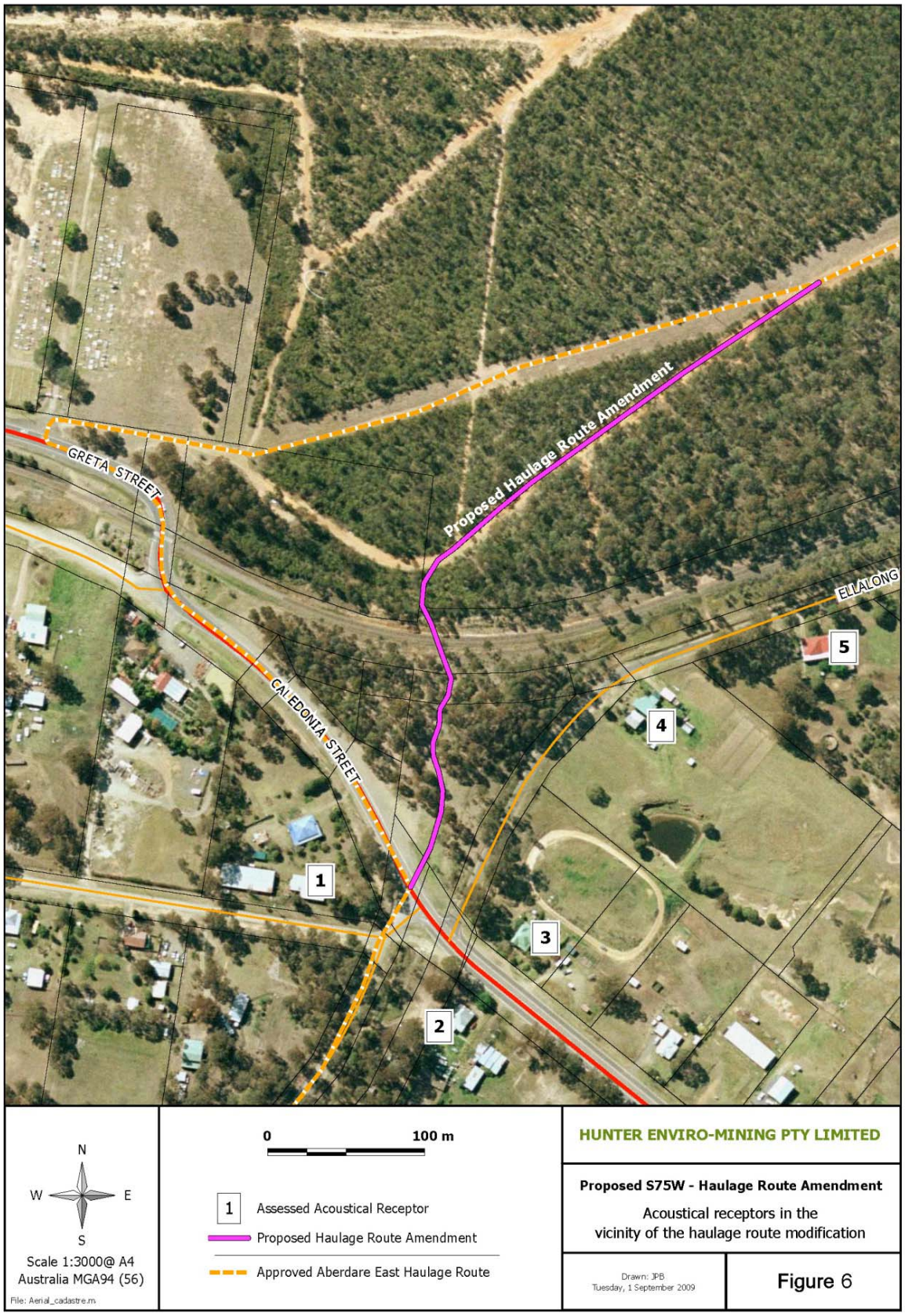


Figure 6: Acoustical receptors in vicinity of the proposed haulage route modification.

It should be noted the Minister for Planning has the authority to permit exceedances of INP criteria where it can be demonstrated there are social and economic benefits to the community as a whole from the project proceeding. The Minister exercised this authority in the approval of the chitter and tailings reclamation, as noted in the September 2008 Director General's Environmental Assessment Report:

"*The Department is satisfied that the ECRTN criteria can be applied in this instance to the predicted traffic noise on non-public sections of the haulage routes.*"

The HEM project will deliver environmental, economic and social benefits to the local and state economies based on an achievable criteria of 55dB(A) (i.e. the ECRTN criteria for suburban local roads). HEM in designing the project and in the preparation of management plans have and will continue to have regard to the application of *"best management practices*" and "*best available technology economically achievable".*

The HEM project is consistent with the objects of the EP&A Act, 1979 and the Minister for Planning is respectfully requested to establish noise goals consistent with the existing project approval.

6.5 Aboriginal Heritage

In 2006, HEM engaged Archaeological Risk Assessment Services (ARAS) to search Aboriginal Heritage Information Management System (AHIMS) register and to development an appropriate strategy in consultation with the DECC to appropriately assess aboriginal heritage. The location of the proposed haulage realignment will not disturb any sites identified within this register.

On 24 August 2009 the Lower Hunter Wonnarua Council and Mindaribba Local Aboriginal Land Council undertook an inspection of the realignment location and made the following comments:

- No sites were found.
- Some areas had minimal topsoil, but other parts contained thick vegetation and low visibility.
- The area is highly disturbed.

Both groups were supportive of the proposed haulage alignment and recommended:

- A representative from the groups is present during the construction.
- Any identified artifacts to be collected and/or relocated adjacent to the haulage alignment.

Copies of the consultation with the groups is included within Appendix 3.

7 DRAFT STATEMENT OF COMMITMENTS

HEM will undertake the proposed Aberdare East haulage route modification and operate the Hebburn No. 3 chitter and tailing reclamation project in a responsible manner to prevent and minimise harm to the environment.

This section of the EA report (refer to Table 7.1) represents the proposed draft Statement of Commitments, environment management and monitoring measures with associated timing to mitigate impacts that may be generated from the proposed haulage route modification.

This draft statement of commitments is in addition to those included within Appendix 4 of the Project Approval, with exception to Commitment 6b) that is proposed to be deleted (refer to Section 5.1.3).

7.1 HEM Draft Statement of Commitments

A1 - HEM will comply with conditional requirements in all approvals, licences and permits and operate in accordance with relevant statutory requirements for the life of the operations.

Transport

B1- Prior to construction prepare a Traffic Management and Traffic Control Plans including traffic modelling (traffic modelling including but not limited to,current traffic counts,95th percentile back of queue lights, delays and level of service on all legs, use of SIDRA or similar traffic model and electronic Input/Output data files for RTA review)

B2 – HEM in conjunction with RTA shall enter into a Works Authorisation Agreement (WAD) prior to the issuance of a construction certificate.

B3 - HEM will construct the intersection in accordance with RTA approved WAD and concept design plans designed in accordance with RTA's 'Road Design Guide', 'Austroad Guidelines' and relevant Australian Standards including plans both during and post haulage, intersection lighting in accordance with relevant standards, cyclist provisions along with the construction of kerb and guttering on all approaches.

B4 - Implement works as specified in the WAD approved by the RTA and thus undertake the appropriate consultation with Council and the community in regards to the proposed haulage arrangements.

B5 – HEM will undertake all works associated with the construction and use of the level crossing in accordance with the license of works or as otherwise specified by South Maitland Railways including-

- Compliance with all legislative requirements including the Rail Safety Act 2008, Regulator Guidelines and SMR Network rules and Australian Standards.
- Construction in accordance with engineering construction specifications.
- All works within the danger zone being carried out in accordance with SMRs rules.

B6 - HEM will erect permanent barriers including locked gates with earthen windrows to prevent access by unauthorised personnel to the crossing.

Ecology

C1 - During construction an ecologist will be onsite to supervise the clearing of vegetation.

C2 - HEM will ensure that the surrounding vegetation community is protected through weed control measures and management during both construction and operational use of the road.

C3 - During operational use of the road monitoring of both sides of the haulage road will be undertaken to assess the health of vegetation, targeting weed infestation, die back and erosion.

C4 - At the completion of road use impacted areas will be rehabilitated with a vegetation composition representative of that prior to clearing.

C5 - At the completion of road use HEM will provide a plan for revegetation to prevent erosion.

Air Quality

D1- During construction HEM will bitumen seal the section of realignment between the gravel fire trail and Caledonia Street.

Acoustics

E1 - Prior to construction HEM will liase with the occupiers of dwellings located near the haulage realignment (ref Table 6.2).

E2 - Prior to construction HEM will provide dwelling occupiers with company contact details to enable complaints to be made arising from truck haulage operations.

E3 - During construction and operations all personnel working on the Aberdare East haulage route will be made aware of their obligations and that works occurring in proximity to residential receivers.

E4 - During both construction and operation mechanical plant should be silenced using best available control technology. Noise suppression devices should be maintained to manufacturers specifications. Internal combustion engines should be fitted with appropriate and well maintained mufflers.

E5- Machines which are used intermittently should be shut down in the intervening periods between work or throttled down to a minimum.

E6- Any portable equipment with the potential to create high levels of noise e.g. compressors, generators etc should only be selected for use if it incorporates effective noise control. This equipment should be located where practical so that natural ground barriers or site sheds etc are between it and the nearest potentially affected receivers.

Archaeology

F1 - HEM will ensure that a representative from the groups is present during the construction of roads.

F2 - Identified artefacts are to be collected and/or relocated adjacent to the haulage alignment where required.

8 JUSTIFICATION AND CONCLUSION

In summary the proposed modification of the existing CTRP involves shortening the length of the approved return haulage route to Aberdare East by almost 1 kilometre.

The realignment of the haulage route will provide HEM with cost savings in the order of $500,000 by not undertaking the construction of the two intersections (Cessnock Street/Gordon Williams Memorial Lawn Cemetery entrance, and Government Circuit/Caledonia Street intersections).

Operationally, the proponent will benefit by reduced transportation costs as the return trip is almost 1 kilometre less in distance to travel then the approved haulage route. HEM will save costs associated with a reduction of 42,000 kilometres over the life of the project. With the modified haulage route operations can occur on a continuous basis and not detract from the activities and visitations associated with the Gordon Williams Memorial Lawn Cemetery.

Economically, the savings in operational and construction costs provides further job security to employees and contractors employed by HEM as the project is more profitable.

Motorists travelling along Caledonia and Cessnock Street will not be delayed because of HEM haulage vehicles. Traffic safety along this section of road would not diminish as the realignment reduces the distance travelled on public roads.

Environmentally, the modified haulage route saves in the order of 42,000 kilometres of accumulated travel with associated benefits for reduced fuel usage, greenhouse gas and noise emissions.

8.1 No Modification Alternative

The proposed modification results in significant economic savings for HEM and will result in heavy vehicles being on the public road system for a shorter period. The economic savings gained from the proposed alignment provides added financial security to a project that aims to rehabilitate degraded mine sites that remove the financial burden in the form of management and remedial actions by the NSW State Government.

The utilisation of the original approved haulage route as opposed to the proposed realignment would provide added financial stress on the project and place at risk the job security of those employed or contracted by HEM.

8.2 Assessment of Relative Merits of Haulage Routes

Table 8.1 provides a summary of the originally approved haulage route and the proposed realignment and assesses the negative and positive attributes associated with the proposed haulage route realignment.

Table 8.1: Assessment of the approved haulage route.

Aspect	Description of Approved	Description of Proposed	Assessment of Proposed vs Approved.		Justification of Proposed
			Negative	Positive	
Haulage route length.	910m	520m	Nil	410m shorter haulage length, amounting to a reduction of approximately 42,000km over reclamation life. Reduced greenhouse gas emissions. Reduced haulage related costs.	Benefits in fuel use, emissions and other haulage costs.
Intersections.	Laden - Left turn from Government Circuit, right turn from Cessnock Street at Cemetery via a sealed Type AUR intersection. Empty – Left turn on to Cessnock Street, right turn into Government Circuit via a sealed Type AUR intersection.	Empty and Laden – Cross intersection from Government Circuit across Caledonia Street.	No incidental improvement to the existing road network.	Cost savings in the order of $200,000.	In order for HEM to succeed in the rehabilitation of abandoned mine sites, cost savings such as this are very important to the success of the project.
Traffic safety and flow.	Trucks are on the road network for a short section of public road, while slip lanes are proposed at intersections there is potential to delay traffic.	Trucks cross the public road with a very short time on the public road.	Trucks must wait for clear and safe gap in traffic from two directions.	Shorter time on public road, little or no disruption to traffic flow.	It is considered that the shorter time on the public roads will result in improved safety. Some delay may be experienced by HEM trucks waiting to cross the road.
Rail Crossing.	Utilised the existing Caledonia / Cessnock Street level crossing.	A new private level crossing is proposed.	Potential for unauthorised access across level crossing, despite gates and signage that will be erected. Increased costs for rail crossing.		The new rail crossing is necessary to facilitate the other benefits.
Cemetery.	Intersection located at the Gordon Williams Memorial Cemetery, with haulage adjacent to cemetery. Commitment to cease haulage operations during a funeral progression.	Intersection located more than 300m from cemetery. Propose to change commitments to allow haulage to occur independent of cemetery.	No incidental improvement to cemetery intersection.	Little or no disruption to funeral progressions, or mourners within the cemetery. No restriction to haulage during funerals.	Overall benefit through reduction of disturbance to cemetery.
Vegetation.	Uses existing tracks, minimal (1-2 trees) vegetation clearing required.	Removal of 9 trees in the managed woodland south of the railway. Clearing of 264m^2 of vegetation on the northern side of the railway.	Clearing of vegetation.	Nil.	It is considered that the difference in vegetation clearing is justified on other accrued benefits.

