

# PROPOSED MODIFICATION TO HVO SOUTH COAL PROJECT



## Environmental Assessment

Prepared for Coal & Allied Operations Pty Limited | May 2010



**COAL  
&  
ALLIED**



*Managed by Rio Tinto Coal Australia*

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## Proposed Modification to HVO South Coal Project

Final Report

J10017 | Prepared for Coal & Allied Operations Pty Ltd | 17 May 2010

|             |   |             |   |
|-------------|---|-------------|---|
| Prepared by | Joanna Greenlees  | Approved by | Brett McLennan  |
| Position    | Environmental Scientist   | Position    | Director  |
| Signature   |  | Signature   |  |
| Date        | 17 May 2010   | Date        | 17 May 2010   |

The preparation of this report has been in accordance with the brief provided by the Client and has relied upon the data and results collected at or under the times and conditions specified in the report. All findings, conclusions or recommendations contained within the report are based only on the aforementioned circumstances.

### Document Control

| Version | Date        | Prepared by | Reviewed by |
|---------|-------------|-------------|-------------|
| A       | 6 May 2010  | JG          | BM          |
| B       | 11 May 2010 | JG          | BM          |
| C       | 14 May 2010 | BM          | PM          |
| D       | 17 May 2010 | BM          | PM          |

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# 1 Introduction

This Environmental Assessment (EA) has been prepared to support an application under Section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to modify the Hunter Valley Operations South (HVO South) Coal Project Approval 06\_0261.

The modification proposed is to reallocate the Archerfield Property provided as a Biodiversity Enhancement Area to offset impacts caused by the clearing of native remnants (48ha) and regrowth (92ha) for the HVO South Coal Project to an alternative site within the Goulburn River Biodiversity Area (see Figure 1.1). The Archerfield Property is herein referred to as Archerfield.

The modification proposed would allow Archerfield to be used as part of the Northern Biodiversity Offset Area for the proposed Warkworth Extension.

Hunter Valley Operations (HVO) is an open cut coal mining complex owned by Coal & Allied Operations Pty Limited (Coal & Allied) in the Hunter Valley, located approximately 18 kilometres (km) west of Singleton (Figure 1.1). The HVO is split geographically by the Hunter River into HVO North and HVO South. While HVO South and HVO North have separate project approvals, HVO is managed as an integrated operation.

## 1.1 Background

The HVO South operations, which comprises the Cheshunt, Riverview and Lemington pits and the Lemington Coal Preparation Plant (CPP), are located within the Singleton local government area. The area surrounding the site is dominated by coal mining, industrial development and agriculture.

The movement of coal, coarse and fine reject, overburden, topsoil, operational water, equipment, materials and personnel may occur between HVO South and HVO North.

The HVO North operations comprise the active West, Carrington and North pits and the mined out Alluvial Lands. In addition, three coal preparation plants (CPPs) are located at HVO North; Hunter Valley CPP, Newdell CPP and Howick CPP. There are two train load out areas; Hunter Valley Load Point and Newdell Load Point. In addition, Ravensworth Coal Terminal is utilised.

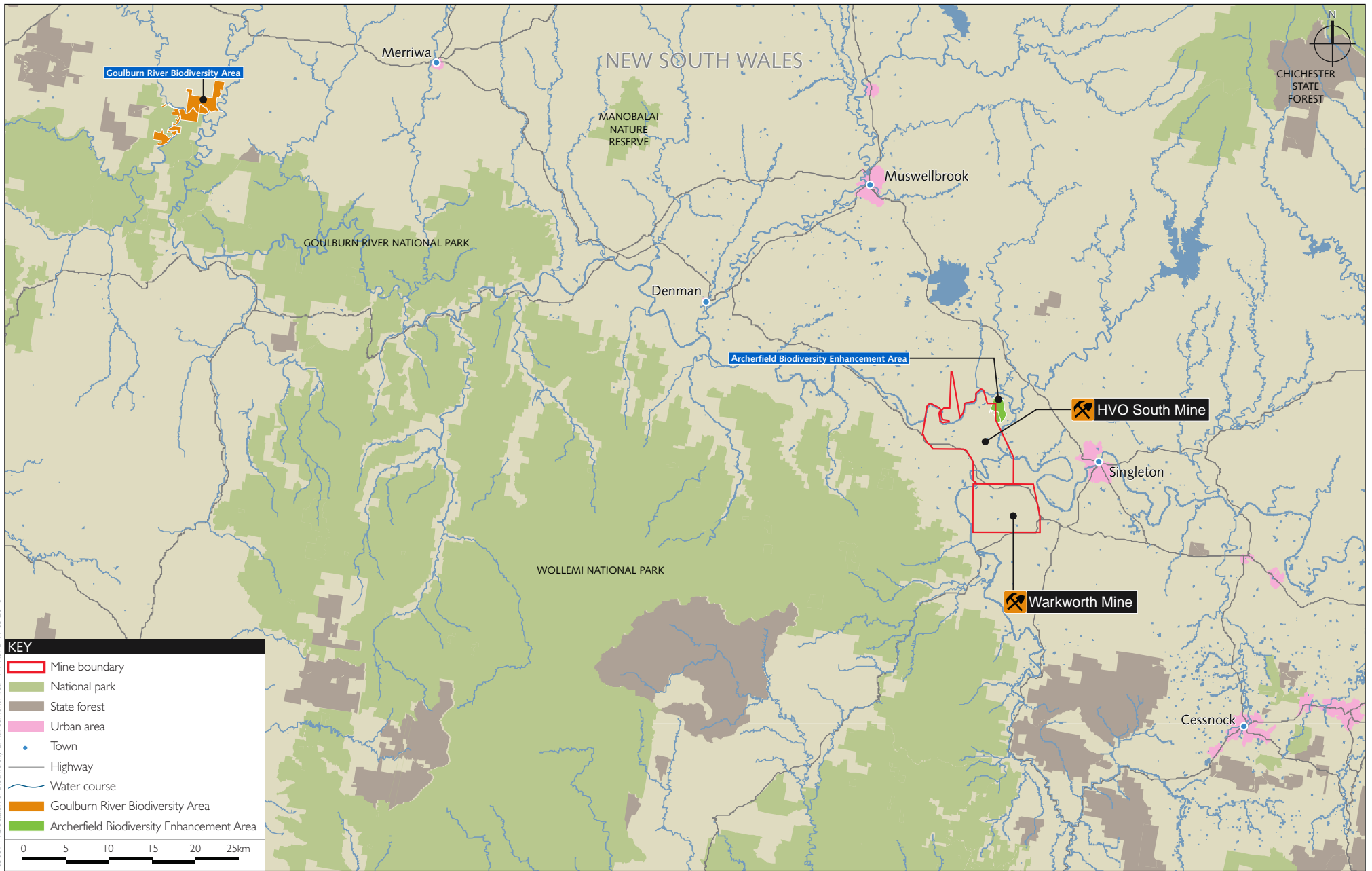
## 1.2 Approval history

Coal & Allied's HVO has expanded over time through a process of extension of existing mines and acquisition of additional mines. As a result there were numerous historic development approvals that applied to the operation.

In 2003, Coal & Allied obtained development consent for the continued operation and amalgamation of all its coal mining and processing operations north of the Hunter River. This consent also amalgamated 18 differing consents and approvals with a single, unambiguous consent that sets out Coal & Allied's obligations, limits and controls for the HVO North operations.

In 2009, Coal & Allied obtained project approval for the continued operation and amalgamation of all coal mining and processing operations south of the Hunter River. The project approval also amalgamated 25 separate consents and 10 associated modifications that apply to HVO South with a single project approval. The current Project Approval 06\_0261 is included in Appendix A.

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030374 Relocation of Biodiversity Enhancement Area F.I.I. Rev. B | 11 05 2010



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## 2 Proposed modification

The modification proposed is to reallocate remnant woodland vegetation and native enhancement areas (140ha) in Archerfield to an alternative site within the Goulburn River Biodiversity Area (as shown in Figure 1.1). Archerfield was provided as a “Biodiversity Enhancement Area” to offset impacts caused by the clearing of native remnants (48ha) and regrowth (92ha) vegetation for the HVO South Coal Project.

The modification proposed would allow the Archerfield Biodiversity Enhancement Area to be used as part of the Northern Biodiversity Offset Area for the proposed Warkworth Extension. Further details of the proposed Warkworth Extension and the Northern Biodiversity Offset Area are provided in the *Proposed Warkworth Extension Environmental Assessment* (EMGA Mitchell McLennan 2010).

### 2.1 HVO South ecological assessment

The ecological assessment for the HVO South Coal Project (*Hunter Valley Operations South Coal Project, ERM 2008*) considered the previous assessments undertaken and the potential direct, indirect and cumulative impacts of the existing approvals for vegetation clearance within HVO South. Any threatened species, populations or ecological communities not previously assessed under section 5A of the EP&A Act and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) were identified and discussed with respect to the potential for them to be impacted by existing approvals for vegetation clearance within HVO South.

The ecological assessment was made on the basis that previous impact assessments have concluded that no significant impacts to threatened species or ecological communities were expected. Much of the habitat upon which these assessments were undertaken has since been cleared due to approved mining operations.

The ecological assessment for the HVO South Coal Project (*Hunter Valley Operations South Coal Project, ERM 2008*) found that the majority of general environments at HVO South are low in habitat complexity. The greatest number of species recorded at HVO South were birds, with a general low diversity of ground-dwelling and arboreal mammal species, reptiles and amphibians. This would be expected given the isolated nature of the vegetation remnants found within HVO South, making them more suited to mobile species such as birds and bats.

The diversity of flora species varied across the site and was greatest in areas where disturbance levels were low or where disturbances have been removed. All areas contained exotic species, which were generally dominant in areas of high disturbance such as roadsides and riparian zones.

Three extension areas were proposed for the HVO South Coal Project. Only one of the extension areas had not been assessed in previous ecological impact assessments undertaken at HVO South. This area located to the south east of the Riverview Pit, and covers some regrowth woodland, cleared and developed land and part of the Hunter Valley Gliding Club property. The area contains previously disturbed and cleared land with some regrowth woodland (immature trees to 8m and Diameter at Breast Height of 10cm) and was considered to be of limited value as fauna and flora habitat. Threatened birds such as the Grey-crowned Babbler may forage in this area but it is unlikely that any fauna species would rely on this area for resources given its current condition, and the availability of habitat in adjacent areas. Therefore it was considered that the removal of this small area was unlikely to impact on any threatened species such that potential impacts would be significant.

The HVO South Coal Project involves increasing the area of mining and infrastructure disturbance by 250ha, which includes 48ha of remnant vegetation and 92ha of regenerated vegetation. None of these areas to be cleared include the State listed Warkworth Sands Woodland (WSW). The assessment of extension areas concluded that no threatened or endangered species or communities will be significantly impacted by the proposal.

A site-specific conservation significance assessment was developed as part of the ecological assessment to identify areas that provided the greatest biodiversity enhancement opportunities. This assessment rated the various ecological parameters of each area to be cleared and of adjoining remnant vegetation areas as identified by Coal & Allied.

## 2.2 Archerfield Biodiversity Enhancement Area

The conservation significance assessment undertaken for the HVO South Coal Project (*Hunter Valley Operations South Coal Project, ERM 2008*) identified the highest rating area as Archerfield, this area is located to the north east of the Project Application area. The 140ha area of remnant woodland vegetation and native enhancement area was retained and managed for its potential to provide a significant area of habitat for native flora and fauna.

The 140ha offset was proposed to provide a biodiversity enhancement area, the Archerfield Biodiversity Enhancement Area for the life of the development (see Figure 2.1). It was determined that the area was appropriate to provide a reasonable biodiversity offset for the loss of vegetation and habitat that would be caused by the project.

The Archerfield Biodiversity Enhancement Area contains 123.3ha of woodland including almost 20ha of WSW. The conservation and ongoing management of this higher value woodland and the potential for WSW to regenerate in the area was proposed to result in the ongoing viability of a large area of flora and fauna habitat within HVO South and the locality.

The Archerfield Biodiversity Enhancement Area also has an extensive area of the soil type and geology required for the growth of WSW. These areas have recently been mapped as containing 195.8ha of Warkworth Sands Derived Native Grassland. This derived grassland does not form part of the 140ha offset for the HVO South Coal Project.

As previously discussed, the extension area assessed for the HVO South Project did not require the clearing of WSW and offsets were not required for this community.

## 2.3 The proposed Warkworth Extension

Warkworth Mining Limited (WML) operates Warkworth Mine, an existing open-cut mine located approximately 15km southwest of Singleton. Warkworth is one of several mines in the area, others being Mount Thorley, Bulga and Wambo mines and HVO. Economic resources of coal have been identified south and south west of the Warkworth Mine and WML is seeking a project approval under the EP&A Act to extend mining activities into these areas, refer to *Proposed Warkworth Extension Environmental Assessment* (EMGA Mitchell McLennan 2010).

Biodiversity offset areas have been proposed for the proposed Warkworth Extension. These include the Southern, Northern and Goulburn River Biodiversity Areas. Warkworth Sands Woodland covers approximately 202.0ha of the study area for the proposed Warkworth Extension. Of this, approximately 103.5ha of WSW is proposed to be progressively cleared consisting of high and medium quality vegetation. This includes 35.6ha that has been previously approved for clearing before 2017, with a further 67.9ha proposed to be progressively cleared after nominally 2017.

The quality of WSW varies considerably and can be considered to vary from high to low depending upon species composition, structural formation and the level of recent disturbance. The higher quality areas tend to occur on deep sands and have the full complement of tree and shrub species associated with this community, while the low quality vegetation typically consists of grassland with scattered trees.

The occurrences of WSW have been assessed and mapped in an attempt to offset impacts from the proposed clearing of 103.5ha of this community for the proposed Warkworth Extension. Accordingly, WML propose to avoid and protect 104.9ha (19.5ha at Archerfield) as offsets for this community and proposes to enhance and re-establish some 195.8ha (mapped as Warkworth Sands Derived Native Grassland) of this community within a Northern Biodiversity Area at Archerfield; to establish a large, fully functioning ecological community.

Approximately 103.8ha of the Central Hunter Grey Box- Iron Bark Woodland contained at Archerfield is also proposed to offset clearing for the proposed Warkworth Extension.

## 2.4 Justification

The proposed modification to the HVO South Project Approval 06\_0261 proposes that the Archerfield Biodiversity Enhancement Area would be better utilised as an offset area for the proposed Warkworth Extension, which is likely to have an impact on the State listed WSW, refer to *Proposed Warkworth Extension Environmental Assessment* (EMGA Mitchell McLennan 2010).

Coal & Allied and WML have considered options for offsetting both the HVO South Coal Project and the proposed Warkworth Extension using an integrated approach aimed at achieving the best conservation outcomes for the impacts from their respective activities on Endangered Ecological Communities (EEC) and threatened species. In order to achieve strategic conservation outcomes both mines have reassessed their current offset strategies.

The HVO South Coal project required approximately 140ha of general woodland vegetation to be conserved for the life of the development. This general woodland vegetation could be offset within the Goulburn River Biodiversity Area. This area has a high biodiversity value and ability to regenerate. The Goulburn River Biodiversity Area offers greater habitat complexity and strategic conservation outcomes than that provided by the current offset arrangements of 140ha of general woodland for HVO South. Further details on the Goulburn River Biodiversity Area are provided in Section 2.5.

The ability to include the Archerfield Biodiversity Enhancement Area as part of the Northern Biodiversity Area for the proposed Warkworth Extension also has long term strategic conservation outcomes. The proposed Northern Biodiversity Area has been developed to conserve and re-establish significant areas of WSW whereas the offset for HVO South in this area was to conserve 140ha of general woodland. The sands provide a higher order use for re-establishing WSW.

The desired outcome of enhancement and re-establishment of the WSW community in the biodiversity areas is considered achievable through research undertaken by the University of New England and site selection. The Warkworth Sands Derived Native Grassland in the Archerfield Biodiversity Enhancement Area contains a naturally occurring intact sand profile which once supported the WSW. This sand profile provides the foundation and hydrology suitable for the re-establishment of the woodland. The Northern Biodiversity Area provides an increase in the area of conservation to 342ha. This area will offer long term protection of 123.3ha of woodland (including almost 20ha of WSW to be enhanced) as well as conservation, re-establishment and long term protection of some 195.8ha of WSW. A Biodiversity Management Plan has been prepared for all the offsets for the proposed Warkworth Extension, including the Goulburn River Biodiversity Area and is included in Annex E of the *Proposed Warkworth Extension*

*Environmental Assessment* (EMGA Mitchell McLennan 2010). The vegetation and threatened species locations of the Northern Biodiversity Area are shown in Figure 2.2 and Figure 2.3, respectively.

## 2.5 Goulburn River Biodiversity Area

The Goulburn River Biodiversity Area is also proposed to form part of the offsets for the proposed Warkworth Extension and includes 140ha for reallocating the HVO South offset.

The Goulburn River Biodiversity Area is approximately 1,562ha in size and is located approximately 100km to the north west of HVO (see Figure 1.1). The property sits adjacent to the northern side of Goulburn River National Park and has river frontage along the Munmurra and Goulburn rivers and includes the junction of the two rivers. The site also sits a short distance from the Krui River, which along with the Munmurra, has a constant flow of water fed by underground aquifers upstream. The vegetation on the site has been generally cleared along the river flats while the vegetation of the lower foothills and upper sandstone escarpments seems relatively undisturbed. Despite the past agricultural use of the river flat areas weed invasion was found to be relatively low.

The vegetation on the river flats and valley floor corresponds to the State listed EEC Box Gum Grassy Woodland and Derived Native Grasslands with canopy species, where present, including White Box, Yellow Box and Blakely's Red Gum. Regeneration of the canopy species is common throughout the valley floor and it is considered that the vegetation would return to a functioning sustainable community with the cessation of grazing. The riparian vegetation is dominated by River Oak and Roughbarked Apple while the vegetation of the lower foothills forms four different intergrading communities with composition depending upon slope, geology and aspect. These communities are; a shrubby version of the State listed EEC White Box woodland; Rough-barked Apple woodland; Narrow-leaved Ironbark woodland and Slaty Gum (*Eucalyptus dawsonii*) open woodland. The upper slopes and ridges typically contain two intergrading communities dominated by Narrow-leaved Ironbark and Narrowleaved Stringybark as well as Narrow-leaved Ironbark and Grey Gum (*Eucalyptus punctata* var. *punctata*). Other canopy species occur within these communities depending upon location such as Black Cypress Pine (*Callitris endlicheri*), Bulloak (*Allocasuarina luehmannii*) and Brown Bloodwood (*Corymbia trachyphloia*).

The site provides known habitat for the State listed endangered species *Pomaderris queenslandica*, five separate epiphytic Tiger Orchids (the species forms part of an endangered population in the Hunter Catchment), Speckled Warbler, Brown Treecreeper and Diamond Firetails. It is also considered possible that during flowering periods that this site could provide potential breeding habitat to the Regent Honeyeater particularly during heavy canopy tree or mistletoe flowering periods. The Goulburn River Biodiversity Area is located approximately 100km to the north of the Capertee Valley, an area known to be the core breeding habitat for this species. Due to the nomadic foraging habits of the Regent Honeyeater it is not unlikely that the species would forage and/or breed on this site if suitable blossoming is present. The vegetation and threatened species locations of the Goulburn River Biodiversity Area are shown in Figure 2.4 and Figure 2.5, respectively.

It is proposed to allocate 140ha of the Narrow Leafed Iron Bark woodland (refer to Figure 2.4) for the HVO South Coal Project. The offset is incorporated and integrated within the Goulburn River Biodiversity Area.

