

# Development Consent

## Section 101 of the *Environmental Planning and Assessment Act 1979*

I determine the application to carry out the proposed development by granting consent to the application, subject to the conditions in schedules 1 to 5.

2 May 1983

Eric Bedford  
Minister for Planning and Environment

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### SCHEDULE 1 DEVELOPMENT DESCRIPTION

<b>Application Number:</b>	DA 80/952
<b>Applicant:</b>	<a href="#">Mt Owen Pty Limited</a>
<b>Land:</b>	See Appendix 1
<b>Development:</b>	The Glendell Open Cut Coal Mine and Associated Infrastructure

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***Black type represents Feb 2008 modification – replaced all previous conditions***  
***Blue type represents Dec 2016 modification***

## TABLE OF CONTENTS

<b>DEFINITIONS</b>	<b>3</b>
<b>ADMINISTRATIVE CONDITIONS</b>	<b>5</b>
Obligation to Minimise Harm to the Environment	5
Terms of Consent	5
Limits on Consent	5
Management Plans/Monitoring Programs	5
Integrated Environmental Management	5
Structural Adequacy	5
Operation of Plant and Equipment	5
Development Contributions	6
Demolition	6
Protection of Public Infrastructure	6
Transmission Line	6
<b>SPECIFIC ENVIRONMENTAL CONDITIONS</b>	<b>7</b>
Acquisition of Affected Properties	7
Noise	7
Blasting and Vibration	10
Air Quality	12
Meteorological Monitoring	13
Surface and Ground Water	13
Rehabilitation and Landscape	15
Aboriginal Cultural Heritage	18
Heritage	18
Transport	18
Visual	19
Greenhouse and Energy Efficiency	19
Waste	19
<b>ADDITIONAL PROCEDURES</b>	<b>20</b>
Notification of Landowners	20
Independent Review	20
Land Acquisition	21
<b>ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING</b>	<b>22</b>
Environmental Management	22
Reporting	24
Independent Environmental Audit	24
Access to Information	24
<b>APPENDIX 1: SCHEDULE OF LAND</b>	<b>26</b>
<b>APPENDIX 2: DEVELOPMENT LAYOUT PLAN</b>	<b>27</b>
<b>APPENDIX 3: STATEMENT OF COMMITMENTS</b>	<b>28</b>
<b>APPENDIX 4: LANDOWNER/RECEIVER LOCATION PLAN</b>	<b>33</b>
<b>APPENDIX 5: OFFSET STRATEGY PLAN</b>	<b>35</b>
<b>APPENDIX 6: CONCEPTUAL REHABILITATION PLAN</b>	<b>36</b>
<b>APPENDIX 7: HERITAGE ITEMS FOR ARCHIVAL RECORDING</b>	<b>37</b>

## DEFINITIONS

Acquisition Zone	The privately-owned land listed in Table 1 where there are no negotiated agreements in place between the Applicant and the applicable landowner
Annual Review	The review required by condition 5 of schedule 5
Applicant	Mt Owen Pty Limited, or its successors, including any person/s who rely on this consent to carry out development that is subject to this consent
ARTC	Australian Rail Track Corporation Ltd
BCA	Building Code of Australia
CCC	Community Consultative Committee
Conditions of this consent	Conditions contained in Schedules 2 to 5 inclusive
Council	Singleton Shire Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning & Environment
Development	The development as described in the documents listed in 2(a) of schedule 2
DPI	Department of Primary Industries
DPI Water	Division of Water within the DPI
DST	Daylight Savings Time
DRE	Division of Resources and Energy within the Department of Industry
EA (Mod 2)	Environmental assessment for Modification 2 of DA 80/952, titled <i>Environmental Assessment for Modification of Glendell Mine Operations, Volumes 1-3</i> , dated August 2007 and prepared by Umwelt (Australia) Pty Limited, including the response to submissions document dated October 2007
EA (Mod 3)	Environmental assessment for Modification 3 of DA 80/952, titled <i>Glendell Mine 132 kV Powerline Relocation Modification 3 Environmental Assessment</i> , dated August 2016 and prepared by Hansen Bailey, including the response to submissions document dated September 2016
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	Environment Protection Authority
EPL	Environment Protection Licence issued under the <i>Protection of the Environment Operations Act 1997</i>
EST	Eastern Standard Time
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build or implement
Heritage Branch	Heritage Branch of OEH
Incident	A set of circumstances that: <ul style="list-style-type: none"> <li>causes, or threatens to cause, material harm to the environment; and/or</li> <li>breaches or exceeds the limits or performance measures/criteria in this consent</li> </ul>
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this consent where it is defined to mean 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 consent
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Mine water	Water that accumulates within, or drains from, active mining areas, coal reject emplacement areas, tailings dams and infrastructure areas and any other areas where runoff may have come into contact with coal or carbonaceous material
Mining Area	The area hatched green on the Development Layout Plan in Appendix 2
Minimise	Reduce adverse impacts by implementing all reasonable and feasible mitigation measures
Mining operations	Includes the removal and emplacement of overburden and extraction, processing, handling, storage and transport of coal on site
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the development
Mt Owen Complex	The combined operations of the Mt Owen, Ravensworth East and Glendell mines
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
OEH	Office of Environment and Heritage

Offset Strategy	The biodiversity conservation and enhancement strategy described in the documents listed in condition 2(a) of schedule 2, summarised in Table 11 and depicted conceptually in the figure in Appendix 5
Privately-owned land	Land that is not owned by a public agency, or a mining company (or its subsidiary)
Public infrastructure	Linear and related infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
Reasonable	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
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
RMS	Roads and Maritime Services
ROM	Run-of-Mine
Secretary	Secretary of the Department, or nominee
Site	The land referred to in Appendix 1
Statement of Commitments	The Applicant's commitments in Appendix 3

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## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### Obligation to Minimise Harm to the Environment

1. In addition to meeting the specific performance criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.

### Terms of Consent

2. The Applicant must carry out the development:
  - (a) generally in accordance with the EA (Mod 2), EA (Mod 3) and the Development Layout Plan; and
  - (b) in accordance with the Statement of Commitments and the conditions of this consent.

*Notes:*

- The Development Layout Plan is shown in Appendix 2.
- The Statement of Commitments is reproduced in Appendix 3.

3. If there is any inconsistency between documents listed in condition 2(a) above, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant must comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:
  - (a) any strategies, plans, programs, reviews, reports, audits or correspondence that are submitted in accordance with this consent (including any stages of these documents);
  - (b) any reviews, reports or audits commissioned by the Department regarding compliance with this consent; and
  - (c) the implementation of any actions or measures contained in these documents.

### Limits on Consent

5. Mining operations may take place until the end of June 2024.

*Note: Under this consent, the Applicant is required to rehabilitate the site and provide offsets to the satisfaction of the Secretary and DRE. Consequently this consent 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 Applicant **must** not extract more than 4.5 million tonnes of ROM coal from the site in any calendar year.
7. The Applicant **must** not transport any coal from the site using public roads.
8. *(deleted)*
9. *(deleted)*

### Structural Adequacy

10. The Applicant **must** 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 Applicant 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 development.

### Operation of Plant and Equipment

11. The Applicant **must** 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

12. By the end of July 2008 (unless otherwise agreed by the [Secretary](#)), the Applicant [must](#) enter into an agreement with Singleton Council to provide development contributions to Council for the development, in accordance with Division 6 of Part 4 of the EP&A Act.

If the Applicant and Council cannot agree on the level or composition of the development contributions, then either party may refer the matter to the [Secretary](#) for resolution.

## Demolition

13. The Applicant [must](#) ensure that all demolition work undertaken in relation to the development is carried out in accordance with [AS 2601-2001: The Demolition of Structures](#), or its latest version.

## Protection of Public Infrastructure

14. Unless the Applicant and the applicable authority agree otherwise, the Applicant [must](#):
- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
  - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

*Note: This condition does not apply to any damage to public infrastructure subject to compensation payable under the Mine Subsidence Compensation Act 1961, or to damage to roads caused as a result of general road usage.*

## Transmission Line

15. Prior to mining within 200 metres of the existing electrical 132 kilovolt transmission line, that traverses the site, the Applicant [must](#):
- (a) relocate the affected section of transmission line to a new alignment as shown conceptually in Appendix 2 (see blue easement) and to the satisfaction of Ausgrid;
  - (b) ensure that any aspects of the new transmission line that occur within or interact with the Main Northern Railway corridor are designed and constructed to the satisfaction of ARTC; and
  - (c) design, install and maintain any infrastructure within 40 metres of watercourses generally in accordance with DPI Water's *Guidelines for Controlled Activities on Waterfront Land*.
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### SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS

#### ACQUISITION OF AFFECTED PROPERTIES

##### Acquisition Upon Request

- Upon receiving a written request for acquisition from the owner of the land listed in Table 1, the Applicant **must** acquire the land in accordance with the procedures in conditions 9-11 of schedule 4.

Table 1: Land subject to acquisition upon request

37a & 37b – Richards	Lot 13 DP 6830 – Gardner
61 – Donellan	Lot 12 DP 6830 – Noble
62 – Noble (b)	Lot 1 DP 770733 – Noble
65 – Noble	

*Note: Lands titled 62 – Noble (b), 65 – Noble, Lot 13 DP 6830 – Gardner, Lot 12 DP 6830 – Noble and Lot 1 DP 770733 – Noble have been acquired and are now mine-owned.*

#### NOISE

##### Noise Impact Assessment Criteria

- The Applicant **must** ensure that the noise generated by the development 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/Evening/Night L<sub>Aeq</sub>(15 minute)</b>	<b>Night L<sub>A1</sub>(1 minute)</b>
<b>Camberwell Village A</b>		
30 – Ninness 33 – Peachey 37c – Richards 53 – Yates	42	45
11 – Chisholm 22b – Turner 35 – Pugh	41	45
Other privately-owned land in Camberwell Village A	40	45
<b>Camberwell Village B</b>		
20 – Foord 21a & 21b – Merchant 38 – Robertson 47 & 50 – Vollebregt & Clarke	42	45
6 – Bennett 24 – Lopes	40	45
4 – Standing 40 – Smiles	39	45
32 – Green 44 – Stapleton	38	45
Other privately-owned land in Camberwell Village B	37	45
<b>Camberwell Village C</b>		
27 – McInerney	40	45
31 – Olofsson	38	45
Other privately-owned land in Camberwell Village C	35	45
<b>Other Privately-owned Land</b>		
37a & 37b – Richards 83 – Westcott 110 – Hall	38	45

<b>Land Number / Receiver</b>	<b>Day/Evening/Night</b> <i>L<sub>Aeq</sub>(15 minute)</i>	<b>Night</b> <i>L<sub>A1</sub>(1 minute)</i>
34 – Poulton 87 – Fairfull	37	45
9 – Burgess 18 – Hall 45 & 46 – Tisdell	36	45
All other privately-owned land	35	45
Camberwell Hall and St Clements Church	40	-

However, if the Applicant 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 EPA, then the Applicant may exceed the noise limits in Table 2 in accordance with the negotiated noise agreement.