Aspect	Description of Approved	Description of Proposed	Assessment of Proposed vs Approved.		Justification of Proposed
			Negative	Positive	
Archaeology.	Utilised existing fire trails that were already heavily disturbed with little scope for deviation, survey proposed during road construction.	Haulage route proposed over ground that is regularly mown on the southern side of the railway, a short section on the northern side of railway that is vegetated before entering heavily disturbed fire trail.	Disturbance of ground that is not heavily disturbed.	Nil.	Survey will be undertaken during construction of the road, landform type (i.e. crest, gully/creek) not significant. Small area of disturbance.
Noise.	Haulage utilised public roads in the local area, as such was subject to the associated higher road noise criteria.	Haulage only crosses public road, as such haulage not on the public road is subject to the lower project specific criteria.	Marginal increase in predicted noise levels at two receptors (4 and 5) versus the original predictions.	Neutral.	The received noise levels from the change in haulage route are still well below the ECRTN noise level of 55dB(A) that would apply if the trucks used public roads.
Air Quality.	910m of haulage, with the initial 30-50m of entrance near the cemetery sealed.	520m of haulage with the road sealed between Caledonia Street and the northern side of the rail crossing.	Nil.	Additional road sealing reduces dust generation. Reduced haulage distance results in fewer total emissions from trucks.	Net positive benefit to air quality from realignment.

8.3 Objects of the Environmental Planning & Assessment Act 1979

The proposed modifications are consistent with the stated objects of the EP & A Act, 1979, these being:

(a) to encourage:

(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,

(ii) the promotion and co-ordination of the orderly and economic use and development of land,

(iii) the protection, provision and co-ordination of communication and utility services,

(iv) the provision of land for public purposes,

(v) the provision and co-ordination of community services and facilities, and

(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and

(vii) ecologically sustainable development, and

(viii) the provision and maintenance of affordable housing, and

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.

This section documents how the proposed modifications are consistent with the objects of the Act.

8.3.1 Proper Management, Development and Conservation of Natural and Artificial Resources

Environmental Planning and Assessment Act section 5 (a) object (i) is to encourage:

(i) "the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment"

The proposed realignment will result in the removal of a small area of vegetation, in order to provide significant cost savings to HEM. With the proper management of the vegetation and revegetation of the road following its closure in 2-3 years, and the successful rehabilitation of Aberdare East will promote the economic welfare of the community, and result in a better environment through both the rehabilitation of abandoned mine sites and the reduction in fuel combustion emissions.

8.3.2 Promotion and Co-ordination of the Orderly and Economic Use and Development of Land

Environmental Planning and Assessment Act Section 5 (a) object (ii) is to encourage:

(ii) "the promotion and co-ordination of the orderly and economic use and development of land".

The proposed haulage route modification will involve the transportation of chitter and tailings for a period of approximately 2-3 years. At the conclusion of the haulage period the sealed section of the

modified haulage route will be rehabilitated to replicate the natural vegetation structure that originally existed.

The remediation of the Aberdare East carbonaceous emplacement promotes the orderly and economic use and development of land consistent with object 5(a)(ii) of the EP&A Act, 1979.

8.3.3 Protection, Provision and Co-ordination of Communication and Utility Services

Environmental Planning and Assessment Act section 5 (a) object (iii) is to encourage:

(iii) "the protection, provision and co-ordination of communication and utility services"

The protection and/or relocation of the relevant utilities will be undertaken in consultation with the utility service provider to ensure little or no disruption to the service during the construction and operation of the modified haulage route and its reinstatement at the conclusion of the project.

The proposed modifications to the existing project approval are consistent with object 5(a) (iii) of the EP&A Act, 1979.

8.3.4 Provision of Land for Public Purpose and Provision and Co-ordination of Community Services and Facilities

Environmental Planning and Assessment Act section 5 (a) objects (iv) and (v) is to encourage:

(iv) "the provision of land for public purposes"

(v) "the provision and co-ordination of community services and facilities"

The proposed modifications are not in conflict with the above objects.

8.3.5 Protection of the Environment

Environmental Planning and Assessment Act section 5 (a) object (vi) is to encourage:

(vi) "the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats."

The realignment will result in the removal of vegetation classified as an EEC, however the short term use and subsequent revegetation will not result in any long term impacts to this community.

8.3.6 Ecologically Sustainable Development

Environmental Planning and Assessment Act section 5 (a) object (vii) is to encourage:

(vii) "ecologically sustainable development".

Ecologically sustainable development (ESD) is the exploitation of plants, animals and other resources at a level which allows the number and variety of species to remain much the same from generation to generation.

ESD requires the effective integration of economic and environmental considerations in decision-making processes. ESD can be achieved through the implementation of the following principles and programs:

- The precautionary principle.
- Inter-generational equity.
- Conservation of biological diversity and ecological integrity.
- Improved valuation, pricing and incentive mechanisms.

ESD is founded on the basis that current and future generations should leave a natural environment that functions equally as well or better than the one inherited. The following section describes the consideration and application of ESD principles in relation to the proposed modifications.

8.3.6.1 Precautionary Principle

The precautionary principle means that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (Protection of the Environment Administration Act 1991).

Application of the precautionary principle to the proposed modification needs to ensure that there has been: -

- Careful evaluation of the proposal to avoid serious or irreversible damage;
- Predictable and transparent decision making for the proposal; and
- An assessment of consequences of various options undertaken.

The environmental consequences of the proposed modification have been documented in *Section 6* and associated appendices. The analysis of the environment and likely impacts of the project has been thorough, and has identified measures to avoid, minimise and ameliorate impacts.

At all stages of project development there has been an open and transparent decision making process. Consultation has occurred with the various stakeholders and resulted in the project being modified to minimise the potential for serious and/or irreversible damage to the environment.

The haulage route was designed initially to minimise impacts to flora and fauna through the use of existing fire trails that minimise impacts on the local community and road users. The same philosophy has been utilised by HEM regarding the proposed haulage route modification. In this instance, there is a small impact upon natural vegetation but a substantial positive impact upon road users and the environment as detailed above.

8.3.6.2 Social Equity including Intergenerational Equity

Social equity involves value concepts of justice and fairness so that basic needs of all sectors of society are met and there is a fairer distribution of costs and benefits to improve the well-being and welfare of the community, population or society (DUAP, 1995). Social equity also includes concerns for intergenerational equity which requires that the present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

The mitigation and rehabilitation measures described in *Section 6* and *Section 7* will minimise the impact upon not only the current generation, but also upon future generations.

The reclamation of chitter and tailings results in a significant value adding to a previously abandoned waste. This value adding is through the reduction in expended energy to obtain the same calorific value that would otherwise need to be extracted from underground or open cut coal mines. It also results in greater natural resources for use by future generations.

Coal is an essential component of life in Australia, and provides approximately $8 billion in export income. It is the energy source for over 90% of the State's electricity, and energy is fundamental to sustaining and improving living standards. Coal provides a safe, secure, relatively inexpensive source of energy nationally and internationally, and will continue to do so until alternate renewable energy sources are developed to a commercially viable level. Coal allows us to maintain our current way of life while we tackle the difficult and long term task of developing economically viable renewable sources of energy. The wise use of our non-renewable resources such as coal will ensure Australia's economic future through export income and access to competitively priced energy. It will also help ensure that the legacy we hand to the next generation will be as valuable as the one we have inherited. Coal has a key role to play in ensuring a sustainable future for Australia.

While coal has been linked to global warming through the production of carbon dioxide during power generation, an assessment of the global warming impacts associated with this development was undertaken and found to be negligible. Further given this coal is sourced from a previously

abandoned waste, it is likely to have less impacts then assessed given the shallow oxidisable nature of the resource and its propensity to self combust. This project value adds to this abandoned resource.

The continued operation of the processing of chitter and tailings at the Hebburn No.3 site will deliver significant economic benefits to the local community, the region and both state and federal governments during the life of the project.

8.3.6.3 Conservation of biological diversity and ecological integrity

Biological diversity refers to the variety of life forms on earth and is reflected at three levels by genetic diversity, species diversity and ecosystem diversity.

The approved project is designed to be consistent with the conservation of biological diversity and ecological integrity. The project is founded on the reclamation of abandoned chitter and tailings emplacements in an area which has previously been disturbed by coal mining activities, and the rehabilitation of sites that are significant environmental problems, using existing fire trails and roads that minimise impacts to the community and environment.

The project has received a thorough examination consistent with statutory authority guidelines, with special attention on threatened and endangered species that may potentially be impacted. Significance assessments have determined that the project will not have a significant adverse impact on any species.

Environmental and rehabilitation procedures will ensure the project does not adversely impact the local environment, and will result in the significant improvement of the local environment.

While the project will have a short term impact by clearing a small section of Lower Hunter Spotted Gum Ironbark forest endangered ecological community rehabilitation of the site will not result in any long term significant biodiversity impacts.

8.3.6.4 Improved valuation, pricing and incentive mechanism

This principle requires that environmental factors should be included in the valuation of assets and services, such as:

- Polluter pays – those who generate pollution and waste should bear the cost of containment, avoidance or abatement;
- The users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any wastes;
- Environmental goals having been established, they should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

The process of identifying project impacts (positive and negative) on the environment and formulating actions or works to mitigate negative impacts recognises the value of both the resource and environment. The Environmental Assessment has examined the environmental consequences of the project and recommended mitigation measures and safeguards be implemented if the project proceeds. The costs of mitigation and associated management measures proposed for the project have, therefore, been included in the costs of the proposal to ensure that the local environment is protected from pollution. The proponent considers and acknowledges that the environment is a valuable resource for the local and broader communities but also for future generations.

Further this project provides, employment, revenues to the State Government and will reduce the environmental and financial burden associated with the management and maintenance of these sites.

8.3.7 Affordable Housing

Environmental Planning and Assessment Act section 5(a) object (viii) is to encourage:

(viii) " the provision and maintenance of affordable housing".

The proposed modification does not conflict with the object 5(a) (viii) of the EP&A Act 1979.

8.3.8 Sharing of Responsibility for Environmental Planning

Environmental Planning and Assessment Act section 5(c) object of the EP&A Act, 1979.

(b) " to promote the sharing of the responsibility for environmental planning between the different levels of government in the state".

The preparation and assessment of the proposed modifications has and will require input from state agencies and Cessnock City Council. HEM and its representatives have undertaken consultation with different agencies to better understand their requirements for the project.

There has been a sharing of the responsibility for environmental planning between the different levels of government for the proposed modifications.

8.3.9 Provide opportunity for public involvement and participation in environmental planning and assessment

Environmental Planning and Assessment Act section 5(a) object (c) is:

(c) " to provide increased opportunity for public involvement and participation in an environmental planning and assessment."

The EP&A Act 1979 provides through the referral of the EA report to government agencies, adjoining landowners and the public further opportunity for involvement and participation in the environment planning and assessment process for the proposed modifications prior to determination of the application.

The Environmental Assessment report has within *Section 6* considered the impacts, mitigation measures and benefits the prepared modification will have on the physical and socio-economic environments, whilst an assessment of the project against the principles of ESD has been provided above.

8.4 Conclusion

The proposed modifications sought by HEM are justified on economic, social and environmental grounds. The modifications involve the proper management, development and conservation of natural resources for the purpose of promoting the social and economic welfare of the community and a better environment. In addition the proposed modifications promote the orderly and economic use and development of land, the protection of the environment and utility services which prevail in the area.

9 REFERENCES

Spectrum Acoustics, August 2009, *Proposed S75W Haulage Route Amendment HEM – Aberdare East*.

PAEHolmes, August 2009, *HEM – Aberdare east – proposed change to haulage route – air quality.*

Stapes Aust Pty Ltd, June, 2009, Traffic Management Plan Report for access onto Caledonia Street (M.R. no.220), Kearsley - from the Aberdare East haulage route.

Lower Hunter Wonnarua Council Incorporated, August 2008, *Proposed Amended Haulage Route, Kearsley*.

Wells Environmental Services, December 2006, *Environmental Assessment Report Chitter and Tailings Reclamation Project*, Volumes 1 and 2.

Wells Environmental Services, October 2007, *Preferred Project Report*.

New South Wales, Environmental Planning and Assessment Act 1979.