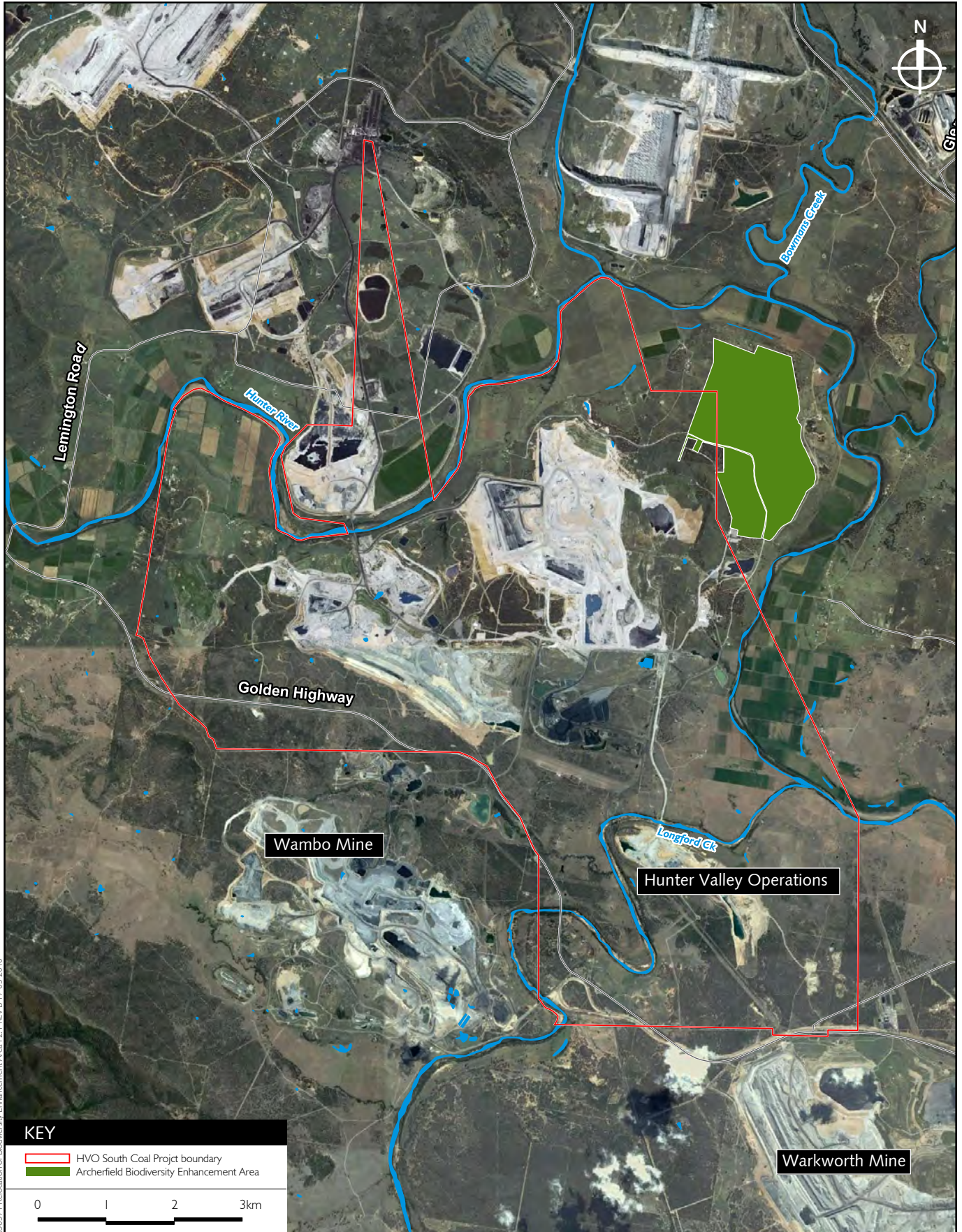
The Goulburn River Biodiversity Area offers long term protection and security of forest and woodland due to its location immediately adjacent to the Goulburn River National Park (see Figures 2.4 and 2.5). The implementation of the Goulburn River Biodiversity Area, an area of 1,562ha (including 140ha offset for HVO South) when coupled with strong biodiversity management practices and long term security of the land for conservation purposes would produce a net improvement in biodiversity outcomes.



## 2.6 Monitoring and management plans

The Goulburn River Biodiversity Area will be reserved for long term conservation and will be managed by the proposed Warkworth Biodiversity Management Plan which has been prepared for all the offsets for the proposed Warkworth Extension including the Goulburn River Biodiversity Area and the reallocation of the HVO South offset. The proposed Warkworth Biodiversity Management Plan is contained in Annex E of the *Proposed Warkworth Extension Environmental Assessment* (EMGA Mitchell McLennan 2010).

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030374 Relocation of Biodiversity Enhancement Area F2.1 Rev. B 17.05.2010

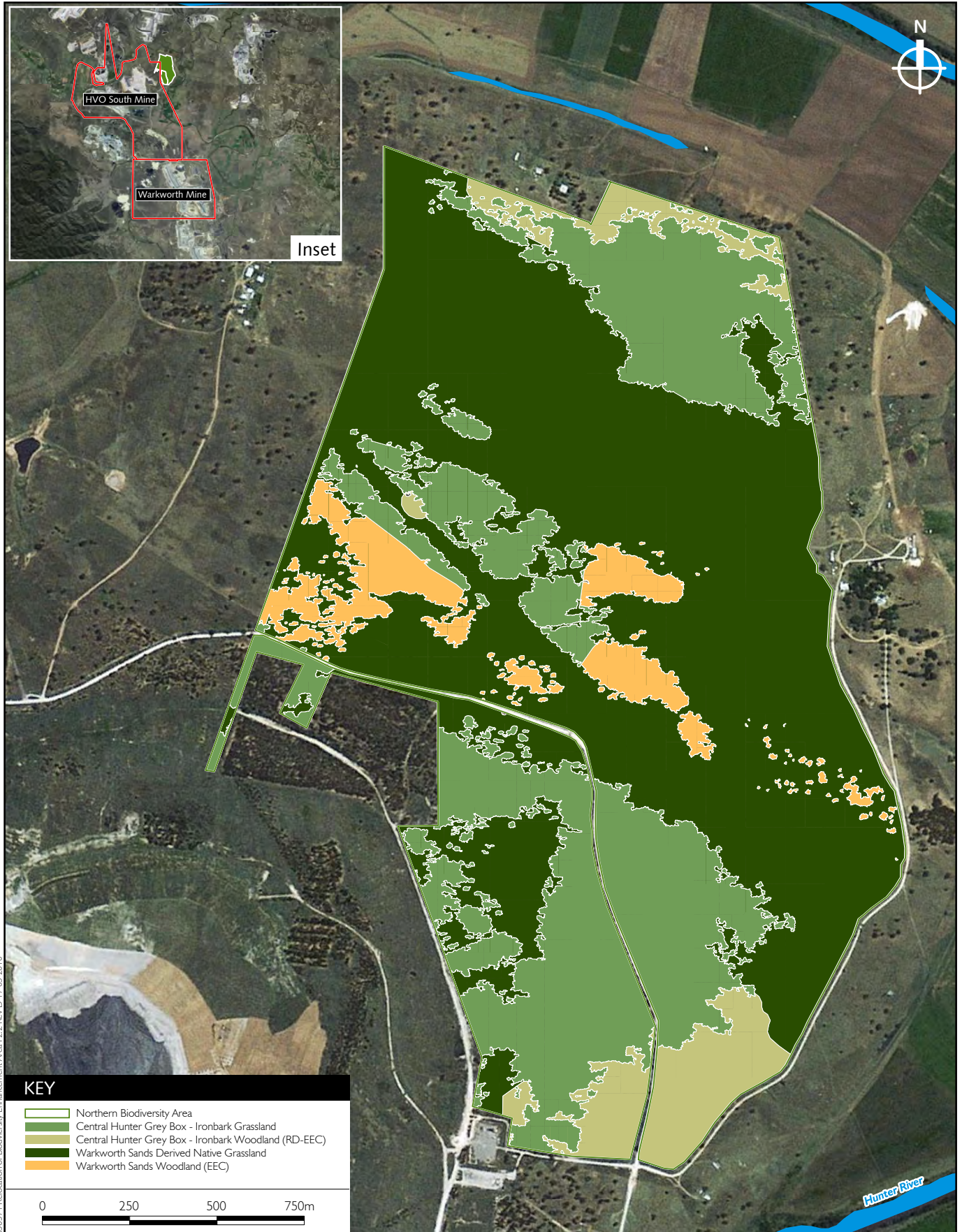
**KEY**

- HVO South Coal Project boundary
- Archerfield Biodiversity Enhancement Area

0 1 2 3km

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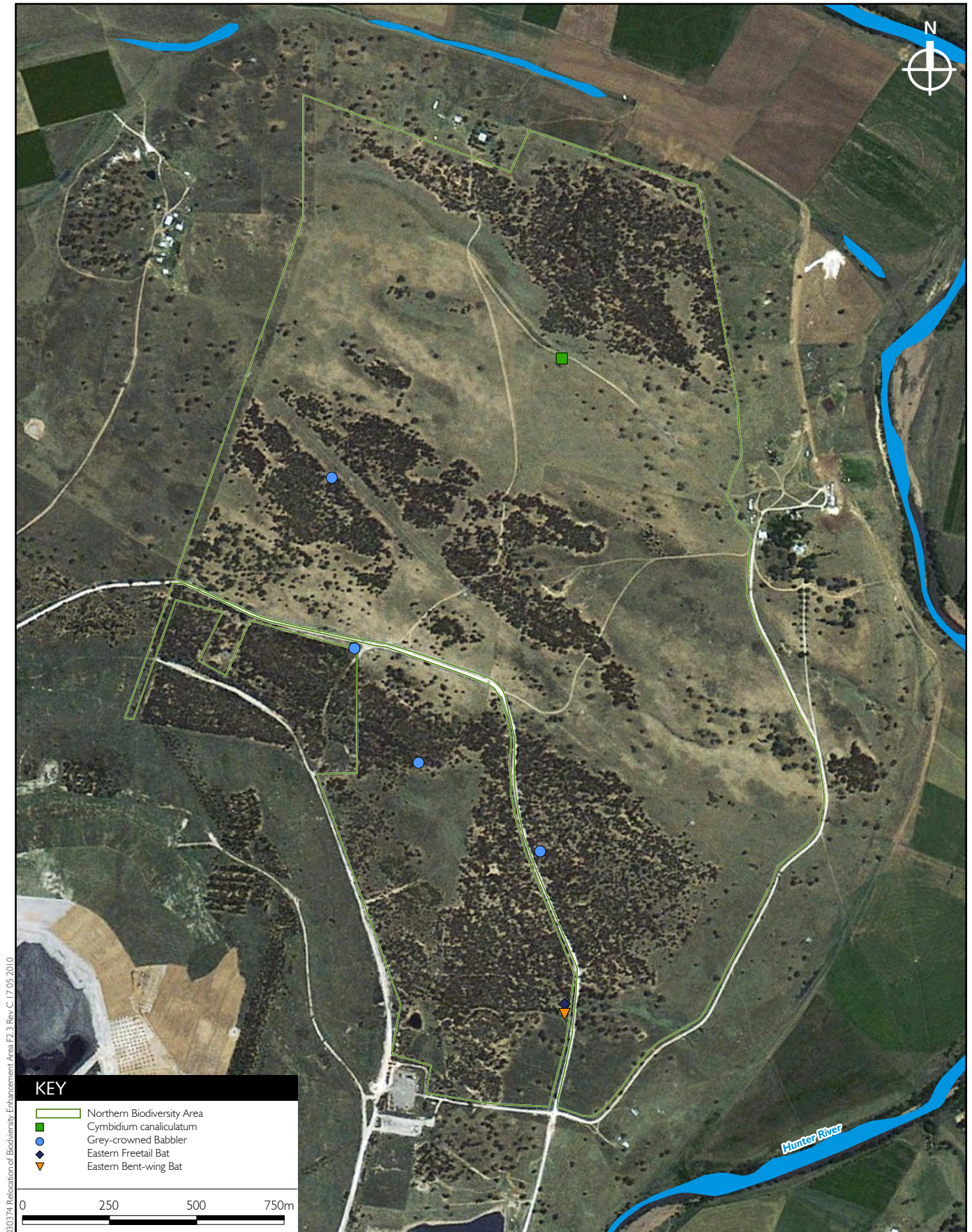




030374 Relocation of Biodiversity Enhancement Area F2.2, Rev. D 17.05.2010

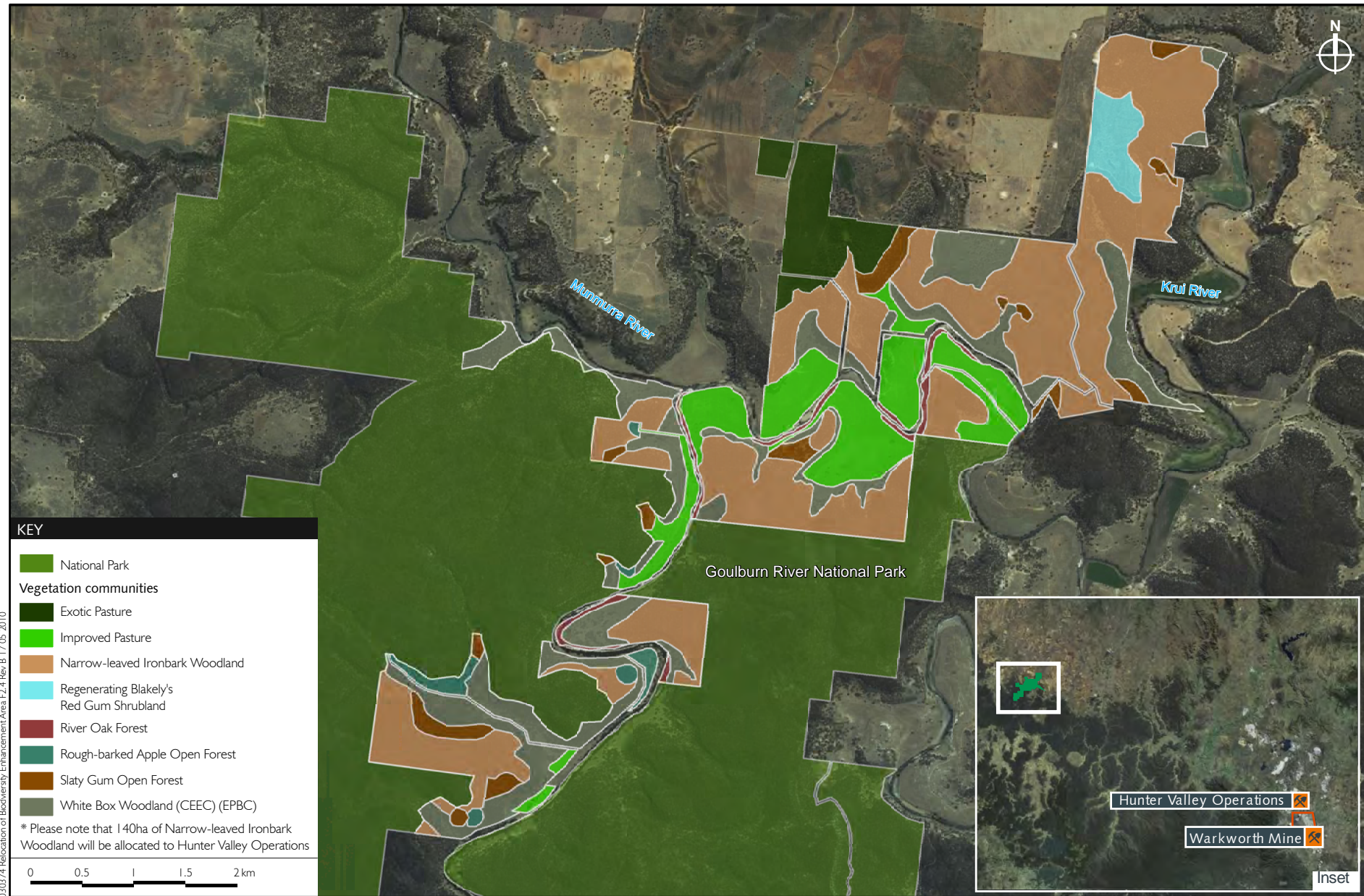


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030374 Relocation of Biodiversity Enhancement Area F2.4 Rev. B. 17.05.2010

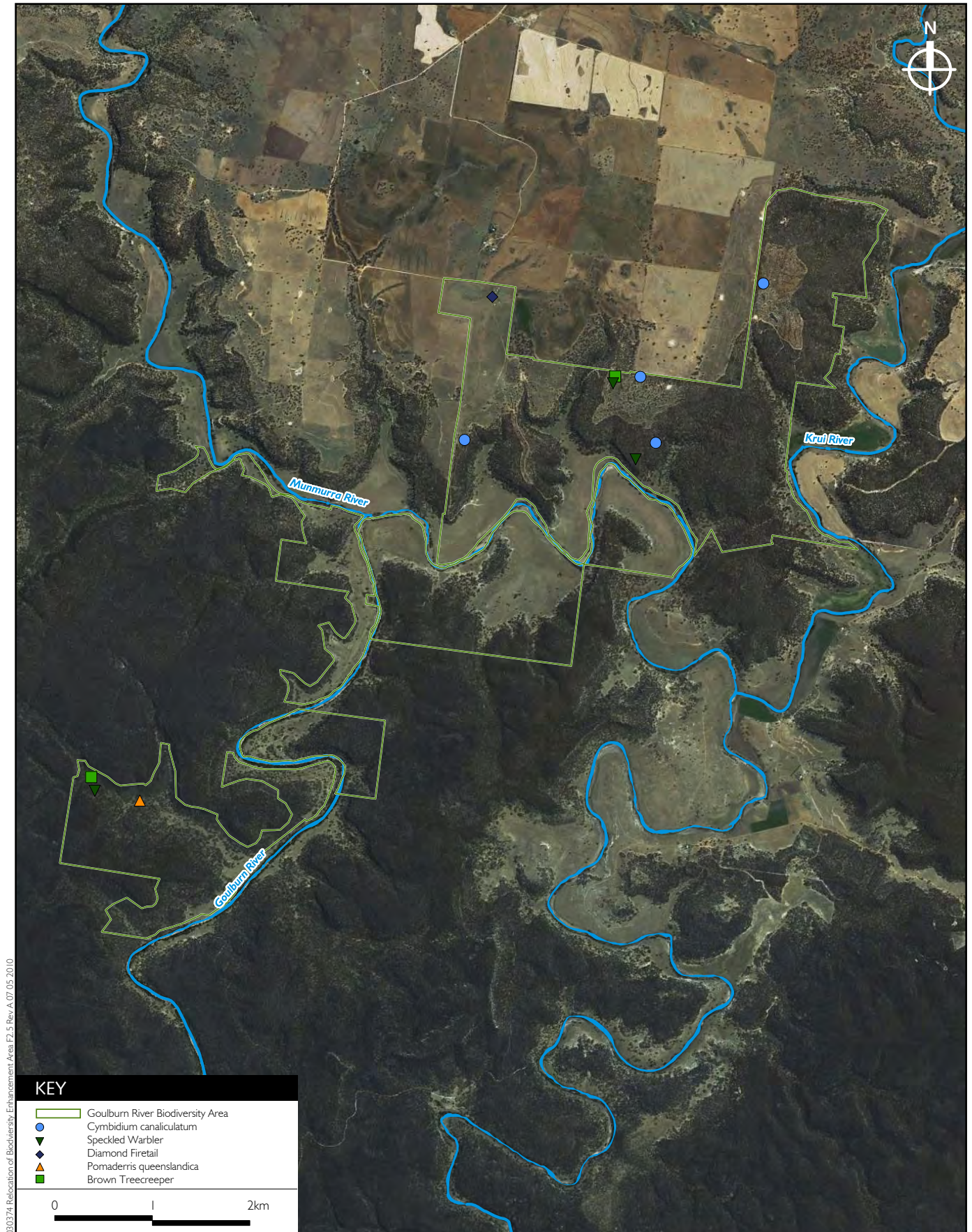
Vegetation Communities within the Goulburn River Biodiversity Area

Proposed Modification to HVO South Coal Project - Environmental Assessment

FIGURE 2.4

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030374 Relocation of Biodiversity Enhancement Area F2.5 Rev A 07/05/2010

Threatened Species within Goulburn River Biodiversity Area  
 Proposed Modification to HVO South Coal Project - Environmental Assessment

FIGURE 2.5

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### 3 Conclusion

The Archerfield Biodiversity Enhancement Area was provided to offset impacts for the life of the development caused by the clearing of native remnants (48ha) and regrowth (92ha) vegetation for the HVO South Coal Project. This proposed modification to HVO South Coal Project Approval 06\_0261 is to reallocate remnant woodland vegetation and native enhancement areas (140ha) at Archerfield to an alternative site within the Goulburn River Biodiversity Area (see Figure 2.1). The modification proposed would allow Archerfield to be used as part of the Northern Biodiversity Area for the proposed Warkworth Extension.

The ability to transfer the Archerfield Biodiversity Enhancement Area as part of the Northern Biodiversity Area for the proposed Warkworth Extension enables the use of the sands for the long term conservation and re-establishment of the endangered WSW. The Northern Biodiversity Area has a high biodiversity value and ability to regenerate for a net positive impact on the WSW. The Northern Biodiversity Area provides an increase in the area of conservation from 140ha to 342ha. This area will offer long term protection of 123.3ha of woodland (including almost 20ha of WSW to be enhanced) as well as conservation, re-establishment and long term protection of some 195.8ha of WSW. A Biodiversity Management Plan has been prepared for all the offsets for the proposed Warkworth Extension including the Goulburn River Biodiversity Area.

The HVO South Coal Project required approximately 140ha of general woodland vegetation to be conserved in the long term. Coal & Allied is proposing to utilise an area of 140ha of remnant Narrow-leaved Ironbark woodland within the Goulburn River Biodiversity Area to reallocate this offset and to make this area available for the proposed Warkworth Extension. The Goulburn River Biodiversity Area offers greater habitat complexity and strategic conservation outcomes than that provided by the current offset arrangements for HVO South.

Coal & Allied and WML have considered options for offsetting impacts for both the HVO South Coal Project and the proposed Warkworth Extension using an integrated approach aimed at achieving the best conservation outcomes for the impacts from their respective activities to provide a net positive impact. Coal and Allied recognises the impacts of their operations on biodiversity and seeks to provide suitable offsets for these impacts. The combination of the Northern Biodiversity Area increasing the conservation of Archerfield to 342ha with the inclusion of the HVO South offset of 140ha into the Goulburn River Biodiversity Area allows the development of both local and regional strategies to maintain and improve the conservation management and connectivity of ecosystems and habitats.

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# Appendix A

Current Project Approval



# Project Approval

## Section 75J of the *Environmental Planning and Assessment Act 1979*

I approve the project referred to in Schedule 1, subject to the conditions in Schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the on-going environmental management of the project.

