

# Development Consent

## Section 89E of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning, the Planning Assessment Commission of NSW approves the development application referred to in Schedule 1, subject to the conditions in Schedules 2 to 5.

These conditions are required to:

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

Member of the Commission

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Sydney

2016

### SCHEDULE 1

**Application Number:**

SSD-5850

**Applicant:**

Mount Owen Pty Limited

**Consent Authority:**

Minister for Planning

**Land:**

See Appendix 1

**Development:**

Mount Owen Continued Operations Project

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## DEFINITIONS

Annual review	The review required by condition 11 of Schedule 5
Applicant	Mount Owen Pty Limited, or any person who seeks to carry out the development approved under this consent
ARI	Average Recurrence Interval
ARTC	Australian Rail Track Corporation Ltd
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EIS, and depicted conceptually in the figure in Appendix 5
Blast misfire	The failure of one or more holes in a blast pattern to initiate
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 described in the EIS
DPI	Department of Primary Industries
DPI Water	Division of Water within DPI
DRE	Division of Resources and Energy within the Department of Industry
EEC	Endangered ecological community, as defined under the TSC Act and/or EPBC Act
EIS	Environmental Impact Statement titled <i>Mount Owen Continued Operations Project: Environmental Impact Statement</i> (10 volumes) dated January 2015 and response to submissions titled <i>Mount Owen Continued Operations Project Response to Submissions: Report A</i> dated July 2015 (as amended October 2015) and <i>Report B</i> dated August 2015
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPBC Act	<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence issued under the POEO Act
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
Heritage item	An item as defined under the <i>Heritage Act 1977</i> and/or an Aboriginal Object or Aboriginal Place as defined under the <i>National Parks and Wildlife Act 1974</i>
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 and infrastructure areas and any other areas where runoff may have come into contact with coal or carbonaceous material
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
Minor	Not very large, important or serious
Mitigation	Activities associated with reducing the impacts of the development
Mount Owen Complex	The combined operations of the Mount Owen, Ravensworth East and Glendell Mines
Mount Owen Rail Loop	The private rail line associated with the Mount Owen Mine
MSB	Mine Subsidence Board
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NP&W Act	<i>National Parks and Wildlife Act 1974</i>

OEH	Office of Environment and Heritage within the Department of Planning & Environment
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
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
Residence	Existing dwellings or approved dwellings, as at the date of this consent
RFS	Rural Fire Service
RMS	Roads and Maritime Services
ROM	Run-of-mine
Secretary	Secretary of the Department, or nominee
Site	The land defined in Appendix 1
TSC Act	<i>Threatened Species Conservation Act 1995</i>
VPA	Voluntary Planning Agreement

## **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 shall 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 shall carry out the development generally in accordance with the EIS.
3. The Applicant shall carry out the development in accordance with the Project Layout Plans and the conditions of this consent.

*Note: The Project Layout Plans for the development are shown in Appendix 2.*

4. If there is any inconsistency between the documents in condition 2, 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.
5. The Applicant shall 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**

#### **Lapsing of Consent**

6. The Applicant may carry out mining operations on the site until 31 December 2030.

*Note: Under this consent, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of both the Secretary and DRE. Consequently, this consent will continue to apply in all respects other than the right to conduct mining operations, until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.*

#### **Coal Extraction and Transportation**

7. The Applicant shall not extract more than 14 million tonnes of ROM coal from the site in any calendar year, comprising:
  - (a) up to 4 million tonnes of ROM coal from the Ravensworth East Mine; and
  - (b) up to 10 million tonnes of ROM coal from the Mount Owen Mine.
8. The Applicant may process up to 17 million tonnes of ROM coal from the Mount Owen Complex at the Mount Owen coal handing and preparation plant in a calendar year.
9. The Applicant:
  - (a) may transport coal from the site by rail using the Mount Owen Rail Loop or by conveyor to the Bayswater and Liddell Power Stations;
  - (b) shall not transport more than 2 Mtpa of ROM coal and/or crushed gravel by conveyor to the Liddell Coal Mine and/or Ravensworth Coal Terminal; and
  - (c) may not transport any coal from the development on the Newdell Rail Loop, unless:
    - an agreement has first been reached with another coal mining company to use its approved capacity on the rail loop, and a copy of this agreement has been provided to the Secretary; and
    - an access agreement has been reached with the owners of the rail loop, and a copy of this agreement has been provided to the Secretary.