Notes:

- The land numbers and receiver references are as described in the [EA \(Mod 2\)](#), and shown on the figures in Appendix 4.
- Lands titled 30 – Ninness, 33 – Peachey, 37c – Richards, 53 – Yates, 11 – Chisholm, 35 – Pugh, 20 – Foord, 21a & 21b – Merchant, 38 – Roberton, 6 – Bennett, 24 – Lopes, 4 – Standing, 40 – Smiles, 32 – Green and 44 – Stapleton have been acquired and are now mine-owned.
- Noise generated by the development is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy (as may be updated from time-to-time).

### Land Acquisition Criteria

- If the noise generated by the development exceeds the criteria in Table 3 at any residence on privately-owned land, or on more than 25% of any privately-owned land, the Applicant [must](#), upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 9-11 of schedule 4.

Table 3: Land acquisition criteria dB(A)

<b>Land</b>	<b>Day/Evening/Night</b> <i>L<sub>Aeq</sub>(15 minute)</i>
Camberwell Village A	45
Camberwell Village B	42
Camberwell Village C	40
All other privately-owned land, excluding the land listed in Table 1.	40

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

### Cumulative Noise Criteria

- The Applicant [must](#) take all reasonable and feasible measures to ensure that the noise generated by the development combined with the noise generated by other mines does not exceed the following amenity criteria at any residence on privately-owned land, or on more than 25% of any privately-owned land, excluding the land listed in Table 1, to the satisfaction of the [Secretary](#):
  - L<sub>Aeq</sub>(11 hour)* 50 dB(A) – Day;
  - L<sub>Aeq</sub>(4 hour)* 45 dB(A) – Evening; and
  - L<sub>Aeq</sub>(9 hour)* 40 dB(A) – Night.
- If the noise generated by the development combined with the noise generated by other mines exceeds the following amenity criteria at any residence on privately-owned land, or on more than 25% of any privately-owned land, excluding the land listed in Table 1, then upon receiving a written request for acquisition from the landowner, the Applicant [must](#) acquire the land on as equitable basis as possible with the relevant mines, in accordance with the procedures in conditions 9-11 of schedule 4, to the satisfaction of the [Secretary](#):
  - L<sub>Aeq</sub>(11 hour)* 53 dB(A) – Day;
  - L<sub>Aeq</sub>(4 hour)* 48 dB(A) – Evening; and
  - L<sub>Aeq</sub>(9 hour)* 43 dB(A) – Night.

Note: The cumulative noise generated by the development combined with the noise generated by other mines is to be measured in accordance with the relevant procedures in the NSW Industrial Noise Policy.



## Construction Noise

- 5A. The Applicant must manage noise associated with construction of the realigned transmission line, the removal of the redundant transmission line and any road works in accordance with the noise management levels defined in Table 2 of the *Interim Construction Noise Guideline*.

### Additional Noise Mitigation Measures

6. Upon receiving a written request from:
- a landowner of the land listed in Table 1 (unless the landowner has requested acquisition); or
  - a landowner of the land listed in Table 4 (except where a negotiated noise agreement is in place); or
  - the owner of any residence where subsequent noise monitoring shows the noise generated by the development is greater than, or equal to, the criteria in Table 5 (except where a negotiated noise agreement is in place),
- the Applicant **must** implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the landowner.

These additional mitigation measures must be reasonable and feasible.

If within 3 months of receiving this request from the landowner, the Applicant 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 [Secretary](#) for resolution.

By the end of April 2008, the Applicant **must** notify all applicable landowners that they are entitled to receive additional noise mitigation measures, to the satisfaction of the [Secretary](#).

Table 4: Land subject to additional noise mitigation upon request

6 – Bennett	37a – Richards
20 – Foord	38 – Robertson
21a & 21b – Merchant	47 & 50 – Vollebregt & Clarke
24 – Lopes	83 – Westcott
27 – McInerney	110 – Hall
31 – Olofsson	

Table 5: Additional noise mitigation criteria dB(A)

Land	Day/Evening/Night <i>L<sub>Aeq</sub>(15 minute)</i>
Camberwell Village A	43
Camberwell Village B	40
Camberwell Village C	38
All other privately-owned land, excluding the land listed in Table 1.	38

Notes to Tables 4-5:

- Noise generated by the development is to be measured in accordance with the notes presented below Table 2.
- Lands titled 6 – Bennett, 20 – Foord, 21a & 21b – Merchant, 24 – Lopes, 31 – Olofsson, 38 – Robertson have been acquired and are now mine-owned.

### Continuous Improvement

7. The Applicant **must**:
- implement all reasonable and feasible best practice noise mitigation measures;
  - investigate ways to reduce the noise generated by the development, 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 [Annual Review](#).

### Monitoring

8. The Applicant **must** prepare a Noise Monitoring Program for the development to the satisfaction of the [Secretary](#). This program must:
- be prepared in consultation with [EPA](#);
  - be submitted to the [Secretary](#) for approval by the end of April 2008; 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 consent.

The Applicant must implement the approved program as approved from time to time by the Secretary.

## BLASTING AND VIBRATION

### Airblast Overpressure Impact Assessment Criteria

- The Applicant must ensure that the airblast overpressure level from blasting at the development 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

- The Applicant must ensure that the ground vibration level from blasting at the development does not exceed the criteria in Table 7.

Table 7: Ground vibration impact assessment criteria

Receiver	Peak particle velocity (mm/s)	Allowable exceedance
Residence on privately-owned land	5	5% of the total number of blasts over a period of 12 months
	10	0%
St Clements Church	2	5% of the total number of blasts over a period of 12 months
	5	0%
Main Northern Railway culverts and bridges	25	0%
Electricity transmission poles	50	0%

Note: Vibration must be measured in accordance with applicable guidelines, including EPA's Assessing Vibration: A Technical Guideline (2006).

However, if the Applicant has a written negotiated agreement with the relevant service provider, and a copy of this agreement has been forwarded to the Department and EPA, then the Applicant may exceed the criteria for the Main Northern Railway culverts and bridges and electricity transmission poles in accordance with the negotiated agreement.

### Blasting Hours

- The Applicant must only carry out blasting on site between 9am and 5pm Monday to Saturday (EST) inclusive, and 9am to 6pm Monday to Saturday (DST) inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Secretary.

### Blasting Frequency

- The Applicant may carry out a maximum of:
  - 2 blasts a day; and
  - 5 blasts a week, averaged over a 12 month period.

This condition does not apply to blasts that generate ground vibration of 0.5 mm/s or less at any residence on privately-owned land, or to blast misfires or blasts required to ensure the safety of the mine, its workers or the general public.

*Notes:*

- *For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the mine.*
- *For the avoidance of doubt, should an additional blast be required after a blast misfire, this additional blast and the blast misfire are counted as a single blast, for the purposes of calculating the maximum number of daily and weekly blasts under this condition.*

### **Operating Conditions**

13. During mining operations on site, the Applicant **must** implement best blasting practice to:
  - (a) protect the safety of people, property, public infrastructure, and livestock **from blasting impacts in the areas surrounding blasting operations; and**
  - (b) minimise the dust and fume emissions from blasting at the development, to the satisfaction of the **Secretary**.
14. The Applicant **must** not undertake blasting within 500 metres of any privately-owned land or any land not owned by the Applicant, 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 **Secretary**.

### **Road Closure**

15. Prior to blasting within 500 metres of any public road, the Applicant **must** prepare a Road Closure Management Plan for the development **in consultation with Council and to the satisfaction of the Secretary**.

**The Applicant must implement the approved plan as approved from time to time by the Secretary.**

### **Public Notice**

16. During mining operations on site, the Applicant **must**:
  - (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;
  - (b) operate a Blasting Hotline, or alternate system agreed to by the **Secretary**, to enable the public to get up-to-date information on the blasting schedule at the development;
  - (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 **Secretary**.

### **Property Inspections**

17. At least 6 months prior to blasting within 2 kilometres of any privately-owned land, the Applicant **must** advise applicable landowners that they are entitled to a structural property inspection.

If the Applicant receives a written request for a structural property inspection from the landowner, the Applicant **must** within 3 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 **Secretary**, 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.

### **Property Investigations**

18. If any landowner of privately-owned land within 2 kilometres of the mining area claims that buildings and/or structures on his/her land have been damaged as a result of blasting at the development, the Applicant **must** within 3 months of receiving this claim:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the **Secretary**, to investigate the claim; and
- (b) 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 Applicant **must** repair the damages to the satisfaction of the **Secretary**.

If the Applicant or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the **Secretary** for resolution.

## Blast Monitoring Program

19. The Applicant **must** prepare a Blast Monitoring Program for the development to the satisfaction of the **Secretary**. This program must:
- be prepared in consultation with the **EPA**;
  - be submitted to the **Secretary** for approval by the end of April 2008; and
  - include a protocol for evaluating blasting impacts on, and demonstrating compliance with the blasting criteria in this consent for:
    - privately-owned residences and structures;
    - St Clements Church;
    - Main Northern Railway; and
    - electricity transmission lines.

The Applicant must implement the approved program as approved from time to time by the Secretary.

## AIR QUALITY

### Impact Assessment Criteria

20. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria listed in Tables 8, 9 and 10 at any residence on privately-owned land, except for the residences shown in Table 1 as being eligible for acquisition on request on the basis of air quality impacts.

Table 8: Long term impact assessment criteria for particulate matter

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

Table 9: Short term impact assessment criterion for particulate matter

<b>Pollutant</b>	<b>Averaging period</b>	<b><sup>d</sup> Criterion</b>
Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>b</sup> 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>
<sup>c</sup> Deposited dust	Annual	<sup>b</sup> 2 g/m <sup>2</sup> /month	<sup>a</sup> 4 g/m <sup>2</sup> /month

Notes to Tables 8-10:

- <sup>a</sup> Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).
- <sup>b</sup> Incremental impact (i.e. incremental increase in concentrations due to the development on its own).
- <sup>c</sup> Deposited dust is to be 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.
- <sup>d</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed to by the Secretary.

21. (deleted)

## Operating Conditions

22. The Applicant **must**:
- ensure any visible air pollution generated by the development 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 are assessed regularly, and that mining operations are relocated, modified and/or stopped as required to ensure compliance with the relevant air quality criteria; and
  - implement all practicable measures to minimise the off-site odour and fume emissions generated by any spontaneous combustion on site, to the satisfaction of the [Secretary](#).

## Monitoring

23. The Applicant **must** prepare an Air Quality Monitoring Program for the development to the satisfaction of the [Secretary](#). This program must:
- be prepared in consultation with [EPA](#);
  - be submitted to the [Secretary](#) for approval by the end of April 2008; and
  - include:
    - a combination of real-time monitors, high volume samplers and dust deposition gauges to monitor the dust emissions of the development; and
    - an air quality monitoring protocol for evaluating compliance with the air quality impact assessment and land acquisition criteria in this consent.

[The Applicant must implement the approved program as approved from time to time by the Secretary.](#)

## METEOROLOGICAL MONITORING

24. During the life of the development, the Applicant **must** 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 Applicant **must** only discharge mine water from the site in accordance with the provisions of an EPL or the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*.