The Hon Kristina Keneally MP  
**Minister for Planning**

Sydney

2009

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### SCHEDULE 1

|                             |   |
|-----------------------------|---|
| <b>Project Application:</b> | 06_0261                                     |
| <b>Proponent:</b>           | Coal and Allied Operations Pty Limited      |
| <b>Approval Authority:</b>  | Minister for Planning                       |
| <b>Land:</b>                | See Appendix 1                              |
| <b>Project:</b>             | Hunter Valley Operations South Coal Project |

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**Blue type represents December 2009 modification**



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## DEFINITIONS

|  |   |
|--|---|
| AEMR                                   | Annual Environmental Management Report  |
| BCA                                    | Building Code of Australia  |
| CCC                                    | Community Consultative Committee  |
| CHPP                                   | Coal handling and preparation plant   |
| Council                                | Singleton Shire Council   |
| CNA                                    | Coal and Allied Operations Pty Limited  |
| Day                                    | The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays   |
| DECCW                                  | <a href="#">Department of Environment, Climate Change and Water</a>   |
| Department                             | Department of Planning  |
| DII                                    | <a href="#">Department of Industry and Investment</a>   |
| Director-General                       | Director-General of Department of Planning, or delegate   |
| DSC                                    | <a href="#">Dams Safety Committee</a>   |
| EA                                     | Environmental assessment titled <i>Hunter Valley Operations South Coal Project Environmental Assessment Report, Volumes 1, 2 and 3</i> , dated January 2008, including the response to submissions  |
| EA (Mod 1)                             | <a href="#">Environmental Assessment titled <i>Raising of Lake James Dam</i>, dated October 2009, and the response to submissions (including its Statement of Commitments) dated November 2009</a>  |
| EP&A Act                               | <i>Environmental Planning and Assessment Act 1979</i>   |
| EP&A Regulation                        | <i>Environmental Planning and Assessment Regulation 2000</i>  |
| EPL                                    | Environment Protection Licence issued under the <i>Protection of the Environment Operations Act 1997</i>  |
| Evening                                | The period from 6pm to 10pm   |
| Habitat Management Area                | Habitat Management Area as identified in the Warkworth coal mine development consent (DA 300-9-2002)  |
| HVGC                                   | Hunter Valley Gliding Club Co-operative Limited   |
| HVO                                    | CNA's mining complex known as Hunter Valley Operations  |
| HVO North                              | CNA's activities and facilities at its HVO mining complex located north of the Hunter River   |
| HVO South                              | CNA's activities and facilities at its HVO mining complex located south of the Hunter River   |
| Independent Dispute Resolution Process | The independent dispute resolution process as described in Appendix 9   |
| LCPP                                   | Lemington coal preparation plant  |
| LCPP 'Short Loop' rail line            | The rail loop and coal loading facilities shown in Appendix 7   |
| Land                                   | Land means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval  |
| Material harm to the environment       | Material harm to the environment as defined in <i>Protection of the Environment Operations Act 1997</i>   |
| Mine water                             | Water that accumulates within active mining areas, coal reject emplacement areas, tailings dams and infrastructure areas (excluding sedimentation dams)   |
| Mining Operations                      | The removal and emplacement of topsoil and overburden, and the extraction, processing, and transportation of coal carried out on site   |
| Minister                               | Minister for Planning, or delegate  |
| Night                                  | The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays   |
| NOW                                    | <a href="#">NSW Office of Water</a>   |
| Offset Strategy                        | The conservation and enhancement program described in the EA  |
| Privately-owned land                   | Land that is not owned by a public authority, or a mining company (or its subsidiary)   |
| Project                                | The development described within the EA   |
| Project Area                           | The area outlined in broken red line in Figure 2 in Appendix 2  |
| Proponent                              | Coal and Allied Operations Pty Limited, or its successors in title  |
| Reasonable and feasible                | Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements. Feasible relates to engineering considerations and what is practical to build |
| Response to Submissions                | The Proponent's response to issues raised in submissions, dated July 2008 and 15 September 2008   |
| ROM                                    | Run-of-Mine   |
| RTA                                    | Roads and Traffic Authority   |
| Site                                   | The land subject to this Project Approval, as listed in Appendix 1 and shown conceptually in Figure 2 of Appendix 2   |
| Statement of Commitments               | The Proponent's commitments in Appendix 3   |

## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### Obligation to Minimise Harm to the Environment

1. The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.

### Terms of Approval

2. The Proponent shall carry out the project generally in accordance with the:
  - (a) EA;
  - (b) statement of commitments;
  - (c) EA (Mod1); and
  - (d) conditions of this approval.

*Notes:*

- The general layout of the project is shown in Appendix 2.
- The statement of commitments is reproduced in Appendix 3.

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.
4. The Proponent shall comply with any reasonable and feasible requirement/s of the Director-General arising from the Department's assessment of:
  - (a) any reports, plans, programs, strategies or correspondence that are submitted in accordance with this approval; and
  - (b) the implementation of any actions or measures contained in these reports, plans, programs, strategies or correspondence.

### Limits on Approval

5. Mining operations may take place for a period of 21 years from the date of this approval.

*Note: Under this approval, the Proponent is required to rehabilitate the site and complete a Biodiversity Offset Strategy to the satisfaction of the Director-General and DII. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been rehabilitated and the offsets provided to a satisfactory standard.*

6. The Proponent shall not extract more than 16 million tonnes of ROM coal a year from the site.

### Management Plans/Monitoring Programs

7. With the approval of the Director-General, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.
8. The Proponent shall ensure that monitoring programs, management plans and the Environmental Management Strategy, as in existence at the date of this approval in December 2008, continue to be implemented (to the satisfaction of the Director-General) until replaced by monitoring programs and management plans approved in accordance with the conditions of this approval.

### Surrender of Consents

9. Within 12 months of the date of this approval, the Proponent shall surrender all existing development consents and existing use rights associated with HVO South's mining operations and related facilities in accordance with clause 97 of the *EP&A Regulation*.
- 9A. Within 3 months of any modification to this approval, the Proponent shall review and if necessary revise any strategies/plans/programs required under this approval which are relevant to the modification to the satisfaction of the Director-General.

### Structural Adequacy

10. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

*Notes:*

- Under Part 4A of the *EP&A Act*, the Proponent is required to obtain construction and occupation certificates for the proposed building works.

- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.*

### **Demolition**

11. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

### **Operation of Plant and Equipment**

12. The Proponent shall ensure that all plant and equipment used on site is:
  - (a) maintained in a proper and efficient condition; and
  - (b) operated in a proper and efficient manner.

### **Development Contributions**

13. Within 12 months from the date of this approval (unless otherwise agreed by the Director-General), the Proponent shall enter into an agreement with Singleton Council to provide development contributions to Council for the project, in accordance with Division 6 of Part 4 of the EP&A Act.

If the Proponent and Council cannot agree on the level or composition of the development contributions, then either party may refer the matter to the Director-General for resolution.

### **Dispute Resolution**

14. In the event that the Proponent and the Council or a Government agency, other than the Department, cannot agree on the specification or requirements of this approval, the matter shall be referred by either party to the Director-General for resolution, whose determination of the disagreement shall be final and binding on the parties.
-

**SCHEDULE 3  
SPECIFIC ENVIRONMENTAL CONDITIONS**

**ACQUISITION OF AFFECTED PROPERTIES**

**Acquisition Upon Request**

1. Upon receiving a written request for acquisition from the owner of the land listed in Table 1, the Proponent shall acquire the land in accordance with the procedures in conditions 10-12 of schedule 4.

*Table 1: Land subject to acquisition upon request*

|   |                |
|---|----------------|
| 16 - Algie  | 38 - Henderson |
| 32 - Algie (Curlewis)                                     |                |
| Keys (vacant land - Lot 2 DP 770905 and Lot 84 DP 753792) |                |

*Note: 'Acquisition upon request' for 38 – Henderson commences with the recommencement of mining operations at any South Lemington pit.*

**NOISE**

**Noise Impact Assessment Criteria**

2. The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 2 at any residence on privately-owned land, or on more than 25% of any privately-owned land.

*Table 2: Noise impact assessment criteria dB(A)*

| <b>Land Number / Receiver</b>   | <b>Day</b>                        | <b>Evening</b>                    | <b>Night</b>                      | <b>Night</b>                    |
|---|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------|
|   | <b>L<sub>Aeq</sub>(15 minute)</b> | <b>L<sub>Aeq</sub>(15 minute)</b> | <b>L<sub>Aeq</sub>(15 minute)</b> | <b>L<sub>A1</sub>(1 minute)</b> |
| <i>Hunter Valley Gliding Club (when in use)</i>   | 55                                | 55                                | 55                                |                                 |
| 7– Stapleton (Cheshunt East)  | 41                                | 41                                | 41                                | 45                              |
| 10 – Moses (Wandewoi)   | 37                                | 37                                | 37                                | 45                              |
| <i>Maison Dieu residences</i>   |                                   |                                   |                                   |                                 |
| 16 – Algie  | 42                                | 42                                | 42                                | 45                              |
| 32 – Algie (Curlewis)   |                                   |                                   |                                   |                                 |
| 5 – Bowman, 47 – Moxey, 61 – Shearer and all other land on Shearer's Lane   | 41                                | 41                                | 41                                | 45                              |
| 34 – Ernst  | 40                                | 40                                | 40                                | 45                              |
| 50 – Nelson   |                                   |                                   |                                   |                                 |
| 24 – Clifton and Edwards and residences located within 250 metres of this residence, not otherwise listed in this table | 39                                | 39                                | 39                                | 45                              |
| Maison Dieu residences within 1 kilometre of Shearers Lane, not otherwise listed in this table                          | 37                                | 37                                | 37                                | 45                              |
| All other Maison Dieu residences  | 35                                | 35                                | 35                                | 45                              |
| <i>Jerrys Plains Road Residences</i>  |                                   |                                   |                                   |                                 |
| 36 – Smith (ex Garland)   | 36                                | 36                                | 36                                | 45                              |
| All Jerrys Plains Road residences other than Smith  | 35                                | 35                                | 35                                | 45                              |
| Jerrys Plains village residences  | 35                                | 35                                | 35                                | 45                              |
| <i>Warkworth residences</i>   |                                   |                                   |                                   |                                 |
| 38 - Henderson  | 48                                | 48                                | 48                                | 45                              |
| 23 – Hawkes (Springwood)  | 43                                | 43                                | 43                                | 45                              |
| 45 – Kelly and all other privately-owned land in Warkworth village  | 43                                | 43                                | 43                                | 45                              |
| All other privately-owned land  | 35                                | 35                                | 35                                | 45                              |

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 2, and a copy of this agreement has been forwarded to the Department and [DECCW](#), then the Proponent may exceed the noise limits in Table 2 in accordance with the negotiated noise agreement.

**Notes:**

- Noise impacts at HVCG are to be assessed in the immediate vicinity of its residential facilities and/or clubhouse. Noise impact assessment limits are only applicable during times of use that have been notified by HVGC to the Proponent.
- The land numbers and receiver references are as described in the EA, and shown in Appendix 4.
- To determine compliance with the  $L_{Aeq(15\text{ minute})}$  noise limits, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, the [DECCW](#) may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the  $L_{A1(1\text{ minute})}$  noise limits, noise from the project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the project is impractical, the [DECCW](#) may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- The noise emission limits identified in the above table apply under meteorological conditions of:
  - wind speeds of up to 3 m/s at 10 metres above ground level; or
  - temperature inversion conditions of up to 3°C/100m, plus a 2 m/s source-to-receiver component drainage flow wind at 10 metres above ground level for those receivers where applicable in accordance with the NSW Industrial Noise Policy.

**Land Acquisition Criteria**

3. If the noise generated by the project exceeds the criteria in Table 3 at any residence on privately-owned land (not listed in Table 1 and not subject to acquisition on request by Wambo Coal Mine), or on more than 25% of any privately-owned land, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 7-9 of schedule 4.

Table 3: Land acquisition criteria dB(A)

| <b>Land Number / Receiver</b>                      | <b>Day</b>                  | <b>Evening</b>              | <b>Night</b>                |
|--|-----------------------------|-----------------------------|-----------------------------|
|  | $L_{Aeq(15\text{ minute})}$ | $L_{Aeq(15\text{ minute})}$ | $L_{Aeq(15\text{ minute})}$ |
| 36 – Smith (ex Garland)                            | 43                          | 41                          | 41                          |
| All Maison Dieu residences                         | 43                          | 41                          | 41                          |
| All Jerrys Plains Road residences other than Smith | 43                          | 40                          | 40                          |
| All other privately-owned land                     | 40                          | 40                          | 40                          |

Note: Noise generated by the project is to be measured in accordance with the notes presented in Table 2.

**Additional Noise Mitigation Measures**

4. Upon receiving a written request from:
  - an owner of land listed in Table 1 (unless the landowner has requested acquisition or where a negotiated noise agreement established under this approval is in place); or
  - an owner of land listed in Table 4 (except where a negotiated noise agreement established under this approval is in place); or
  - any residence on privately-owned land where subsequent noise monitoring show the noise generated by the project is greater than or equal to the equivalent criteria in Table 5 (except where a negotiated noise agreement established under this approval is in place)
 the Proponent shall implement reasonable and feasible noise mitigation measures (such as double glazing, insulation, and/or air conditioning) at any residence on the land in consultation with the landowner.

If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

Within 3 months from the date of this approval, the Proponent shall notify all applicable landowners that they are entitled to receive noise mitigation measures, to the satisfaction of the Director-General.

Table 4: Land subject to additional noise mitigation upon request

|  |   |
|--|---|
| 17 – Algie   | 34 – Ernst  |
| 24 – Clifton and Edwards, and residences located within 250 metres of this residence | 5 – Bowman, 47 – Moxey, 61 – Shearer and all other Shearers Lane residences |
| All privately-owned Warkworth residences   | 7 – Stapleton (Cheshunt East)   |

Table 5: Additional Noise Mitigation Criteria dB (A)

| Land Number / Receiver                     | Day                         | Evening                     | Night                       |
|--|-----------------------------|-----------------------------|-----------------------------|
|  | $L_{Aeq}(15\text{ minute})$ | $L_{Aeq}(15\text{ minute})$ | $L_{Aeq}(15\text{ minute})$ |
| Maison Dieu residences                     | 39                          | 39                          | 39                          |
| Smith (ex Garland)                         | 39                          | 39                          | 39                          |
| Jerrys Plains Road residences except Smith | 38                          | 38                          | 38                          |
| All other privately-owned land             | 38                          | 38                          | 38                          |

Note: Noise generated by the project is to be measured in accordance with the notes to Table 2.

### Continuous Improvement

5. The Proponent shall:
- continue to implement all reasonable and feasible best practice noise mitigation measures;
  - continue to investigate ways to reduce the noise generated by the project, including maximum noise levels which may result in sleep disturbance; and
  - report on these investigations and the implementation and effectiveness of these measures in the AEMR
- to the satisfaction of the Director-General.

### Monitoring

6. The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This program must:
- be submitted to the Director-General for approval within 6 months from the date of this approval, or other time agreed by the Director-General; and
  - include a:
    - combination of real-time and supplementary attended monitoring measures; and
    - noise monitoring protocol for evaluating compliance with the noise impact assessment and land acquisition criteria in this approval.

Note: The requirement for this Noise Monitoring Program may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional noise monitoring program. This program should take into account monitoring requirements of neighbouring mines, and where possible, be integrated with these mines' monitoring networks.

## BLASTING AND VIBRATION

### Airblast Overpressure Impact Assessment Criteria

7. The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 6 at any residence on privately-owned land.

Table 6: Airblast overpressure impact assessment criteria

| Airblast overpressure level (dB(Lin Peak)) | Allowable exceedance  |
|--|---|
| 115  | 5% of the total number of blasts over a period of 12 months |
| 120  | 0%  |

### Ground Vibration Impact Assessment Criteria

8. The Proponent shall ensure that the ground vibration level from blasting at the project does not exceed the criteria in Table 7, at any residence on privately-owned land.



Table 7: Ground vibration impact assessment criteria

| <b>Peak particle velocity (mm/s)</b> | <b>Allowable exceedance</b>                                 |
|--------------------------------------|---|
| 5                                    | 5% of the total number of blasts over a period of 12 months |
| 10                                   | 0%  |

Note: Vibration shall be measured in accordance with applicable guidelines, including [DECCW's Assessing Vibration: A Technical Guideline \(2006\)](#).

9. For St Philip's Church and the outbuildings at Archerfield, the Proponent shall ensure that ground vibration peak particle velocity generated by the project does not exceed 5 mm/s, or as otherwise approved by the Director-General.

#### **Blasting Hours**

10. The Proponent shall only carry out blasting on site between 7 am and 6 pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the [DECCW](#).

#### **Operating Conditions**

11. During mining operations on site, the Proponent shall implement best blasting practice to:
  - (a) protect the safety of people, property, public infrastructure, and livestock;
  - (b) minimise the dust and fume emissions from blasting at the project to the satisfaction of the Director-General.
12. The Proponent may carry out a maximum of:
  - (a) 3 blasts a day; and
  - (b) 15 blasts a week, on the site.
13. The Proponent shall not undertake blasting within 500 metres of any privately-owned land, unless suitable arrangements have been made with the landowner and any tenants to minimise the risk of flyrock-related impact to the property to the satisfaction of the Director-General.

#### **Road Closure**

14. The Proponent shall continue to implement its existing Road Closure Management Plan for the project to the satisfaction of RTA, Council and [DII](#).

#### **Public Notice**

15. During mining operations on site, the Proponent shall:
  - (a) notify the landowner/occupier of any residence within 2 kilometres of the mining area who registers an interest in being notified about the blasting schedule at the mine, or any other landowner nominated by the Director-General;
  - (b) operate a blasting hotline, or alternate system agreed to by the Director-General, to enable the public to get up-to-date information on the blasting schedule at the project;
  - (c) advertise the blasting hotline number in a local newspaper at least 4 times each year; and
  - (d) publish an up-to-date blasting schedule on its website to the satisfaction of the Director-General.

#### **Property Inspections**

16. At least 3 months prior to blasting within 2 kilometres of any privately-owned land, or any other landowner nominated by the Director-General, the Proponent shall advise applicable landowners that they are entitled to a structural property inspection.

If the Proponent receives a written request for a structural property inspection from the landowner, the Proponent shall within 2 months of receiving this request and prior to blasting within 2 kilometres of the property:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to inspect the condition of any building or structure on the land, and recommend measures to mitigate any potential blasting impacts; and
- (b) give the landowner a copy of the property inspection report.

*Note: This condition does not operate so as to prevent blasting within the first 3 months of this approval as consents applying to the site contain similar provisions for the inspection or residences potentially affected by blasting operations.*

## Property Investigations

17. If any landowner of privately-owned land within 2 kilometres of blasting operations, or any other landowner nominated by the Director-General, claims that buildings and/or structures on his/her land have been damaged as a result of blasting at the project, the Proponent shall within 3 months of receiving this claim:
- commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to investigate the claim; and
  - give the landowner a copy of the property investigation report.
- If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damages to the satisfaction of the Director-General.

If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 9).

## Blast Monitoring Program

18. The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program must:
- be submitted to the Director General for approval within 6 months from the date of this approval, or as otherwise agreed by the Director-General; and
  - include a protocol for evaluating blasting impacts on, and demonstrating compliance with, the blasting criteria in this approval for all privately-owned residences and structures.

*Note: The requirement for this Blast Monitoring Program may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional blast monitoring program. This program should take into account monitoring requirements of neighbouring mines, and where possible, be integrated with the mines' monitoring networks.*

## AIR QUALITY

### Impact Assessment Criteria

19. The Proponent shall ensure that dust generated by the project does not cause additional exceedances of the air quality impact assessment criteria listed in Tables 8, 9, and 10 at any residence on privately-owned land, the Hunter Valley Gliding Club (when in use) or on more than 25 percent of any privately-owned land.

*Table 8: Long term impact assessment criteria for particulate matter*

| <b>Pollutant</b>                               | <b>Averaging period</b> | <b>Criterion</b>     |
|--|-------------------------|----------------------|
| Total suspended particulate (TSP) matter       | Annual                  | 90 µg/m <sup>3</sup> |
| Particulate matter < 10 µm (PM <sub>10</sub> ) | Annual                  | 30 µg/m <sup>3</sup> |

*Table 9: Short term impact assessment criterion for particulate matter*

| <b>Pollutant</b>                               | <b>Averaging period</b> | <b>Criterion</b>     |
|--|-------------------------|----------------------|
| Particulate matter < 10 µm (PM <sub>10</sub> ) | 24 hour                 | 50 µg/m <sup>3</sup> |

Table 10: Long term impact assessment criteria for deposited dust

| <b>Pollutant</b> | <b>Averaging period</b> | <b>Maximum increase in deposited dust level</b> | <b>Maximum total deposited dust level</b> |
|------------------|-------------------------|---|---|
| Deposited dust   | Annual                  | 2 g/m <sup>2</sup> /month                       | 4 g/m <sup>2</sup> /month                 |

Notes:

- Air quality impacts at HVGC are to be assessed in the immediate vicinity of its residential facilities and/or clubhouse. Air quality limits are only applicable during times of use that have been notified by HVGC to the Proponent.
- Deposited dust is assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method, or its latest version.

However, if the Proponent has a written negotiated air quality agreement with any landowner or HVGC to exceed the air quality limits in Table 8, 9 and/or 10, and a copy of this agreement has been forwarded to the Department and DECCW, then the Proponent may exceed the air limits in Table 8, 9 and/or 10 in accordance with the negotiated air quality agreement.

### Land Acquisition Criteria

20. If the dust emissions generated by the project exceed the criteria in Tables 11, 12, and 13 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 7-9 of schedule 4.