### **SURRENDER OF CONSENTS**

10. Within 6 months of the commencement of development under this consent, or as otherwise agreed by the Secretary, the Applicant shall surrender the existing development consents DA 14-1-2004 for the Mount Owen Mine and DA 52-03-99 for the Ravensworth East Mine, in accordance with Section 104A of the EP&A Act, and to the satisfaction of the Secretary.

Following the commencement of development under this consent, the conditions of this consent shall prevail to the extent of any inconsistency with the conditions of the development consents DA 14-1-2004 and DA 52-03-99, prior to the surrender of those consents.

*Notes:*

- *This consent will apply to all components of the existing operations at the Mount Owen Mine and Ravensworth East Mine, from the commencement of development under this consent.*
- *This requirement does not extend to the surrender of construction and occupation certificates for existing and proposed building works under Part 4A of the EP&A Act. Surrender of a consent should not be understood as implying that works legally constructed under a valid consent can no longer be legally maintained or used.*

## **NOTIFICATION OF COMMENCEMENT**

11. At least 2 weeks prior to commencing development under this consent, the Applicant shall notify the Department in writing of the date that it proposes to commence development under this consent.

## **STRUCTURAL ADEQUACY**

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

*Notes:*

- *Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates (where applicable) for the proposed building works. Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*
- *The development is located in the Patrick Plains Mine Subsidence District. Under Section 15 of the Mine Subsidence Compensation Act 1961, the Applicant is required to obtain the MSB's approval before constructing any improvements on the site.*

## **DEMOLITION**

13. The Applicant shall 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 shall:
  - (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.*

## **OPERATION OF PLANT AND EQUIPMENT**

15. The Applicant shall ensure that all plant and equipment used on site, or to monitor the performance of the development, is:
  - (a) maintained in a proper and efficient condition; and
  - (b) operated in a proper and efficient manner.

## **PLANNING AGREEMENT**

16. Within 6 months of the commencement of development under this consent, unless the Secretary agrees otherwise, the Applicant shall enter into a Voluntary Planning Agreement (VPA) with Singleton Shire Council in accordance with:
  - (a) Division 6 of Part 4 of the EP&A Act; and
  - (b) the terms of the Applicant's offer in Appendix 8.

### SCHEDULE 3 ENVIRONMENTAL CONDITIONS - GENERAL

#### ACQUISITION UPON REQUEST

1. Upon receiving a written request from the owner of any land listed in Table 1, the Applicant shall acquire the land in accordance with the procedures in conditions 5 and 6 of Schedule 4.

*Table 1: Land subject to acquisition upon request*

<b>Acquisition Basis</b>	<b>Land</b>
Air Quality	TBC
Noise	22, 23

*Note: The location of the land referred to in Table 1 is shown on the figure in Appendix 3.*

#### ADDITIONAL MITIGATION UPON REQUEST

2. Upon receiving a written request from the owner of any residence listed in Table 1 or Table 2, the Applicant shall implement additional mitigation measures at the residence, in consultation with the landowner, in respect of the basis on which that residence is identified in Table 1 or Table 2.

These measures must be reasonable and feasible, and directed towards reducing the air quality and/or noise impacts of the development on the residence. In the case of air quality, mitigation may include measures such as air filters, a first flush roof drainage system and/or air conditioning. In the case of noise, mitigation may include measures such as double-glazing, insulation and/or air conditioning.