APPENDIX 1

HUNTER ENVIRO-MINING (OPERATIONS) PTY LIMITED SCHEDULE OF LANDS			
Site	Land Description	Parish	County
Aberdare East	Lot 566 DP 821172	Parish of Cessnock	County of Northumberland
	Lot 567 DP 821173	Parish of Cessnock	County of Northumberland
	Crown land (Pt 755259), under Parish Reserve for future public requirements located bounded by Duffie Drive, Maitland Road, Greta Street and Neath Road, Neath/Abermain	Parish of Cessnock Parish of Stanford	County of Northumberland
	South Maitland Railway corridor near Cessnock Street, Aberdare. [INCORPORATED BY MOD1]	Parish of Cessnock	County of Northumberland
	Crown land under Parish Reserve 755215 for future public requirements located between Caledonia Street and South Maitland Railway, Kearsley. [INCORPORATED BY MOD1]	Parish of Cessnock	County of Northumberland
	Crown "paper" road adjacent to the South Maitland Railway Corridor between Ellalong Street and Caledonia Street, Kearsley. [INCORPORATED BY MOD1]	Parish of Cessnock	County of Northumberland
Neath	Crown land (Pt 755259), under Parish Reserve for future public requirements adjoining Lot 102 DP755259, Carrs Road, Neath,	Parish of Stanford	County of Northumberland
	Crown land (Pt 755215) under Parish Reserve for future public requirements adjoining Lot 393 DP755215, David Street, Neath	Parish of Cessnock	County of Northumberland
	Crown land (Pt 755259), under Parish Reserve for future public requirements located between Duffie Drive and Neath Road, Neath	Parish of Cessnock	County of Northumberland
	Crown land (Pt 755259), under Parish Reserve for future public requirements located between Duffie Drive and Neath Road	Parish of Stanford	County of Northumberland
Neath and Aberdare East	Crown land (Pt 755259), under Parish Reserve for future public requirements located between Duffie Drive and Neath Road	Parish of Stanford	County of Northumberland
	South Maitland Railway, west of Neath Road, Parish of Stanford, County of Northumberland.	Parish of Stanford	County of Northumberland
	Lot 328, DP 821117	Parish of Stanford	County of Northumberland
	Lot 1 DP 791531	Parish of Stanford	County of Northumberland
	Werakata National Park (Pt DP 755259) located between Neath Road and Hebburn Road, Abermain	Parish of Stanford	County of Northumberland
	Lot 58 DP 755259, east of Neath Road, Neath	Parish of Stanford	County of Northumberland
	Lot 2, DP1015130	Parish of Cessnock	County of Northumberland
Richmond Main East	Lot 2 DP 986081	Parish of Stanford / Parish of Stockrington	County of Northumberland
	Lot 20 DP 755260	Parish of Stanford / Parish of Stockrington	County of Northumberland
	Lot 19 DP 1061633	Parish of Stanford / Parish of Stockrington	County of Northumberland
	Crown Land described as ALC 4242, Kurri Kurri-Mulbring Road, Richmond Vale	Parish of Stanford	County of Northumberland
	Lot 14 DP 716009	Parish of Stanford	County of Northumberland
	Lot 7009 DP 1030081	Parish of Stanford	County of Northumberland
	Lot 2 DP 533820	Parish of Stanford	County of Northumberland
	Lot 7 DP1037092	Parish of Stanford	County of Northumberland
	Crown Land described as ALC 4250, Hebburn Road, Abermain	Parish of Stanford	County of Northumberland

APPENDIX 2

NSW GOVERNMENT
Department of Planning

Major Projects Assessment
Mining
Phone: (02) 9228 6283
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Email: carl.dumpleton@planning.nsw.gov.au
Level 3 Room 306
23-33 Bridge Street
GPO Box 39
SYDNEY NSW 2001

Mr Ian Derham
Manager
Hunter Enviro-Mining Pty Limited
PO Box 470
KURRI KURRI NSW 2327

Dear Mr Derham

Chitter & Tailings Reclamation Project (06_0236 MOD 1)
Proposed Modification to Haulage Route
Director-General's Requirements

I refer to your request to modify the approval for the Chitter & Tailings Reclamation Project.

I have attached a copy of the Director-General's requirements (DGRs) for the proposed modification.

Please note that the Director-General may alter these requirements at any time.

I would appreciate it if you would contact the Department at least two weeks before you propose to submit the Environmental Assessment (EA) for the proposed modification. This will enable the Department to confirm the applicable fees and the number of copies (hard-copy and CD-ROM) of the EA that will be required for assessment purposes.

The Department is required to make all the relevant information associated with the modification publicly available on its website. Consequently, I would appreciate it if you would ensure that all the documents you subsequently submit to the Department are in a suitable format and size for the Department's website.

If you have any enquiries about these requirements, please contact Carl Dumpleton on 9228 6283 or carl.dumpleton@planning.nsw.gov.au.

Yours sincerely

20.5.09

Chris Wilson
Executive Director
Major Projects Assessment
As delegate for the Director-General

Director-General's Requirements

Section 75W of the *Environmental Planning and Assessment Act 1979*

Application number	06_0236 MOD 1
Modification	To modify the project approval for the Chitter & Tailings Reclamation Project (06_0236) by replacing the approved the Abedare East haulage route with a new haulage route.
Location	Off Caledonia Street in Abedare East
Proponent	Hunter Enviro-Mining Pty Limited.
Date of Issue	May 2009
General Requirements	The Environmental Assessment of the modification must include: • an executive summary; • a detailed description of the proposed modification, including the: - need for the modification; - alternatives considered; and - plans of any proposed building works; • a detailed assessment of the key issues specified below, and any other significant issues identified during the preparation of the EA, which includes: - a description of the existing environment using sufficient baseline data; - an assessment of the potential impacts of the proposed modification taking into consideration any relevant laws, policies, guidelines, and plans (see below); and - a description of the measures that would be implemented to avoid, minimise, and if necessary offset the potential impacts of the proposed modification; • a statement of commitments, outlining the proposed environmental management and monitoring measures; • a conclusion justifying the proposed modification on economic, social and environmental grounds, taking into consideration whether the proposed modification is consistent with the objects of the *Environmental Planning & Assessment Act 1979*; • a signed statement from the author of the Environmental Assessment, certifying that the information contained within the document is neither false nor misleading.
Key Issues	• **Transport** – including: - a detailed assessment of the potential impacts of the proposed modification on the capacity, efficiency, and safety of the surrounding road and rail networks; and - a comparison of the relative merits of the proposed haulage route compared to the approved transport route; • **Flora and Fauna**; • **Aboriginal Heritage**; and • **Noise & Air Quality**.
References	The environmental assessment of the key issues listed above must take into account relevant guidelines, policies, and plans. While not exhaustive, the following attachment contains a list of guidelines, policies and plans that may be relevant to the environmental assessment of this modification.
Consultation	During the preparation of the EA, you should consult with the relevant local, State or Commonwealth government authorities, service providers, community groups or affected landowners. The consultation process and the issues raised must be described in the Environmental Assessment.

	In particular you must consult with the: • Department of Lands; • Roads and Traffic Authority; • South Maitland Railway; • Department of Environment and Climate Change; and • Cessnock City Council.

Policies, Guidelines & Plans

Aspect	Policy /Methodology
Transport	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RTA)
Air Quality	
	Protection of the Environment Operations (Clean Air) Regulation 2002
	Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Flora & Fauna	
	Draft Guidelines for Threatened Species Assessment under Part 3A of the *Environmental Planning and Assessment Act 1979* (DEC)
Aboriginal Heritage	
	Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC)
Noise	
	NSW Industrial Noise Policy (DECC)
	Environmental Criteria for Road Traffic Noise (NSW EPA)
	Environmental Noise Control Manual (DECC)

APPENDIX 3

Meeting 27.11.08 with Cessnock Council, RTA & McGrees
Attendees: Rod Sandell, John Booth & Phil Miles (CCC), Ashish Tamhare & Bill Butler (RTA) & Kevin McGree & Joe Armstrong (McGree 's)

Inspection made of entry/exit to Richmond Main East

Recommendation: To apply to RTA for approval as per discussions this day:

- Entry to veer off main road approx 10m south of bridge for at least one truck length then turn to left.. The entry to be sealed with a drainage pipe at abse of slope to allow uphill slope water to run.
- Exit to be via current ramp to roadway. Again to be sealed with drainage pipe
- Appropriate signage to be erected at a distance to be determined by RTA.

- Sealing to be of 10/14 two coat seal on a 300mm compacted base

Inspection made of Aberdare East haulage route.

- RTA/CCC shown suggested crossroad Government Circuit / Caledonia St. Kearsley with view to putting in a private rail crossing back to approved fire trail. They were then shown the "U" turn approved in 3A's & were quick to back the crossroad. Main requirement was that road be directly across Caledonia St. & not at an angle with appropriate signage each side.

- Rod Sandell requested that we look at possible crossroad on Duffy Drive. Within a short time Council engineers were behind putting in a crossroad & follow the power line down to Maitland (Cessnock) Road.

RTA taken to the power line exit opposite Tunnel Road & agreed with Council that this would be a preferred route over the existing one approved.

Both parties agreed that they would back us, on all suggestions, should we seek to amend our current approvals

Approvals now to be sought from the appropriate departments

85DA136;1
08/2651
AT

FILE COPY

The General Manager
Cessnock City Council
DX 21502
CESSNOCK

Attention: Mr John Hitchcock

CHITTER AND TAILINGS RECLAMATION PROJECT- ENTRY AND EXIT ROADS

Dear Mr Hitchcock

I refer to our site visit dated 27 November 2008 and your recent letter regarding proposed entry and exit roads on haulage routes and your request for pre-Section 96 application advice from the Roads and Traffic Authority (RTA).

Based on the information provided and discussions the RTA had on site with you and the Council representatives, the RTA has no objection to the proposed entry and exit roads subject to the following comments being taken into consideration and addressed in the preparation of the Section 96 application:

Aberdare East

- Access roads intersecting with Caledonia Street shall be sealed for at least 10m from the edge of the Caledonia Street.
- Intersection of proposed access roads and Caledonia Street shall be appropriately signposted with Stop signs in accordance with RTA requirements and subject to approval from Council's Local Traffic Committee.
- Advance warning signs shall be installed on Caledonia Street in both the directions warning motorists of trucks crossing in accordance with RTA requirements.
- Traffic Management Plan is to be prepared and submitted to the RTA and/or Council for approval prior to haulage route being operational.

Neath

- Access roads intersecting with Duffy Drive and Maitland Road shall be sealed for at least 10m from the edge of the Caledonia Street.
- Intersection of proposed access roads with Duffy Drive and Maitland Road shall be appropriately signposted with Stop signs in accordance with RTA and /or Council requirements and subject to approval from Council's Local Traffic Committee.

- Advance warning signs shall be installed on Duffy Drive and Maitland Road warning motorists of trucks crossing in accordance with RTA requirements.

- Traffic Management Plan is to be prepared and submitted to the RTA and/or Council for approval prior to haulage route being operational.

- Consideration is to be given to on RTA trained traffic controller posted at the intersection of Duffy Drive and proposed access road due to inadequate sight distance and to ensure safe crossing of trucks at the subject location.

Richmond Main East

- Access roads intersecting with Leggetts Road shall be sealed for at least 10m from the edge of the Leggetts Road.

- Intersection of proposed access roads and Leggetts Road shall be appropriately signposted with Stop signs in accordance with RTA requirements and subject to approval from Council's Local traffic Committee.

- Advance warning signs shall be installed on Leggetts Road warning motorists of trucks crossing

- Traffic Management Plan is to be prepared and submitted to the RTA and/or Council for approval prior to haulage route being operational.

In addition to the above

- The RTA reserves its right to undertake risk analysis of the proposed haulage routes entry and exit locations once they are operational and may ask and/or require additional traffic control devises to ensure that safety and efficiency of the road network is maintained.

- Consideration should be given to use folded advance warning signs. The signs can be folded when the proposed haulage routes are not operational.

- It is noted that the applicant is intend to put a private, gated rail crossing on Southern Maitland Railway Network. It is the applicant's responsibility to maintain the crossing and enter into an agreement with Southern Railway for construction and maintenance of the proposed railway crossing.

It is emphasised that the comments provided above are informal and of a preliminary nature, they are not to be interpreted as binding upon the RTA and may change following formal assessment of submitted Section 96 application from the appropriate consent Authority.

Should you require any further advice, please contact the undersigned on Phone: (02) 4924 0240.

Yours sincerely

John Farrell
A/Manager, Land Use Development
Hunter Operations & Engineering Services

23 December 2008

85DA136;1
NE

The General Manager
Hunter Envrio Mining
PO Box 470
KURRI KURRI NSW 2327

Attention: Stephen Elliot

PROJECT APPROVAL MODIFICATION APPLICATION – HUNTER ENVIRO-MINING CHITTER RECLAMATION (06_0236 MOD 1) – RE-ROUTING OF THE APPROVED HAULAGE ROUTE

Attached is a copy of the RTA's letter to the Department of Planning dated 22 January 2010, regarding the above subject for your information.

Please contact me on 4924 0240 if you have any queries.

Yours sincerely

for: Ben Konetschnik
A/Manager, Land Use Development
Hunter Operations and Engineering Services

27 January 2010

RECEIVED 28/1/10

85DA136; 1
BK

Director, Major Infrastructure Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention: Mr Paul Freeman

PROJECT APPROVAL MODIFICATION APPLICATION - HUNTER ENVIRO-MINING CHITTER RECLAMATION (06_0236 MOD 1) – RE-ROUTING OF THE APPROVED HAULAGE ROUTE.

Dear Mr Freeman

I refer to your Notice of Exhibition dated 17 September 2009, the meeting held between representatives of the Roads and Traffic Authority (RTA) and Hunter Enviro Mining (HEM) on 18 January 2010 and the RTA's previous letter dated 11 November 2009 regarding the access arrangements for the subject project approval modification application.

Following the RTA's letter dated 11 November 2009, it has been determined that it would be impractical to upgrade the intersection of Caledonia Street and the Gordon Williams Memorial Lawn Cemetery access for use as part of the haulage route for the proposed chitter reclamation project due to works being undertaken at the railway level crossing to the east.

Noting the above, the RTA has discussed alternative haulage arrangements with HEM at a meeting on 18 January 2010. It was agreed that the RTA would consider the alternative route described in the Environmental Assessment attached to the Department of Planning's Notice of Exhibition dated 17 September 2009 provided the intersection of Caledonia Street and Government Circuit was signalised. It is understood that the Department of Planning may consider re-activating the subject modification application to allow this matter to be progressed.