### Bettys Creek and Swamp Creek Diversions

26. The Applicant **must** design, construct, maintain, and rehabilitate the proposed diversion of Bettys Creek and Swamp Creek, to the satisfaction of the [Secretary](#).
27. Within one month of completing the construction of the Bettys Creek and Swamp Creek diversions, the Applicant **must** submit an as-executed report, certified by a practising registered engineer, to the [Secretary](#) and [DPI Water](#).
28. Prior to destroying the original creek lines, the Applicant **must** demonstrate that the Bettys Creek and Swamp Creek diversions are operating successfully, in consultation with [DPI Water](#), and to the satisfaction of the [Secretary](#).

### Site Water Management Plan

29. The Applicant **must** prepare a Site Water Management Plan for the development to the satisfaction of the [Secretary](#). This plan must:
- be prepared in consultation with [EPA](#) and [DPI Water](#) by suitably qualified expert/s whose appointment/s have been approved by the [Secretary](#);
  - be submitted to the [Secretary](#) for approval by the end of April 2008; and
  - include:
    - a Bettys Creek and Swamp Creek Diversion Plan/s;
    - a Site Water Balance;
    - an Erosion and Sediment Control Plan;
    - a Surface Water Management and Monitoring Plan;
    - a Ground Water Monitoring Program; and
    - a Surface and Ground Water Response Plan.

The Applicant must implement the approved plan as approved from time to time by the Secretary.

*Note: The Department accepts that the initial Site Water Management Plan may not include the detailed plans for the proposed diversions of Bettys Creek and Swamp Creek. However, if this occurs, the Applicant will be required to seek approval from the [Secretary](#) for an alternative timetable for completion and approval of the diversion plan/s.*

### **Bettys Creek and Swamp Creek Diversion Plan/s**

30. The Bettys Creek and Swamp Creek Diversion Plan/s must include:
- (a) a vision statement for the creek relocation;
  - (b) an assessment of the water quality, ecological, hydrological and geomorphic baseline conditions in the creek;
  - (c) the detailed design specifications for the creek relocation;
  - (d) a construction program for the creek relocation, describing how the work would be staged, and integrated with mining operations;
  - (e) a revegetation program for the relocated creek using a range of suitable native species;
  - (f) water quality, ecological, hydrological and geomorphic performance and completion criteria for the creek relocation based on the assessment of baseline conditions; and
  - (g) a program to monitor and maintain the water quality, ecological, hydrological and geomorphic integrity of the creek relocation.

### **Site Water Balance**

31. The Site Water Balance must:
- (a) include details of:
    - sources and security of water supply;
    - water use on site;
    - water management on site;
    - off-site water transfers; and
  - (b) investigate and describe measures to minimise water use by the development.

### **Erosion and Sediment Control**

32. The Erosion and Sediment Control Plan must:
- (a) be consistent with the requirements of [Managing Urban Stormwater: Soils and Construction - Volume 1 and Volume 2E Mines and Quarries, or its latest version](#);
  - (b) identify activities that could cause soil erosion and generate sediment, [including activities on waterfront land \(within 40 metres of a watercourse\)](#);
  - (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
  - (d) describe the location, function, and capacity of erosion and sediment control structures; and
  - (e) describe what measures would be implemented to maintain these structures over time.

### **Surface Water Monitoring**

33. The Surface Water Management and Monitoring Plan must include:
- (a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could potentially be affected by the development;
  - (b) surface water and stream health impact assessment criteria;
  - (c) a program to monitor surface water flows, quality and impacts on water users (upstream and downstream of the development in Bettys Creek, Swamp Creek and Bowmans Creek);
  - (d) a program to assess stream health conditions in Bettys Creek, Swamp Creek and Bowmans Creek;
  - (e) a program to monitor channel stability in Bettys Creek, Swamp Creek and Bowmans Creek; and
  - (f) reporting procedures for the results of the monitoring program.

### **Groundwater Monitoring**

34. The Groundwater Monitoring Program must include:
- (a) detailed baseline data, based on sound statistical analysis, to benchmark the pre-mining natural variation in groundwater levels, yield and quality (including privately-owned groundwater bores within the predicted drawdown impact zone);
  - (b) groundwater impact assessment criteria (including for monitoring bores);
  - (c) a program for accurately delineating the boundary of the Bettys Creek and Swamp Creek alluvial aquifers in any areas intersected by mining;
  - (d) a program to monitor:

- impacts on the groundwater supply of potentially affected landowners;
  - impacts on the Bettys Creek and Swamp Creek alluvial aquifers;
  - connectivity and groundwater leakage to/from Bettys Creek and Swamp Creek following diversion;
  - impacts on groundwater dependent ecosystems and riparian vegetation;
  - the volume of ground water seeping into the open cut mine workings;
  - regional ground water levels and quality in the alluvial, coal seam, and overburden/interburden aquifers; and
  - the groundwater pressure response in the surrounding coal measures;
- (e) procedures for the verification of the groundwater model; and
- (f) reporting procedures for the results of the monitoring program and model verification.

### Surface and Ground Water Response Plan

35. The Surface and Ground Water Response Plan must include:
- a protocol for the investigation, notification and mitigation of any exceedances of the surface water, stream health and groundwater impact assessment criteria;
  - measures to mitigate and/or compensate potentially affected landowners for the loss of surface water flows in Bettys Creek, Swamp Creek and Bowmans Creek downstream of the development;
  - measures to minimise, prevent or offset groundwater leakage from the Bettys Creek and Swamp Creek alluvial aquifers;
  - measures to mitigate any direct hydraulic connection between the backfilled open cuts and the Bettys Creek and Swamp Creek alluvium if the potential for adverse impacts is detected; and
  - the procedures that would be followed if any unforeseen impacts are detected during the development.

### REHABILITATION AND LANDSCAPE

#### Offset Strategy

36. The Applicant **must**:
- implement the Offset Strategy described in the [EA \(Mod 2\)](#), [EA \(Mod 3\)](#) and summarised in [Table 11](#) (shown conceptually in Appendix 5); and
  - make suitable arrangements to provide appropriate long term security for the offset area by April 2011, to the satisfaction of the [Secretary](#).

*Table 11: Offset Strategy*

Offset Area	Minimum Size
Bettys Creek Habitat Management Area	174 ha

The Offset Strategy must contain specific measures to adequately offset the development's net impact on significant plant communities, including:

- Bulloak Forest;
- Swamp Oak Forest; and
- Box-Ironbark Woodland.

#### Rehabilitation

37. The Applicant **must** rehabilitate the site in a manner that is generally consistent with the final landform set out in the [EA \(Mod 2\)](#) (shown conceptually in Appendix 6) to the satisfaction of [DRE](#) and the [Secretary](#).

The final landform **must** provide for at least 250 hectares of treed vegetation, in a manner generally consistent with that shown conceptually in Appendix 6.

- 37A. The Applicant **must** rehabilitate the site progressively as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation and temporary vegetation strategies must be employed when areas prone to dust generation cannot be permanently rehabilitated.

*Note: It is accepted that some parts of the site that are progressively rehabilitated may be subject to further disturbance at some later stage of the development.*



## Pre-Clearance Survey

- 37B. Prior to commencing any surface disturbance related to construction or maintenance of the realigned transmission line, including for service roads, the Applicant must ensure that a pre-clearance threatened species survey is undertaken by a suitably qualified expert.

If any additional threatened species, which may be adversely affected by the realigned transmission line, are identified during the pre-clearance survey, the Applicant must not undertake any associated surface disturbance until suitable offsets have been provided in accordance with OEH's *NSW Biodiversity Offsets Policy for Major Projects* (2016), to the satisfaction of the Secretary.

## Revegetation & Compensatory Planting

- 37C. The Applicant must:
- plant and maintain, until established, 10 River Oak trees for every established River Oak tree that is removed or severely damaged during construction and maintenance of the realigned transmission line;
  - erect 2 nesting boxes for every identified tree hollow that is removed or severely damaged during the construction and maintenance of the realigned transmission line; and
  - replant or naturally regenerate, with a suitable mix of canopy, mid-storey and groundcover species, any temporarily cleared vegetation for the realigned transmission line that is classified as either Swamp Oak Forest or River Oak Forest,
- to the satisfaction of the Secretary.

### Notes:

- An established River Oak tree is considered to be two metres or greater in height.
- A severely damaged tree is considered to be one that is lopped to the extent that half or more of the crown biomass is lost.

## New England Highway Tree Screens

38. By the end of October 2008, the Applicant **must** plant additional trees along the New England Highway corridor to provide a tree screen for the development. These trees must be planted in consultation with Council and the relevant landowners, and then subsequently maintained to the satisfaction of the **Secretary**.

*Note: If Council and/or the relevant landowners do not agree to the proposed plantings, then the Applicant is not required to undertake the plantings.*

## Landscape Management Plan

39. The Applicant **must** prepare a detailed Landscape Management Plan for the development to the satisfaction of the **DRE** and **Secretary**. This plan must:
- be prepared in consultation with **EPA**, **DPI Water**, **DPI**, **OEH** and Council by suitably qualified expert/s whose appointment/s have been approved by the **Secretary**;
  - be submitted to the Secretary for approval by the end of April 2008; and
  - include a:
    - Rehabilitation and Offset Management Plan;
    - Final Void Management Plan; and
    - Mine Closure Plan.

**The Applicant must implement the approved plan as approved from time to time by the Secretary.**

*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 Applicant will be required to seek approval from the **Secretary** for an alternative timetable for the completion and approval of the Final Void Management Plan and Mine Closure Plan.*

## Rehabilitation and Offset Management Plan

40. The Rehabilitation and Offset Management Plan must include:
- the objectives for rehabilitation of the site and offset area;
  - a detailed 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 Mt Owen, Ravensworth East and Ashton mines to ensure there is a comprehensive strategic framework for the restoration and enhancement of the landscape over time;
  - 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 linkages to the offset areas at Mt Owen, Ravensworth East and Ashton mines; and
  - implement the New England Highway tree screens;
- (d) detailed performance and completion criteria for the rehabilitation of the site and implementation of the Offset Strategy and New England Highway tree screens;
- (e) a detailed description of how the performance of the rehabilitation of the mine, the offset areas and the New England Highway tree screens would be monitored over time to achieve the stated objectives;
- (f) a detailed description of what measures would be implemented over the next 3 years to rehabilitate the site, and implement both the Offset Strategy and tree screens along the New England Highway including the procedures to be implemented for:
- progressively rehabilitating areas disturbed by mining;
  - implementing revegetation and regeneration within the disturbance areas and offset areas, including establishment of canopy, sub-canopy (if relevant), understorey and ground strata;
  - reducing the visual impacts of the development;
  - protecting areas outside the disturbance areas;
  - rehabilitating creeks and drainage lines on the site, to ensure no net loss of stream length and aquatic habitat;
  - undertaking pre-clearance surveys;
  - managing impacts on fauna;
  - landscaping the site to minimise visual impacts;
  - conserving and reusing topsoil;
  - collecting and propagating seed for rehabilitation works;
  - salvaging and reusing material from the site for habitat enhancement;
  - controlling weeds and feral pests;
  - controlling access;
  - bushfire management; and
  - managing any potential conflicts between the offset strategy and Aboriginal cultural heritage;
- (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;
- (h) details of who is responsible for monitoring, reviewing, and implementing the plan;
- (i) [a description of riparian revegetation and maintenance works associated with EA \(Mod 3\), that has been prepared generally in accordance with DPI Water's Guidelines for Controlled Activities on Waterfront Land; and](#)
- (j) [a description of revegetation and rehabilitation measures that would be implemented during the construction and maintenance of the realigned transmission line.](#)

### Final Void Management

41. The Final Void Management Plan must:
- (a) justify the final location and future use of the final 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 the potential interactions between creeks on the site and the final void; and
  - (d) 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

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

### Conservation and Biodiversity Bond

43. Within 3 months of the approval of the Landscape Management Plan, the Applicant [must](#) lodge a conservation and biodiversity bond with the Department to ensure that the Offset Strategy is implemented in accordance with the performance and completion criteria of the Landscape

Management Plan. The sum of the bond **must** be determined by:

- (a) calculating the full cost of implementing the Offset Strategy (Bettys Creek Habitat Management Area); and
- (b) employing a suitably qualified rehabilitation expert or quantity surveyor to verify the calculated costs,

to the satisfaction of the Secretary.