If within 3 months of receiving this request from the owner, the Applicant and the owner 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.

*Table 2: Land subject to additional mitigation upon request*

<b>Mitigation Basis</b>	<b>Residence</b>
Air Quality	TBC
Noise	13, 19, 21, 93

*Note: The location of the land referred to in Table 1 is shown on the figure in Appendix 3.*

#### NOISE

##### Construction – Hedben Road and Rail Line Works

3. The Applicant shall manage noise from construction activities associated with the Hedben Road upgrade works and additional rail line, in accordance with the noise management levels defined in Table 2 of the *Interim Construction Noise Guideline*.

The Applicant shall also ensure that the development's combined operational and construction noise does not exceed a level of 5 dB(A) above the daytime operational  $L_{Aeq(15min)}$  noise criteria in Table 3 and does not exceed the evening or night time operational  $L_{Aeq(15min)}$  noise criteria in Table 3, except where an alternative temporary limit has been approved by the Secretary for specific works.

4. Unless the Secretary agrees otherwise, the Applicant may only undertake construction activities associated with the Hedben Road upgrade works and the additional rail line between:
  - (a) 7 am to 6 pm, Monday to Friday; and
  - (b) 8 am to 1 pm on Saturdays.

In seeking any variations to these construction hours, the Applicant shall submit an Out of Hours Work Protocol to the Secretary. This protocol must:

- (a) be prepared in consultation with the EPA and any landowners who may be affected by the proposed variation; and
- (b) address the relevant requirements of the *Interim Construction Noise Guideline*.

##### Noise Criteria

5. The Applicant shall ensure that the noise generated by the development (including rail movements along the Mount Owen Rail Loop, but excluding the construction works specified in condition 3), does not exceed the criteria in Table 3 at any residence on privately-owned land.

Table 3: Noise criteria dB(A)

<b>Residence</b>	<b>Day / Evening / Night</b> <i>L<sub>Aeq(15min)</sub></i>	<b>Night</b> <i>L<sub>A1(1min)</sub></i>
Area 4 – North	37 / 37 / 35	45
Area 4 – South	37 / 37 / 36	46
Area 5	37 / 37 / 35	45
Area 6	40 / 40 / 39	50
Area 7	40 / 40 / 38	48
Area 8 – East	39 / 39 / 35	45
Area 8 – West	44 / 44 / 42	52
Area 9	48 / 48 / 43	53
Other privately-owned residences	35 / 35 / 35	45

Note: The location of the land referred to in Table 1 is shown on the figure in Appendix 3.

Noise generated by the development is to be measured in accordance with the relevant requirements of the *NSW Industrial Noise Policy* (as may be updated from time-to-time). Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

### Operating Conditions

6. The Applicant shall:
  - (a) implement best management practice, including all reasonable and feasible mitigation measures, to minimise the construction, operational, low frequency, road and rail noise of the development, including mitigation measures to:
    - minimise peak noise levels from rail wagon bunching and stretching;
    - avoid the use of mobile plant on elevated and exposed sections of the site at night; and
    - avoid drilling in higher elevations at night;
  - (b) ensure any new mobile plant or equipment is commissioned as noise attenuated units;
  - (c) ensure that any existing equipment operating on elevated and exposed sections of the site is fitted with appropriate noise attenuation within 12 months of the commencement of development under this consent;
  - (d) operate a comprehensive noise management system that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day to day planning of mining operations, and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this consent;
  - (e) minimise the noise impacts of the development during meteorological conditions when the noise limits in this consent do not apply (see Appendix 4);
  - (f) ensure that the Mount Owen Rail Loop is only accessed by locomotives that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL;
  - (g) use its best endeavours to ensure that rolling stock is selected to minimise noise;
  - (h) co-ordinate noise management with any nearby mines (including the Glendell and Integra Mines) to minimise cumulative noise impacts; and
  - (i) carry out regular attended monitoring to determine whether the development is complying with the relevant conditions of this consent.