Notwithstanding this, the following additional information is required to demonstrate that it is safe and practical to provide a four way signalised intersection at the intersection of Caledonia Street and Government Circuit:

Design and Operation

- The configuration and performance of the proposed four way intersection shall be determined by appropriate traffic modelling including, but not limited to, the following:
    - Current traffic counts
    - 95th percentile back of queue lengths
    - Delays and level of service on all legs
    - Use of SIDRA or similar traffic model
    - Electronic input/output data files for RTA review

- Concept design plans of the intersection showing both horizontal and vertical alignments at the proposed location shall be prepared in accordance with the RTA's *Road Design Guide*, relevant Austroads guidelines and Australian Standards and submitted to the RTA for review. The configuration of the intersection shall be determined using the above mentioned modelling. The concept designs shall include the following:

    - Plans of the proposed intersection during and post haulage activities shall be prepared.
    - Lighting shall be provided at the intersection in accordance with the relevant Australian Standard.
    - Provision shall be made for on road cyclists through the intersection.
    - Pedestrian activity shall be discouraged within reasonable proximity of the signals through appropriate fencing.
    - Kerb and guttering shall be provided on all approaches.

- The developer shall enter into a Works Authorisation Deed (WAD) for the installation and removal of the traffic signals. The WAD shall be executed prior to the issuance of a construction certificate. The WAD process, including acceptance of road design documentation and construction, can take a considerable amount of time. The developer should be aware of this and factor in sufficient time within the project to accommodate this process.

- The possibility of restricting the intersection of Caledonia Street and Ellalong Street (western connection) to left turn movements only for safety reasons was discussed at the meeting on 18 January 2010. This will be considered further following submission of the concept design.

Interim Operation

The RTA may consider the option of permitting haulage prior to completion of the traffic signals provided the following information is submitted for RTA review:

- A Construction Traffic Management Plan (CTMP) shall be prepared for the proposed interim haulage period and submitted to the RTA for approval prior to commencement. The CTMP shall include, but not be limited to, the following:

    - A risk assessment to identify hazards to traffic control associated with the site, the level of risk posed and control measures to be implemented.
    - Provision of temporary traffic signals at the intersection of Caledonia Street and Government Circuit.
    - Site specific Traffic Control Plans in accordance with the RTA's *Traffic Control at Work Sites Manual.*

- The developer should note that the interim arrangements will only be permitted for a limited duration prior to the completion of the intersection upgrade.

- A Road Occupancy Licence will need to be approved by the RTA prior to the implementation of a CTMP.

Other Comments

- It is expected that the applicant would undertake appropriate consultation with Council and the community with regards to the above proposed haulage arrangements.

- All works and any property requirements such as acquisition shall be at full cost to the applicant and at no cost to the RTA

It is emphasised that this letter does not provide concurrence for the connection to Caledonia Street or consent for the proposed works. It is expected that the RTA will be given the opportunity to comment further on the proposed arrangements following submission of the above requested information.

Should you require further advice, please contact me on 4924 0240.

Yours sincerely

B. Konetschnik

Ben Konetschnik
A/Manager, Land Use Development
Hunter Operations & Engineering Services

22 January 2010

Cc: The General Manager
Cessnock City Council

Cc: Stephen Elliot
Hunter Enviro Mining

SOUTH
maitland railways

PO Box 243 Maitland NSW 2320
tel 4932 8351 *fax* 4932 8352
email RogerDavies@hmholdings.com.au
ABN 61 000 008 015

02 July 2009

Hunter Enviro-Mining (Operations) Pty Limited
PO Box 470
Kurri Kurri N.S.W. 2327.

Attention: Tara Dever

Dear Tara,

REQUEST TO ACCESS SMR LAND AT CESSNOCK STREET – RAIL CROSSING.

SMR has now had the opportunity to determine your application based on the information you have provided. Approval is granted for your proposal, conditional on the following items being accepted and met.

- The signing of a Licence for Works and attachments. This document will be of a similar nature as the draft previously forwarded to you. Redrafting will be required by our lawyer (Minter Ellison) to tailor the document to specifically suit this request. Commercial and construction items to be inserted in the Licence for Works will be;
    - A fee of $3,000, plus GST, is required to be paid prior to construction commencing. This will cover estimated costs incurred by SMR – inspections, inductions, train movement coordination, reporting to the Independent Transport Safety and Reliability Regulator and the like;
    - Expiry date for the completion of the construction will be 31 December 2009;
    - A bank guarantee, without expiry date, to the value of $10,000;
    - You shall comply with all legislative requirements including the Rail Safety Act 2008, the Rail Safety Regulations 2008, the Regulator Guidelines, and SMR Network Rules;
    - In addition to the provision of relevant legislation, you shall comply with ITSRR guidelines for:
        - Accredited Person to conduct rail work
        - Issuing of Certificates of Competency for rail work
        - Drug and Alcohol program
    - Australian Standards:
        - AS 1742.7 2007, Manual of Uniform Traffic Control Devices Pt 7 Railway Crossings
        - AS 4292, Railway Safety Management;
        - AS 4360 Risk Management.
    - Permanent barriers must be installed to prevent unauthorised access to the level crossing area when not in use. This could be in the form of locked gates and earth windrows of suitable design and construction to prevent vehicular access;
    - Construction in accordance with plans submitted by Thomas & Associates Consulting Pty Limited, drawing # 08324 –S1. Letter dated 17 March 2009, outlining road construction specifications;

- A 12 metre section of line, centred on the level crossing, is to be replaced as part of the construction. Specifically, the rail weight is to be 53kg/m and concrete sleepers. General specifications below are to be followed.
    - Class of system -ARTC, Class 3 siding, track base operating condition category 2.
    - Operating system -staff and ticket, single line
    - Axle load maximum - 19 tonne
    - Speed limit maximum - 30 km/h
    - Operating temperature - Air temperature = -10^{0}C to 45^{0}C, Rail neutral temperature = 35^{0}C
    - Track gauge - 1,435mm +6 -3mm. Twist 6mm in 2m
    - Turnout gauge - 1,435mm +2. Chord + 8mm in 20m
    - Rail weight - desirable 53 kg/m,
    - Sleepers - Concrete 2,440mmx230mmx130mm at 600mm spacing
    - Ballast - nominal 60mm, 300mm min from shoulder & 250mm depth
- Any Works or activities that are undertaken within the Danger Zone or any works which have the potential (planned or unplanned) of being in the Danger Zone must be undertaken under a track possession controlled by an accredited Protection Officer;
- Any Works or activities undertaken outside the Danger Zone and assessed by an accredited Protection Officer as not having the potential (planned, or unplanned) of encroaching on the Danger Zone may be undertaken without a track possession.
- You must erect a temporary barrier / demarcation fence a minimum of 3 metres from the nearest rail to separate the Danger Zone from these Works or activities. The temporary barrier / demarcation fence must extend for the length of the area where Works or activities are undertaken. The temporary barrier / demarcation must be a minimum of 1.8metres high and must consist of chain wire or welded mesh or approved equivalent;
- Any Works or activities within the Danger Zone must be carried out in accordance with SMR's rules under one of two track possession types:
    - As Trains Permit (ATP) for Works or activities carried out between train movements in accordance with SMR's Safe Working Procedures;
    - Total Track Possession for Works or activities requiring total track possession in accordance with Safe Working Procedures for Non-ARTC railways.
    - A Track Possession will only be authorised where train schedules permit or for the commissioning possession.
- HEM will have civil and rail work certified, both structural and safety, by a suitably qualified/accredited engineer.

- The acceptance and signing of a Licence to Access. This document will need to be drafted from new by our lawyer to specifically suit this request. Some terms to be included are:
    - All maintenance and repairs to the level crossing i.e. signage, pavement etc, within the rail corridor will be the responsibility and cost of HEM;

- SMR will notify HEM of any required R&M, which HEM will respond to promptly;
- Preventative maintenance of the rail will be the responsibility and cost of SMR;
- Any urgent rail safety issue will be dealt with by SMR and any costs incurred will be charged to HEM.
- The crossing will need to be remediated, within 60 days, at the expiry of the licence. This will entail the removal all non rail items i.e. road works, signage etc. This will be at the cost of HEM;
- A licence fee of $1,100, plus GST, monthly in advance will be required;
- The licence is to be renewed by mutual agreement on an annual basis;
- Licence will commence at the start of construction/access;
- The licence operates only for the purposes within the authority approval.

- Copies of approvals from the appropriate authorities to be provided to SMR before any works commence;
- HEM are to pay legal expenses estimated at $1,000 subject to both crossing commencing. To be paid on production of invoice from Minter Ellison.

If you accept the above and wish to continue with your proposal could you please sign the attached copy and return to SMR.

Yours sincerely

Roger Davies
Manager
SOUTH MAITLAND RAILWAYS

Acknowledgement

I confirm that I have read the above letter and accept the arrangements set out above on behalf of Hunter Enviro-Mining (Operations) Pty Limited, including and controlling entities, for South Maitland Railways Pty Limited to proceed as outlined.

....
Signed Position

Date; / /2009

SOUTH
maitland railways

South Maitland Railways Pty Ltd
PO Box 243 Maitland NSW 2320
tel 4932 8351 *fax* 4932 8352
ABN 61 000 008 015

25 August 2009

Hunter Enviro-Mining (Operations) Pty Limited
PO Box 470
KURRI KURRI NSW 2327
Attention: Mr I Derham

Dear Sir

Re: Authority to lodge s75 application by HEM - Access South Maitland Railway Pty Limited (SMR) Owned Land and Railway Crossing.

Thank you for advising that HEM is preparing an Environmental Assessment report for a proposed modification to the approved Aberdare East haulage route. This new route will involve the use of SMR land. South Maitland Railways Pty Limited grants consent for HEM or its consultants to lodge the Section 75W application for this modified haulage route.

The land referred to historically was overlaid by a spur line that serviced the Aberdare Central Mine. It remains unsurveyed and thus is described as 'Unidentified'. It is bounded by Ellalong St, Caledonia St and the SMR rail corridor.

Yours faithfully
SOUTH MAITLAND RAILWAYS PTY LTD

Warren Hedley
MANAGER

Lower Hunter Wonnarua Council Incorporated
142 Northcote Street, Kurri Kurri NSW 2327
Ph0447266590 Fax: 0249375520
ABN: 14 937 663 303

Tara Dever
Environment / Logistics Manager

Hunter Enviro Mining (Op) P/L
Po Box 470
Kurri Kurri NSW 2327

Re: Proposed Amended Haulage Route, Kearsley,

Dear Tara,

Thanks for the opportunity to survey the above mentioned route. LHWC would like to acknowledge that Daniel Scott conducted a site inspection of the proposed haulage road Monday 24th August 2009.

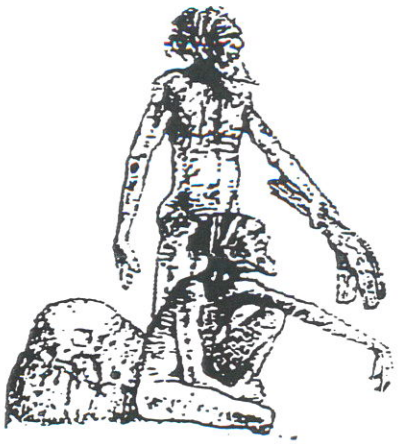
During the inspection no sites were located. There were areas with minimal levels of top soil and areas of low visibility due to thick vegetation, the area is highly disturbed.

Lower Hunter Wonnarua Council are in support of the haulage route but would like to recommend that during the removal of the vegetation and top soil that a representative from LHWC be present to monitor and collect any artefacts that may be discovered.

If further clarification is needed I can be contacted on the numbers above.

Yours Truly

Lea-Anne Ball
Coordinator
Lower Hunter Wonnarua Council



Mindaribba Local Aboriginal Land Council

Phone: 49348511
Fax: 49348544

PO Box 401
East Maitland NSW 2323

1A Chelmsford Dr.
Metford NSW 2323

A.B.N 8282 6020 881

Tara Dever
Environmental and Logistics Manager
Hunter Enviro Mining
P.O. Box 470
Kurri Kurri NSW 2327

Re: Aboriginal Assessment on Road Extension

Dear Tara,

The purpose of this letter is to confirm surface survey, there was 100% percent covered when was conducted by sites officer Christine Dever on 24.8.09.

Surface visibility was poor, around 10% and the area has been disturbed, which reduced the prospect of locating any cultural objects.
The recommendation by Christine is that during stripping of topsoil on both sides of railway line that person from MLALC be present to monitor this work.

There are no impediments that should stop road construction going ahead. and Mindaribba Local Aboriginal Land Council support construction of this road.
Please phone me on numbers provided should you wish to discuss this letter.