Table 11: Long term land acquisition criteria for particulate matter

| <b>Pollutant</b>                               | <b>Averaging period</b> | <b>Criterion</b>     |
|--|-------------------------|----------------------|
| Total suspended particulate (TSP) matter       | Annual                  | 90 µg/m <sup>3</sup> |
| Particulate matter < 10 µm (PM <sub>10</sub> ) | Annual                  | 30 µg/m <sup>3</sup> |

Table 12: Short term land acquisition criteria for particulate matter

| <b>Pollutant</b>                               | <b>Averaging period</b> | <b>Criterion</b>      | <b>Percentile<sup>1</sup></b> | <b>Basis</b>           |
|--|-------------------------|-----------------------|-------------------------------|------------------------|
| Particulate matter < 10 µm (PM <sub>10</sub> ) | 24 hour                 | 150 µg/m <sup>3</sup> | 99 <sup>2</sup>               | Total <sup>3</sup>     |
| Particulate matter < 10 µm (PM <sub>10</sub> ) | 24 hour                 | 50 µg/m <sup>3</sup>  | 98.6                          | Increment <sup>4</sup> |

<sup>1</sup>Based on the number of block 24 hour averages in an annual period.

<sup>2</sup>Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director-General in consultation with DECCW.

<sup>3</sup>Background PM<sub>10</sub> concentrations due to all other sources plus the incremental increase in PM<sub>10</sub> concentrations due to the mine alone.

<sup>4</sup>Incremental increase in PM<sub>10</sub> concentrations due to the mine alone.

Table 13: Long term land acquisition criteria for deposited dust

| <b>Pollutant</b> | <b>Averaging period</b> | <b>Maximum increase in deposited dust level</b> | <b>Maximum total deposited dust level</b> |
|------------------|-------------------------|---|---|
| Deposited dust   | Annual                  | 2 g/m <sup>2</sup> /month                       | 4 g/m <sup>2</sup> /month                 |

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.

## Additional Air Quality Impact Mitigation Measures

21. Upon receiving a written request from:
- an owner of land listed in Table 1 (unless the landowner has requested acquisition); or
  - an owner of land listed in Table 14
- the Proponent shall implement reasonable and feasible air quality impact mitigation measures (such as air conditioning, first flush drinking water collection systems etc) at any residence on the land, in consultation with the landowner.

However, if the Proponent has an air quality agreement with the owner of any land listed in Table 1 or Table 14 and a copy of this agreement has been forwarded to the Department and [DECCW](#), then the Proponent does not have to implement such measures.

If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution. Within 3 months of the date of this approval, the Proponent shall notify all applicable landowners that they are entitled to receive air quality impact mitigation measures, to the satisfaction of the Director-General.

Table 14: Land subject to additional air quality impact mitigation upon request

|  |              |
|--|--------------|
| 7 – Stapleton (Cheshunt East)  | 34 – Ernst   |
| 24 – Clifton and Edwards <a href="#">and residences located within 250 metres of this residence.</a> | 50 – Nelson  |
|  | 56 – Edwards |

## Operating Conditions

22. The Proponent shall:
- ensure any visible air pollution generated by the project is assessed regularly, and that mining operations are relocated, modified, and/or stopped as required to minimise air quality impacts on privately-owned land;
  - ensure that the real-time air quality monitoring and meteorological monitoring data is assessed regularly and, where the dust is generated by the project, that mining operations are relocated, modified and/or stopped as required to ensure compliance with the relevant air quality criteria, and in particular to mitigate dust emission impacts for Maison Dieu and Warkworth residences; and
  - implement all practicable measures to minimise the off-site odour and fume emissions generated by any spontaneous combustion or blasting activities on site to the satisfaction of the Director-General.

## Monitoring

23. The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program must:
- be submitted to the Director-General for approval within 6 months of the date of this approval, or as otherwise agreed by the Director-General; and
  - include:
    - high-volume and real-time samplers to monitor the dust emissions of the project; and
    - an air quality monitoring protocol for evaluating compliance with the air quality impact assessment and land acquisition criteria in this approval.

*Note: The requirement for this Air Quality Monitoring Program may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional air quality monitoring program. This program should take into account monitoring requirements of neighbouring mines, and where possible, be integrated with these mines' monitoring networks.*

## METEOROLOGICAL MONITORING

24. During the life of the project, the Proponent shall ensure that there is a suitable meteorological station in the vicinity of the site that complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline.

## SURFACE AND GROUND WATER

### Discharge Limits

25. The Proponent shall only discharge mine water from the site in accordance with the provisions of an EPL, section 120 of the *Protection of the Environment Operations Act 1997* or the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*.

### Protection of Watercourses

26. The Proponent shall:
- ensure mining operations do not interfere with the stability of the Hunter River, Wollombi Brook and creek lines located outside the area of mining operations; and
  - retain a buffer zone of 150 metres, or less if agreed by the Director-General following consultation with **NOW**, from the edge of open cut pits and the high bank of the Hunter River and its connected alluvium, excepting the area of the site adjacent to the Hobden Gully levee.

*Note: The requirement under condition 23(b) does not apply to lands, part of the site, located to the north of the Hunter River.*

### Water Management Plan

27. The Proponent shall prepare and implement a Water Management Plan to the satisfaction of the Director-General. This Plan must:
- be prepared in consultation with **NOW** by a suitably qualified expert whose appointment has been approved by the Director-General;
  - be submitted to the Director-General for approval within 6 months of this approval or otherwise agreed by the Director-General; and
  - include:
    - a site water balance, which includes details of sources and security of water supply, on site water use and management and off site water transfers and investigates and describes measures to minimise water use by the project;
    - an erosion and sediment control plan for surface works on the site that is consistent with the requirements of the *Managing Urban Stormwater: Soils and Construction Manual* (Landcom 2004, or its latest version);
    - a program for review of groundwater modelling that includes assessment of the effect of short and long-term changes to groundwater quality and mobilisation of salts;
    - a surface water monitoring program that includes:
      - detailed baseline data of surface water flows and quality in the watercourses that could be affected by the project, including the Hunter River and Wollombi Brook;
      - surface water impact assessment criteria, including trigger levels for investigating potentially adverse surface water impacts of the project; and
      - a program to monitor surface water flows and quality in the watercourses that could be affected by the project;
    - a groundwater monitoring program that includes:
      - additional baseline data of groundwater levels, yield and quality in the region, and privately-owned groundwater bores, which could be affected by the project;
      - groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts of the project; and
      - a program to monitor:
        - groundwater inflows to the open cut mining operations; and
        - impacts of the project on the region's aquifers, any groundwater bores, and surrounding watercourses, and in particular, the Hunter River and Wollombi Brook and adjacent alluvium; and
    - a surface and groundwater response plan which describes the measures and/or procedures that would be implemented to:
      - respond to any exceedances of the surface water and groundwater assessment criteria;
      - offset the loss of any baseflow to watercourses caused by the project;
      - compensate landowners of privately-owned land whose water supply is adversely affected by the project; and
      - mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation, and Hunter River Red Gum populations located within and adjacent to the site.

*Note: The requirements for the Surface and Ground Water Quality Monitoring Programs and Response Plan may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional environmental monitoring program.*



## Groundwater Impacts Report

28. The Proponent shall provide an annual report of alluvial and hard rock buffer groundwater levels. This report shall:
- (a) be provided to **NOW** and the Department in the AEMR each year following the reporting period;
  - (b) include interpreted drawdown levels resulting from existing and/or ongoing mining operations of the project; and
  - (c) account for any drawdown loss of alluvial groundwater or river flows to the satisfaction of the Director-General.
- 28A. The Proponent shall design and construct Lake James (as described in the documents listed in condition 2(c) of schedule 2) to the satisfaction of the DSC. The final dam design, as submitted to DSC, must be accompanied by a detailed assessment of the potential operational and environmental risks associated with the dam.

## REHABILITATION AND LANDSCAPE

### Biodiversity Offset Strategy

29. The Proponent shall:
- (a) implement the Archerfield Offset Strategy described in the EA and summarised in Table 15 (shown conceptually in Appendix 5);
  - (b) implement a trial program to enhance the two populations of Coast Banksias within the Archerfield Offset Area with the aim of restoring a functioning Warkworth Sands Woodland community;
  - (c) avoid impacts to Aboriginal Site 25;
  - (d) ensure that adequate resources are dedicated towards the implementation of this offset;
  - (e) provide appropriate long term security for this offset area; and
  - (f) provide a timetable for the implementation of the offset strategy within 6 months from the date of this approval, or otherwise agreed by the Director-General in consultation with **DECCW** and to the satisfaction of the Director-General.

Table 15: Offset Strategy

| Offset Areas                         | Minimum Size |
|--------------------------------------|--------------|
| Archerfield Biodiversity Offset Area | 140 hectares |

### River Red Gum Restoration Strategy

30. Within 12 months of the date of this approval, or otherwise agreed by the Director-General, the Proponent shall review, revise and provide a timetable for the implementation the HVO River Red Gum Strategy for the Hunter River and Wollombi Brook river red gum populations (as shown in Appendix 8), in consultation with **NOW** and **DECCW**, and to the satisfaction of the Director-General. This strategy must be prepared by suitably qualified expert/s, and must include:
- (a) the conservation and restoration objectives for the river red gum populations;
  - (b) a description of the short, medium and long term measures that would be implemented to conserve and restore the river red gum populations (including measures to address matters which affect the long term health and sustainability of the river red gums such as surface and ground water supply, and controlling weeds, livestock and feral animals); and
  - (c) detailed assessment and completion criteria for the conservation and restoration of the river red gum populations.

### Hunter Lowland Red Gum Forest

31. The Proponent shall protect all stands of the Hunter Lowland Red Gum Forest (also identified as Hunter Floodplain Red Gum Woodland Complex in the EA) endangered ecological community within the site, and adjacent lands under the control of the Proponent, as shown in Appendix 8, to the satisfaction of the Director-General.

### Habitat Management Areas

32. With the exception of proposed alterations to heavy equipment access routes included in the EA, and the LCPP 'short loop' rail line, the Proponent shall not disturb any portion of a Habitat Management Area, without the approval of the Director-General.

### Strategic Study Contribution

33. If, during the project, the Department or the **DECCW** commissions a strategic study into the regional vegetation corridor stretching from the Wollemi National Park to the Barrington Tops National Park,

then the Proponent shall contribute a reasonable amount, up to \$10,000, towards the completion of this study.

### Rehabilitation

34. The Proponent shall progressively rehabilitate the site in a manner that is generally consistent with the final landform set out in the EA (shown conceptually in Appendix 6) to the satisfaction of the DII and the Director-General.

### Landscape Management Plan

35. The Proponent shall prepare and implement a detailed Landscape Management Plan for the project to the satisfaction of the Director-General and the Director-General of DII. This plan must:
- (a) be prepared by suitably qualified expert/s;
  - (b) be prepared in consultation with NOW, DII and Council where appropriate jurisdictions exist;
  - (b) be submitted to the Director-General for approval within 12 months from the date of this approval or as otherwise approved by the Director-General; and
  - (c) include:
    - a Rehabilitation and Offset Management Plan;
    - Final Voids Management Plans; and
    - a Mine Closure Plan.

*Note: The Department accepts that the initial Landscape Management Plan may not include the detailed Final Void Management Plan and Mine Closure Plan. However, if this occurs, the Proponent will be required to seek approval from the Director-General for an alternative timetable for the completion and approval of the Final Void Management Plan and Mine Closure Plan.*

### Rehabilitation and Offset Management Plan

36. The Rehabilitation and Offset Management Plan must include:
- (a) the objectives for rehabilitation of the site and offset area;
  - (b) a description of how the rehabilitation of the site and implementation of the Offset Strategy would be integrated with the rehabilitation and offset strategies of the Warkworth/Mt Thorley, Wambo, United, HVO North, Ravensworth West, Ravensworth South, Narama and Ashton mines to ensure there is a comprehensive strategic framework for the restoration and enhancement of the landscape over time;
  - (c) a description of the short, medium, and long term measures that would be implemented to:
    - rehabilitate the site;
    - implement the Offset Strategy;
    - manage the remnant vegetation and habitat on the site and in the offset areas;
    - maximise effective habitat linkages to surrounding vegetated lands;
    - conserve and reuse topsoil;
    - control weeds, feral pests and access; and
    - manage any potential conflicts between the rehabilitation works and/or biodiversity offsets and Aboriginal cultural heritage;
  - (d) detailed performance and completion criteria for the rehabilitation of the site and implementation of the Offset Strategy;
  - (e) a detailed description of how the performance of the rehabilitation of the mine and the offset areas would be monitored over time to achieve the stated objectives;
  - (f) a detailed description of what measures and procedures would be implemented over the next 3 years to rehabilitate the site and implement the Offset Strategy;
  - (g) a description of the potential risks to successful rehabilitation and/or revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and
  - (h) details of who (by person and/or position) is responsible for monitoring, reviewing, and implementing the plan.

*Notes: Reference to "rehabilitation" in this approval includes all works associated with the rehabilitation and restoration of the site as described in the EA.*

### Final Voids Management

37. A Final Void Management Plan must:
- (a) be prepared for each proposed final void at least 5 years prior to the completion of mining in the vicinity of the proposed void;
  - (b) incorporate design criteria and specifications for the final void based on verified groundwater modelling predictions and a re-assessment of post-mining groundwater equilibration;
  - (c) assess potential uses of the void, such as off stream water storage;
  - (d) assess the potential interactions between the Hunter River and its connected alluvium and the final void; and

- (e) describe what actions and measures would be implemented to:
  - minimise any potential adverse impacts associated with the final void; and
  - manage and monitor the potential impacts of the final void.

#### **Mine Closure Plan**

38. The Mine Closure Plan must:
- (a) be prepared in consultation with [NOW](#), [DII](#) and Council;
  - (b) define the objectives and criteria for mine closure;
  - (c) investigate options for the future use of the site, including the final void;
  - (d) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local employment levels;
  - (e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and
  - (f) describe how the performance of these measures would be monitored over time.

#### **Conservation and Biodiversity Offset Implementation Bond**

39. Within 3 months of the approval of the Landscape Management Plan, the Proponent shall lodge a conservation and biodiversity implementation bond with either the [DII](#) or the Department to ensure that the Biodiversity Offset Strategy is implemented in accordance with the performance and completion criteria of the Landscape Management Plan. The sum of the bond shall be determined by:
- (a) calculating the full cost of implementing the Biodiversity Offset Strategy; and
  - (b) employing a suitably qualified rehabilitation expert or quantity surveyor to verify the calculated costs.

*Notes:*

- *If the Biodiversity Offset Strategy is completed to the satisfaction of the Director-General and [DII](#), then the bondholder will release the conservation bond.*
- *If the Biodiversity Offset Strategy is not completed to the satisfaction of the Director-General and [DII](#), all or part of the conservation bond will be used to ensure the satisfactory completion of the relevant works.*
- *The conservation bond may be incorporated into rehabilitation bonding arrangements under the Mining Act 1992.*

### **ABORIGINAL HERITAGE**

#### **Aboriginal Heritage Management Plan**

40. The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Director-General. The Plan must:
- (a) be prepared in consultation with [DECCW](#) and the Aboriginal community;
  - (b) be submitted to the Director-General for approval within 12 months of this approval or as otherwise agreed by the Director-General; and
  - (c) include:
    - measures to be taken to avoid impacts to Aboriginal cultural heritage values at all stages of the project. If impacts are unavoidable, mitigation measures are to be negotiated with the Aboriginal community;
    - a program for the recording, salvage and surface collection of Aboriginal objects/sites within the site;
    - a program for the conservation of the other Aboriginal objects/sites within the site, including measures to secure, analyse and record the objects/sites;
    - definition of restricted access zones to protect Sites 26-44, 47-58, 84-100, 102-104 and 107-109 from disturbance;
    - measures to ensure potential impacts to Sites 26-44, 47-58 and 107-109 by the proposed rail spur and loop are avoided;
    - measures to provide for the controlled collection of Sites 1-24, 59-79, 80-83, 101 and 105-106, where avoidance of impacts by planned mining and infrastructure activities is not possible;
    - provision for a long term 'keeping place' and care and control plan for any Aboriginal objects recovered from the site;
    - provisions for Aboriginal cultural heritage awareness training for all HVO South employees, and as a component of mine site inductions for contractors working at HVO South;
    - a description of the measures that would be implemented if any Aboriginal skeletal remains are discovered during the project;
    - a protocol for the ongoing consultation and involvement of the Aboriginal community in the conservation and management of the Aboriginal heritage of the objects/sites; and
    - a protocol for the regular review of the Plan's effectiveness.

*Notes:*

- *The requirements for the Aboriginal Heritage Management Plan may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional Aboriginal heritage management plan.*
- *The Aboriginal cultural heritage sites and site numbers referenced in this condition are provided in Section 12 and Annex M of the EA.*

## **TRANSPORT AND UTILITIES**

### **Monitoring of Coal Transport**

41. The Proponent shall keep records of the amount of coal transported from the site each year, and include these records in the AEMR.

### **Coal Haulage Limits**

42. The Proponent shall not transport coal from the project by public roads, unless otherwise approved by the Director-General.

### **Relocation of Comleroi Road**

43. The Proponent shall:
- (a) prior to construction, consult with all road users and Council about the proposed road works and their timing;
  - (b) develop and implement procedures for road closures and diversions to be undertaken during the construction of the relocated road; and
  - (c) construct the relocated section of the road to the satisfaction of Council.

### **Jerrys Plains Road Heavy Equipment Crossing**

44. Prior to the relocation of any heavy equipment, to or from the project, that would require Jerrys Plains Road to be closed to public traffic, the Proponent shall obtain approval for each planned road closure from RTA and then undertake each transfer of equipment across Jerrys Plains Road in accordance with any approval obtained from RTA for this purpose.

### **Coal Conveyor to HVO North**

45. The Proponent shall design and construct the conveyor to HVO North to the satisfaction of **DII** and **NOW**. A copy of all final documentation shall be provided to the Director-General within 6 months of the completion of its construction.

### **LCPP 'Short Loop' Rail Line**

46. Prior to the commencement of construction activities for the Lemington Coal Preparation Plant 'short loop' rail line and coal loading facilities, the Proponent shall provide an alternative area of Habitat Management Area, to replace that disturbed by mining operations or construction of mine infrastructure, to the satisfaction of the Director-General.

### **Hunter Valley Gliding Club Co-operative Limited**

47. While HVGC continues to use its facilities within the site, the Proponent shall maintain an agreement with HVGC to address the potential impact of the mine on the use and operation of HVGC's facilities, including the potential impacts to the flight paths from dragline operations. This agreement shall take into consideration the impacts of the dragline position on:
- useable length of the runway;
  - interference with flight paths; and
  - guidelines of the Department of Aviation.

*Note: This condition shall cease to operate if both parties agree to terminate the agreement and the need for an agreement.*

48. The Proponent shall not conduct any activity associated with the project above the obstacle limitation surface (OLS) as shown in Figure 2.3 of the *HVO South Coal Project Response to Submissions Report (July 2008)* unless agreed with HVGC.
49. The Proponent shall develop an Amenity Management Plan for HVGC's facilities within the site. This Plan shall;
- (a) be prepared in consultation with the Hunter Valley Gliding Club;
  - (b) be submitted to the Director-General for approval 6 months prior to the commencement of mining in the Riverview South East Extension Area, or otherwise agreed by the Director-General;

- (c) include a risk assessment to identify those circumstances most likely to generate impacts from mining operations on gliding activities and use of the club's residential facilities;
- (d) include details of any proposed modifications to the HVO South mine plan to exclude land owned by the Hunter Valley Gliding Club;
- (e) provide for additional air quality and noise modelling of the potential impacts of modified mining activities; and
- (f) identify and implement management measures for mining activities to ensure that air quality and noise emissions meet respective impact assessment criteria, or obtain written agreement from the Hunter Valley Gliding Club to exceed these criteria to the satisfaction of the Director-General.

If the Proponent and HVGC cannot agree on the level or composition of the Amenity Management plan, then either party may refer the matter to the Director-General for resolution.

Should the Hunter Valley Gliding Club cease to operate its facilities at the site, the Proponent's obligations under this condition shall cease.

## **VISUAL AMENITY**

### **Lighting Emissions**

50. The Proponent shall:
- (a) ensure no external lights shine above the horizontal;
  - (b) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version, and
  - (c) take all practicable measures to mitigate off-site lighting impacts from the project to the satisfaction of the Director-General.

### **Visual Impact Mitigation**

51. Within 12 months of this approval, or otherwise agreed by the Director-General, the Proponent shall prepare a visual impact mitigation report for the project to the satisfaction of the Director-General. This report shall:
- (a) be prepared in consultation with Council;
  - (b) identify the privately-owned residences and public roads that are likely to experience significant additional visual impacts from the project during its operation; and
  - (c) describe (in general terms) the mitigation measures that could be implemented to reduce the visibility of the mine from these residences and roads.
52. Within 3 months of the Director-General approving this report, the Proponent shall advise all owners of residences identified in the report that they are entitled to mitigation measures to reduce the visibility of the mine from their properties and reach agreement with Council about mitigation measures (if any) to be implemented for public roads. If the Proponent and Council cannot agree about these measures, the matter shall be referred by either party to the Director-General for resolution.