### Noise Management Plan

7. The Applicant shall prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
  - (a) be prepared in consultation with the EPA, and submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
  - (b) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this consent;
  - (c) describe the noise management system in detail; and
  - (d) include a monitoring program that:
    - evaluates and reports on:
      - the effectiveness of the noise management system;
      - compliance with the noise criteria in this consent; and
      - compliance with the noise operating conditions;
    - includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time (so the real-time noise monitoring program can be used as a better indicator of compliance with the noise criteria in this consent and a trigger for further attended monitoring); and



- defines what constitutes a noise incident, and includes a protocol for identifying noise incidents and notifying the Department and relevant stakeholders of any such incident.

The Applicant shall implement the approved Noise Management Plan to the satisfaction of the Secretary.

## BLASTING

### Blasting Criteria

- The Applicant shall ensure that blasting on site does not cause exceedances of the criteria in Table 4.

*Table 4: Blasting criteria*

<b>Location</b>	<b>Airblast overpressure (dB(Lin Peak))</b>	<b>Ground vibration (mm/s)</b>	<b>Allowable exceedance</b>
Residence on privately-owned land <sup>a</sup>	120	10	0%
	115	5	5% of the total number of blasts over a calendar year
<b>Historic buildings and structures</b>			
St Clements Church	120	5	0%
	115	2	5% of the total number of blasts over a calendar year
Ravensworth Homestead	126	5	0%
Chain of Ponds Inn	133	10	0%
Kangory (Dulwich) Homestead	126	5	0%
Former Hebden Public School	-	16	0%
John Winter Memorial	-	250	0%
<b>Infrastructure</b>			
Electricity transmission lines	-	50	0%
Prescribed dams	-	50	0%
Main Northern Rail Line	-	25	0%
Public roads	-	100	0%
Integra Mine's surface facilities	-	25 or 100 <sup>c</sup>	0%
Integra Mine's underground workings	-	10 or 250 <sup>d</sup>	0%
All other public infrastructure <sup>b</sup>	-	50	0%

*a Unless otherwise agreed with the relevant owner/s of the residence, and the Applicant has advised the Department in writing of the terms of this agreement.*

*b Unless otherwise agreed with the relevant infrastructure provider or owner, and the Applicant has advised the Department in writing of the terms of this agreement.*

*c 25 mm/s for occupied non-sensitive sites (e.g. factories or commercial premises) or 100 mm/s for unoccupied structures of reinforced concrete or steel construction.*

*d 10 mm/s safety and personnel withdrawal limit for occupied underground workings and 250 mm/s structural limit for unoccupied workings.*

### Blasting Hours

- The Applicant shall only carry out blasting on site between 9 am and 5 pm, Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays or any other time without the agreement of the Secretary.
- The Applicant shall carry out a review of the likely impacts associated with blasting on site between 7 am and 9 am, Monday to Saturday inclusive, and submit this review to the Secretary for consideration.

If the Secretary is satisfied with the outcomes this review and agrees that the impacts associated with blasting between 7 am and 9 am would be acceptable, the Applicant may undertake up to 12 blasts in a calendar year, between 7 am and 9 am, Monday to Saturday inclusive.

### **Blasting Frequency**

11. The Applicant may carry out a maximum of:
- (a) 2 blasts a day at the Ravensworth East Mine;
  - (b) 2 blasts a day at the Mount Owen Mine;
  - (c) 5 blasts a week at the Ravensworth East Mine, averaged over a calendar year; and
  - (d) 8 blasts a week at the Mount Owen Mine, averaged over a calendar year.

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.*

### **Property Inspections**

12. If the Applicant receives a written request from the owner of any privately-owned land within 3 kilometres of any approved open cut mining pit on site for a property inspection to establish the baseline condition of any buildings and/or structures on his/her land, or to have a previous property inspection updated, then within 2 months of receiving this request the Applicant shall:
- (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to:
    - establish the baseline condition of any buildings and other structures on the land, or update the previous property inspection report; and
    - identify measures that should be implemented to minimise the potential blasting impacts of the development on these buildings and/or structures; and
  - (b) give the landowner a copy of the new or updated property inspection report.