The calculation of the conservation and biodiversity bond must be submitted to the Department for approval at least 1 month prior to the lodgement of the bond.

The conservation and biodiversity bond must be reviewed and, if required, an updated bond must be lodged with the Department within 3 months of any of the following:

- (a) an approved revision of the Landscape Management Plan;
- (b) the completion of an Independent Environmental Audit in which recommendations relating to the implementation of the Landscape Management Plan have been made; or
- (c) in response to a request by the Secretary.

Notes:

- If the Offset Strategy is completed *generally in accordance with the performance and completion criteria of the Landscape Management Plan* to the satisfaction of the Secretary, the Department will release the conservation and biodiversity bond.
- If the Offset Strategy is not completed *generally in accordance with the performance and completion criteria of the Landscape Management Plan* to the satisfaction of the Secretary, all or part of the conservation and biodiversity bond will be used to ensure the satisfactory completion of the relevant works.

## ABORIGINAL CULTURAL HERITAGE

### Aboriginal Cultural Heritage Management Plan

44. The Applicant **must** prepare an Aboriginal Cultural Heritage Management Plan to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with OEHL and the Aboriginal communities;
  - (b) be submitted to the Secretary for approval by the end of April 2008 and prior to the disturbance of any Aboriginal object or site; and
  - (c) include a:
    - management plan for all Aboriginal sites and potential archaeologically sensitive areas within the development disturbance area;
    - detailed description of the measures that would be implemented to protect Aboriginal sites and potential archaeologically sensitive areas outside the development disturbance area;
    - description of the measures that would be implemented if any new Aboriginal objects or skeletal remains are discovered during the development; and
    - protocol for the ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site.

The Applicant must implement the approved plan as approved from time to time by the Secretary.

## HERITAGE

45. The Applicant **must** prepare an archival record of the heritage items listed in the table in Appendix 7, prior to any activity associated with the development that may disturb these sites, in consultation with, and in accordance with the requirements of, the Heritage Branch, and to the satisfaction of the Secretary.

## TRANSPORT

### Monitoring of Coal Transport

46. The Applicant **must** keep records of the amount of coal transported from the site each year, and include these records in the Annual Review.

### Traffic Management

47. The Applicant **must** construct the Hebden Road/Site Access Road intersection to the satisfaction of Council, by the end of September 2008.
48. The Applicant **must** prepare (and subsequently implement) a construction traffic management plan for the development, to the satisfaction of Council, prior to re-commencing construction activities that require access from Hebden Road to the site.

49. The Applicant **must** review, and if necessary upgrade the New England Highway/Hebden Road intersection to provide:
- (a) street lighting in accordance with the relevant Australian Standards; and
  - (b) road shoulders that comply with the RMS's Road Design Guide, to the satisfaction of the RMS, by the end of December 2008.

## **VISUAL**

50. The Applicant **must**:
- (a) ensure that all external lighting associated with the development complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version;
  - (b) take all practicable measures to mitigate off-site lighting impacts from the development; and
  - (c) minimise the visual impacts of the development, to the satisfaction of the Secretary.

## **GREENHOUSE & ENERGY EFFICIENCY**

51. The Applicant **must** prepare a Greenhouse and Energy Efficiency Plan for the development to the satisfaction of the Secretary. 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 Secretary for approval by the end of July 2008;
  - (c) include a program to monitor greenhouse gas emissions and energy use generated by the development;
  - (d) include a framework for investigating and implementing measures to reduce greenhouse gas emissions and energy use at the site; and
  - (e) describe how the performance of these measures would be monitored over time.

The Applicant must implement the approved plan as approved from time to time by the Secretary.

## **WASTE**

52. The Applicant **must**:
- (a) monitor the amount of waste generated by the development;
  - (b) investigate ways to minimise waste generated by the development;
  - (c) implement reasonable and feasible measures to minimise waste generated by the development;
  - (d) ensure irrigation of treated wastewater is undertaken in accordance with EPA's *Environmental Guideline for the Utilisation of Treated Effluent*; and
  - (e) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.
-

## SCHEDULE 4 ADDITIONAL PROCEDURES

### NOTIFICATION OF LANDOWNERS

1. By the end of April 2008, the Applicant **must** notify the landowners of the land listed in Table 1 in writing that they have the right to require the Applicant to acquire their land at any stage during the development.
2. If the results of monitoring required in schedule 3 identify that impacts generated by the development are greater than the impact assessment criteria in schedule 3, except where this is predicted in the **EA (Mod 2)**, and except where a negotiated agreement has been entered into in relation to that impact, then the Applicant **must** notify the **Secretary** and the affected landowners and/or existing or future tenants (including tenants of mine owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the development is complying with the criteria in schedule 3.
3. The Applicant **must** develop a brochure to advise landowners and/or existing or future tenants (including tenants of mine owned properties) of the possible health and amenity impacts associated with exposure to particulate matter, to the satisfaction of the **Secretary**. The brochure **must** be prepared in consultation with NSW Health, and be submitted to the **Secretary** within 6 months of the date of this consent.

The Applicant **must** review relevant human health studies and update this brochure every 3 years, to the satisfaction of the **Secretary**.

The Applicant **must** provide this brochure (and associated updates) to all landowners and/or existing or future tenants (including tenants of mine owned properties) of properties where:

- (a) the predictions in the **EA (Mod 2)** identify that the dust emissions generated by the development are likely to be greater than the air quality land acquisition criteria in condition **Error! Reference source not found.** of schedule 3; and
- (b) monitoring results identify that the mine is exceeding the air quality land acquisition criteria in condition **Error! Reference source not found.** of schedule 3.

### INDEPENDENT REVIEW

4. If a landowner considers the development to be exceeding the impact assessment criteria in schedule 3, then he/she may ask the **Secretary** in writing for an independent review of the impacts of the development on his/her land.

If the **Secretary** is satisfied that an independent review is warranted, the Applicant **must** within 2 months of the **Secretary**'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 **Secretary**, to conduct monitoring on the land, to:
    - determine whether the development 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 development's contribution to this impact; and
  - (c) give the **Secretary** and landowner a copy of the independent review.
5. If the independent review determines that the development is complying with the relevant impact assessment criteria in schedule 3, then the Applicant may discontinue the independent review with the approval of the **Secretary**.
  6. If the independent review determines that the development is not complying with the relevant impact assessment criteria in schedule 3, and that the development is primarily responsible for this non-compliance, then the Applicant **must**:
    - (a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the development complies with the relevant criteria; and
    - (b) conduct further monitoring to determine whether these measures ensure compliance.

If the additional monitoring referred to above subsequently determines that the development is complying with the relevant criteria in schedule 3, or the Applicant and landowner enter into a negotiated agreement to allow these exceedances, then the Applicant may discontinue the independent review with the approval of the **Secretary**.

7. If the independent review determines that the relevant criteria in schedule 3 are being exceeded, but that more than one mine is responsible for this non-compliance, then the Applicant **must**, together with the relevant mine/s:
- (a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the relevant criteria are complied with; and
  - (b) conduct further monitoring to determine whether these measures ensure compliance; or
  - (c) secure a written agreement with the landowner and other relevant mines to allow exceedances of the criteria in schedule 3,
- to the satisfaction of the **Secretary**.

If the additional monitoring referred to above subsequently determines that the developments are complying with the relevant criteria in schedule 3, then the Applicant may discontinue the independent review with the approval of the **Secretary**.

8. If the landowner disputes the results of the independent review, either the Applicant or the landowner may refer the matter to the **Secretary** for resolution.

## LAND ACQUISITION

9. Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant **must** 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 development the subject of the development 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 the 'additional noise mitigation measures' in condition 6 of schedule 3;
  - (b) the reasonable costs associated with:
    - relocating within the Singleton local government area, or to any other local government area determined by the **Secretary**;
    - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and
  - (c) reasonable compensation for any disturbance caused by the land acquisition process.

However, if at the end of this period, the Applicant 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 **Secretary** for resolution.

Upon receiving such a request, the **Secretary** shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer or Fellow of the Institute, to consider submissions from both parties, and determine a fair and reasonable acquisition price for the land, and/or terms upon which the land is to be acquired.

Within 14 days of receiving the independent valuer's determination, the Applicant **must** make a written offer to purchase the land at a price not less than the independent valuer's determination.

If the landowner refuses to accept this offer within 6 months of the date of the Applicant's offer, the Applicant's obligations to acquire the land shall cease, unless otherwise agreed by the **Secretary**.

10. The Applicant **must** bear the **reasonable** costs of any valuation or survey assessment requested by the independent valuer, or the **Secretary**, and the costs of determination referred above.
11. If the Applicant and landowner agree that only part of the land shall be acquired, then the Applicant **must** pay all reasonable costs associated with obtaining Council consent for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.

**SCHEDULE 5**  
**ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING**

**ENVIRONMENTAL MANAGEMENT**

**Adaptive Management**

1. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

- (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;
- (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
- (c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.

**Environmental Management Strategy**

2. If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
  - (a) be submitted to the Secretary for approval prior to the commencement of development under this consent, unless the Secretary agrees otherwise;
  - (b) provide the strategic framework for the environmental management of the development;
  - (c) identify the statutory approvals that apply to the development;
  - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
  - (e) describe the procedures that would be implemented to:
    - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
    - receive, handle, respond to, and record complaints;
    - resolve any disputes that may arise during the course of the development;
    - respond to any non-compliance;
    - respond to emergencies; and
  - (f) include:
    - copies of any strategies, plans and programs approved under the conditions of this consent; and
    - a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

The Applicant must implement the approved strategy as approved from time to time by the Secretary.

**Management Plan Requirements**

3. The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:
  - (a) detailed baseline data;
  - (b) a description of:
    - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
    - any relevant limits or performance measures/criteria;
    - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
  - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
  - (d) a program to monitor and report on the:
    - impacts and environmental performance of the development;
    - effectiveness of any management measures (see c above);
  - (e) a contingency plan to manage any unpredicted impacts and their consequences;
  - (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
  - (g) a protocol for managing and reporting any:
    - incidents;



- complaints;
  - non-compliances with statutory requirements; and
  - exceedances of the impact assessment criteria and/or performance criteria; and
- (h) a protocol for periodic review of the plan.

*Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*

#### **Relationships between Management Plans and Annual Review**

4. With the agreement of the Secretary, the Applicant may combine any strategy, plan, program or Annual Review required by this consent with any similar strategy, plan, program or Annual Review required for Mt Owen, Ravensworth East and Integra Underground mines, or any other adjoining operation in common ownership or management.