Yours Faithfully

Rick Griffiths
CEO
MLALC
28/8/2009

APPENDIX 4

- - - - ===== STAPES AUST. PTY. LTD. ===== - - - -

TRAFFIC MANAGEMENT & SAFETY CONSULTANTS
53 Marangani Ave, North Gosford. NSW 2250

ACN 132 292 267
ABN 15 132 292 267 (GST REGISTERED)

Telephone No:
Office – 0243231369
Mobile – 0405219634

Fax No. - 0243231369

e-mail. –stapo@aapt.net.au

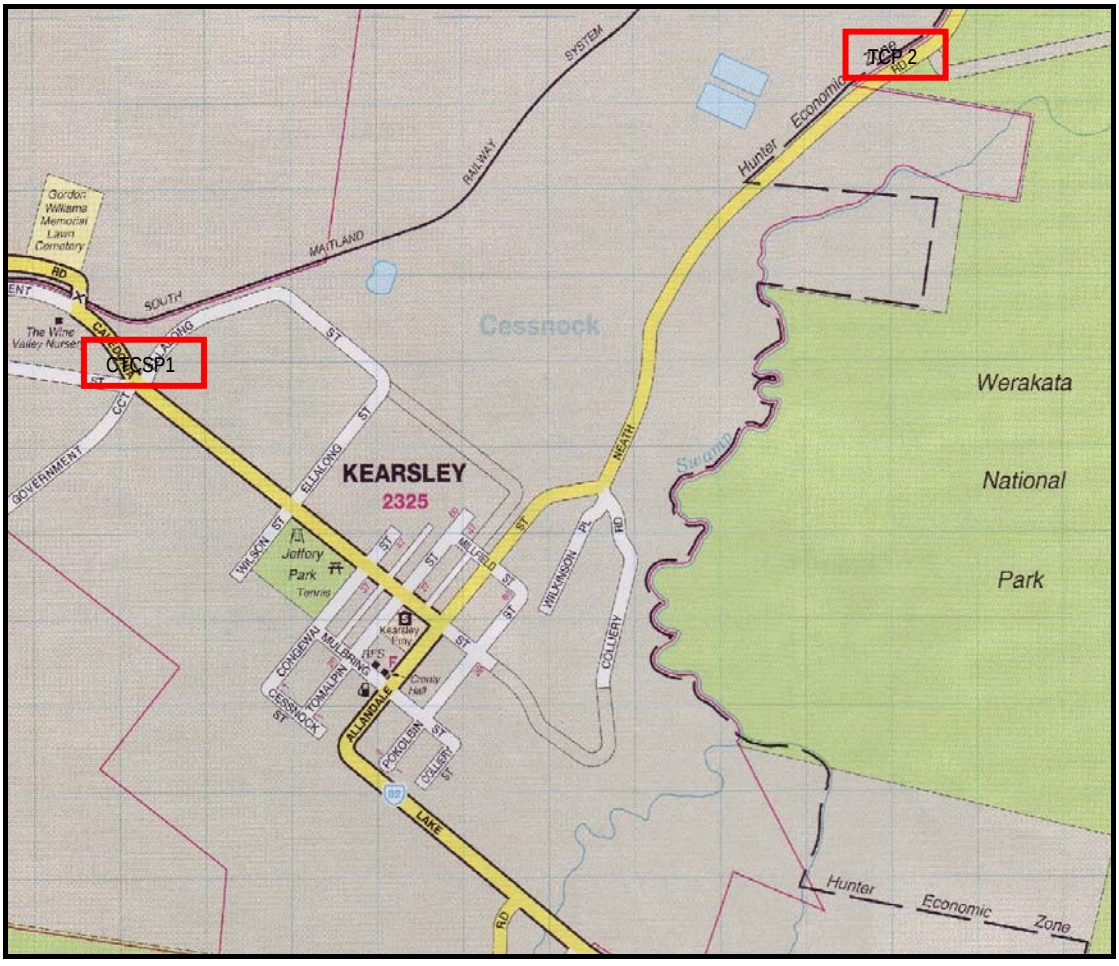
TRAFFIC MANAGEMENT PLAN

TRAFFIC MANAGEMENT PLAN REPORT FOR ACCESS ONTO CALEDONIA STREET (M.R. No. 220) KEARSLEY AND ONTO NEATH ROAD, NEATH

FROM

THE ABERDARE EAST HAULAGE ROUTE

JULY 2009



LOCALITY SKETCH

TABLE OF CONTENTS

1. INTRODUCTION

The Project

Stapes Aust. Pty Ltd was invited by Hunter Enviro – Mining (Operations) Pty Ltd to provide a Traffic Management Plan for the proposed access road intersections onto Caledonia Street, Kearsley and Neath Road,Neath from its Aberdare East Haulage Route worksite.
The use of these access locations is anticipated to be for a period of approximately 2 years.
A review of intersection design and signposting was undertaken.

Task Description

The plan and report focus on the following objectives:

- Assessment of access arrangements with regard to the publications listed in the References.
- Establish that appropriate road safety and traffic management guidelines and standards have been addressed by the proposal.

Project Representative

Mr. Gary Stapleton, Director, Stapes Aust.Pty Ltd undertook the evaluation and preparation of the report. He has extensive experience in the road safety and traffic management profession, including the assessment of traffic generating developments.
Mr. Stapleton is the holder of Work Site Traffic Control Certificate No. 4317

References

Roads and Traffic Authority of NSW - Road Design Guide.

Roads and Traffic Authority of NSW - Traffic Control at Work Sites.

Australian Standard 2890.1 - 2004 Off- street car parking.

Austroads Guide to Traffic Engineering Practice - Part 8 Traffic Control Devices

2. EXISTING TRAFFIC CONDITIONS

2.1 Caledonia Street,Government Circuit, Ellalong Street and Proposed Access Road,Aberdare

Caledonia Street – Main Road No.220 (Branxton - Toronto)

Caledonia Street is a line marked arterial road (Main Road No.220) connecting Branxton to Toronto.
In the vicinity of the proposed access road a single traffic lane 3.6m wide is marked in each direction with a sealed 1.1m wide road shoulder provided on each side of Caledonia Street
Caledonia Street in the vicinity of the proposed access road is situated on the apex of very gradual horizontal curve with a slight upgrade south to north.
The subject area is speed zoned at 60kph.
No advance warning intersection ahead signposting is provided on Caledonia Street on the approaches to Government Circuit and Ellalong Street.
The Roads and Traffic Authority of NSW publication – "Traffic Volume Data for Hunter Region 2004" shows the counting station 05.546 located on Caledonia Street
At the Rail way Level crossing an Annual Average Daily Traffic (AADT) figure of 8019 for the year 2004 and 7813 for the year 2001 is recorded.

Government Circuit

Government Circuit is a local road under the care and control of Cessnock City Council and is restricted to a speed limit of 50kph.
At its junction with Caledonia Street it is controlled by a give way sign and is sealed to a varying width of approximately 7.0m.
It has a relatively level grade and satisfactory sight distance in both directions onto Caledonia Street.
Government Circuit services scattered residential development and is presently a no through road terminating approximately 600metres west of Caledonia Street.

Ellalong Street

Ellalong Street is a local road under the care and control of Cessnock City Council and is also restricted to a speed limit of 50kph.
At its junction with Caledonia Street it is controlled by a give way sign and is sealed to a varying width of approximately 7.0m wide.
It has a relatively level grade and satisfactory sight distance in both directions onto Caledonia Street.
Ellalong Street services scattered residential development.

2.2 Neath Road and Proposed Access Road, Neath

Neath Road

Neath Road is a local road under the care and control of Cessnock City Council and is restricted to a speed limit of 80kph.
At the proposed access location Neath Road has a relatively level grade and a single traffic lane 3.5m wide is marked in each direction with an unmade road shoulder provided on each approach.
No traffic volume figures are readily available for this road however it was observed to very lightly trafficked at the time of the survey. (Survey undertaken Friday 17th July 1130hrs – 1230hrs)
I would expect that these very light volumes would be representative overall of the level of usage.

3. PROPOSED TRAFFIC MANAGEMENT

3.1 Caledonia Street,Government Circuit, Ellalong Street and Proposed Access Road,Aberdare

A separate sealed access road will be provided on the eastern side of Caledonia Street north of Ellalong Street to form a cross intersection with Caledonia Street and Government Circuit.(see Figure 1) forming the Aberdare East Haulage route.
The proposed access road will intersect Caledonia Street at an angle of 90 degrees.
This proposed access road will be sealed for a distance of 30.0m and be 9.0m in width with traffic movement into and out of the site being regulated by roadmarking, signposting and traffic control in accordance with Attachment A – (Figure 5) GHD Concept Traffic Control Signal Plan CTCSP 1.
Additional truck turning warning signs are provided in Caledonia Street on the southern approach to the proposed access road to improve awareness of the intersection. The minimum requirement for Safe Intersection Sight Distance (SISD) is satisfied for a 60kph speed zone on this approach.
On the northern approach to the proposed access road the minimum requirement for Safe Intersection Sight Distance (SISD) is also satisfied for a 60kph speed zone.(see Figures 2 & 3)
It is anticipated that up to 18 laden truck movements per hour / day will use the proposed access road and cross Caledonia Street.
The proposed access road will be in operation from “dawn to dusk” from Monday through Saturday excluding Public Holidays for a period of approximately 2 years.
The truck types will vary from Truck and Dog to Semi Trailer derivatives.

Figure 1

Proposed access road location

Figure 2

Looking south from proposed access road location

Figure 3
Looking north from proposed access road location

3.2 Neath Road and Proposed Access Road, Neath

A separate sealed access road will be provided on both the eastern and western sides of Neath Road. to form a cross intersection.(see Figure 4) as part of the Aberdare East Haulage Route.
The proposed access road will intersect Neath Road at an angle greater than 70 degrees and be controlled by Stop signs on both approaches.
This proposed access road will be sealed to a width of 9.0m for varying distances nominated on Attachment B - Traffic Control Plan (TCP 2).
Traffic movement into and out of the site being regulated by roadmarking and signposting also in accordance with Attachment B - Traffic Control Plan (TCP 2)
Particular attention in the design was made to the existing electricity supply pole and the private entrance located on the southern approach to the Neath Road intersection.
The minimum requirement for Safe Intersection Sight Distance (SISD) is satisfied for an 80kph speed zone on Neath Road to the proposed access road.
It is anticipated that up to 12 truck movements per hour / day will use the proposed access road and cross Caledonia Street.
The proposed access road will be in operation from “dawn to dusk” from Monday through Saturday excluding Public Holidays for a period of approximately 2 years.
The truck types will vary from Truck and Dog to Semi Trailer derivatives.

Figure 4

Proposed access road location

4. SUMMATION

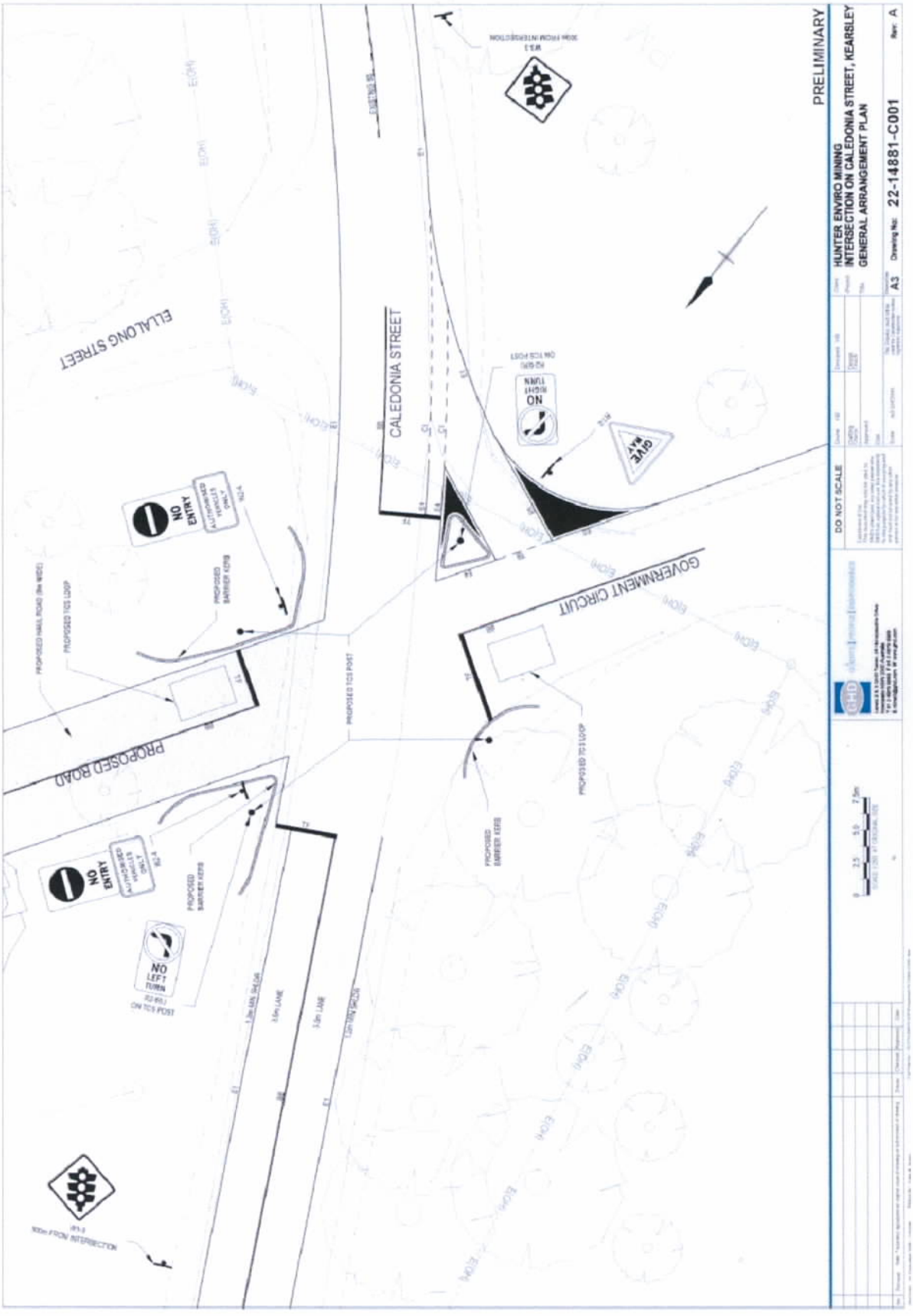
The Traffic Management Plan proposed for the construction period as described in this report provides a focus on general public safety and imposes minimum impact on the surrounding road amenity and capacity.