If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the property inspection report, either party may refer the matter to the Secretary for resolution.

### **Property Investigations**

13. If the owner of any privately-owned land within 3 kilometres of any approved open cut mining pit on site claims that buildings and/or structures on his/her land have been damaged as a result of blasting on the site, then within 2 months of receiving this claim the Applicant shall:
- (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties 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 shall repair the damage to the satisfaction of the Secretary.

If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Secretary for resolution.

### **Operating Conditions**

14. The Applicant shall:
- (a) implement best management practice to:
    - protect the safety of people and livestock in the areas surrounding blasting operations;
    - protect public or private infrastructure/property in the surrounding area from damage from blasting operations; and
    - minimise the dust and fume emissions of any blasting;
  - (b) ensure that blasting on the site does not damage heritage items, and develop specific measures to protect the Ravensworth Homestead, Chain of Ponds Inn, Kangory (Dulwich) Homestead, Former Hebden Public School and John Winter Memorial from any blasting damage;
  - (c) minimise the frequency and duration of any road closures, and use all reasonable efforts to avoid road closures for blasting during peak traffic periods;
  - (d) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on site and associated road closures;

- (e) use all reasonable endeavours to co-ordinate the timing of blasting at the site with any nearby mines (including the Glendell and Integra Mines) to minimise cumulative blasting impacts; and
- (f) carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent.

*Notes:*

- *For the location of the heritage items referred to in paragraph (b) above, refer to Appendix 6*
- *The system referred to in paragraph (d) above, should include the option for interested members of the public to be provided with an SMS text message alert, notifying them of the day's blasting schedule. If for any reason, the scheduled blast is to be fired 30 minutes prior to or 30 minutes after the original notification, or has been cancelled, a further text message should be sent to these individuals.*

15. The Applicant shall not undertake blasting on site within 500 metres of any public road or any land outside the site not owned by the Applicant, unless the Applicant has:
  - a written agreement with the relevant infrastructure owner or landowner to allow blasting to be carried out closer to the infrastructure or land, and the Applicant has advised the Department in writing of the terms of this agreement; or
  - demonstrated to the satisfaction of the Secretary that the blasting can be carried out closer to the infrastructure or land without compromising the safety of people or livestock or damaging the infrastructure and/or other buildings and structures, and the Secretary has approved an updated Blast Management Plan that includes specific mitigation measures to be implemented while blasting is being carried out within 500 metres of the infrastructure or land.

### **Blast Management Plan**

16. The Applicant shall prepare a Blast Management Plan for the development to the satisfaction of the Secretary. This plan must:
  - (a) be prepared in consultation with the EPA and submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
  - (b) describe the measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this consent;
  - (c) include a road closure management plan for blasting within 500 metres of a public road, that has been prepared in consultation with applicable roads authorities and includes provisions for:
    - minimising the duration of closures, both on a per event basis and weekly basis;
    - avoiding peak traffic periods as far as practicable; and
    - coordinating with neighbouring mines to minimise the cumulative effect of road closures;
  - (d) propose and justify any agreed alternative ground vibration limits for public infrastructure in the vicinity of the site (if relevant);
  - (e) include an agreed strategy for the management of potential blast interactions within 500 metres of any approved and/or developed underground workings for the Integra Underground Mine, that has been developed in consultation with the owners of the Integra Underground Mine and includes details of agreed:
    - systems for the prior and timely notification of scheduled blasting and subsidence activities;
    - personnel evacuation and safety protocols for specific blast events; and
    - procedures and protocols for managing the interaction of the two mines; and
  - (f) include a monitoring program for evaluating and reporting on compliance with the blasting criteria and operating conditions of this consent.