*Note: The additional visual impact mitigation measures must be aimed at reducing the visibility of the mine from significantly affected residences and do not necessarily require measures to reduce visibility of the mine from other locations on the affected properties. The additional visual impact mitigation measures do not necessarily have to include measures on the affected property itself (i.e. the additional measures may consist of measures outside the affected property boundary that provide an effective reduction in visual impacts).*

## **GREENHOUSE & ENERGY EFFICIENCY**

53. The Proponent shall implement all reasonable and feasible measures to minimise greenhouse gas emissions from the project to the satisfaction of the Director-General.
54. Within 12 months of this approval or otherwise agreed by the Director-General, the Proponent shall prepare and implement a Greenhouse and Energy Efficiency Plan for the project. This plan must:
- (a) be prepared generally in accordance with the *Guidelines for Energy Savings Action Plans (DEUS 2005, or its latest version)*;
  - (b) be submitted to the Director-General for approval;
  - (c) include a program to estimate/monitor greenhouse gas emissions and energy use generated by the project;
  - (d) include a framework for investigating and implementing measures to reduce greenhouse gas emissions and energy use at the project;
  - (e) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures at the project, including a feasibility study to identify and assess potential options for the capture and reuse of coal seam methane;
  - (f) describe how the performance of these measures would be monitored over time; and



- (g) report on the project's greenhouse gas emissions and minimisation measures in the AEMR to the satisfaction of the Director-General.

## WASTE

55. The Proponent shall:
- (a) monitor the amount of waste generated by the project;
  - (b) investigate ways to reuse, recycle or minimise this waste;
  - (c) implement reasonable and feasible measures to minimise this waste;
  - (d) ensure irrigation of treated wastewater is undertaken in accordance with DECCW's *Environmental Guideline for the Utilisation of Treated Effluent*; and
  - (e) report on waste management and minimisation in the AEMR to the satisfaction of the Director-General.
56. Within 12 months of this approval or otherwise agreed by the Director-General, the Proponent shall install and operate a wastewater treatment system with adequate capacity to treat wastewater loads from the Lemington workshop and facilities, to the satisfaction of DECCW.
57. Except as expressly permitted in a licence under the *Protection of the Environment Operations Act 1997* or by the *Protection of the Environment Operations Amendment (Scheduled Activities and Waste) Regulation 2008*, waste must not be:
- (a) received at the project site for storage, treatment, processing or disposal; or
  - (b) disposed of at the project site.

## HAZARDS

### Dangerous Goods

58. The Proponent shall ensure that the storage, handling, and transport of:
- (a) dangerous goods is done in accordance with the relevant *Australian Standards*, particularly *AS1940* and *AS1596*, and the *Dangerous Goods Code*; and
  - (b) explosives are managed in accordance with the requirements of [DII](#).

### Fire Control

59. During the project, the Proponent shall:
- (a) ensure that it maintains suitable equipment to respond to any fires on site; and
  - (b) assist the rural Fire service and emergency services as much as possible if there is a fire on site.
60. The Proponent shall ensure that it maintains a Fire Management Plan for the site, in consultation with Council and the Rural Fire Service.
-

**SCHEDULE 4  
ADDITIONAL PROCEDURES FOR AIR QUALITY AND NOISE MANAGEMENT**

**NOTIFICATION OF LANDOWNERS**

1. Within 1 month of this approval, the Proponent shall notify the landowners of the land listed in Table 1 in writing that they have the right to require the Proponent to acquire their land at any stage of the project (subject to the note to that Table).
2. If the results of monitoring required in Schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria in Schedule 3, except where this is predicted in the documents listed in condition 2 of Schedule 2 or where a negotiated agreement has been entered into in relation to that impact, then the Proponent shall, within 2 weeks of obtaining the monitoring results, notify the Director-General, the affected landowners and tenants (including tenants of mine owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in Schedule 3.
3. If the results of monitoring required in Schedule 3 identify that impacts generated by the project are greater than the relevant air quality impact assessment criteria in Schedule 3, then the Proponent shall send the relevant landowners and tenants (including tenants of mine owned properties) a copy of the NSW Health fact sheet entitled "Mine Dust and You" (and associated updates) in conjunction with the notification required in condition 2.

**INDEPENDENT REVIEW**

4. If a landowner considers the project to be exceeding the impact assessment criteria in Schedule 3, except where this is predicted in the EA, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.

If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Director-General's decision:

- (a) consult with the landowner to determine his/her concerns;
  - (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to:
    - determine whether the project is complying with the relevant impact assessment criteria in Schedule 3; and
    - identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and
  - (c) give the Director-General and landowner a copy of the independent review.
5. If the independent review determines that the project is complying with the relevant impact assessment criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.

If the independent review determines that the project is not complying with the relevant impact assessment criteria in Schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:

- (a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria, and conduct further monitoring to determine whether these measures ensure compliance; or
  - (b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria,
- to the satisfaction of the Director-General.

However, if the further monitoring referred to under paragraph (a) above determines that the project is complying with the relevant impact assessment criteria, then the Proponent may discontinue the independent review with the approval of the Director-General.

If the independent review determines that the project is not complying with the relevant land acquisition criteria in Schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall offer to acquire all or part of the landowner's land in accordance with the procedures in conditions 7-9 below, to the satisfaction of the Director-General.

6. If the independent review determines that the relevant impact assessment criteria in Schedule 3 are being exceeded, but that more than one mine is responsible for this non-compliance, then the Proponent shall, together with the relevant mine/s:
  - (a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the relevant impact assessment criteria are complied with, and conduct further monitoring to determine whether these measures ensure compliance; or

- (b) secure a written agreement with the landowner and other relevant mines to allow exceedances of the relevant impact assessment criteria in Schedule 3, to the satisfaction of the Director-General.

If the further monitoring referred to under paragraph (a) above determines that the project is complying with the relevant impact assessment criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.

If the independent review determines that the relevant land acquisition criteria in Schedule 3 are being exceeded, but that more than one mine is responsible for this non-compliance, then the Proponent shall acquire all or part of the landowner's land on as equitable basis as possible with the relevant mine/s, in accordance with the procedures in conditions 7-9 below, to the satisfaction of the Director-General.

## LAND ACQUISITION

7. Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:
- (a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the project the subject of the project application, having regard to the:
- existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
  - presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of 'additional noise mitigation measures' in condition 4 of schedule 3, 'additional air quality impact mitigation measures' in condition 21 of schedule 3, or 'additional visual impact mitigation measures' in condition 52 of schedule 3;
- (b) the reasonable costs associated with:
- relocating within the Singleton or Muswellbrook local government areas, or to any other local government area determined by the Director-General;
  - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and
- (c) reasonable compensation for any disturbance caused by the land acquisition process.

However, if following this period, the Proponent and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.

Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute (the API) to appoint a qualified independent valuer to:

- (a) consider submissions from both parties;
- (b) determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above;
- (c) prepare a detailed report setting out the reasons for any determination; and
- (d) provide a copy of the report to both parties.

Within 14 days of receiving the independent valuer's report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.

However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General shall determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above and the independent valuer's report. Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.

If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Director-General determines otherwise.

8. The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 7 above.
  9. If the Proponent and landowner agree that only part of the land shall be acquired, then the Proponent shall also pay all reasonable costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.
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**SCHEDULE 5  
ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING**

**ENVIRONMENTAL MANAGEMENT**

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must:
  - (a) be submitted to the Director-General for approval within 6 months of this project approval or otherwise agreed by the Director-General;
  - (b) provide for the strategic context for the environmental management of the project;
  - (c) identify the statutory requirements that apply to the project;
  - (d) describe the procedures that would be implemented to:
    - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
    - receive, handle, respond to, and record complaints;
    - resolve any disputes that may arise during the course of the project;
    - respond to any non-compliance;
    - manage cumulative impacts; and
    - respond to emergencies;
  - (e) include an environmental monitoring program for the project that includes all the monitoring requirements of this approval;
  - (f) describe how the various incident and approval reporting requirements of the project would be integrated into a single reporting system; and
  - (g) describe the role, responsibility, authority and accountability of all the key personnel involved in the environmental management of the project.

*Note: The requirements for the Environmental Management Strategy may, with the Director-General's approval, be satisfied as a component of CNA's Hunter regional environmental management strategy.*

**REPORTING**

**Incident Reporting**

2. Within 24 hours of detecting an exceedance of the limits/performance criteria in this approval or the occurrence of an incident that causes (or may cause) material harm to the environment, the Applicant shall notify the Department and other relevant agencies of the exceedance/incident.
3. Within 21 days of notifying the Department and other relevant agencies of such an exceedance/incident, the Proponent shall provide the Department and these agencies with a written report that:
  - (a) describes the date, time, and nature of the exceedance/incident;
  - (b) identifies the cause (or likely cause) of the exceedance/incident;
  - (c) describes what action has been taken to date; and
  - (d) describes the proposed measures to address the exceedance/incident.

**Annual Reporting**

4. Within 12 months of this approval, and annually thereafter, the Proponent shall submit an AEMR to the Director-General, CCC and all relevant agencies. This report must:
  - (a) identify the standards and performance measures that apply to project;
  - (b) describe the works carried out in the last 12 months;
  - (c) describe the works planned to be carried out in the next 12 months;
  - (d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;
  - (e) include a summary of the monitoring results for the project during the past year;
  - (f) include an analysis of these monitoring results against the relevant:
    - impact assessment criteria/limits;
    - monitoring results from previous years; and
    - predictions in the EA or other documents listed in condition 2 of schedule 2;
  - (g) identify and discuss all exceedances of approval and licence conditions and other applicable standards and performance measures;
  - (h) identify any trends in the monitoring results over the life of the project;
  - (i) identify any non-compliance during the previous year; and
  - (j) describe what actions were, or are being, taken to ensure compliance.



## INDEPENDENT ENVIRONMENTAL AUDIT

5. By 31 March 2010, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
- be conducted by a suitably qualified, experienced, and independent team of experts whose appointment has been endorsed by the Director-General;
  - include consultation with the relevant agencies;
  - assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant mining lease and EPL (including any strategy, plan or program required under these approvals); and
  - review the adequacy of strategies, plans and/or programs required under these approvals; and, if appropriate,
  - recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.

*Note: This audit team should be led by a suitably qualified auditor, and include experts in the field of noise and air quality, surface water and groundwater and mine rehabilitation.*

6. Within 6 weeks of completing this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General with a response to any recommendations contained in the audit report.
7. Within 3 months of submitting the audit report to the Director-General, the Proponent shall review and if necessary revise the strategies/plans/programs required under this approval, to the satisfaction of the Director-General.

## COMMUNITY CONSULTATIVE COMMITTEE

8. The Proponent shall operate a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General in general accordance with the *Guideline for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007, or its latest version)*.

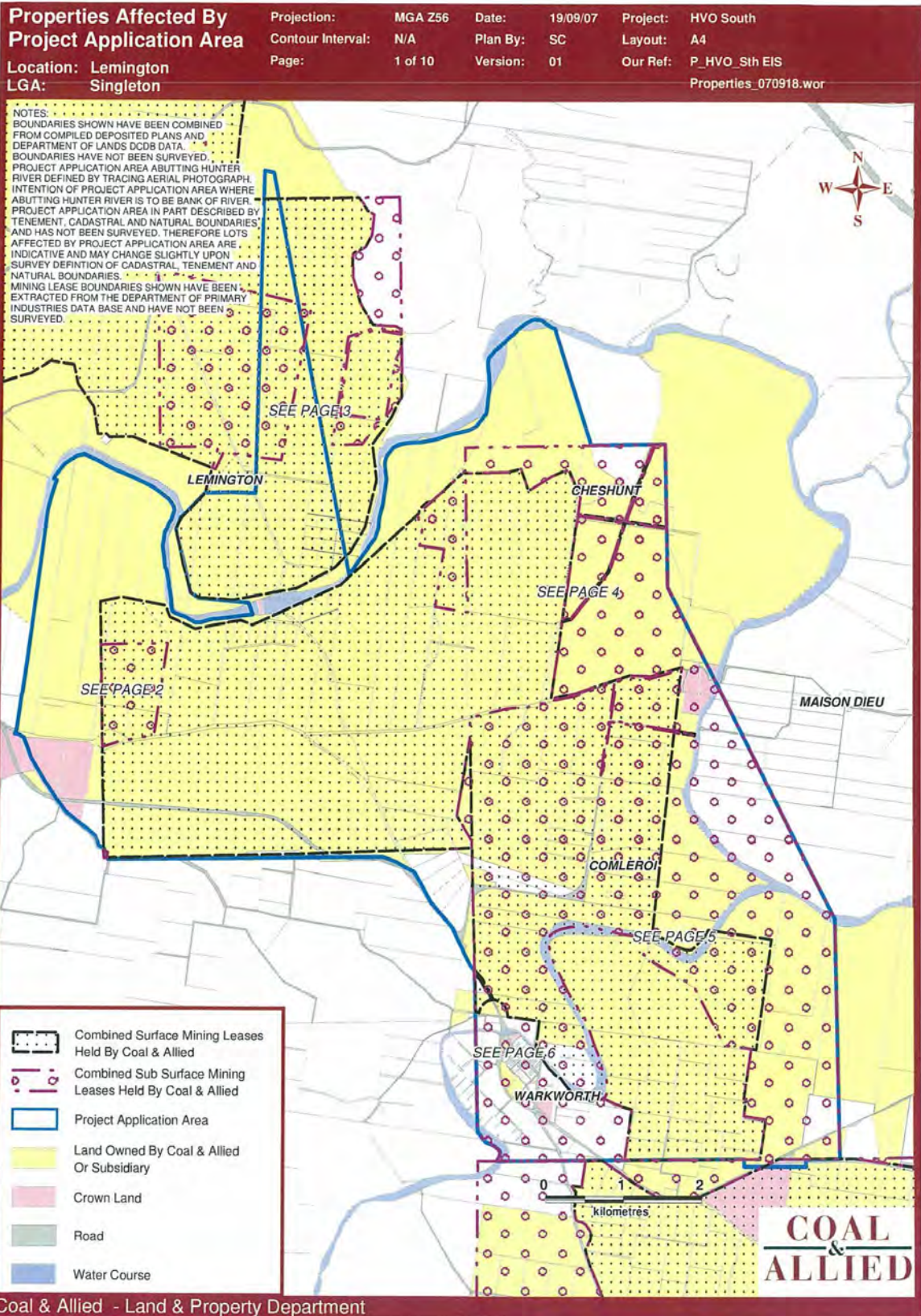
*Notes:*

- The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.*
- In accordance with the Guideline, the Committee should comprise an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the general community in the area of the development.*
- With the approval of the Director-General, this CCC may be combined with the CCC for HVO North.*

## ACCESS TO INFORMATION

9. Within 3 months of the approval of any strategy/plan/program required under this approval (or any subsequent revision of these strategies/plans/programs), or the completion of the audits or AEMR, required under this approval, the Proponent shall:
- provide a copy of the relevant document/s to the relevant agencies and CCC;
  - place a copy of the document/s on its website; and
  - remove superseded copies of strategies/plans/programs from its website.
10. During the project, the Proponent shall:
- make a summary of monitoring results required under this approval publicly available on its website; and
  - update these results on a regular basis (at least every 3 months).
-

## APPENDIX 1 SCHEDULE OF LAND



Coal & Allied - Land & Property Department

**LAND OWNERSHIP – HVO SOUTH PROJECT AREA**

| Lot | Section | DP     | Property Owner                       | Wholly or Partly Affected by Coal & Allied Surface Mining Lease | Wholly or Partly Affected by Coal & Allied Sub Surface Mining Lease | Location                          |
|-----|---------|--------|--------------------------------------|---|---|-----------------------------------|
| 1   |         | 48394  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 1   |         | 48591  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 1   |         | 48592  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth South of Wollombi Brook |
| 1   |         | 48646  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 1   |         | 90727  | Coal & Allied Operations Pty Limited | Y   | N   | Lemington                         |
| 1   |         | 105943 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 1   |         | 114966 | Coal & Allied Operations Pty Limited | Y   | N   | Lemington                         |
| 1   |         | 123374 | Coal & Allied Operations Pty Limited | N   | Y   | Warkworth Village                 |
| 1   |         | 129808 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 1   |         | 182139 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 1   |         | 191982 | Coal & Allied Operations Pty Limited | Y   | N   | Lemington                         |
| 1   |         | 195523 | Coal & Allied Operations Pty Limited | N   | Y   | Warkworth South of Wollombi Brook |
| 1   |         | 249327 | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth North East              |
| 1   |         | 251877 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 1   |         | 592598 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 1   |         | 619309 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 1   |         | 633717 | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth North West              |
| 1   |         | 657394 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 1   |         | 719879 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North West              |
| 1   |         | 723248 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 1   |         | 723249 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 1   |         | 729048 | Coal & Allied Operations Pty Limited | Y   | Y   | Lemington                         |
| 1   |         | 729984 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North West              |
| 1   |         | 729985 | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth North East              |
| 1   |         | 737796 | Coal & Allied Operations Pty Limited | Y   | Y   | Lemington                         |
| 1   |         | 737880 | Coal & Allied Operations Pty Limited | N   | N   | Warkworth North West              |
| 1   |         | 741544 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North West              |
| 1   | 5       | 759053 | Coal & Allied Operations Pty Limited | N   | Y   | Warkworth Village                 |
| 1   |         | 783484 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 1   |         | 797721 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 1   |         | 821123 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North West              |
| 1   |         | 821127 | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth North West              |
| 1   |         | 822177 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |

| Lot | Section | DP      | Property Owner                       | Wholly or Partly Affected by Coal & Allied Surface Mining Lease | Wholly or Partly Affected by Coal & Allied Sub Surface Mining Lease | Location                          |
|-----|---------|---------|--------------------------------------|---|---|-----------------------------------|
| 1   |         | 823767  | Coal & Allied Operations Pty Limited | Y   | N   | Lemington                         |
| 1   |         | 857021  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North West              |
| 1   |         | 876447  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 1   |         | 947886  | Coal & Allied Operations Pty Limited | N   | N   | Warkworth North West              |
| 1   |         | 963714  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North West              |
| 1   |         | 997228  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 1   |         | 998117  | Coal & Allied Operations Pty Limited | N   | N   | Warkworth North West              |
| 1   |         | 1041635 | Coal & Allied Operations Pty Limited | N   | Y   | Warkworth North East              |
| 1   |         | 1103396 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 2   |         | 300150  | Coal & Allied Operations Pty Limited | N   | N   | Warkworth North West              |
| 2   |         | 306421  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth North West              |
| 2   |         | 48646   | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 2   |         | 619309  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 2   |         | 633717  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth North West              |
| 2   |         | 710088  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 2   |         | 719879  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 2   |         | 723248  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 2   |         | 737880  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North West              |
| 2   |         | 755267  | Coal & Allied Operations Pty Limited | N   | Y   | Warkworth South of Wollombi Brook |
| 2   |         | 783484  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 2   |         | 808301  | Coal & Allied Operations Pty Limited | Y   | Y   | Lemington                         |
| 2   |         | 876447  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 2   |         | 998117  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North West              |
| 3   |         | 48646   | Coal & Allied Operations Pty Limited | N   | Y   | Warkworth North East              |
| 3   |         | 113342  | Coal & Allied Operations Pty Limited | N   | Y   | Warkworth South of Wollombi Brook |
| 3   |         | 635392  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth North West              |
| 3   |         | 783484  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 4   |         | 113342  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 4   |         | 783484  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 5   |         | 720643  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 5   |         | 783484  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 5   |         | 1085145 | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North West              |
| 10  |         | 740183  | Coal & Allied Operations Pty Limited | Y   | Y   | Lemington                         |
| 11  |         | 586639  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |



| Lot | Section | DP      | Property Owner                       | Wholly or Partly Affected by Coal & Allied Surface Mining Lease | Wholly or Partly Affected by Coal & Allied Sub Surface Mining Lease | Location                          |
|-----|---------|---------|--------------------------------------|---|---|-----------------------------------|
| 11  |         | 843432  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 12  |         | 247239  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 12  |         | 586639  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 13  |         | 247239  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 14  |         | 247239  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 14  |         | 755267  | Coal & Allied Operations Pty Limited | N   | Y   | Warkworth South of Wollombi Brook |
| 15  |         | 247239  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 16  |         | 247239  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 20  |         | 1085391 | Coal & Allied Operations Pty Limited | Y   | Y   | Lemington                         |
| 31  |         | 610878  | Coal & Allied Operations Pty Limited | N   | Y   | Warkworth Village                 |
| 32  |         | 610878  | Coal & Allied Operations Pty Limited | N   | Y   | Warkworth Village                 |
| 40  |         | 753792  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North West              |
| 43  |         | 755267  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 91  |         | 733895  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth Near Comleroi Road      |
| 101 |         | 1037665 | Coal & Allied Operations Pty Limited | Y   | Y   | Lemington                         |
| 102 |         | 588247  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 108 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth South of Wollombi Brook |
| 112 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth South of Wollombi Brook |
| 115 |         | 753792  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth North East              |
| 118 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth South of Wollombi Brook |
| 119 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth South of Wollombi Brook |
| 121 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth South of Wollombi Brook |
| 122 |         | 753792  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 122 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth South of Wollombi Brook |
| 128 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth South of Wollombi Brook |
| 135 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 140 |         | 753792  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 141 |         | 753792  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |
| 142 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 143 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 145 |         | 755267  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth South of Wollombi Brook |
| 146 |         | 970755  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth South of Wollombi Brook |
| 151 |         | 753792  | Coal & Allied Operations Pty Limited | Y   | N   | Warkworth North West              |
| 152 |         | 704486  | Coal & Allied Operations Pty Limited | Y   | Y   | Warkworth North East              |