#### **Annual Review**

5. By the end of March each year, or as otherwise agreed with the Secretary, the Applicant must submit a report to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must:
- (a) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;
  - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against the:
    - relevant statutory requirements, limits or performance measures/criteria;
    - monitoring results of previous years; and
    - relevant predictions in the documents listed in condition 2(a) of Schedule 2;
  - (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance;
  - (d) identify any trends in the monitoring data over the life of the development;
  - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
  - (f) describe what measures will be implemented over the next year to improve the environmental performance of the development.

#### **Revision of Strategies, Plans and Programs**

6. Within 3 months of:
- (a) the submission of an Annual Review under condition 5 above;
  - (b) the submission of an incident report under condition 9 below;
  - (c) the submission of an audit under condition 11 below; or
  - (d) any modification to the conditions of this consent (unless the conditions require otherwise);
- the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.

*Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.*

#### **Updating & Staging Strategies, Plans or Programs**

7. The Applicant may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis.

With the agreement of the Secretary, the Applicant may prepare a revision or stage of any strategy, plan or program required under this consent without undertaking consultation with all parties nominated under the applicable condition in this consent.

##### **Notes:**

- While any strategy, plan or program may be submitted on a staged basis, the Applicant must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.
- If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.

## Community Consultative Community

8. The Applicant must operate a CCC for the development to the satisfaction of the Secretary. This CCC must be operated in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects* (Department of Planning, 2007 or its latest version or replacement).

### Notes:

- The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.
- In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Applicant, Council, recognised environmental groups and the local community.
- The CCC may be combined with similar committees established for the adjoining Mt Owen, Ravensworth East and Integra Underground mines.

## REPORTING

### Incident Reporting

9. The Applicant must immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

### Regular Reporting

10. The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent, and to the satisfaction of the Secretary.

## INDEPENDENT ENVIRONMENTAL AUDIT

11. By the end of December 2010, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
- (a) be conducted by a suitably qualified, experienced, and independent team of experts whose appointment has been endorsed by the Secretary;
  - (b) include consultation with the relevant agencies and the CCC;
  - (c) assess the environmental performance of the development and assess whether it is complying with the requirements in this consent and any relevant EPL or Mining Lease or necessary water licences (including any assessment, plan or program required under these approvals);
  - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals (including whether the development has met or is trended towards the progressive performance and completion criteria detailed in these strategies, plans or programs);
  - (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals; and
  - (f) be conducted and reported to the satisfaction of the Secretary.

*Note: This audit team should be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.*

12. Within 12 weeks of commissioning of this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary and any other NSW Government agency that request it, together with its response to any recommendations contained in the audit report and a timetable for the implementation of these recommendations, as required. The Applicant must implement the audit report recommendations, to the satisfaction of the Secretary.

## ACCESS TO INFORMATION

13. The Applicant must:
- (a) make copies of the following publicly available on its website:
    - the documents listed in condition 2(a) of Schedule 2;
    - current statutory approvals for the development;
    - approved strategies, plans or programs required under the conditions of this consent;
    - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications of any conditions of this consent, or any approved plans or programs;
    - a complaints register, which is to be updated monthly;
    - minutes of CCC meetings;
    - the Annual Reviews of the development (for the last five years);



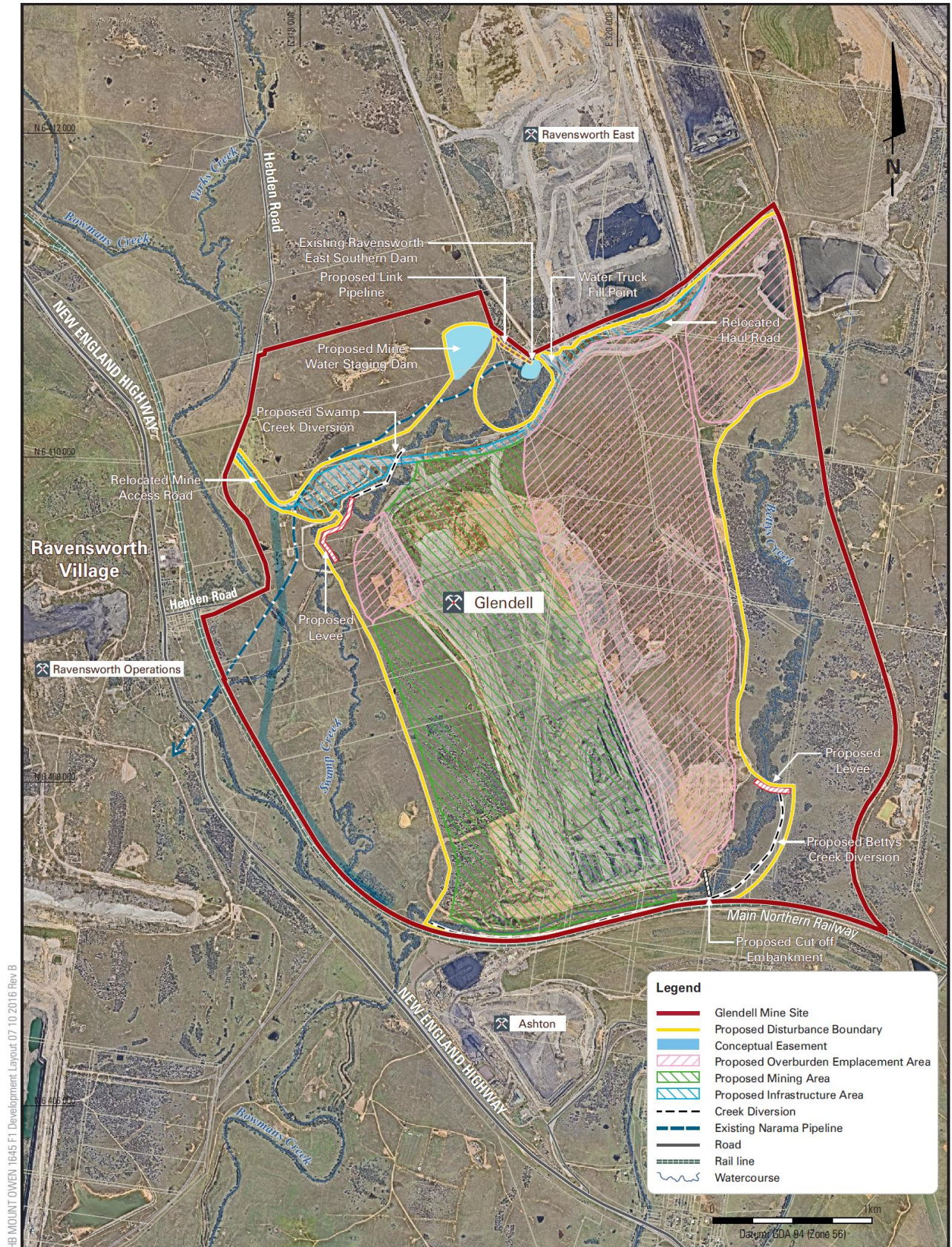
- any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit; and
  - any other matter required by the Secretary; and
- (b) keep this information up to date,  
to the satisfaction of the Secretary.
-

# APPENDIX 1: SCHEDULE OF LAND

<b>Parcels within Glendell Mine Site</b>			
<b><i>Lot</i></b>	<b><i>DP</i></b>	<b><i>Parish</i></b>	<b><i>County</i></b>
2	6842	Vane	Durham
2A	6842	Vane	Durham
11	592404	Liddell	Durham
A	380246	Liddell	Durham
71	625171	Vane	Durham
58	752499	Vane	Durham
1	865784	Vane	Durham
Pt Lot 6	859544	Vane	Durham
8	6830	Vane	Durham
1	940619	Vane	Durham
2	859544	Vane	Durham
5	859544	Vane	Durham
3	859544	Vane	Durham
2	865784	Vane	Durham
5	1077004	Vane	Durham
6	1077004	Vane	Durham
7	1077004	Vane	Durham
3	662944	Vane	Durham
Hebden Road Reserve		Vane	Durham
Various Crown Road Reserves		Vane	Durham
<b>Ravensworth East Crushing Station and Conveyor Parcels</b>			
9	6842	Liddell	Durham
352	867083	Liddell	Durham
25	841160	Liddell	Durham
22	841165	Liddell	Durham
180	858299	Liddell	Durham
1	135026	Liddell	Durham



## APPENDIX 2: DEVELOPMENT LAYOUT PLAN



GLENDALL MINE



## APPENDIX 3: STATEMENT OF COMMITMENTS

### Production and Life of Operation

- 1.1.1 A Mining Operations Plan (MOP) for the modified Glendell operations will be developed and submitted for approval of [DRE](#), prior to the commencement of mining operations.

### Coal Processing and Transportation

- 1.2.1 All coal produced by the proposed Glendell operations will be transported by haul road to the Mt Owen Complex for processing in the Mt Owen Coal Handling and Preparation Plant (CHPP) or the Ravensworth East Mine crushing station.
- 1.2.2 Product coal from Glendell Mine will be transported:
- by rail via the approved Mt Owen rail load out facilities, Mt Owen rail loop and Main Northern Railway; and
  - up to 1 Mtpa will be transported to domestic power stations via the approved Ravensworth East mine infrastructure.

### Rejects and Tailings Management

- 1.3.1 All rejects and tailings produced from the processing of coal produced by the proposed Glendell Mine operations will be incorporated into the Mt Owen Complex life of mine rejects and tailings management strategy.

### Air Quality

#### Air Quality Controls

- 1.4.1 [The Applicant](#) will minimise areas disturbed by mining activities and undertake prompt rehabilitation of disturbed areas following completion of mining.
- 1.4.2 [The Applicant](#) will undertake watering road surfaces, including haul roads, and hardstand areas using water carts, where required.
- 1.4.3 [The Applicant](#) will continue monitoring of meteorological conditions and consideration of weather data in the timing of blasts to minimise the impacts of blast generated dust, particularly on residents to the south and south-east of the project.
- 1.4.4 Ongoing use of an alarm generated for elevated dust levels from the Mt Owen Complex continuous PM<sub>10</sub> monitoring network and notification of operational personnel to review the ability to restrict dumping where practical on exposed faces during periods of high wind.
- 1.4.5 Expansion of the existing dust monitoring network for the Mt Owen Complex to include additional continuous PM<sub>10</sub> monitoring sites within the Camberwell Village area.
- 1.4.6 Provision of in-pit dumping locations for periods of high wind, where practicable.
- 1.4.7 Restricting vehicle movements to formed and watered roads, particularly during periods of potentially high dust generation.
- 1.4.8 Use of adequate stemming in blast holes.

### Greenhouse and Energy Management

- 1.5.1 [The Applicant](#) will assess the viability of the following approaches to improving energy efficiency and reducing greenhouse emissions from the proposed Glendell operations:
- use of energy management systems; and
  - seeking continuous improvement in energy efficiency in the mining fleet, stationary equipment, mining processes and coal preparation.
- [The Applicant](#) will continue to assess and implement energy and greenhouse management initiatives during the project design, operation and decommissioning.