The Applicant shall implement the approved Blast Management Plan to the satisfaction of the Secretary.

## **AIR QUALITY**

### **Air Quality Criteria**

17. The Applicant shall 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 5, 6 and 7 at any residence on privately-owned land.

*Table 5: 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 6: Short term impact assessment criterion for particulate matter

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

Table 7: Long term impact assessment criteria for deposited dust

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
<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 5-7:

<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 by the Secretary.

## Mine-owned Land

18. The Applicant shall 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 5, 6 and 7 at any occupied residence on mine-owned land (including land owned by another mining company) unless:
- the tenant and landowner (if the residence is owned by another mining company) have been notified of any health risks associated with such exceedances in accordance with the notification requirements under Schedule 4 of this consent;
  - the tenant of any land owned by the Applicant can terminate their tenancy agreement without penalty at any time, subject to giving reasonable notice;
  - air quality monitoring is regularly undertaken to inform the tenant or landowner (if the residence is owned by another mining company) of the likely particulate emissions at the residence; and
  - data from this monitoring is presented to the tenant and landowner in an appropriate format for a medical practitioner to assist the tenant and landowner in making informed decisions on the health risks associated with occupying the property.

## Operating Conditions

19. The Applicant shall:
- implement all reasonable and feasible measures to minimise the off-site odour, fume, spontaneous combustion and dust emissions of the development;
  - implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site;
  - minimise any visible air pollution generated by the development;
  - minimise the surface disturbance on the site;
  - operate a comprehensive air quality management system that uses a combination of predictive meteorological forecasting and real-time air quality monitoring data to guide the day to day planning of mining operations and the implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this consent;
  - minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see Note d above under Tables 5-7);
  - co-ordinate air quality management with any nearby mines (including the Glendell and Integra Mines) to minimise cumulative air quality impacts; and
  - carry out regular monitoring to determine whether there is compliance with the relevant conditions of this consent.

## Air Quality Management Plan

20. The Applicant shall prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the EPA, and submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
  - describe the measures that would be implemented to ensure compliance with the relevant air quality criteria and operating conditions of this consent;
  - describe the air quality management system in detail;
  - include an air quality monitoring program that:
    - adequately supports the air quality management system;

- evaluates and reports on the:
  - the effectiveness of the air quality management system;
  - compliance with the air quality criteria;
  - compliance with the air quality operating conditions; and
- defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.

The Applicant shall implement the approved Air Quality Management Plan to the satisfaction of the Secretary.

## **METEOROLOGICAL MONITORING**

21. For the life of the development, the Applicant shall ensure that there is a meteorological station in the vicinity of the site that:
- (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
  - (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the *NSW Industrial Noise Policy*, unless a suitable alternative is approved by the Secretary following consultation with the EPA.

## **WATER**

### **Water Supply**

22. The Applicant shall ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations on site to match its available water supply.

*Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain all necessary water licences for the development.*

### **Compensatory Water Supply**

23. The Applicant shall provide a compensatory water supply to any landowner of privately-owned land whose water supply is adversely and directly impacted as a result of the development (other than an impact that is predicted in the EIS or is minor or negligible), in consultation with DPI Water, and to the satisfaction of the Secretary.

The compensatory water supply measures must provide an alternative long term supply of water that is equivalent to the loss attributable to the development. Equivalent water supply should be provided (at least on an interim basis) as soon as practicable after the loss is identified, unless otherwise agreed with the landowner.

If 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.

If the Applicant is unable to provide an alternative long term supply of water, then the Applicant shall provide compensation to the satisfaction of the Secretary.

*Note: The Water Management Plan (see condition 29) is required to include trigger levels for investigating potentially adverse impacts on water supplies.*

### **Water Pollution**

24. Unless an EPL or the EPA authorises otherwise, the Applicant shall comply with Section 120 of the POEO Act.

### **Creek Inspections**

25. Prior to carrying out any creek diversion works under the development, the Applicant shall conduct a detailed survey of the condition of the creek/s and any buildings or structures adjoining the creek/s downstream of the proposed diversion works, to the satisfaction of the Secretary.