| Lot  | Section | DP      | Property Owner                                       | Wholly or Partly Affected by Coal & Allied Surface Mining Lease | Wholly or Partly Affected by Coal & Allied Sub Surface Mining Lease | Location                          |
|------|---------|---------|--|---|---|-----------------------------------|
| 153  |         | 704486  | Coal & Allied Operations Pty Limited                 | N   | Y   | Warkworth North East              |
| 155  |         | 705446  | Coal & Allied Operations Pty Limited                 | Y   | N   | Warkworth North East              |
| 164  |         | 729960  | Coal & Allied Operations Pty Limited                 | Y   | N   | Warkworth North West              |
| 165  |         | 729961  | Coal & Allied Operations Pty Limited                 | Y   | N   | Warkworth North West              |
| 166  |         | 729962  | Coal & Allied Operations Pty Limited                 | Y   | Y   | Warkworth North East              |
| 167  |         | 729963  | Coal & Allied Operations Pty Limited                 | Y   | N   | Warkworth North East              |
| 170  |         | 752481  | Coal & Allied Operations Pty Limited                 | Y   | N   | Lemington                         |
| 179  |         | 823775  | Coal & Allied Operations Pty Limited                 | Y   | N   | Warkworth North West              |
| 182  |         | 823775  | Coal & Allied Operations Pty Limited                 | N   | N   | Warkworth North West              |
| 194  |         | 755267  | Coal & Allied Operations Pty Limited                 | Y   | N   | Warkworth South of Wollombi Brook |
| 195  |         | 755267  | Coal & Allied Operations Pty Limited                 | Y   | N   | Warkworth South of Wollombi Brook |
| 204  |         | 821040  | Coal & Allied Operations Pty Limited                 | N   | Y   | Warkworth Village                 |
| 300  |         | 597726  | Coal & Allied Operations Pty Limited                 | N   | N   | Warkworth North West              |
| 745  |         | 597317  | Coal & Allied Operations Pty Limited                 | N   | N   | Warkworth North West              |
| 854  |         | 1000822 | Coal & Allied Operations Pty Limited                 | Y   | Y   | Warkworth Village                 |
| 1001 |         | 785197  | Coal & Allied Operations Pty Limited                 | Y   | Y   | Warkworth North East              |
| 1002 |         | 785197  | Coal & Allied Operations Pty Limited                 | Y   | Y   | Warkworth North East              |
| 1420 |         | 586339  | Coal & Allied Operations Pty Limited                 | Y   | Y   | Warkworth North East              |
| 1421 |         | 586339  | Coal & Allied Operations Pty Limited                 | Y   | Y   | Warkworth North East              |
| A    |         | 386100  | Coal & Allied Operations Pty Limited                 | Y   | Y   | Warkworth Near Comleroi Road      |
| B    |         | 386100  | Coal & Allied Operations Pty Limited                 | Y   | Y   | Warkworth Near Comleroi Road      |
| 1    |         | 111381  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West              |
| 1    |         | 532623  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West              |
| 1    |         | 659810  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington                         |
| 1    |         | 901179  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | Y   | Warkworth North West              |
| 1    |         | 1102213 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West              |
| 2    |         | 111381  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West              |
| 2    |         | 114966  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington                         |
| 3    |         | 111381  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West              |
| 12   |         | 753792  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West              |
| 13   |         | 753792  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West              |
| 14   |         | 753792  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West              |
| 15   |         | 753792  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West              |
| 16   |         | 753792  | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West              |

| Lot | Section | DP     | Property Owner                                       | Wholly or Partly Affected by Coal & Allied Surface Mining Lease | Wholly or Partly Affected by Coal & Allied Sub Surface Mining Lease | Location             |
|-----|---------|--------|--|---|---|----------------------|
| 17  |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 18  |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 19  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 20  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 21  |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 21  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 22  |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 22  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 23  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 24  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 25  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 26  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 27  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 28  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 29  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 30  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 31  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 73  |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | Y   | Warkworth North West |
| 89  |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 98  |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 117 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 118 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 119 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 120 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 120 |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | Y   | Warkworth North West |
| 121 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 121 |         | 753792 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Warkworth North West |
| 122 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 123 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 124 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 125 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 126 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 127 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |
| 164 |         | 752481 | J. & A. Brown and Abermain Seaham Collieries Limited | Y   | N   | Lemington            |

| Lot   | Section | DP      | Property Owner  | Wholly or Partly Affected by Coal & Allied Surface Mining Lease | Wholly or Partly Affected by Coal & Allied Sub Surface Mining Lease | Location                          |
|-------|---------|---------|---|---|---|-----------------------------------|
| 171   |         | 752481  | J. & A. Brown and Abermain Seaham Collieries Limited          | Y   | Y   | Lemington                         |
| 1     |         | 129811  | Warkworth Mining Limited                                      | Y   | Y   | Warkworth South of Wollombi Brook |
| 1     |         | 246201  | Warkworth Mining Limited                                      | Y   | Y   | Warkworth Village                 |
| 2     |         | 129811  | Warkworth Mining Limited                                      | Y   | Y   | Warkworth South of Wollombi Brook |
| 3     |         | 129811  | Warkworth Mining Limited                                      | Y   | Y   | Warkworth South of Wollombi Brook |
| 7001  |         | 93632   | Administered by The State Land Services                       | N   | Y   | Warkworth Village                 |
| 1     |         | 90052   | Commonwealth of Australia                                     | N   | Y   | Warkworth Village                 |
| 1     | 25      | 759053  | Crown   | N   | Y   | Warkworth Village                 |
| 2     | 5       | 759053  | Crown   | N   | Y   | Warkworth Village                 |
| 2     | 25      | 759053  | Crown   | N   | Y   | Warkworth Village                 |
| 3     | 4       | 759053  | Crown   | N   | Y   | Warkworth Village                 |
| 3     | 5       | 759053  | Crown   | N   | Y   | Warkworth Village                 |
| 4     | 4       | 759053  | Crown   | N   | Y   | Warkworth Village                 |
| 5     | 4       | 759053  | Crown   | N   | Y   | Warkworth Village                 |
| 6     | 4       | 759053  | Crown   | N   | Y   | Warkworth Village                 |
| 130   |         | 753792  | Crown   | Y   | Y   | Warkworth North East              |
| 175   |         | 823775  | Crown   | N   | N   | Warkworth North West              |
|       |         |         | Crown License 175936 ( Coal & Allied Operations Pty Limited ) | N   | N   | Warkworth North West              |
|       |         |         | Crown License 341401 (Coal & Allied Operations Pty Limited)   | N   | Y   | Warkworth North East              |
| 201   |         | 755267  | Crown Land  | Y   | Y   | Warkworth South of Wollombi Brook |
| 1     |         | 710088  | The State of NSW  | N   | Y   | Warkworth North East              |
| 154   |         | 704486  | The State of NSW  | N   | Y   | Warkworth North East              |
| 170   |         | 823775  | The State of NSW  | N   | N   | Warkworth North West              |
| 172   |         | 823775  | The State of NSW  | N   | N   | Warkworth North West              |
| 173   |         | 823775  | The State of NSW  | N   | N   | Warkworth North West              |
| 21    |         | 1109631 | Brian Kennedy & John Griffiths                                | N   | Y   | Warkworth Village                 |
| No297 |         | Bk 904  | Ada Elizabeth Watts   | N   | Y   | Warkworth Village                 |
| 35    |         | 755267  | Cec M Hawkes Pty Ltd  | N   | Y   | Warkworth Village                 |
| 36    |         | 755267  | Cec M Hawkes Pty Ltd  | N   | Y   | Warkworth Village                 |
| 5     |         | 247239  | Construction, Forestry, Mining & Energy Union                 | Y   | Y   | Warkworth Near Comleroi Road      |
| 6     |         | 770904  | Edward & Carol Burley   | N   | Y   | Warkworth Village                 |
| 3     |         | 3005    | Elizabeth Bowman  | N   | Y   | Maison Dieu                       |
| 4     |         | 3005    | Elizabeth Bowman  | N   | Y   | Maison Dieu                       |
| 5     |         | 3005    | Elizabeth Bowman  | N   | Y   | Maison Dieu                       |
| 1     |         | 113343  | Heather Kannar  | N   | Y   | Warkworth Village                 |
| 1     | 2       | 759053  | Heather Kannar  | N   | Y   | Warkworth Village                 |
| 1     |         | 794506  | Heather Kannar  | N   | Y   | Warkworth Village                 |
| 2     | 2       | 759053  | Heather Kannar  | N   | Y   | Warkworth Village                 |

| Lot | Section | DP     | Property Owner                                 | Wholly or Partly Affected by Coal & Allied Surface Mining Lease | Wholly or Partly Affected by Coal & Allied Sub Surface Mining Lease | Location                     |
|-----|---------|--------|--|---|---|------------------------------|
| 2   |         | 794506 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 3   | 2       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 3   |         | 794506 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 4   | 2       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 4   | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 5   | 2       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 5   | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 6   | 2       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 6   | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 7   | 2       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 7   | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 8   | 2       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 8   | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 9   | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 10  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 11  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 12  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 13  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 14  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 15  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 16  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 17  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 18  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 19  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 20  | 3       | 759053 | Heather Kannar                                 | N   | Y   | Warkworth Village            |
| 10  |         | 247239 | Hunter Valley Gliding Club Cooperative Limited | Y   | Y   | Warkworth Near Comleroi Road |
| 92  |         | 733895 | Hunter Valley Gliding Club Cooperative Limited | Y   | Y   | Warkworth Near Comleroi Road |
| 5   |         | 251617 | Inchneuk Pty Ltd                               | N   | Y   | Maison Dieu                  |
| 2   |         | 617852 | John Maitland, Robert Graham, George Coates    | N   | N   | Warkworth North West         |
| 2   |         | 835812 | John Maitland, Robert Graham, George Coates    | Y   | N   | Warkworth North West         |
| 3   |         | 835812 | John Maitland, Robert Graham, George Coates    | Y   | N   | Warkworth North West         |
| 4   |         | 635392 | John Maitland, Robert Graham, George Coates    | N   | N   | Warkworth Near Comleroi Road |
| 4   |         | 835812 | John Maitland, Robert Graham, George Coates    | Y   | N   | Warkworth North West         |
| 6   |         | 247239 | John Maitland, Robert Graham, George Coates    | N   | N   | Warkworth Near Comleroi Road |
| 7   |         | 247239 | John Maitland, Robert Graham, George Coates    | N   | N   | Warkworth Near Comleroi Road |
| 8   |         | 247239 | John Maitland, Robert Graham, George Coates    | N   | N   | Warkworth Near Comleroi Road |
| 9   |         | 835812 | John Maitland, Robert Graham, George Coates    | N   | N   | Warkworth North West         |
| 134 |         | 566275 | John Maitland, Robert Graham, George Coates    | Y   | Y   | Warkworth Near Comleroi Road |
| 147 |         | 753792 | Johnson Woods & Co Pty Ltd                     | N   | N   | Warkworth Near Comleroi Road |

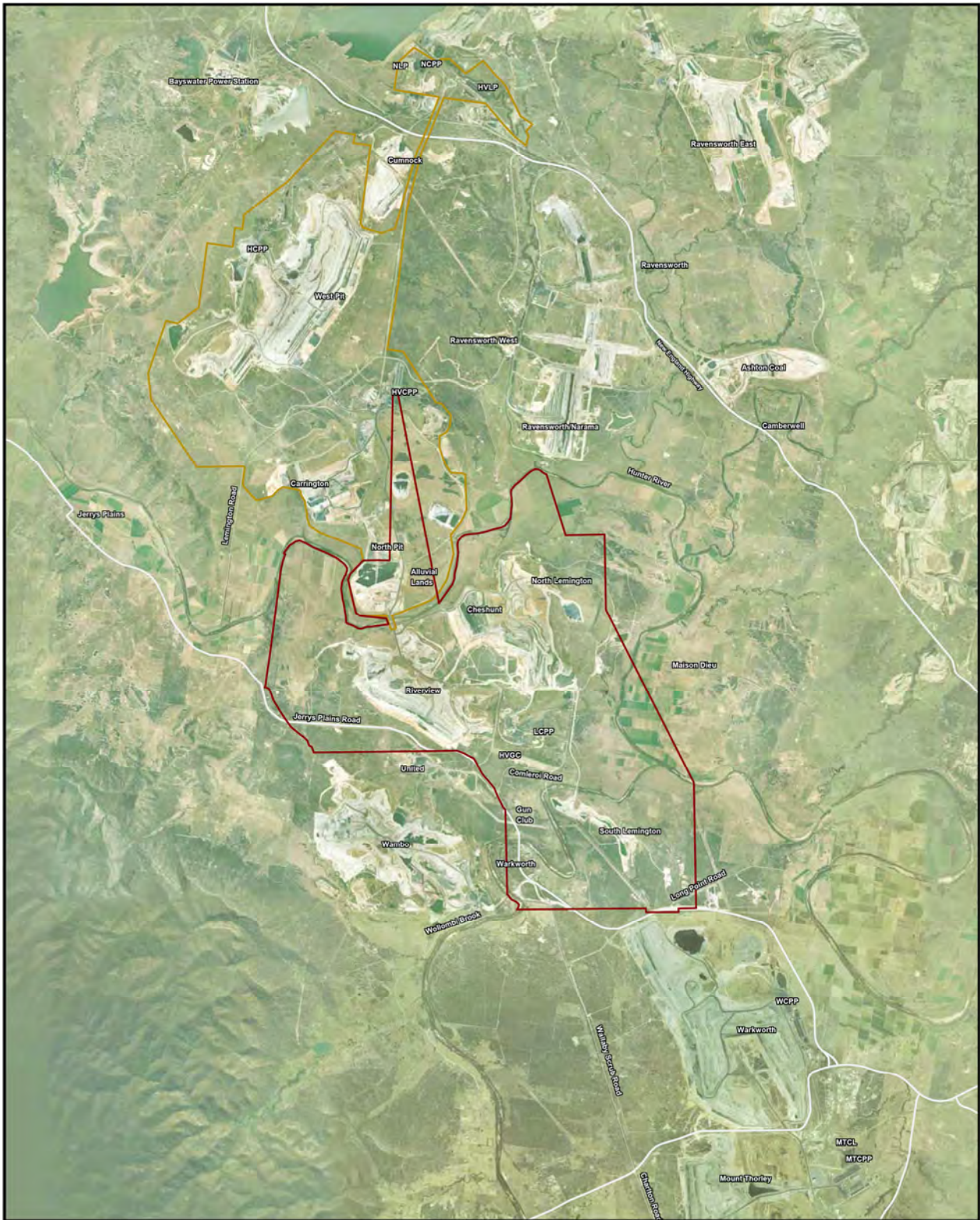
| Lot | Section | DP      | Property Owner              | Wholly or Partly Affected by Coal & Allied Surface Mining Lease | Wholly or Partly Affected by Coal & Allied Sub Surface Mining Lease | Location                          |
|-----|---------|---------|-----------------------------|---|---|-----------------------------------|
| 8   |         | 3005    | Julie & Gregory Ernst       | N   | Y   | Maison Dieu                       |
| 9   |         | 3005    | Julie & Gregory Ernst       | N   | Y   | Maison Dieu                       |
| 50  |         | 848334  | Kenneth & Loraine Haynes    | N   | Y   | Warkworth Village                 |
| 9   | 2       | 759053  | Kenneth Russell Partridge   | N   | Y   | Warkworth Village                 |
| 10  | 2       | 759053  | Kenneth Russell Partridge   | N   | Y   | Warkworth Village                 |
| 11  | 2       | 759053  | Kenneth Russell Partridge   | N   | Y   | Warkworth Village                 |
| 12  | 2       | 759053  | Kenneth Russell Partridge   | N   | Y   | Warkworth Village                 |
| 13  | 2       | 759053  | Kenneth Russell Partridge   | N   | Y   | Warkworth Village                 |
| 75  |         | 753792  | M F Holdings Pty Ltd        | N   | N   | Warkworth North West              |
| 1   |         | 446656  | Neville Robert Stapleton    | N   | Y   | Warkworth North East              |
| 1   |         | 770904  | Olga Henderson              | N   | Y   | Warkworth Village                 |
| 1   |         | 770905  | Olga Henderson              | N   | Y   | Warkworth Village                 |
| 1   |         | 1043120 | Olga Henderson              | Y   | Y   | Warkworth Village                 |
| 2   |         | 770904  | Olga Henderson              | N   | Y   | Warkworth Village                 |
| 3   |         | 770904  | Olga Henderson              | N   | Y   | Warkworth Village                 |
| 4   |         | 770904  | Olga Henderson              | N   | Y   | Warkworth Village                 |
| 5   |         | 770904  | Olga Henderson              | N   | Y   | Warkworth Village                 |
| 7   |         | 770904  | Olga Henderson              | N   | Y   | Warkworth Village                 |
| 40  |         | 755267  | Olga Henderson              | N   | Y   | Warkworth Village                 |
| 41  |         | 755267  | Olga Henderson              | N   | Y   | Warkworth Village                 |
| 186 |         | 755267  | Olga Henderson              | N   | Y   | Warkworth Village                 |
| 1   |         | 70857   | Phillip & Collen Algie      | N   | Y   | Maison Dieu                       |
| 6   |         | 3005    | R & J Wenham                | N   | Y   | Maison Dieu                       |
| 45  |         | 1015315 | Redbank Project Pty Limited | N   | Y   | Warkworth South of Wollombi Brook |
| 1   |         | 66331   | Robert Algie                | N   | Y   | Maison Dieu                       |
| 7   |         | 3005    | Robert Algie                | N   | Y   | Maison Dieu                       |
| 10  |         | 3005    | Robert Algie                | N   | Y   | Maison Dieu                       |
| 2   |         | 770905  | Shane & Glenn Keys          | Y   | Y   | Warkworth Village                 |
| 84  |         | 753792  | Shane & Glenn Keys          | Y   | Y   | Warkworth Village                 |
| 1   | 6       | 759053  | Singleton Council           | N   | Y   | Warkworth Village                 |
| 2   | 6       | 759053  | Singleton Council           | N   | Y   | Warkworth Village                 |
| 3   | 6       | 759053  | Singleton Council           | N   | Y   | Warkworth Village                 |
| 2   |         | 90052   | Telstra Corporation Limited | N   | Y   | Warkworth Village                 |
| 12  |         | 843432  | Telstra Corporation Ltd     | N   | Y   | Warkworth Near Comleroi Road      |
| 1   |         | 738657  | Wambo Coal Pty Ltd          | N   | Y   | Warkworth Village                 |
| 1   |         | 1090601 | Wambo Coal Pty Ltd          | N   | Y   | Warkworth Village                 |
| 2   |         | 583524  | Wambo Coal Pty Ltd          | N   | Y   | Warkworth Village                 |
| 2   |         | 738657  | Wambo Coal Pty Ltd          | N   | Y   | Warkworth Village                 |
| 3   |         | 1085145 | Wambo Coal Pty Ltd          | Y   | Y   | Warkworth North West              |
| 4   |         | 1085145 | Wambo Coal Pty Ltd          | N   | N   | Warkworth North West              |
| 1   |         | 1088908 | Wambo Coal Terminal Pty Ltd | N   | Y   | Warkworth Village                 |



| Lot | Section | DP      | Property Owner                       | Wholly or Partly Affected by Coal & Allied Surface Mining Lease | Wholly or Partly Affected by Coal & Allied Sub Surface Mining Lease | Location          |
|-----|---------|---------|--------------------------------------|---|---|-------------------|
| 2   |         | 1088908 | Wambo Coal Terminal Pty Ltd          | N   | Y   | Warkworth Village |
| 86  |         | 755267  | Wambo Coal Terminal Pty Ltd          | N   | Y   | Warkworth Village |
| 88  |         | 755267  | Wambo Coal Terminal Pty Ltd          | N   | Y   | Warkworth Village |
| 171 |         | 755267  | Wambo Coal Terminal Pty Ltd          | N   | Y   | Warkworth Village |
| 174 |         | 755267  | Wambo Coal Terminal Pty Ltd          | N   | Y   | Warkworth Village |
| 1   | 17      | 759053  | Wambo Mining Corporation Limited     | N   | Y   | Warkworth Village |
| 2   |         | 113343  | Wambo Mining Corporation Limited     | N   | Y   | Warkworth Village |
| 2   | 17      | 759053  | Wambo Mining Corporation Limited     | N   | Y   | Warkworth Village |
| 3   |         | 113343  | Wambo Mining Corporation Limited     | N   | Y   | Warkworth Village |
| 4   |         | 113343  | Wambo Mining Corporation Limited     | N   | Y   | Warkworth Village |
| 5   |         | 113343  | Wambo Mining Corporation Limited     | N   | Y   | Warkworth Village |
| 1   | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 2   | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 7   | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 8   | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 9   | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 10  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 11  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 12  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 13  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 14  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 15  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 16  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 17  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 18  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 19  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 20  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 21  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 22  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 23  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 24  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 25  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 26  | 4       | 759053  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 199 |         | 755267  | Wambo Mining Corporation Pty Limited | N   | Y   | Warkworth Village |
| 1   | 16      | 759053  | Wambo Mining Corporation Pty Ltd     | N   | Y   | Warkworth Village |

| Lot   | Section | DP     | Property Owner  | Wholly or Partly Affected by Coal & Allied Surface Mining Lease | Wholly or Partly Affected by Coal & Allied Sub Surface Mining Lease | Location                          |
|-------|---------|--------|---|---|---|-----------------------------------|
| 1     | 21      | 759053 | Wambo Mining Corporation Pty Ltd                                      | N   | Y   | Warkworth Village                 |
| 2     | 16      | 759053 | Wambo Mining Corporation Pty Ltd                                      | N   | Y   | Warkworth Village                 |
| 2     | 21      | 759053 | Wambo Mining Corporation Pty Ltd                                      | N   | Y   | Warkworth Village                 |
| 3     | 16      | 759053 | Wambo Mining Corporation Pty Ltd                                      | N   | Y   | Warkworth Village                 |
| 3     | 21      | 759053 | Wambo Mining Corporation Pty Ltd                                      | N   | Y   | Warkworth Village                 |
| 4     | 21      | 759053 | Wambo Mining Corporation Pty Ltd                                      | N   | Y   | Warkworth Village                 |
| 5     | 21      | 759053 | Wambo Mining Corporation Pty Ltd                                      | N   | Y   | Warkworth Village                 |
| 10    |         | 113343 | Wambo Mining Corporation Pty Ltd                                      | N   | Y   | Warkworth Village                 |
| 202   |         | 257063 | Wambo Mining Corporation Pty Ltd                                      | N   | Y   | Warkworth Village                 |
| 1     | 1       | 759053 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 2     | 1       | 759053 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 3     | 1       | 759053 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 4     | 1       | 759053 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 5     | 1       | 759053 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 6     | 1       | 759053 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 7     | 1       | 759053 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 8     | 1       | 759053 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 9     | 1       | 759053 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 10    | 1       | 759053 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 86    |         | 753792 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 87    |         | 753792 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 88    |         | 753792 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 89    |         | 753792 | Wilfred & Ross Kannar   | N   | Y   | Warkworth Village                 |
| 2     |         | 113342 | Wilfred and Ross Kannar   | N   | Y   | Warkworth South of Wollombi Brook |
| 114   |         | 755267 | Wilfred and Ross Kannar   | N   | Y   | Warkworth South of Wollombi Brook |
| 123   |         | 755267 | Wilfred and Ross Kannar   | N   | Y   | Warkworth South of Wollombi Brook |
| No447 |         | Bk718  | William Henry Trewenack   | N   | Y   | Warkworth Village                 |
| 33    |         | 610878 | William, Marie & Lawrence Kelly                                       | N   | Y   | Warkworth Village                 |
| 2     |         | 658467 | Wyoming Holsteins Pty Ltd   | N   | Y   | Maison Dieu                       |
| 1     |         | 782299 | Xstrata Coal Pty Ltd  | N   | Y   | Warkworth Village                 |
|       |         |        | Crown Enclosure Permit 51250 ( Coal & Allied Operations Pty Limited ) | Y   | Y   | Warkworth South of Wollombi Brook |
| 174   |         | 823775 | Road  | N   | N   | Warkworth North West              |
| 176   |         | 823775 | Road  | N   | N   | Warkworth North West              |
| 193   |         | 755267 | Road  | N   | Y   | Warkworth Village                 |
| 180   |         | 823775 | Singleton Shire Council (Road)  | Y   | N   | Warkworth North West              |