## Noise

### Noise Mitigation Measures

The following noise control measures will be employed throughout the life of the project unless otherwise agreed in writing by the Department.

- 1.6.1 A progressive equipment replacement program that seeks to incorporate best practice noise attenuation on mining equipment.
- 1.6.2 Ongoing use of an alarm generated for elevated noise levels from the Mt Owen Complex continuous noise monitoring network and notification of operational personnel to review the ability to modify operations where practical during periods of adverse weather conditions.
- 1.6.3 Design of the out of pit dumping sequence to allow for mining equipment to dump in higher exposed areas in the day time and within protected lower areas during night time periods, where practicable during adverse weather conditions.
- 1.6.4 The use of a continuous noise monitoring system to assist with managing operational noise performance and determine further noise controls, as necessary.
- 1.6.5 [The Applicant](#) will amend the Mt Owen Complex Noise Management and Monitoring Plans and Protocols to include provisions for the management and monitoring of noise emissions from proposed Glendell operations.
- 1.6.6 [The Applicant](#) will investigate reported [exceedances](#) of relevant project specific noise criteria at private residences on a case by case basis. This includes the monitoring of noise emissions at a particular receiver for comparison with the predicted cumulative noise exceedance probabilities outlined in the noise impact assessment. This approach is consistent with the existing noise management and monitoring processes at the Mt Owen Complex.
- 1.6.7 Where it is established that the relevant project specific noise criteria have been exceeded by activities from Glendell, [the Applicant](#) will investigate additional noise mitigation strategies in consultation with the landholder.

### Noise Monitoring

- 1.7.1 [The Applicant](#) will continue to implement the noise monitoring network currently in place for the Mt Owen Complex. [The Applicant](#) will continue with the ongoing operation of three continuous noise monitors within the Glennies Creek and Middle Falbrook areas.
- 1.7.2 [The Applicant](#) proposes to install a further two continuous noise monitors, one reference monitor located between Glendell Mine and Ashton Mine and one within the Camberwell Village area.

### Blast and Vibration

#### Blasting in Proximity to Infrastructure

- 1.8.1 [The Applicant](#) will undertake further consultation with ARTC, including entering into an agreement to cover blasting practices in proximity to the Main Northern Railway, prior to mining being undertaken within 500 metres of the Main Northern Railway.
- 1.8.2 [The Applicant](#) will undertake further consultation with [Ausgrid](#) prior to undertaking detailed design of blasts in proximity to the 132 kV transmission line within the Glendell Mine site.
- 1.8.3 [The Applicant](#) will undertake further consultation with surrounding mining companies to seek to establish blasting protocols which minimise potential cumulative impacts of blasting practices.

#### Blast Controls

Other blast controls will include:

- 1.9.1 designing and undertaking blasts to ensure that vibration and airblast limits are met, including consideration of wind speed and direction prior to blasting to minimise impacts on neighbours;
- 1.9.2 design blasts so that predicted vibration levels at the Camberwell Church are less than 2 mm/s;

- 1.9.3 detailed monitoring of blasts over the life of the mine to inform the detailed design of blasts and modification of blast designs as necessary;
- 1.9.4 training all relevant personnel on environmental obligations in relation to blasting controls;
- 1.9.5 monitoring blasts at the nearest non mine-owned residence and Camberwell Church to verify whether vibration and airblast limits are met;
- 1.9.6 documentation of the date, location of blast holes and quantity of explosive used each day; and
- 1.9.7 periodic review of blast management procedures to evaluate performance and identify corrective action, if required.

## **Water Management**

**The Applicant** has committed to the implementation of the following in relation to the management of water resources.

- 1.10.1 Design surface water controls to ensure that clean runoff is separated from runoff within disturbed mining and infrastructure areas. Design sediment and erosion controls to ensure any runoff from disturbed areas is appropriately treated.
- 1.10.2 The proposed diversions of Swamp and Bettys Creeks will be designed and constructed in accordance with the conceptual designs developed in the water resources assessment.
- 1.10.3 **The Applicant** will install cut off embankments along Bettys Creek to restrict alluvium inflows into the proposed pit area in accordance with the conceptual design developed in the water resources assessment.
- 1.10.4 **The Applicant** will prepare a Groundwater Management Plan to detail the monitoring and management commitments relating to the Swamp Creek alluvial system, prior to mining occurring within this alluvial area.
- 1.10.5 **The Applicant** will continue the groundwater monitoring at the existing groundwater monitoring locations within the alluvium of Swamp and Bettys Creeks, aside from monitoring location NPz14 which will be impacted by the proposed Glendell operations.
- 1.10.6 If groundwater monitoring indicates it is required, a barrier cut off wall within the alluvium associated with Swamp Creek will be constructed to limit groundwater seepage into the mine.
- 1.10.7 **The Applicant** will extend its existing surface water monitoring program to include surface water monitoring to be undertaken at Glendell, as follows:
  - two additional surface water monitoring locations on Bowmans Creek upstream and downstream of the confluence with Swamp and Bettys Creeks;
  - two additional sites on Swamp Creek upstream and downstream of the proposed open cut pit; and
  - two additional sites on Bettys Creek upstream and downstream of the open cut pit.

## **Flora and Fauna Management and Site Rehabilitation**

- 1.11.1 **The Applicant** will implement a Rehabilitation Strategy that aims to create a stable final landform that is dominated by pastures with a minimum of 30 per cent native tree lots and corridors for the purpose of stock shade and shelter, and habitat restoration.
- 1.11.2 The specific rehabilitation strategies to be implemented at the Glendell Mine will be detailed within a revised Mining Operations Plan and will be consistent with the rehabilitation practices employed at the Mt Owen Complex, where relevant.
- 1.11.3 **The Applicant** will establish a Habitat Management Area in the south-eastern extent of Glendell Mine site. Existing vegetation within the Habitat Management Area will be augmented through protection, regeneration and revegetation practices. Specific vegetation augmentation techniques will be outlined in a Biodiversity and Land Management Plan developed for the Glendell Mine site.
- 1.11.4 **The Applicant** will develop and implement a Biodiversity and Land Management Plan for Glendell Mine specifying ecological management and monitoring measures consistent with the principles of the Mt Owen Complex Flora and Fauna Management Plan, where relevant.

- 1.11.5 [The Applicant](#) will obtain approval from the [DRE](#) for any final landform design that exceeds 10 degrees.

## Heritage

### Aboriginal Cultural Heritage Management Plan

- 1.12.1 Within 12 months of granting of the modified consent, [the Applicant](#) will complete (and following approval implement) an Aboriginal Cultural Heritage Management Plan (ACHMP), in consultation with [OEH](#) and relevant Aboriginal stakeholders, and will incorporate the relevant outcomes of this approval. The plan will include provisions for the conservation of the seven remaining registered Aboriginal sites within the Glendell Mine site and for the management of the Bettys, Swamp and Bowmans Creek areas that fall outside the Proposed Disturbance Area which despite being salvaged, still retain Aboriginal and archaeological values that require protection. Specific initiatives under the plan will include implementation of a Management Committee composed of the Environmental and Community Officer and the Mine Management and at least three representatives of the Aboriginal stakeholder groups. The Management Committee will also have access to a qualified Archaeologist to assist with issues as required. The Management Committee will have the responsibility of strategic overview and input during the implementation of the following:
- the formulation of an Aboriginal cultural heritage awareness training package to be incorporated into the mine and contractor induction process;
  - fencing of remaining sites and sensitive areas outside the Proposed Disturbance Area to protect them from further disturbance. The fencing will be undertaken in accordance with the specific requirements outlined in the ACHMP;
  - annual monitoring of the remaining sites and sensitive areas remaining within the Glendell Mine site by representatives of the Management Committee to monitor ongoing protection; and
  - developing management procedures for control of:
    - feral animals, livestock and noxious and pest weeds;
    - erosion;
    - bushfire hazard; and
    - any other environmental management strategies or procedures which have the potential to affect the *in situ* management of sites or sensitive areas outlined in the ACHMP.

## Historical Heritage

- 1.13.1 [The Applicant](#) will commission archival recording of sites identified within the Glendell Mine site by a qualified heritage consultant to [Heritage Branch](#)'s standards of local significance prior to the commencement of mining.
- 1.13.2 Install fencing to protect remaining sites (Items 4a to 4d and Item 5) to manage these sites *in situ*.
- 1.13.3 [The Applicant](#) will submit an application for exemption to the *Heritage Act 1977* to the [Heritage Branch](#) for relevant items within the Glendell Mine site prior to mining commencing.

## Traffic and Transport

- 1.14.1 [The Applicant](#) will review the adequacy of street lighting at the intersection of the New England Highway and Hebden Road in consultation with the [RMS](#).
- 1.14.2 The intersection of Hebden Road and the proposed mine access road will be relocated approximately 800 metres north along Hebden Road from the approved mine access road to provide improved sight distances and will be a Type B rural layout in accordance with Austroads guidelines.
- 1.14.3 [The Applicant](#) will obtain a Section 138 approval under the *Roads Act 1993*, from Singleton Council, prior to the conduct of these works on Hebden Road.

## Visual Controls

### Vegetative Screenings

- 1.15.1 Screening plantings in strategically located positions to limit views into the Glendell mining area from the New England Highway will be maintained.

## Rehabilitation and Final Landform

- 1.16.1 Shaping, stabilisation and rehabilitation of the out of pit overburden emplacement area will be undertaken as soon as practicable as part of progressive mining to minimise the impact of the proposed Glendell operations on the visual amenity of the surrounding area.

## Operational Controls

- 1.17.1 Ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*; and
- 1.17.2 [The Applicant](#) will aim to minimise night lighting impacts on surrounding land owners by ensuring, where practicable, that lighting plants are positioned such that light is directed towards work areas and not towards private residences.