G.L.Stapleton

G.L.Stapleton

Director

Stapes Aust. P/L



Attachment A (Figure 5) GHD Concept Traffic Control Plan CTCSP 1
Proposed traffic control plan for the intersection with Caledonia Street.

NOTES

1. Area shown
   To be sealed 9m wide for a distance as shown .
2. Area shown
   To be sealed 7m wide for a distance of 10m to
3. Edgeline to be marked around curve
4. Placement of new signage subject to site conditions
5. Place line of Guide Posts at 6m spacings shown *

TEMPORARY ISLAND SETOUT

A3 1:1000

DESIGNED BY: STAPES AUST. P/L WORK SITE TRAFFIC CONTRACTOR CERTIFICATE No 4317	TRAFFIC CONTROL PLAN FOR PROPOSED ACCESS ROAD ONTO NEATH ROAD NEATH	PLAN REFERENCE: TCP 2

Plot information- Date:- 23/07/2009 Time:- 6:41:12 PM Cad File:- TCP2.dgn Scale:- 1.0000 m / MM. Sheet size:- ISO A3

APPENDIX 5

ecobiological

survey & assessment

Proposed Haulage Route Modification, Aberdare East, NSW

Proposed Haulage Route Modification - Aberdare East, NSW

July 2009

Report prepared for Hunter-Enviro Mining Pty Ltd.

Prepared By:
EcoBiological

Dan Pedersen
Ecologist
B.Sc. Newcastle University
NPWS Scientific Licence S1239

Reviewed By:

Adam Blundell
Managing Director
Senior Environmental Scientist
B.Env.Sc.(Hons) Newcastle University
NPWS Scientific Licence S12398

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Warners Bay NSW 2282

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Gateshead NSW 2290

Tel 1300 881 869
Fax 1300 881 035

www.ecobiological.com.au

ABN 74 114 440 041

ecobiological
survey & assessment

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1. Introduction and Background

EcoBiological was commissioned by Wells Environmental Services to prepare a flora and fauna assessment on behalf of Hunter Enviro Mining Pty Ltd (HEM) for the proposed Aberdare East haulage road modification.

HEM is seeking to modify a section of haulage road approved under Part 3A of the *Environmental Planning & Assessment Act 1979* (EP&A Act). The modification would involve changing the designated route direct from Government Circuit across a woodland area, over a separate private crossing of the South Maitland Railway and through bushland before aligning with existing easements.

The benefits of the modification are as follows:

- A reduction in road intersections, effectively from two Type B intersections to one (crossing Caledonia Road);
- Improvement in traffic safety, with trucks being on public roads for a shorter period;
- Removal of the potential difficulties associated with the tight turning for trucks at the Cemetery entrance;
- Reduction in possible congestion associated with turning across traffic adjacent to the South Maitland Railway level crossing;
- Reduction in a return haulage distance of 1km, which over the course of the project has potential to save over 51,000km of accumulated travel and associated fuel use and emissions; and,
- The proposed route will be at a greater distance from the Cemetery and would have a lower level of disturbance to visitors.

The key issues regarding the proposed modification are listed as:

- The haulage route should avoid significant vegetation, but may have minor impacts on flora;
- The haulage route should avoid significant impacts to threatened fauna;

- Traffic assessment including both the public road system and the new railway crossing, and preventing unauthorised use of the route, with probable closure of the route at completion;
- Air and dust issues; and,
- Archaeology (where the proposed route would be assessed during construction by local Aboriginal groups and an archaeologist where impacts occur outside fire trails).

The proposed modifications have been discussed with Cessnock City Council, Roads & Traffic Authority (RTA), the Department of Lands and South Maitland Railway. This assessment has been prepared to assist the decision making process with regard to environmental impacts on the natural vegetation communities and native flora and fauna, and more specifically to threatened species.

1.1. Site Characteristics

1.1.1. Location of Development

The proposed modification to the approved route would occur at Aberdare East, Cessnock, NSW.

1.1.2. General Site Description

The proposed route would cross Caledonia Street approximately 250m southeast of the South Maitland Railway crossing. The route would extend approximately 150m to the South Maitland Railway crossing, where a suitable crossing would be constructed, and continue for another 33m through natural bushland. The route would then turn right and follow an 8m wide fire trail for approximately 300m and link with the approved route on the easement to the northeast. The proposed route is shown in Figure 1.

The project would involve clearing natural vegetation for approximately 103m (from Caledonia Road to the fire trail easement). The proposed road within this area is estimated to be 8m wide.

Figure 1: Locality plan for the proposed modification to the haulage road route.

1.2. Objectives

The objective of the flora and fauna assessment for the Aberdare East haulage route amendment plan is to provide suitable information to aid in the decision making process with regards to the environmental impact resulting from the clearing of vegetation and road constructions.

1.3. Project Approval Amendment

The modification would require the amendment of the following conditions of the Project Approval:

10. Prior to carrying out any development on site, the Proponent shall:

(a) undertake the following road works to the satisfaction of RTA:

- *upgrading the intersection of Cessnock Street and the Gordon Williams Memorial Lawn Cemetery entrance, Cessnock, to a type AUR intersection with appropriate pavement marking;*

(b) undertake the following road works to the satisfaction of Council:

- *upgrading the intersection of Government Circuit and Caledonia Street, Kearsley to a type AUR intersection;*

(c) upgrade the following fire trails to the satisfaction of the Department of Lands:

- *Kearsley Powerline Fire Trail between the entrance to the Gordon Williams Memorial Lawn Cemetery and Hebburn Road;*

2. Assessment of Proposed Haulage Route

EcoBiological undertook a site visit on the 21th of July 2009. This site visit involved identification of flora species found on the proposed route, a targeted threatened flora species search, determination of vegetation community type and the present state of the vegetation.

2.1. Method

A meandering flora transect covering a width of approximately 20m surrounding the mapped centre line was conducted over the length of the proposed route, from Caledonia Street to the powerline easement to the northeast. The survey identified both native and exotic flora species.

A qualitative assessment of vegetation community type and threatened species habitat was also conducted. Prior to the site visit, the Lower Hunter Central Coast Regional Environmental Management Strategy (LCCREMS) map was studied to indicate vegetation types in the area (NPWS 2000). The dominant canopy, shrub and ground stratum species that were identified in the survey were aligned with the most suitable vegetation type from NPWS (2000). A list of threatened flora and fauna reported from the local area was obtained from the NPWS database, the Atlas of NSW Wildlife.

2.2. Flora Assessment

Four threatened species were listed within 5km of the site (NSW Wildlife Atlas database). These species were *Callistemon linearifolius* (Netted Bottle Brush), *Eucalyptus parramattensis* subsp. *decadens* (Parramatta Red Gum), *Grevillea parviflora* subsp. *parviflora* (Small-flower Grevillea) and *Rutidosis heterogama* (Heath Wrinklewort).

The flora survey found 42 native species and 21 introduced species (Appendix 1). One threatened species was identified in the surveys, *Eucalyptus parramattensis* subsp. *decadens*. One tree was located at the northern side of the rail line between the fire trail and the rail line (Plate 1) and another tree was located north of the fire trail easement. Both trees are located at a suitable distance from the centre line of the proposed route and should be protected from any potential disturbance. *Grevillea*

montana (ROTAP 2VC) was also found on the southern side of the rail line and would be outside the minimum road construction area.

Plate 1: *Eucalyptus parramattensis* subsp. *decadens* in bushland close to the proposed route.

2.3. Vegetation Description

The clearing of natural vegetation would be a 70m long by 8m wide (560m^2) portion at the southern side of the rail line (being managed woodland). This area is regularly managed and did not have a mid stratum or shrub stratum, and the ground stratum is mown to approximately 10cm. The proposed road construction is likely to require 9 trees to be removed. Plate 2 shows the current vegetation structure for this portion.

A 33m long by 8m wide (264m^2) portion at the northern side of the rail line (being open forest with a low level of disturbance) would also be cleared. This portion has an intact mid, shrub and ground stratum. Plate 3 shows the current vegetation structure for this portion.

The vegetation adjacent to the fire trail is unlikely to be impacted and the road constructions would be confined to the current easement (Plate 4).

No trees within the surveyed area had habitat hollows.

Plate 2: Open forest in the reserve adjacent to Caledonia Street.

Plate 3: Natural forest on the northern side of the South Maitland Rail line, proposed to be cleared.

Plate 4: Existing fire trail linking the proposed route to the approved route on the power line easement.

2.3.1. Existing Site Vegetation

The proposed route would involve modification and clearing of natural vegetation communities. The Lower Hunter Central Coast Regional Environment Management Strategy (LHCCREMS) indicates the proposed route would be constructed in *Lower Hunter Spotted Gum Ironbark Forest*, which is listed as an Endangered Ecological Community (EEC) under the *NSW Threatened Species Act 1995* (TSC Act).

The vegetation type indicated through the site survey confirms the Lower Hunter Spotted Gum Ironbark Forest. This forest is dominated by *Eucalyptus fibrosa* (Red Ironbark) and *Corymbia maculata* (Spotted Gum). The mid stratum was dominated by *Melaleuca nodosa*. The shrub stratum had *Bursaria spinosa* (Box Thorn), *Acacia parvipinnula* (Silver Stem Wattle) and *Hakea sericea* (Needle Bush). The herbs and low shrubs were *Daviesia ulicifolia*, *Acacia ulicifolia* (Prickly Moses), *Pultenaea spinosa*, *Cheilanthes sieberi*, *Phyllanthus hirtellus* and *Chrysocephalum apiculatum* (Yellow Buttons). The ground stratum had native grasses *Austrodanthonia bipartita* (Wallaby Grass), *Entolasia stricta* (Wiry Panic) and *Microlaena stipoides* (Weeping Grass) and other species such as *Dianella revoluta* (Flax Lily) and *Lomandra filiformis* subsp. *coriacea.*

2.4. Fauna Assessment

A total of 22 threatened fauna species were listed within 5km of the site from the NSW Wildlife Atlas database (Table 2). All of these species are considered to be highly mobile and may use the subject site for opportunistic foraging and as a movement corridor.

Table 2: Threatened fauna species recorded from within a 5 km radius of the site.

Scientific Name	Common Name
Callocephalon fimbriatum	Gang-gang Cockatoo
Climacteris picumnus	Brown Treecreeper
Dasyurus maculatus	Spotted-tailed Quoll
Erythrotriorchis radiatus	Red Goshawk
Falsistrellus tasmaniensis	Eastern False Pipistrelle
Hamirostra melanosternon	Black-breasted Buzzard
Lathamus discolor	Swift Parrot
Lophoictinia isura	Square-tailed Kite
Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)
Miniopterus australis	Little Bentwing-bat
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat
Mormopterus norfolkensis	Eastern Freetail-bat
Myotis adversus	Large-footed Myotis
Petaurus australis	Yellow-bellied Glider
Petaurus norfolcensis	Squirrel Glider
Phascolarctos cinereus	Koala
Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)
Pteropus poliocephalus	Grey-headed Flying-fox
Pyrrholaemus saggitatus	Speckled Warbler
Scoteanax rueppellii	Greater Broad-nosed Bat
Stagonopleura guttata	Diamond Firetail
Xanthomyza phrygia	Regent Honeyeater

2.5. Assessment of Significance

2.5.1. Flora Assessment of Significance

Threatened flora species that were considered to possibly occur in the type of habitat represented both on the subject site and in the locality are discussed below.

Eucalyptus parramattensis subsp. decadens

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Two *Eucalyptus parramattensis* subsp. *decadens* trees are located on the site within close proximity to the proposed haulage road route. Suitable separation can be provided and the trees can be given protection against any disturbance arising from clearing and construction. As such, the trees would unlikely be directly affected by the road construction and use. A viable local population of the species is not likely to be placed at risk of extinction.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that

constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

No endangered population was present.

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

Not applicable

ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

Not applicable

(d) in relation to the habitat of a threatened species, population or ecological community:

i. the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

Approximately 824m² of suitable habitat for this species is likely to be removed or modified as a result of the proposed development.

ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

No habitat would become fragmented or isolated from other areas of habitat as a result of the proposed development.

iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

The area to be developed has very low importance to the long-term survival of this species in the locality.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

No critical habitat would be affected by the proposal.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

There is no Recovery Plan for this species and no Threat Abatement Plan is relevant.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The clearing of native vegetation, listed as a key threatening process, will occur as part of the proposed activities.

Grevillea parviflora subsp. *parviflora*

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

No *Grevillea parviflora* subsp. *parviflora* plants were found within the proposed haulage road route and as such no plants or population would be directly affected by the development. Therefore, a viable local population of the species is unlikely to be placed at risk of extinction.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

No endangered population was present.

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

Not applicable

ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

Not applicable

(d) in relation to the habitat of a threatened species, population or ecological community:

i. the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

Approximately 824m^2 of suitable habitat for this species is likely to be removed or modified as a result of the proposed development.

ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

No habitat would become fragmented or isolated from other areas of habitat as a result of the proposed development.

iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

The area to be developed has very low importance to the long-term survival of this species in the locality.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

No critical habitat would be affected by the proposal.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

There is no Recovery Plan relevant to this species and no Threat Abatement Plan is relevant.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The clearing of native vegetation, listed as a key threatening process, will occur as part of the proposed activities.

Rutidosis heterogama

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

No *Rutidosis heterogama* plants were found within the proposed haulage road route and as such no plants or population would be directly affected by the development. Therefore, a viable local population of the species is unlikely to be placed at risk of extinction.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

No endangered population was present.