## APPENDIX 2 PROJECT LAYOUT PLANS

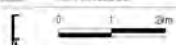


**Legend**

- Project Application Area
- Current Development Consent Boundary (HVO North only)

**Figure 1.2  
HVO South in its Local Setting**

|   |  |
|---|--|
| <p>Client: Coal &amp; Allied Operations Pty Limited<br/>         Project: Hunter Valley Operations South Coal Project<br/>         Drawing No: 0047200_F_02 Suffix No: R1<br/>         Date: 19/08/2008 Drawing Size: A3<br/>         Drawn By: DH Reviewed by: LS<br/>         Source: -<br/>         Scale: Roller to Scale Bar</p> | <p>Environmental Resources Management Australia Pty Ltd<br/>         Building C, 33 Saunders St, Plympton, NSW 2009<br/>         Telephone +61 2 8584 8888</p> |
|---|--|



**Figure 1: Local Setting of HVO South and North**





Figure 2: Amended Project Application Area

### APPENDIX 3 CNA STATEMENT OF COMMITMENTS

The following Statement of Commitments has been prepared in accordance with the DGRs and Part 3A of the *EP&A Act*. These commitments outline the management, mitigation and monitoring measures to be adhered to by CNA throughout the development and operation of the proposed HVO South Coal Project to manage potential environmental impacts arising from the proposal.

Management of activities occurring at HVO is undertaken with reference to the corresponding management plan that details the key objectives and control measures. The management plans outline key environmental issues, performance criteria, recommended control measures, monitoring, inspection and incident management requirements, performance reporting and key related policies and procedures. The relevant EMS procedures describe the implementation of these recommended controls. Monitoring is undertaken in accordance with the approved monitoring programme to determine the effectiveness of the control measures and promotes a continuous improvement cycle. The CNA EMS will continue to be implemented across HVO and the relevant plans, procedures and monitoring programmes will be reviewed and modified to reflect the changes to HVO South resulting from the proposal.

The recommended management measures from each of the technical reports include a number of control measures to minimise the potential impacts resulting from the proposal. These measures have been considered in the context of the existing HVO activities and the CNA EMS. Many of these measures are already in place as part of existing controls for the HVO South activities, and will continue to be implemented across HVO South to minimise the potential impacts resulting from the proposal. This Statement of Commitments details those controls that are considered specific to the proposal.

#### **General**

CNA will:

- carry out the proposal generally in accordance with the systems, plans and mitigation measures identified throughout this Environmental Assessment Report;
- bring any matters that arise and require further assessment by the Director General to the Director General's attention and will comply with all requirements received; and
- obtain and maintain all permits, licences and approvals required throughout the life of the project that are not incorporated into the Part 3A Project Approval. This Statement of Commitments does not replace any obligations CNA has under these statutory requirements.

All works will be undertaken in accordance with the relevant Australian Standards where these standards do not conflict with specific legislative or safety requirements.

Standards may include but not be restricted to the latest versions of:

- *AS 2601-2001: The Demolition of Structures; and*
- *AS1940 - The Storage and Handling of Flammable and Combustible Liquids.*

#### **Environmental Management Systems**

The CNA EMS has been developed and implemented in accordance with ISO14001.



This EMS will continue to be applied to the activities undertaken as part of the HVO South Coal Project.

## **Management Measures**

## **Community Consultation**

The existing consultation programmes will continue to be undertaken to ensure any specific outcomes from the environmental assessment are included into the relevant programmes as required.

The community consultation specific to the proposal will continue throughout the project, from submission through to government decision and implementation of commitments. Ongoing communication techniques utilised by CNA (*Table 6.1*) will be implemented as appropriate.

## **Noise**

In addition to the mitigation measures undertaken at HVO for noise, the following controls specific to the proposal will be implemented:

- equipment operation within South Lemington Pit 1 and associated truck movements will cease during night time operations if monitoring identifies unacceptable noise impacts will result from south westerly winds (occurring at or above 2.1 m/s). At lower wind speeds, real-time noise and/or weather monitoring will be used to guide modifications to operations as required.
- noise limits that will apply to the proposal are detailed in *Table 22.1*.

**Table 22.1 Noise Limits Applicable to Proposal, dB(A)**

| No. | Location                         | Day Limits                | Evening Limits            | Night Limits              |                        |
|-----|----------------------------------|---------------------------|---------------------------|---------------------------|------------------------|
|     |                                  | L <sub>Aeq</sub> (15 min) | L <sub>Aeq</sub> (15 min) | L <sub>Aeq</sub> (15 min) | L <sub>1</sub> (1 min) |
| 3   | Elisnore                         | 38                        | 38                        | 38                        | 45                     |
| 4   | Muller                           | 38                        | 38                        | 38                        | 45                     |
| 5   | Bowman                           | 39                        | 39                        | 41                        | 46                     |
| 7   | Stapleton <sup>1</sup>           | N/A                       | N/A                       | N/A                       | 45                     |
| 8   | Holz (Oaklands) <sup>2</sup>     | N/A                       | N/A                       | N/A                       | 45                     |
| 10  | Moses (Wandewoi) <sup>1</sup>    | N/A                       | N/A                       | N/A                       | 45                     |
| 13  | Jerrys Plains Centre             | 38                        | 38                        | 38                        | 45                     |
| 16  | Algie                            | 39                        | 39                        | 42                        | 46                     |
| 17  | Algie                            | 39                        | 39                        | 40                        | 46                     |
| 19  | Birrilee Feeds Pty Ltd           | 38                        | 38                        | 38                        | 45                     |
| 23  | Hawkes <sup>1</sup> (Springwood) | N/A                       | N/A                       | N/A                       | 46                     |
| 24  | Clifton & Edwards                | 39                        | 39                        | 39                        | 46                     |
| 31  | Cooper (Kilburnie)               | 39                        | 39                        | 39                        | 49                     |
| 32  | Algie (Curlewis)                 | 39                        | 39                        | 42                        | 46                     |
| 33  | Edward & Haynes <sup>2</sup>     | N/A                       | N/A                       | N/A                       | 46                     |
| 34  | Ernst                            | 39                        | 39                        | 40                        | 46                     |
| 36  | Garland                          | 38                        | 38                        | 38                        | 45                     |
| 38  | Henderson <sup>1</sup>           | N/A                       | N/A                       | N/A                       | 46                     |
| 43  | Kannar <sup>2</sup>              | N/A                       | N/A                       | N/A                       | 46                     |
| 45  | Kelly <sup>1</sup>               | N/A                       | N/A                       | N/A                       | 46                     |
| 47  | Moxey                            | 39                        | 39                        | 41                        | 46                     |
| 61  | Shearer                          | 39                        | 39                        | 41                        | 46                     |

1. These private residences are currently inside a zone of affectation. A private agreement may exist with the land holder.
2. These residences are owned by mining companies other than CNA.

General:

- Daytime (between 7am and 6pm); evening (between 6pm and 10pm); and night time (between 10pm and 7am).
- The noise emission limits above apply for winds up to 3 m/s (at a height of 10 m) and temperature gradients up to 4 degrees Celsius per 100 m.
- If there is a valid private amenity agreement with any property owners these criteria may be exceeded.
- Maison Dieu assessment locations are No's 5, 16, 17, 24, 32, 34, 47 and 61, Warkworth Village assessment locations are No's 23, 33, 38, 43 and 45 and Jerrys Plains assessment locations are No's 3, 4, 13, 19, 31 and 36. Isolated assessment locations are No's 7, 8 and 10.
- Location No. is consistent with the HVO West Pit consent (DA 450-10-2003).

## Blast and Vibration

In addition to the mitigation measures undertaken at HVO for blast and vibration management, blasts will be designed to minimise impacts on neighbouring mine ventilation structures and minimise the potential for fracture development along pit walls to assist with pit wall stability:

- blast vibration will be managed through design and modelling;
- bench heights will be managed to not significantly exceed 15 m;
- no throw blasts will take place adjacent to final walls;
- high density explosives will be toe loaded;
- blast monitoring and post blast analysis will be undertaken where required;
- presplit blasting will be implemented on final walls where this indicates improved wall conditions; and
- visual monitoring by way of regular highwall and pit inspections will be undertaken.

## Air Quality

In addition to the mitigation measures undertaken at HVO for air quality management, efficient mine planning and operations will ensure:

- the mine plan is regularly reviewed with a view to controlling dust emissions and keeping emissions to the lowest levels practicable;
- exposed areas are kept to the minimum practicable; and
- haul roads are kept to the shortest routes practicable and material handling is kept to the minimum levels practicable.

## Groundwater

In addition to the mitigation measures undertaken at HVO for groundwater management, the following controls specific to the proposal will be implemented:

*Groundwater Flow To and From Rivers:*

- development of protocols for monitoring and reporting of **NOW** stream gauge results to clearly record any reductions in flows that are attributed to mining. This will include monitoring Hunter River flows immediately up gradient and down gradient of the site. In addition, consideration will be given to tying in specific CNA water level recordings with current **NOW** gauging locations;
- monitoring of groundwater elevations within alluvium between the Hunter River and the Cheshunt Pit; and
- measured groundwater elevations and river flow will be assessed against predictions to determine whether application of additional management measures is required; and
- offset seepage to pits in accordance with regulatory requirements.

*Regional Groundwater Drawdown:*

- the HVO *River Red Gum Rehabilitation and Restoration Strategy* and CNA EMS procedure for Flora and Fauna will be updated to reflect changes resulting from the proposal. This will include monitoring the health of the River Red Gums located on the Hunter River and

Wollombi Brook alluvium as identified in *Chapter 11 (Figure 11.2)*. The monitoring programme will include details on frequency of monitoring, reporting and corrective actions; and

- ❑ up to three monitoring wells will be installed in the proximity of the cluster of registered **NOW** bores located to the east of the LCPP (*Figure 25 Annex J*). Data will be used to compare actual versus predicted impacts. Deviations away from predicted impacts will be assessed, and if predictions are exceeded, management measures will be implemented.

*Alluvial Buffer Zone:*

- ❑ a buffer zone of 100 m will be retained from the Cheshunt Pit highwall to the edge of alluvium of the Hunter River;
- ❑ a buffer zone of 150 m will be retained from the South Lemington Pit 2 highwall to the edge of alluvium of the Wollombi Brook;
- ❑ bores will be installed to further delineate the saturated zone between the Hunter River and the Cheshunt Pit before mining commences within this area; and
- ❑ the groundwater component of the HVO Water Management Manual will include procedures for monitoring potential impacts, including accurately measuring seepage to pits throughout mining and assessment of proximity to alluvials as mining approaches.

*Deep Cheshunt Pit Final Void:*

- ❑ the Deep Cheshunt Pit final void will be designed to intercept leachate from overburden emplacements and minimise discharge of saline groundwater. Deep Cheshunt Pit final void design will be reviewed at least three years prior to anticipated mine closure;
- ❑ the Deep Cheshunt Pit Final Void Management Plan will include future use options including investigation of feasibility to use the Deep Cheshunt Pit final void as a water storage that could be used as a buffer in times of flood flows in the Hunter River and as a supplementary water supply at times of scarce water supply. This would include additional investigations to refine predictions of final void water chemistry;
- ❑ a post closure monitoring programme will be developed as part of the Deep Cheshunt Pit Final Void Management Plan for water quality monitoring of the final void; and
- ❑ the mine plan will be further reviewed with a view to minimise the area of the Deep Cheshunt Pit final void as much as practicable.

## **Surface Water**

In addition to the mitigation measures undertaken at HVO for surface water management, the following controls specific to the proposal will be implemented.

*Water Supply:*

- ❑ modify Water Access Licences, review conditions and report on water use in the AEMR;
- ❑ monitor and record abstraction quantities; and
- ❑ increase pump capacity from Dam 20S (or alternative storage) to the LCPP and undertake minor improvements to the existing HVO South water system in conjunction with the design of the LCPP to minimise need to pump from Hunter *River Water Discharge*;
- ❑ review current discharge conditions in respect of the proposal and incorporate where applicable into the Water Management Manual.

*Flood Mitigation:*

- ❑ construct South Lemington Pit 2 Levee SLL2 as a permanent levee and ensure the outer face of the levee will withstand 100-year ARI flood flow velocities; and

- ❑ assess Hobden Gully levee (CL1) prior to mine closure to determine if protection of the Deep Cheshunt Pit final void is required.

*Erosion and Sediment Control:*

- ❑ erosion and sediment control structures will remain in place to divert water away from the Deep Cheshunt Pit final void unless required for use as flood flow storage.

*Monitoring and Inspections:*

- ❑ prior to LCPP and infrastructure construction works review the Surface Water Monitoring Programme, establish additional representative monitoring sites where required and undertake monitoring; and
- ❑ annual monitoring of water level and water quality in the Deep Cheshunt Pit final void after mining operations have ceased as part of the post closure monitoring programme. Monitoring will continue in accordance with regulatory requirements.

## **Ecology**

In addition to the mitigation measures undertaken at HVO for management of flora and fauna, the following controls specific to the proposal will be implemented:

- ❑ the River Red Gum Rehabilitation and Restoration Strategy prepared by CNA will be updated to include the stands along the Hunter River and Wollombi Brook, will include collection and storage of seed from existing stands, and will ensure the health of these River Red Gums is periodically monitored;
- ❑ studies will be undertaken to investigate the preferred water source of River Red Gums and develop appropriate management measures;
- ❑ areas identified with sand profile will be included in the Warkworth Green Offsets research programme;
- ❑ the Coast Banksias will be assessed and fenced to exclude stock and provide for enhancement opportunities;
- ❑ rehabilitation planning will identify opportunities to create similar ecological characteristics (such as habitat types) of proposed extension areas;
- ❑ remnant vegetation areas not required to be disturbed by the proposal will be managed to ensure security of flora and fauna habitat in the future; and
- ❑ the Warkworth and Wambo Green Offset areas and the Hunter Valley Synoptic Plan will be considered with rehabilitation planning to enhance linkage where practical.

## **Aboriginal Heritage**

In addition to the mitigation measures undertaken at HVO for management of Aboriginal heritage, the following controls specific to the proposal will be implemented as agreed with the Aboriginal Working Group.

Management Measures for ACHMP HVO South Stage 1 include:

- ❑ all management measures will be undertaken in accordance with the Aboriginal Heritage Assessment as outlined in the ACHMP;
- ❑ if at a later date it is found necessary to undertake an action that would impact sites described within the Aboriginal cultural heritage assessment, additional and specific management recommendations may be implemented in consultation with the Working Group;



- ❑ provision is to be made for the management of collected cultural heritage material;
- ❑ provision will be made in the ACHMP for the Working Group to undertake an independent compliance audit of the management programme on a six monthly basis. In the event that any non-compliant activities are identified at any time, an additional compliance audit may be undertaken as part of the investigation process;
- ❑ where any mitigation is required it will be undertaken by representatives of the Working Group and suitably qualified technical advisers;
- ❑ implement a management programme providing for the controlled collection of the following sites where site avoidance is not possible. Until management measures (which may involve the collection of cultural material) have been implemented, mine-related impacts to the sites will be prevented:
  - Riverview South West Mining Extension Area Sites 1-24
  - South Lemington Pit 1 Mining Extension Area Sites 59-79
  - Proposed rail spur and loop easement Sites 80-83
  - LCPP Sites 101 and 105-106
- ❑ the alignment of the proposed rail spur and loop have been amended to avoid impacts to Sites 26-44, 47-58 and 107-109;
- ❑ restricted access zones will be defined for Sites 26-44, 47-58, 84-100, 102-104 and 107-109. The boundaries (*Figure 12.3*) are indicative only; and
- ❑ land management activities on the Archerfield property will avoid any impacts to Site 25.

Management measures to be implemented in accordance with the agreed ACHMP for HVO South Stage 2.

## Historic Heritage

In addition to the mitigation measures undertaken at HVO for management of historic heritage, the following action specific to the proposal will be implemented:

- ❑ a targeted field assessment will be undertaken by an historic heritage professional where required to supplement existing information to report on the relative significance of the additional sites identified on CNA land including a derelict bridge structure over an unnamed ephemeral creek and the cockatoo fence and recommend additional management measures.

## Visual

In addition to the mitigation measures undertaken at HVO for management of visual amenity, the following action specific to the proposal will be implemented:

- ❑ a review of the extension areas that adjoin Jerrys Plains Road and the proposed rail spur and loop easement will be undertaken prior to construction of the rail spur and loop, to determine if additional screening is required.

## Traffic and Transport

In addition to the mitigation measures undertaken at HVO for management of traffic and transport, the following action specific to the proposal will be implemented:

- ❑ ensure the relocation of Comleroi Road and construction of the rail loop are undertaken in accordance with the relevant regulatory requirements; and
- ❑ obtain the appropriate approvals, including those required for heavy equipment transfer; and
- ❑ ensure relevant stakeholders are consulted as required.

## **Waste Management**

There are no suggested controls for waste management specific to the proposal. It is anticipated the mitigation measures currently implemented at HVO will be sufficient to manage the increase in waste resulting from the proposal.

## **Energy Management Activities**

In addition to the mitigation measures currently implemented the mine plan will be regularly reviewed with a view to keeping emissions to the lowest levels practicable. Haul roads will be kept to the shortest routes practicable and material rehandling will be kept to the minimum levels practicable. Most of these measures are routinely applied as part of the efficient design of the mine.

## **Land Management**

There are no suggested controls for land management that are specific to the proposal. The current mitigation measures implemented at HVO are anticipated to be sufficient to manage any potential impacts from the proposal on land use.