## General Environmental Management, Monitoring, Auditing and Reporting

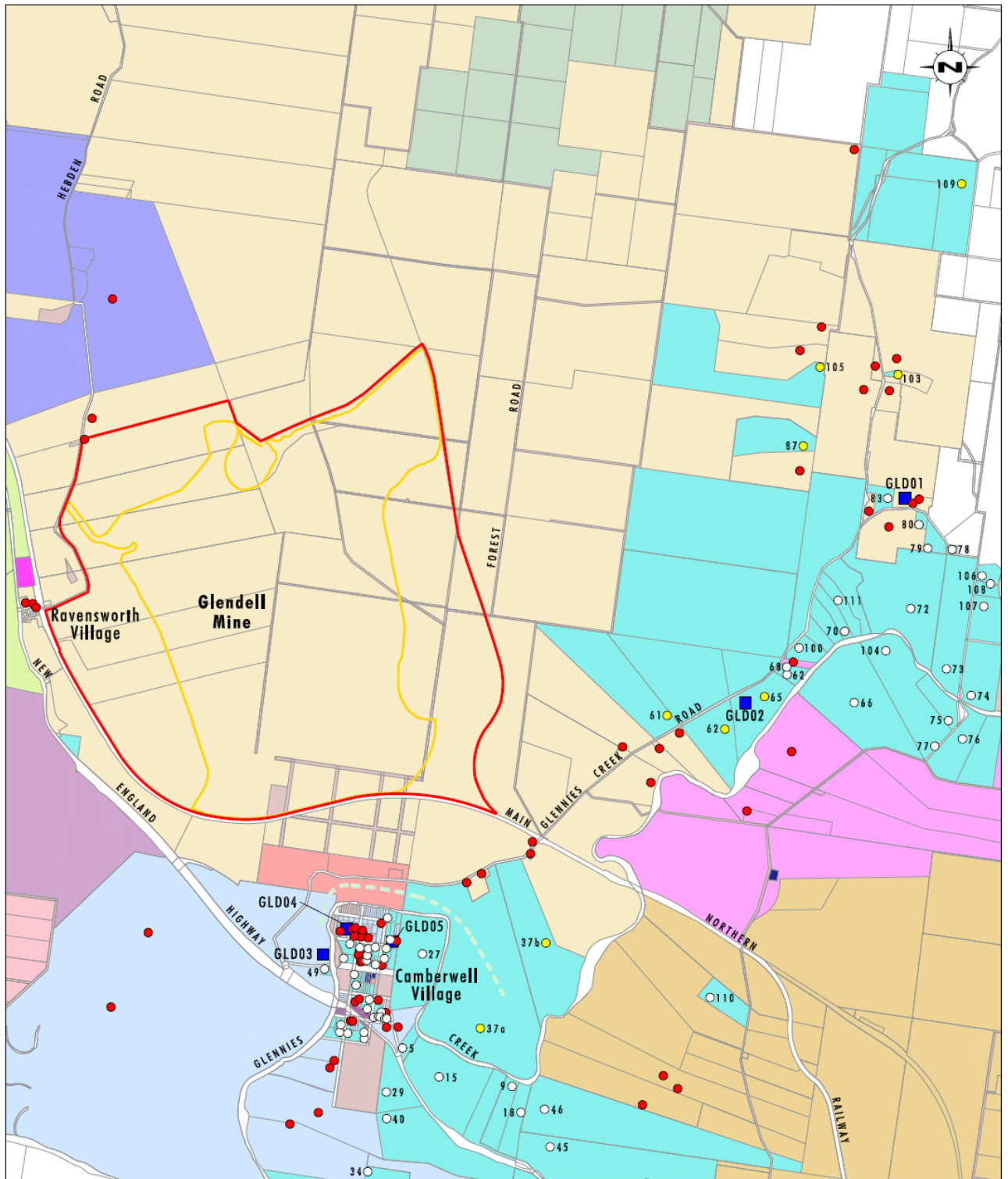
- 1.18.1 Environmental management of Glendell Mine will be integrated into an updated Mt Owen Complex environmental management strategy and environmental monitoring program.
- 1.18.2 [The Applicant](#) will employ a suitably qualified environmental officer with the responsibility of coordinating environmental management practices of the modified Glendell operations.

## Additional Commitments following Modification 3

- 2.1.1 [The Applicant](#) will undertake a threatened species survey by a relevantly qualified person prior to any disturbance construction works commencing.
- 2.1.2 [Field identification of the \*Acacia pendula\* and \*Eucalyptus camaldulensis\* adjacent to the southern existing track will be undertaken by an appropriately qualified person prior to any transmission line relocation works, if any works are to be undertaken in the immediate vicinity of this area.](#)
- 2.1.3 [The Applicant will conduct a due diligence assessment of each mature River Oak tree to be lopped, prior to disturbance. For any mature River Oak tree that is lopped, ten \(10\) trees will be planted; and two \(2\) nesting boxes will be erected for any tree hollow identified.](#)
- 2.1.4 [Any tree lopping required along Bowmans Creek and Swamp Creek in the riparian zone will be undertaken manually with chainsaws to allow the root structures to remain in situ.](#)
- 2.1.5 [Redundant power poles will be removed from site and the holes will be backfilled with suitable material and rehabilitated.](#)
- 2.1.6 [The Applicant will update the Biodiversity Management Plan to include appropriate riparian revegetation works and the incorporation of the 4 ha area to be managed by the Applicant, consistent with the commitments of the adjacent Habitat Management Area.](#)
- 2.1.7 [The Applicant will implement identified management measures to avoid potential impacts to Aboriginal heritage sites MOCO OS-10 and Sensitive Areas 1 to 6 during MOD 3 activities.](#)
- 2.1.8 [Should any unidentified Aboriginal archaeological sites be located during operations, the procedures of the approved ACHMP and the '\*Unanticipated Finds Protocol\*' will be followed.](#)
- 2.1.9 [Historic Heritage item 7g will be identified in the field to ensure it is not disturbed by MOD 3 activities.](#)
- 2.1.10 [The dilapidated shed associated with Historic Heritage item 8b will be manually dismantled, with salvaged materials removed from site.](#)
- 2.1.11 [The Applicant will implement suitable erosion and sediment controls prior to the commencement of works, to minimise the potential for inadvertent impacts to local water resources.](#)
- 2.1.12 [If groundwater is intercepted during construction of the realigned transmission line, DPI Water will be notified immediately.](#)
- 2.1.13 [The Applicant will update the plans contained in the Mining Operations Plan to include the location of the relocated transmission line.](#)



# APPENDIX 4: LANDOWNER/RECEIVER LOCATION PLANS



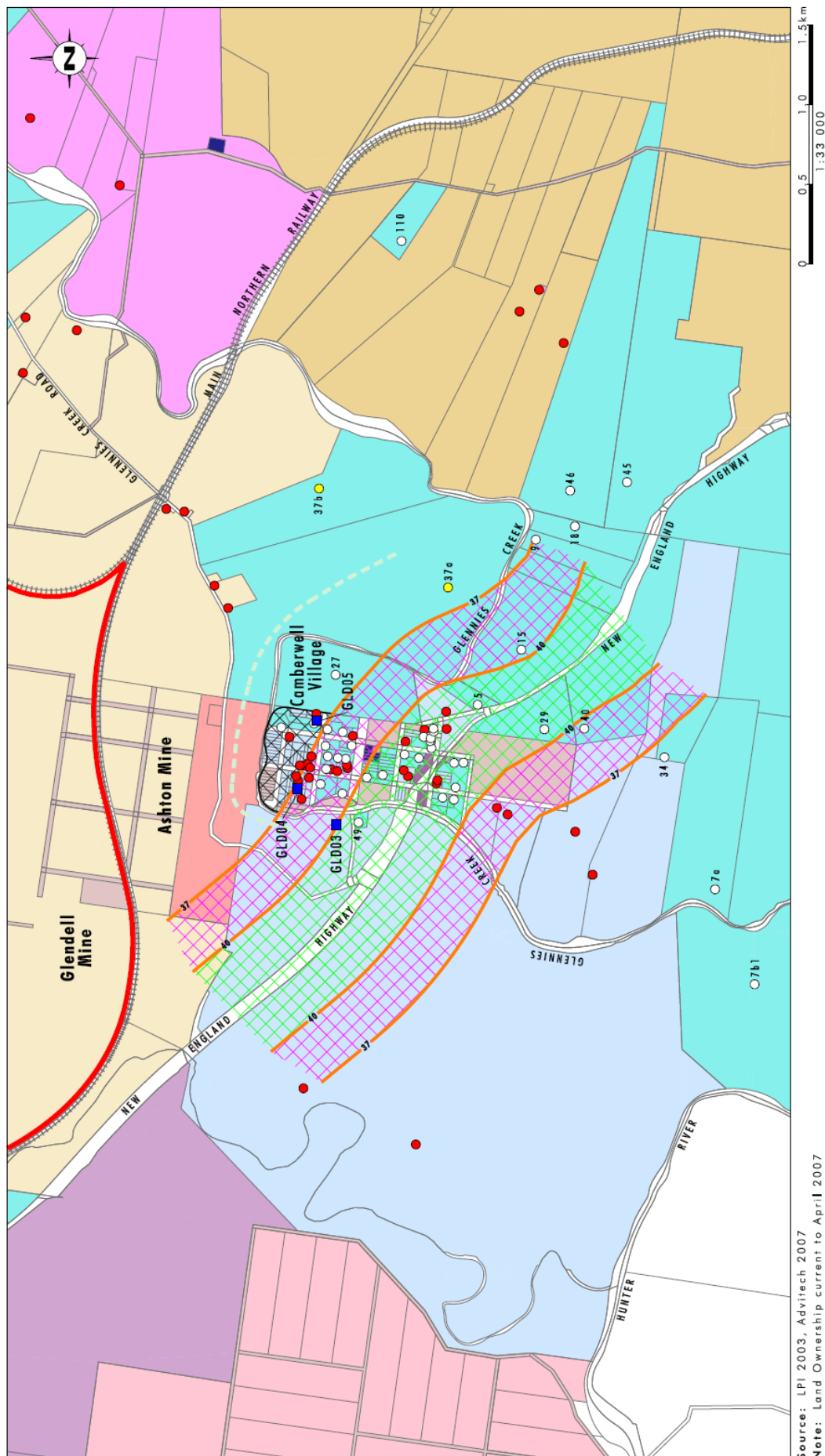
Source: LPI, NSW (2003), Advitech (2007)  
 Note: Land Ownership current to April 2007

## Legend

- |                                                                                                                   |                                                                                                                                    |                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <span style="border: 2px solid red; padding: 2px;"> </span> Glendell Mine Site                                    | <span style="background-color: #d3d3d3; border: 1px solid black; padding: 2px;"> </span> Crown Land                                | <span style="background-color: #d3d3d3; border: 1px solid black; padding: 2px;"> </span> Mine Owned - Newpac                                                                   |
| <span style="border: 2px solid yellow; padding: 2px;"> </span> Proposed Disturbance Area                          | <span style="background-color: #000000; border: 1px solid black; padding: 2px;"> </span> No Title                                  | <span style="background-color: #90ee90; border: 1px solid black; padding: 2px;"> </span> Macquarie Generation                                                                  |
| <span style="border-bottom: 2px dashed green; width: 20px; display: inline-block;"></span> Ridge Line             | <span style="background-color: #f5deb3; border: 1px solid black; padding: 2px;"> </span> Mine Owned - Xstrata or Subsidiary        | <span style="border: 1px solid black; border-radius: 50%; padding: 2px;"> </span> Private Residence                                                                            |
| <span style="background-color: #ffcc99; border: 1px solid black; padding: 2px;"> </span> State of NSW             | <span style="background-color: #ffcc99; border: 1px solid black; padding: 2px;"> </span> Mine Owned - RHA Pastoral Company Pty Ltd | <span style="background-color: #ffff00; border: 1px solid black; border-radius: 50%; padding: 2px;"> </span> Private Residence with Acquisition Rights under Existing Consents |
| <span style="background-color: #ff9999; border: 1px solid black; padding: 2px;"> </span> RTA                      | <span style="background-color: #ffcc99; border: 1px solid black; padding: 2px;"> </span> Mine Owned - Liddell Joint Venture        | <span style="background-color: #ff0000; border: 1px solid black; border-radius: 50%; padding: 2px;"> </span> Mine Owned Residence                                              |
| <span style="background-color: #99ff99; border: 1px solid black; padding: 2px;"> </span> Ravensworth State Forest | <span style="background-color: #ffcc99; border: 1px solid black; padding: 2px;"> </span> Mine Owned - Narama Joint Venture         | <span style="background-color: #0000ff; border: 1px solid black; border-radius: 50%; padding: 2px;"> </span> Noise Monitoring Location                                         |
| <span style="background-color: #99ffcc; border: 1px solid black; padding: 2px;"> </span> Private                  | <span style="background-color: #ffcc99; border: 1px solid black; padding: 2px;"> </span> Mine Owned - Integra                      | <span style="border: 1px solid black; padding: 2px;">34</span> Rural Residence Label                                                                                           |
| <span style="background-color: #ff99ff; border: 1px solid black; padding: 2px;"> </span> Boral                    | <span style="background-color: #99ccff; border: 1px solid black; padding: 2px;"> </span> Mine Owned - Ashton                       |                                                                                                                                                                                |