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

Not applicable

ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

Not applicable

(d) in relation to the habitat of a threatened species, population or ecological community:

i. the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

Approximately 824m^2 of suitable habitat for this species is likely to be removed or modified as a result of the proposed development.

ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

No habitat would become fragmented or isolated from other areas of habitat as a result of the proposed development.

iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

The area to be developed has very low importance to the long-term survival of this species in the locality.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

No critical habitat would be affected by the proposal.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

There is no Recovery Plan for this species and no Threat Abatement Plan is relevant.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The clearing of native vegetation, listed as a key threatening process, will occur as part of the proposed activities.

Callistemon linearifolius

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

No *Callistemon linearifolius* plants were found within the proposed haulage road route and as such no plants or population would be directly affected by the development. Therefore, a viable local population of the species is unlikely to be placed at risk of extinction.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

No endangered population was present.

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

Not applicable

ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

Not applicable

(d) in relation to the habitat of a threatened species, population or ecological community:

i. the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

Approximately 824m^2 of suitable habitat for this species is likely to be removed or modified as a result of the proposed development.

ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

No habitat would become fragmented or isolated from other areas of habitat as a result of the proposed development.

iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

The area to be developed has very low importance to the long-term survival of this species in the locality.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

No critical habitat would be affected by the proposal.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

There is no Recovery Plan for this species and no Threat Abatement Plan is relevant.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The clearing of native vegetation, listed as a key threatening process, will occur as part of the proposed activities.

2.5.2. Endangered Ecological Community Assessment of Significance

The following endangered ecological community (EEC) occurs on the subject site and is accordingly assessed below.

Lower Hunter Spotted Gum Ironbark Forest EEC

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Not applicable.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

Not applicable.

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

The proposed development would involve disturbance to the Lower Hunter Spotted Gum Ironbark Forest community. Provided appropriate sedimentation, erosion and nutrient runoff control and weed control

measures are put in place, the proposed development is unlikely to have an adverse effect on this EEC such that it would be placed at risk of extinction in the locality.

ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

The proposed haulage road construction would not involve modifying the composition of the EEC such that its local occurrence would be placed at risk of extinction.

(d) in relation to the habitat of a threatened species, population or ecological community:

i. the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

The proposed clearing for a haulage road route would involve removing 824m² of suitable habitat for this EEC.

ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

With provision for suitable land rehabilitation after the road is no longer required, the proposal would not isolate or fragment habitat on or around the road construction from other areas of habitat in the locality.

iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

The habitat proposed to be removed and modified for the proposed haulage road route is not considered to be important to the long-term survival of this EEC in the locality.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

No critical habitat would be affected by the proposal.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

There is no Recovery Plan for this EEC and no Threat Abatement Plan is relevant.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The clearing of native vegetation, listed as a key threatening process, will occur as part of the proposed activities.

2.5.3. Fauna Assessment of Significance

The additional clearing for the haulage road route corridor is expected to be approximately 8m wide by 103m long before linking to the cleared fire trail. All threatened fauna previously recorded within a 5km radius are regarded as being highly mobile and as such, the assessment of significance for all of the threatened species is condensed into one overall assessment.

Highly mobile threatened fauna

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

The minimal amount of clearing required is unlikely to impact on highly mobile fauna species and would not affect the life cycle of any species such that a viable local population is likely to be placed at risk of extinction.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

No endangered populations are present.

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

Not applicable.

ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

Not applicable.

(d) in relation to the habitat of a threatened species, population or ecological community:

i. the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

The proposed clearing for a haulage road route would involve removing an 8m wide corridor for 103m in length, within bushland supporting habitat for these species. This narrow corridor is not considered a barrier to the movement of these species.

ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

With provision for suitable land rehabilitation after the road is no longer required, the proposal would not isolate or fragment habitat on or around the road construction from other areas of habitat in the locality.

iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

The habitat proposed to be removed and modified for the haulage road route is not considered to be important to the long-term survival of any highly mobile threatened fauna species in the locality.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

No critical habitat would be affected by the proposal.

(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

Recovery Plans have been prepared for the Yellow-bellied Glider, Swift Parrot, Regent Honeyeater, Koala and the Red Goshawk. The proposed action would be inconsistent with the objectives of these plans which relate to removal of habitat for these species. However, the minimal amount of clearing required will not fragment or isolate habitat and is unlikely to significantly impact on any local populations of these species. Rehabilitation after the operation has ceased will aim to return the vegetation back to its original state.

Predation by the Red Fox – Threat Abatement Plan is relevant to the Squirrel Glider and Spotted-tailed Quoll. One of the current threats to these species is predation by introduced predators such as the Red Fox. None of the objectives of the Predation by the Red Fox – Threat Abatement Plan will be met at this site. However, the extent of clearing and the location of the subject site within a residential context would not allow for an effective implementation of a fox control program (due to the possibility of baits poisoning domestic animals) and the proposed development will not promote or support habitat suitable to the fox.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The clearing of native vegetation, listed as a key threatening process, will occur as part of the proposed activities.

3. Recommendations and Conclusion

3.1. Recommendations

The proposed clearing of the Lower Hunter Spotted Gum Ironbark Forest EEC would require monitoring throughout the operation of the modified haulage road to provide an indication that the vegetation community is not being adversely affected from weed infestation, erosion or other unforseen impacts. The following mitigation measures are recommended:

- An ecologist should be onsite to supervise the clearing of vegetation.
- The surrounding vegetation community should be protected through weed control and sediment erosion management.
- Monitoring of both sides of the haulage road to assess the health of vegetation, targeting weed infestation, die back and erosion.

After the operations, rehabilitation would be required on all affected areas, and would represent the original vegetation composition prior to clearing. A rehabilitation plan would be required and should aim to:

- Provide a plan for revegetation to prevent erosion.
- Rehabilitate land across the haulage road easement to replicate the natural vegetation structure and composition of the EEC.

3.2. Conclusion

The proposed modification to the approved haulage road route would involve extending a road through Lower Hunter Spotted Gum Ironbark Forest EEC for over 100m, clearing approximately 824m² of the EEC and associated habitat. An assessment of significance was conducted for the EEC and threatened species from within a 5km radius. This assessment determined that the proposed route modification would be unlikely to have a significant impact on the EEC and threatened species, provided recommended mitigation measures, EEC monitoring during construction and operations (estimated 3.5 years), and the rehabilitation of the EEC after operation has ceased are implemented.

4. References

NPWS (2000). *Vegetation Survey, Classification and Mapping Lower Hunter and Central Coast Region.* Version 1.2. A project undertaken for The Lower Hunter and Central Coast Regional Environment Management Strategy CRA Unit Sydney Zone, National Parks and Wildlife Service.

Appendix 1 – Flora species recorded from the 20m wide meandering survey

Family	Botanical Name	Common Name
CLASS FILICOPSIDA (Ferns)		
Adiantaceae	Cheilanthes sieberi	
MAGNOLIOPSIDA (Flowering Plants) Subclass Magnoliidae (Dicotyledons)		
Asteraceae	*Chrysocephalum semipapposum*	Yellow Buttons
Asteraceae	*Epaltes australis*	Spreading Nut-heads
Asteraceae	*Ozothamnus diosmifolius*	White dogwood
Celastraceae	*Maytenus silvestris*	Orange Bark
Ericaceae - Styphelioideae	*Lissanthe strigosa*	Peach heath
Fabaceae (Faboideae)	*Glycine clandestina*	
Fabaceae (Faboideae)	*Pultenaea spinosa*	
Fabaceae (Faboideae)	*Daviesia ulicifolia subsp ulicifolia*	Gorse Bitter Pea
Fabaceae (Mimosoideae)	*Acacia parvipinnula*	Silver Stem Wattle
Fabaceae (Mimosoideae)	*Acacia ulicifolia*	Prickly Moses
Goodeniaceae	*Goodenia rotundifolia*	
Lauraceae	*Cassytha pubescens*	
Lobeliaceae	*Pratia purpurascens*	Whiteroot
Myrtaceae	# *Eucalyptus parramattensis* subsp. *decadens*	Parramatta Red Gum
Myrtaceae	*Callistemon linearis*	Narrow-leaved Bottlebrush
Myrtaceae	*Callistemon rigidus*	Stiff Bottlebrush
Myrtaceae	*Corymbia maculata*	Spotted Gum
Myrtaceae	*Eucalyptus fibrosa*	Red Ironbark
Myrtaceae	*Leptospermum polygalifolium subsp. cistmontanum*	Tantoon
Myrtaceae	*Melaleuca nodosa*	
Myrtaceae	*Melaleuca sieberi*	
Phyllanthaceae	*Phyllanthus hirtellus*	
Pittosporaceae	*Bursaria spinosa*	Box Thorn
Proteaceae	*Grevillea montana*	
Proteaceae	*Hakea sericea*	Needle Bush
Rubiaceae	*Pomax umbellata*	Pomax
CLASS MAGNOLIOPSIDA (Flowering Plants) Subclass Liliidae (Monocotyledons)		
Poaceae	*Aristida ramosa var. ramosa*	
Poaceae	*Cynodon dactylon*	Couch
Poaceae	*Dactyloctenium radulans*	Finger Grass
Poaceae	*Entolasia stricta*	Wiry panic
Poaceae	*Eragrostis brownii*	Browns Lovegrass
Poaceae	*Microlaena stipoides var stipoides*	Weeping Grass
Poaceae	*Panicum effusum*	Hairy Panic
Poaceae	*Dichelachne micrantha*	Shorthair Plumegrass
Poaceae	*Austrodanthonia bipartita*	Wallaby Grass
Family	Botanical Name	Common Name

CLASS MAGNOLIOPSIDA (Flowering Plants) Subclass Liliidae (Monocotyledons)		
Phormiaceae	*Dianella revolute var. revoluta*	Flax lily
Phormiaceae	*Dianella tasmanica*	Tasman Flax lily
Lomandraceae	*Lomandra filiformis subsp. coriacea*	Wattle Mat Rush
Lomandraceae	*Lomandra longifolia*	Mat Rush
Cyperaceae	*Cyperus polystachyos*	
Cyperaceae	*Gahnia radula*	
WEED SPECIES		
Asparagaceae	** Asparagus asparagoides*	Bridal Creeper
Asteraceae	**Conyza bonariensis*	Fleabane
Asteraceae	**Euchiton pensylvanicum*	Cudweed
Asteraceae	**Euchiton sphaericus*	Cudweed
Asteraceae	**Galinsoga parviflora*	Potato Weed
Asteraceae	**Hypochaeris radicata*	Catsear
Asteraceae	**Taraxacum officinale*	Dandelion
Asteraceae	**Facelis retusa*	
Asteraceae	**Bidens pilosa*	Cobblers peg
Asteraceae	**Senecio madagascariensis*	Fireweed
Fabaceae (Faboideae)	**Vicia sativa*	Common Vetch
Fabaceae (Faboideae)	**Trifolium repens*	White Clover
Myrsinaceae	**Anangallis arvensis*	Scarlet Pimpernel
Myrsinaceae	*Myrsine variabilis*	Muttonwood
Plantaginaceae	**Plantago lanceolata*	Lambs Tongue
Poaceae	**Melinis repens*	Red Natal Grass
Poaceae	**Paspalum dilatatum*	Paspalum
Poaceae	**Paspalum urvillei*	Vasey Grass
Poaceae	**Sporobolus africanus*	Parramatta Grass
Poaceae	**Eragrostis curvula*	African Lovegrass
Verbenaceae	**Verbena bonariensis*	Purple Top

APPENDIX 6

10th August 2009

Alan Wells
Wells Environmental
Via email: akwells@pacific.net.au

Dear Alan

Re: HEM – Aberdare east – proposed change to haulage route – air quality

Holmes Air Sciences (now PAEHolmes) completed an air quality impact assessment for the proposed operations by Hunter Enviro-Mining (HEM) in late 2006 (**Holmes Air Sciences, 2006**).

It is understood that HEM are proposing to amend the haul route from the Aberdare East site to Hebburn No. 3 Washery. **Figure 1** shows the location of the proposed amendment.

The air quality impact assessment focussed on the impact on air quality due to the extraction and haulage on-site. As the approved haulage route from the Aberdare East site to Hebburn No. 3 Washery was primarily along sealed roads and/or existing fire trails with no sensitive receptors nearby, it was not considered in the assessment.

It is noted that the proposed haul route will be sealed until the point where it meets the existing fire trail, and as such it is considered that the proposed haul route will also have minimal impact on local air quality.

Please feel free to contact me on 02 9874 8644 if you would like any clarification or if I can assist in any way.