## **Mine Landscape Planning**

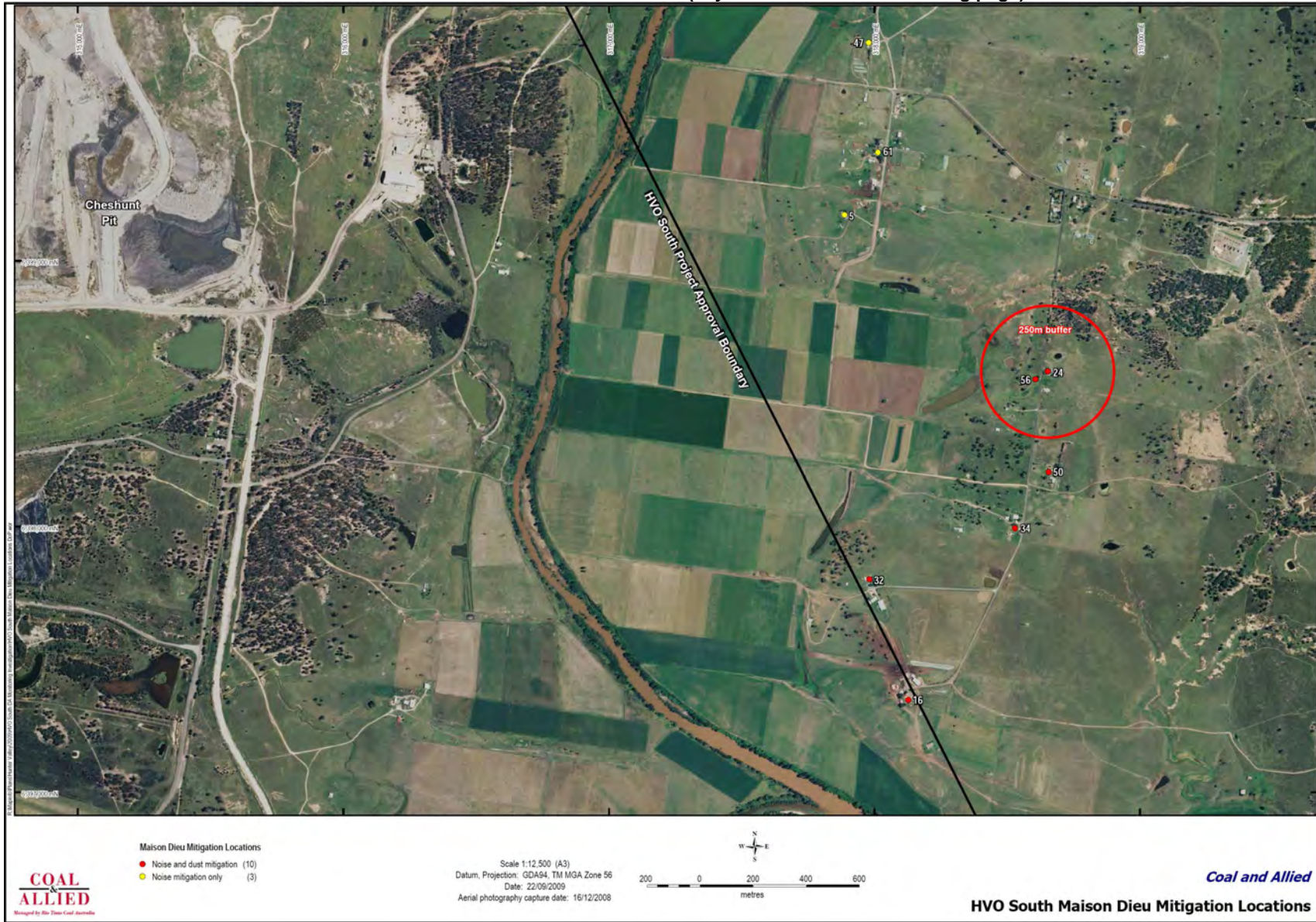
In addition to the mitigation measures undertaken at HVO for management of landscape planning, the following actions specific to the proposal will be implemented:

- General environmental land management practices implemented on all CNA owned land will be applied to the Archerfield Property along with planned rehabilitation areas.
- Remnant vegetation located within the Project Application area and outside proposed disturbance areas will be protected and enhanced to improve the ecological value and biodiversity. In particular, the specific management practices will include:
  - monitoring of remnant vegetation areas in accordance with existing procedures to provide evidence of success of management practices;
  - undertaking bushfire management, weed and pest control in accordance with recommended practices;
  - utilising local native species for seed stock where practical;
  - utilising existing farm dams and retention or establishment of native vegetation around dams to provide habitat; and
  - habitat creation and enhancement for common and threatened species.
- The vegetation on the Archerfield Property will require specific management practices to protect and enhance the ecological value and improve the biodiversity. In particular, the specific management practices will include:
  - monitoring of remnant vegetation areas in accordance with existing procedures to provide evidence of success of management practices;

- undertaking bushfire management, weed and pest control in accordance with recommended practices
  - maintenance and enhancement of native grasses, wherever possible;
  - utilising local native species for seed stock where practical;
  - utilising existing farm dams and retention or establishment of native vegetation around dams to provide habitat;
  - habitat creation and enhancement for common and threatened species; and
  - fencing of remnant vegetation to restrict stock access where practical.
- Options for securing the 140 ha of vegetation on the Archerfield Property will be investigated and a suitable mechanism will be implemented to ensure protection and enhancement of the biodiversity during the life of the project. Due to proximity of the Archerfield Property to coal resources and operations, it is considered inappropriate as a biobank site under the draft NSW Threatened Species Conservation (Biodiversity Banking) Regulation 2007 ([DECCW](#)). An alternative measure will need to be identified to secure the site for the duration of the development.
  - A Final Void Management Plan will be prepared for the Deep Cheshunt Pit final void at least five years prior to completion of mining and will include:
    - identification of possible beneficial uses for the void;
    - consideration of technologies which will assist to enhance the range of possible uses;
    - review of modelling and predictions of long term hydrological behaviour and water quality responses, including final void water quality and level;
    - long term integrity of void slopes;
    - waste characterisation and containment as pertains to runoff into final voids;
    - coal seam capping; and
    - long term management, monitoring and mitigation measures.
  - Mining in South Lemington Pits will be incorporated into a revised MOP for HVO South, which will supersede all previous MOPs for this area. The management commitments for South Lemington Pit 1 will include highwall stability monitoring, water storage management, minimisation of visual impacts and management of dust emissions and erosion.

The process for designing the landforms across HVO and undertaking progressive rehabilitation with the aim of achieving a final landscape vision will be undertaken in accordance with the *HVO Conceptual Landscape and Rehabilitation Management Strategy*.

**APPENDIX 4  
LANDOWNER/RECEIVER LOCATION PLAN (key to landowners on following page)**



**Surrounding Assessment Locations used for Modelling Purposes**

| Location No.  | Location and Name                 | MGA56 Coordinates |          |
|---|-----------------------------------|-------------------|----------|
|   |                                   | Easting           | Northing |
| Locations at Maison Dieu (East)   |                                   |                   |          |
| 5   | Bowman                            | 317887            | 6399172  |
| 16  | Algie                             | 318128            | 6397347  |
| 24  | Clifton and Edwards               | 318660            | 6398580  |
| 32  | Algie (Curlewis)                  | 317982            | 6397802  |
| 34  | Ernst                             | 318530            | 3697994  |
| 47  | Moxey                             | 317979            | 6399821  |
| 50  | Nelson                            | 318656            | 6398203  |
| 56  | Edwards                           | 318607            | 6398553  |
| 61  | Shearer                           | 318008            | 6399499  |
| Locations at Warkworth (South)  |                                   |                   |          |
| 23  | Hawkes (Springwood)               | 313989            | 6392994  |
| 33  | Edward and Haynes                 | 314699            | 6394353  |
| 38  | Henderson                         | 315584            | 6393898  |
| 43  | Kannar                            | 314648            | 6394680  |
| 45  | Kelly                             | 314149            | 6394563  |
| Locations west along Jerrys Plains Road (West)  |                                   |                   |          |
| 3   | Elisnore                          | 305416            | 6401053  |
| 4   | Muller                            | 305950            | 6399615  |
| 13  | Jerrys Plains Centre              | 303535            | 6402851  |
| 19  | Birrree Feeds Pty Ltd             | 305655            | 6400600  |
| 31  | Cooper (Kilburnie)                | 305953            | 6399990  |
| 36  | Garland                           | 306139            | 6399895  |
| Isolated Locations  |                                   |                   |          |
| 7   | Stapleton (Cheshunt) – North East | 315919            | 6403004  |
| 8   | Holz (Oaklands) – North           | 313711            | 6403979  |
| 10  | Moses (Wandewoi) – North West     | 306970            | 6402069  |
| <ul style="list-style-type: none"> <li>• Location No. is consistent with the HVO West Pit consent (DA 450-10-2003).</li> <li>• Location No's 33 and 43 have been purchased by Wambo Mine.</li> <li>• Location No. 8 has been purchased by Xstrata.</li> </ul> |                                   |                   |          |



**APPENDIX 5  
ARCHERFIELD BIODIVERSITY OFFSET STRATEGY**



**Legend**

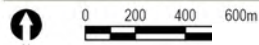
- Archerfield Property Boundary
- Area with Remnant Vegetation for Biodiversity Enhancement

**Figure 11.3**

**Archerfield Biodiversity Enhancement Area**

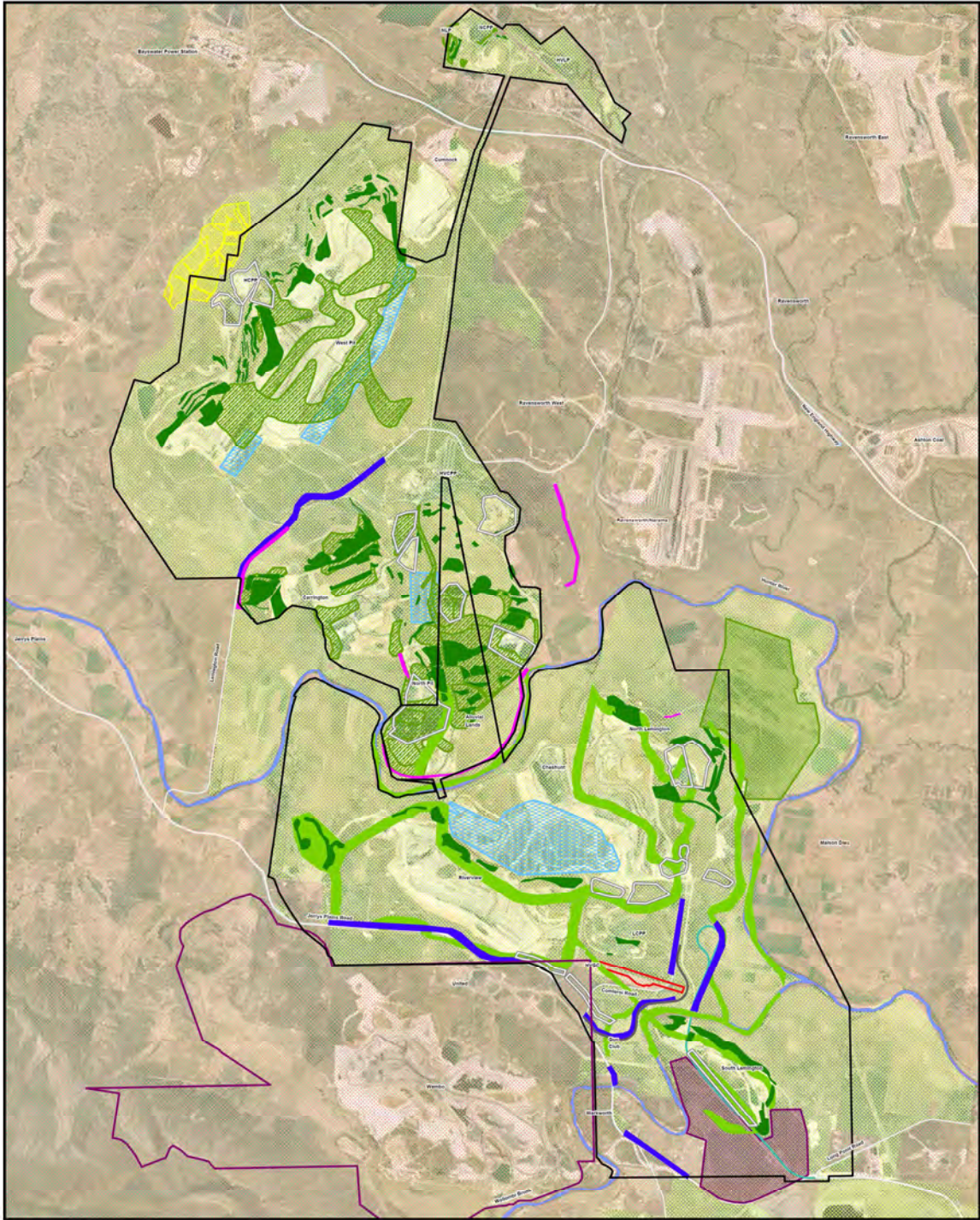
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| Project:      | Hunter Valley Operations South Coal Project |
| Drawing No:   | 0077323_GIS03_R0                            |
| Suffix No:    | R0  |
| Date:         | 18/01/2008                                  |
| Drawing size: | A4  |
| Drawn by:     | JS  |
| Reviewed by:  | LS  |
| Source:       | -   |
| Scale:        | Refer to Scale Bar                          |

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**APPENDIX 6  
CONCEPTUAL REHABILITATION PLAN**



**Legend**

|   |                                       |
|---|---------------------------------------|
| HVO North Development Consent Boundary and HVO South Project Application Area | Proposed Agro Forestry                |
| Unified Development Consent and Wambo Surface Disturbance Boundary            | Habitat Management Area               |
| Existing Visual Screen  | Water Filled Void                     |
| Potential Visual Screen   | Rehabilitated Tailings                |
| Existing Rehabilitation - Trees   | Proposed Gliding Strip                |
| Proposed Native Vegetation - Strategy   | Local Roads and Proposed Control Road |
| Proposed Vegetation Enhancement Area  | Proposed Rail Spur and Loop           |
| Proposed Native Vegetation MOP  | Proposed Pasture                      |
|   | Private Land Ownership                |

|             |   |
|-------------|---|
| Client:     | Coal & Allied Operations Pty Limited        |
| Project:    | Hunter Valley Coalfields South Coal Project |
| Drawing No: | 0047820_F_GIS20                             |
| Date:       | 04/10/07 (Revised Size: A3)                 |
| Drawn By:   | DH (Reviewed By: LS)                        |
| Source:     |   |
| Scale:      | Refer to Scale Bar                          |

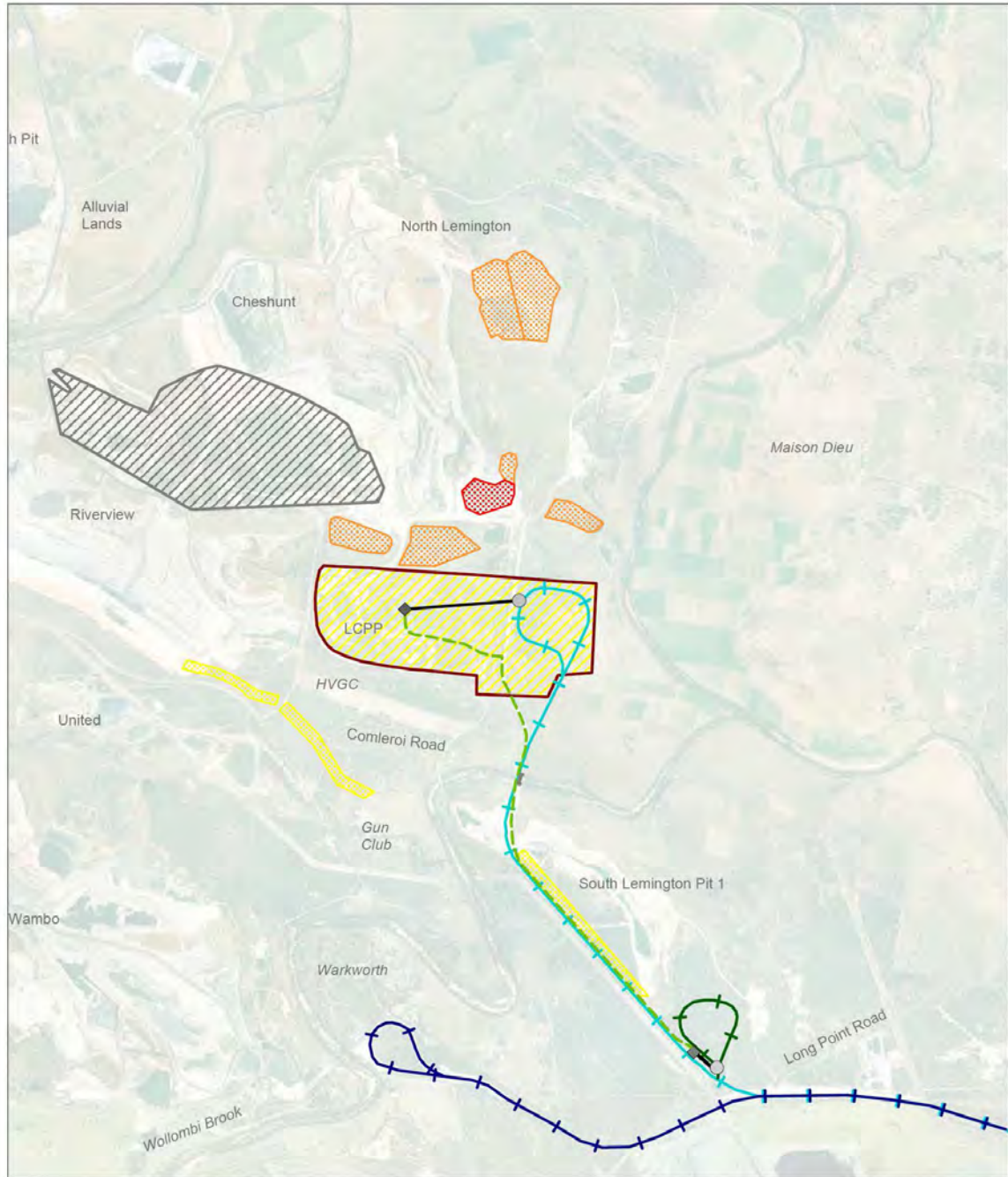
**Figure 19.2  
Conceptual Final Landscape**

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## APPENDIX 7 TRANSPORT OPTIONS



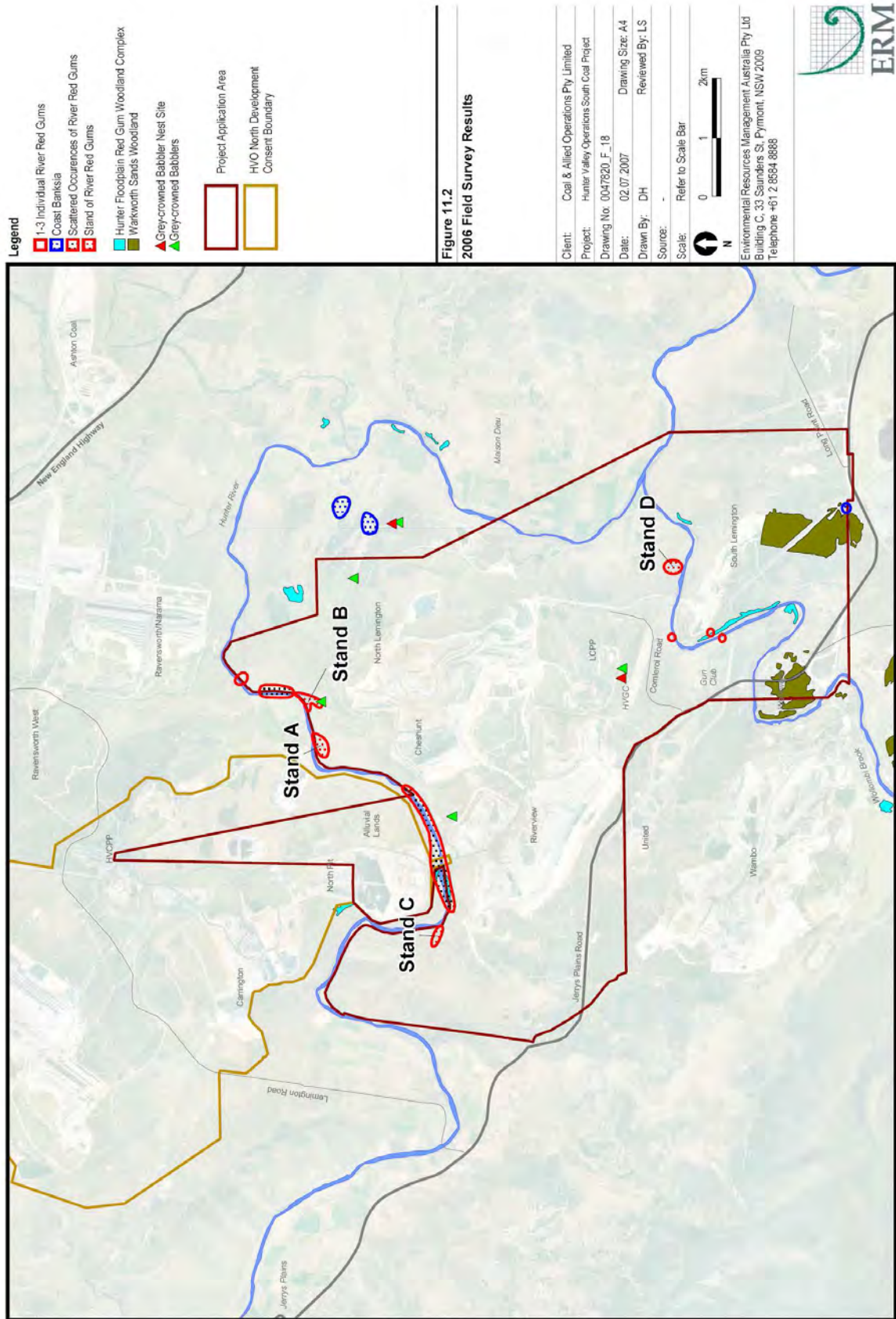
**Figure 5.7**  
**Proposed LCPP Footprint, Transport Options from LCPP to Wambo Rail Spur, Tailings Storage Facilities and Final Void**

|  |  |
|--|--|
| Client: Coal & Allied Operations Pty Limited | Project: Hunter Valley Operations South Coal Project |
| Drawing No: 0047820_F_10                     | Suffix No: R4  |
| Date: 27.08.2007                             | Drawing Size: A4                                     |
| Drawn By: DH                                 | Reviewed By: LS                                      |
| Source: -                                    |  |
| Scale: Refer to Scale Bar                    |  |

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## APPENDIX 8 THREATENED SPECIES AND EECs AT HVO SOUTH





APPENDIX 9  
INDEPENDENT DISPUTE RESOLUTION PROCESS

**Independent Dispute Resolution Process  
(Indicative only)**