FIGURE 5.15

Noise Monitoring Locations  
 Used in Assessment



Source: LPI 2003, Advitech 2007  
 Note: Land Ownership current to April 2007

#### Legend

- Glendell Mine Site
- Project Specific Noise Criteria
- Ridge Line
- State of NSW
- RTA
- Private
- Boral
- Crown Land
- No Title
- Mine Owned - Xstrata or Subsidiary
- Mine Owned - RHA Pastoral Company Pty Ltd
- Mine Owned - Narama Joint Venture

- Mine Owned - Integra
- Mine Owned - Ashton
- Mine Owned - Newpac
- Private Residence
- Private Residence with Acquisition Rights under Existing Consents

- Mine Owned Residence
- Noise Monitoring Locations
- Rural Residence Label

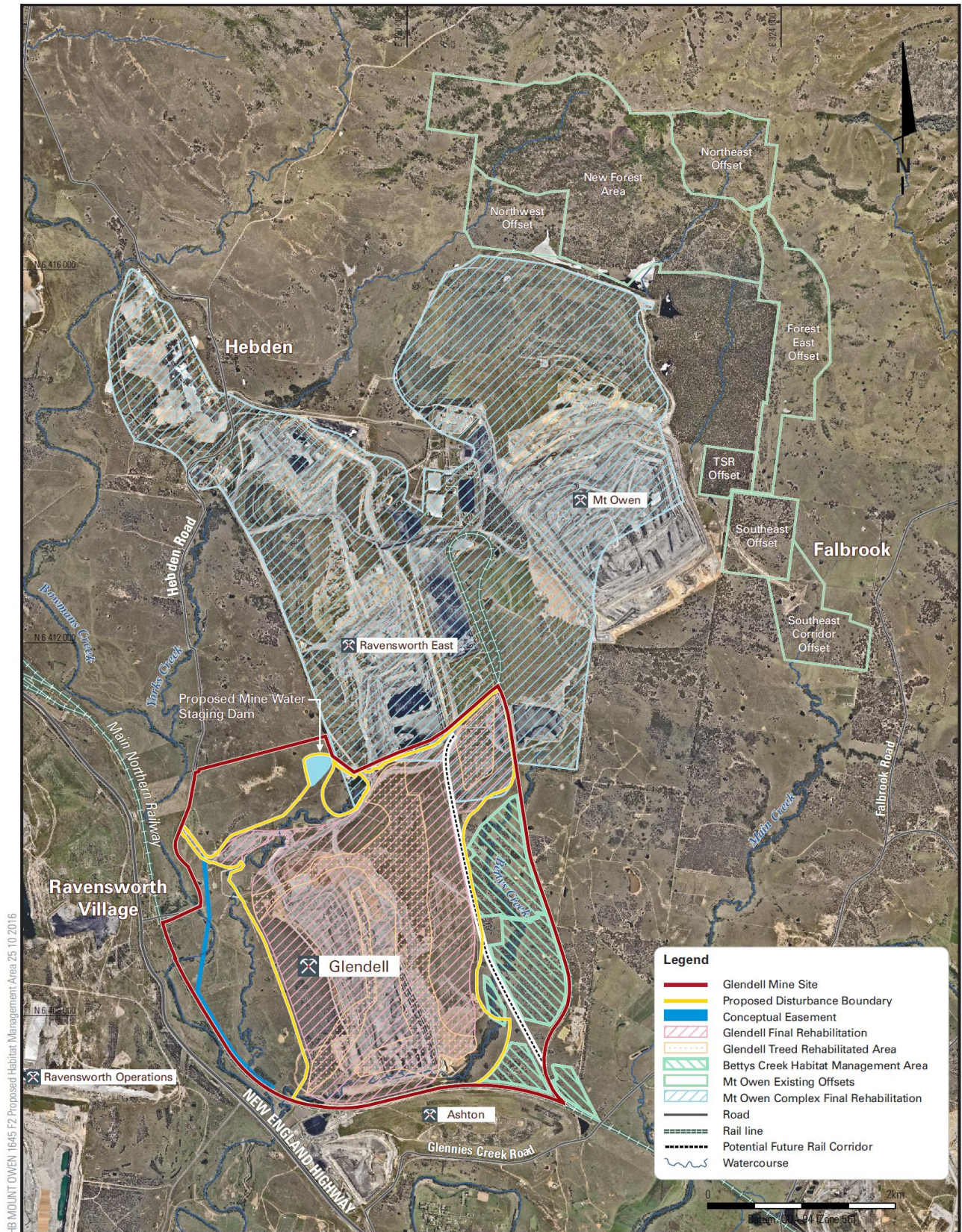
- Noise Receiver Areas
- Camberwell Village A
- Camberwell Village B
- Camberwell Village C

FIGURE 5.16

#### Project Specific Noise Criteria Camberwell Village



## APPENDIX 5: OFFSET STRATEGY PLAN



GLENDALL MINE

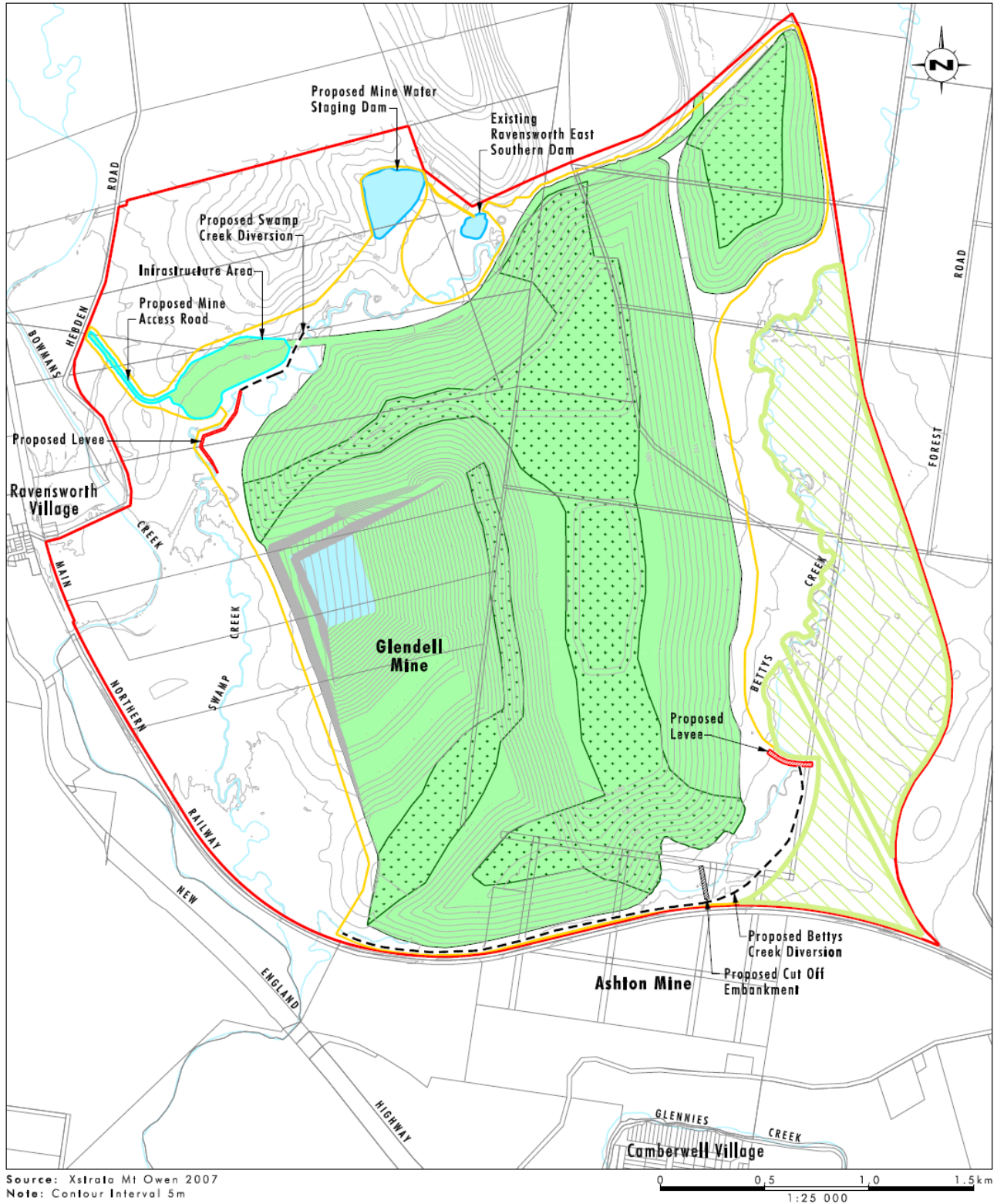
GLENCORE

HansenBailey  
ENVIRONMENTAL CONSULTANTS

Proposed Habitat Management Area



## APPENDIX 6: CONCEPTUAL REHABILITATION PLAN



### Legend

- Glendell Mine Site
- Proposed Disturbance Area
- Glendell Infrastructure Area
- Rehabilitated Area
- Final Void
- Proposed Habitat Management Area
- Treed Rehabilitated Area
- Creek Diversion
- Creek

FIGURE 5.6

Proposed Glendell Final Landform

# APPENDIX 7: HERITAGE ITEMS FOR ARCHIVAL RECORDING

Item ID	Complex	Description
1	-	Wooden bridge across Swamp Creek to the west of the former Marali homestead site
2	-	Tree stump bearing surveyors mark
3	-	Cattle yard remains
4a to 4d	Unidentified Potential Dairy Site	Sandstone and conglomerate concrete footings (items 4a & 4b); mortar lined drain/gutter (item 4c); machine made and sandstock wire cut bricks (item 4d)
5	-	Corduroy road remains
6a to 6l	Unidentified Ruined Homestead	Peppercorn trees and footings (item 6a); house footings (item 6b); bricks (item 6c); footings of associated structures (item 6d); sandstone footings (item 6e); salt glazed drainage pipes (item 6f); shaft/well (item 6g); water tank, combine box and fence line remains (item 6h); <i>in situ</i> wall (item 6i); borehole (item 6j); scatter of ceramic and glass (item 6k); fence line remains (item 6l).
7a to 7i	Ruins of Marali Homestead	House ruins (item 7a), a telegraph pole (item 7b); wooden bridge across Swamp Creek (item 7c); footbridge remains (item 7d); shed (item 7e); yards associated with shed (item 7f); yards in paddock (item 7g); water tank (item 7h); well, trough and yards (item 7h and 7i).
8a to 8c	Ruins of Hillview Homestead	House ruins (item 8a); sheds (items 8b and 8c).
9	Great Northern Road	Former road