Yours sincerely

Judith Cox
PAEHolmes

References:

Holmes Air Sciences (2006)
"Air Quality Impact Assessment: Hunter Enviro-Mining (Operations) Pty Limited" prepared for Wells Environmental Services on behalf of Hunter Enviro-Mining (Operations) Pty Ltd, 18 December 2006

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BRISBANE

GOLD COAST

TOOWOOMBA

A PEL COMPANY

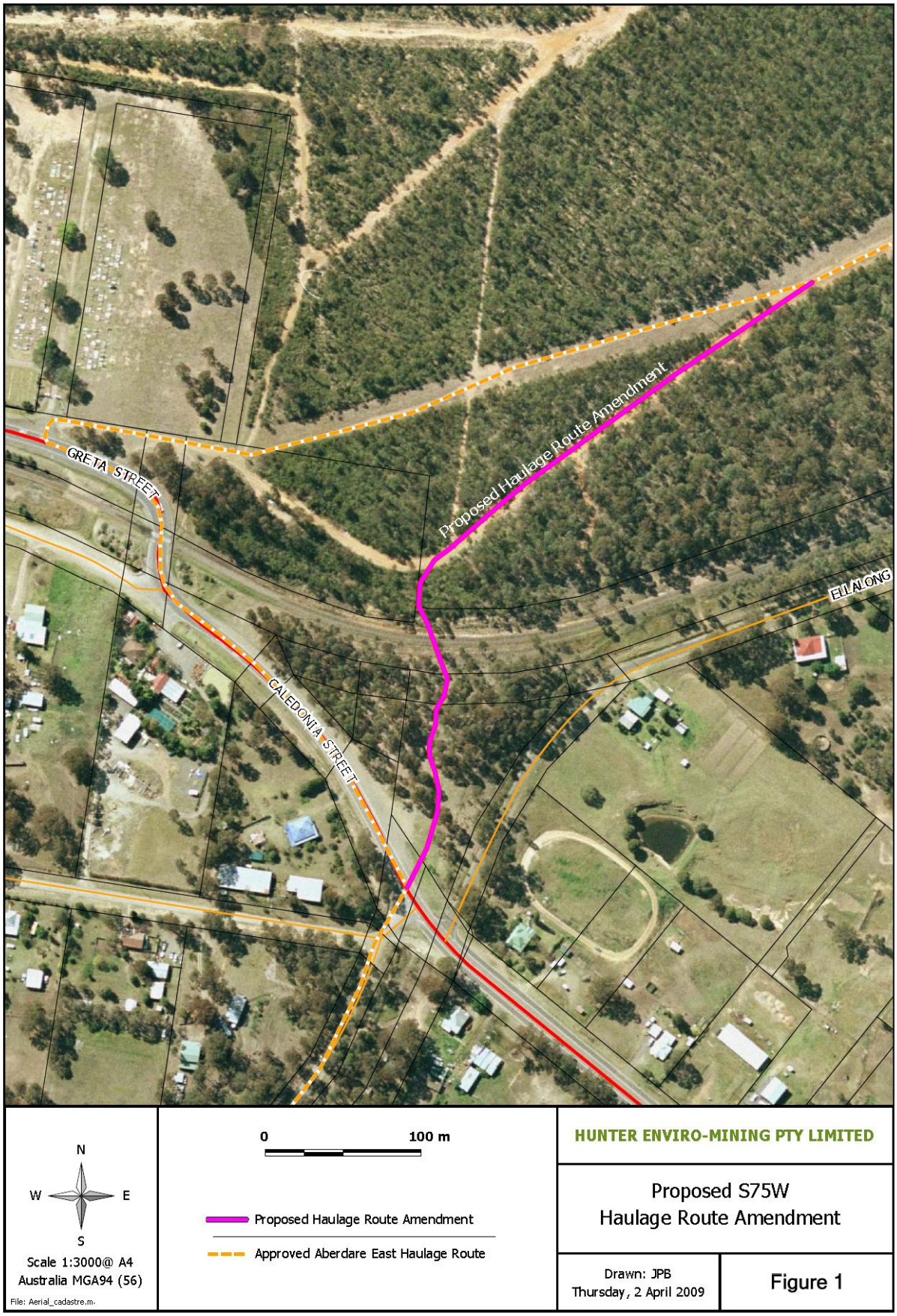


Figure 1: Proposed haulage route amendment

APPENDIX 7

11 August 2009

Ref: 06225/3217

Mr Alan Wells
Wells Environmental Services
PO Box 205
East Maitland NSW 2323

RE: PROPOSED S75W HAULAGE ROUTE AMENDMENT HEM – ABERDARE EAST

Dear Alan,

This letter is written in response to the proposed change to the haulage route from HEM's Aberdare East Chitter and Tailings Reclamation Project. This letter refers to data and conclusions referred to in our previous letter (in response to DECC queries, letter no. 6225/2336, dated 5 September, 2007) and, for completeness, should be read in conjunction with that letter.

The proposed route will run approximately north from take Caledonia Street, across the railway line and join up with an existing fire trail (shown in purple on **Figure 1** in Appendix A). The proponent has indicated that the section of the proposed route from Caledonia Street to the fire trail will be bitumen sealed.

The proposed route will be a private road and, therefore, noise from vehicles travelling along it must be assessed against the project specific noise goals as determined previously using the guidelines in the INP as shown below.

Aberdare East **38 dB(A) L_{eq} (15 min)**

Under the proposal there will be 20 truck movements per hour along the haul road for the duration of the project.

The NIA for the project states that there will be a truck arriving, departing or loading constantly throughout a 15 minute period. The nature of truck movements and, consequently, potential vehicle noise impacts will be intermittent. At a rate of 20 truck movements in an hour this equates to one movement past a receiver every three minutes which is not acoustically constant.

As shown in Figure 1 there are several residences which may be potentially impacted by the noise from trucks on the proposed haul route. The nearest residences to the proposed haul route are near the intersection with Caledonia Street, with the closest being approximately 70m away.

As per the calculations detailed in our earlier letter, the received noise from trucks travelling at 40 kph, at a distance of 70m would be 47 dB(A) Leq (15 min) (i.e. assuming a constant rate of 5 trucks in 15 minutes). This is 9 dB(A) over the adopted noise goal for the site.

The received noise at this, and other residences in the vicinity of the haul road, would be as shown in **Table 1** (residence numbers are as per Figure 1).

TABLE 1
RECEIVED TRUCK NOISE LEVELS dB(A) Leq (15min)

House number/Distance to receiver	Received Noise Level
1/70m	47
2/100m	46
3/75m	47
4/110m	46
5/175m	43

The results in Table 1 show that received noise levels will exceed the adopted noise goal by between 5 and 9 dB(A) Leq (15 min) under the assessed conditions.

It must be noted, however, that the noise goal for the project is based on a background noise level measured in Cessnock Street, Aberdare in May 2006. Cessnock Street, Aberdare is in a relatively quiet suburban area with the acoustic environment "characterised by domestic and natural sounds such as insects". Residences near the proposed haul route are either closer to a main road (residences 1, 2 and 3 and to some extent 4) or to the railway line (residences 4 and 5). The acoustic environment at these locations is likely to be heavily influenced by noise from vehicles on the road and trains.

The original proposal for the project had tracks travelling along Caledonia Street and then onto Greta Street. The received noise, from project related trucks, at residences 1, 2 and 3 would be very similar under both of the considered scenarios. That is, these residences would be subjected to the same noise levels but under the current proposal the noise criterion would be lower because the trucks would be travelling on a private road (as opposed to a public road).

Similarly residence 4 is approximately 175 m from the original haul route on Caledonia Street and residence 5 approximately 300m. The received noise as a result of trucks travelling on the proposed haul road would be approximately 2 and 3 dB(A) higher, respectively, at these residences, compared to noise from the original, Caledonia Street, proposal.

Consideration should also be given to the relatively short term nature of the project and, therefore, the noise. Noise goals derived from the INP are, typically, derived to protect the acoustic amenity of an area in relation to the medium to long term impacts from industrial noise. For shorter duration events such as construction activities, for example, the noise goals are usually higher and are variable depending on duration of the proposed activity. The reason the recommended construction criteria vary depending on construction time is due to the community being more readily prepared to accept increased noise levels if they are of limited duration.

From the intersection with Caledonia Street to the existing fire trail the proposed haul route will be a new road and, therefore, must be constructed. It is proposed that the road will wind through large

trees on the site and there will, therefore, be limited tree felling. Construction noise will come from the initial earthworks/site preparation and then the bitumen sealing of that section of road.

At the completion of the project the road will have to be removed.

Noise from the construction and removal of the road will be of a very short term nature and the following general recommendations are made to minimise potential impacts and maintain the amenity of the surrounding areas.

It is recommended that close liaison with the potentially affected receivers be initiated at the earliest opportunity.

In this instance it is recommended that all neighbouring residents (at residences 1, 2, 3, 4 and 5) be notified of the proposed works. Particular emphasis should be placed on the time frame of the works.

A contact name and phone number of a responsible person should be given out so that complaints can be dealt with effectively and efficiently. All complaints or communication should be answered.

During the liaison process note should be made of any particularly noise sensitive activities that may be occurring and care be taken to avoid scheduling noisy works at these times.

All personnel working on the job including contractors and their employees should be made aware of their obligations and responsibilities with regard to minimising noise emissions.

Contractors should familiarise themselves with methods of controlling noisy machines and alternative construction procedures. These are explained in AS2436-1981 “Guide to Noise Control on Construction, Maintenance and Demolition Sites”.

Activities that are known or have the potential to create excessive noise should, where possible, be scheduled to occur at times to cause least annoyance to the community. Carrying out such work during early morning should be avoided. This includes start up and idling etc. of heavy machinery prior to commencement of work.

Mechanical plant should be silenced using best available control technology. Noise suppression devices should be maintained to manufacturer’s specifications. Internal combustion engines should be fitted with appropriate, well maintained, high efficiency mufflers.

Machines which are used intermittently should either be shut down in the intervening periods between work or throttled down to a minimum.

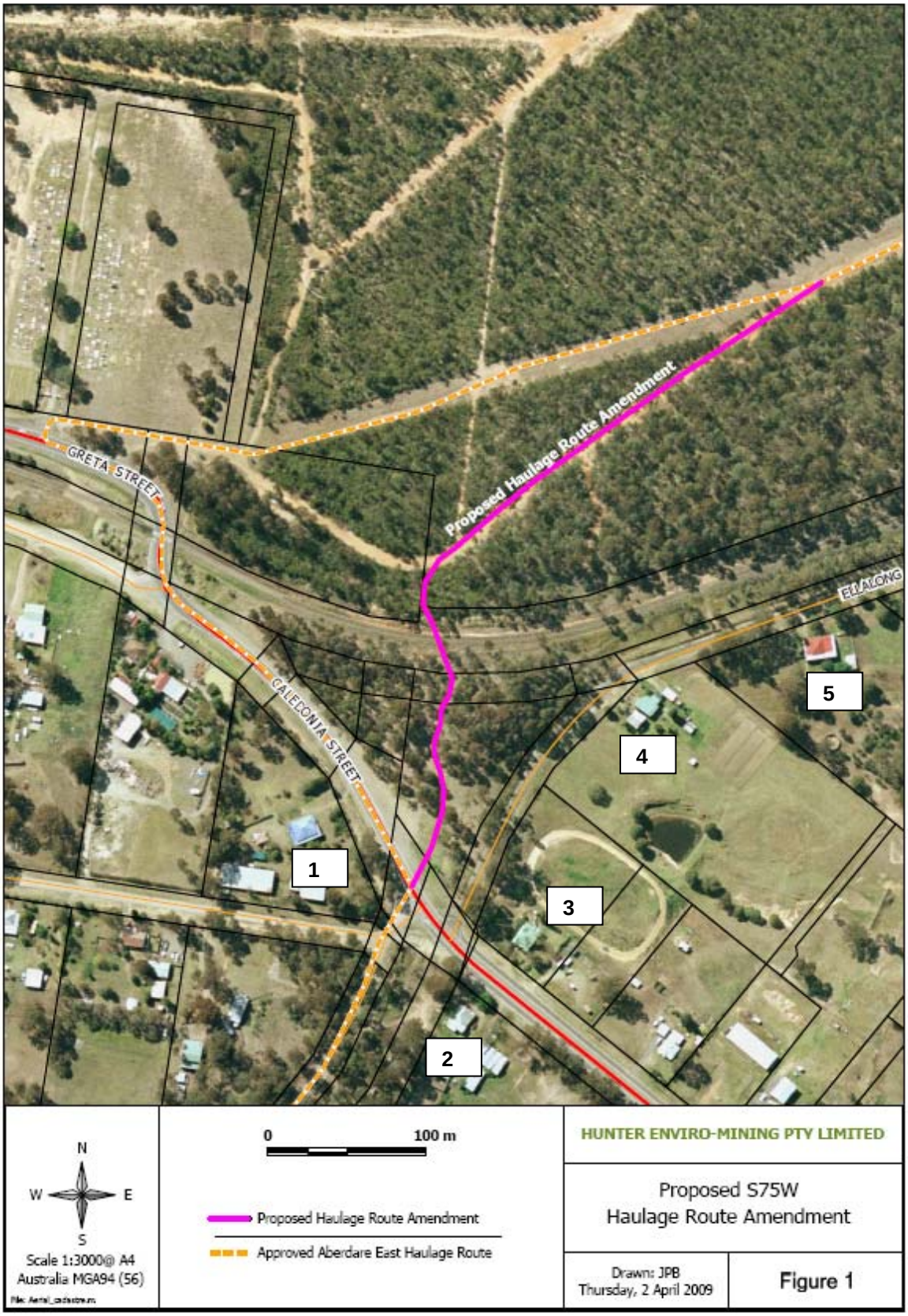
Any portable equipment with the potential to create high levels of noise eg compressors, generators etc should only be selected for use if it incorporates effective noise control. This equipment should be located where practical so that natural ground barriers or site sheds etc are between it and the nearest potentially affected receivers.

Where possible loading and unloading of plant and materials should be carried out away from potentially affected receivers.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please do not hesitate to contact the undersigned.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Ross Hodge
Acoustical Consultant


GRETA STREET
Proposed Haulage Route Amendment
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Proposed Haulage Route Amendment
Approved Aberdare East Haulage Route
HUNTER ENVIRO-MINING PTY LIMITED
Proposed S75W
Haulage Route Amendment
Drawn: JPB
Thursday, 2 April 2009
Figure 1