### **Bettys Creek Diversion**

26. The Applicant shall design, construct, maintain, and rehabilitate the proposed diversion of Bettys Creek around the proposed Eastern Rail Pit, to the satisfaction of the Secretary.
27. The Applicant shall design, construct, and maintain the proposed diversion of Bettys Creek into Main Creek to ensure that it does not increase the peak flow or velocity of flows in Main Creek, or increase the extent or level of flooding in Main Creek and at the Glennies Creek Road bridge, to the satisfaction of the Secretary.

## Water Management Performance Measures

28. The Applicant shall comply with the performance measures in Table 8.

Table 8: Water management performance measures

Feature	Performance Measure
Water management – General	<ul style="list-style-type: none"> <li>Minimise the use of clean water on site</li> <li>Minimise the need for make-up water from external supplies (other than the Greater Ravensworth Water Sharing Scheme)</li> <li>Where required, obtain make-up water preferentially from the porous hard rock aquifer</li> </ul>
Hunter River and Saddlers Creek alluvial aquifers	<ul style="list-style-type: none"> <li>Negligible environmental consequences to the alluvial aquifer, including: <ul style="list-style-type: none"> <li>negligible change in groundwater levels;</li> <li>negligible change in groundwater quality; and</li> <li>negligible impact to other groundwater users, beyond those predicted in the EIS.</li> </ul> </li> </ul>
Construction and operation of infrastructure	<ul style="list-style-type: none"> <li>Design, install and maintain erosion and sediment controls generally in accordance with the series <i>Managing Urban Stormwater: Soils and Construction</i> including <i>Volume 1</i>, <i>Volume 2A – Installation of Services</i> and <i>Volume 2C – Unsealed Roads</i></li> <li>Design, install and maintain any infrastructure within 40 metres of watercourses generally in accordance with the <i>Guidelines for Controlled Activities on Waterfront Land (2007)</i>, or its latest version</li> <li>Design, install and maintain any creek crossings generally in accordance with the <i>Policy and Guidelines for Fish Friendly Waterway Crossings</i> (NSW Fisheries, 2003) and <i>Why Do Fish Need To Cross The Road? Fish Passage Requirements for Waterway Crossings</i> (NSW Fisheries 2003), or their latest versions</li> </ul>
Clean water diversion & storage infrastructure	<ul style="list-style-type: none"> <li>Design, install and maintain the clean water system to capture and convey the 100 year ARI flood</li> <li>Maximise as far as reasonable and feasible the diversion of clean water around disturbed areas on site</li> </ul>
Sediment dams	<ul style="list-style-type: none"> <li>Design, install and maintain the dams generally in accordance with the series <i>Managing Urban Stormwater: Soils and Construction – Volume 1 and Volume 2E Mines and Quarries</i></li> <li>Design, install and maintain dams to capture site runoff and minimise any sediment and salt loads from entering nearby watercourses, including Main Creek, Glennies Creek, Bettys Creek, York Creek, Swamp Creek, Bowmans Creek and the Hunter River</li> </ul>
Mine water storages	<ul style="list-style-type: none"> <li>Design, install and maintain mine water storage infrastructure to ensure no discharge of mine water off-site (except as permitted under the Greater Ravensworth Water Sharing Scheme)</li> <li>On-site storages (including mine infrastructure dams, groundwater storage and treatment dams) are suitably designed, installed and maintained to minimise permeability</li> <li>Ensure adequate freeboards within all pit voids at all times to minimise the risk of discharge to surface waters</li> </ul>
Tailings storages	<ul style="list-style-type: none"> <li>Design and maintain tailings storage areas to encapsulate and prevent the movement of tailings seepage/leachate offsite</li> </ul>
Overburden emplacements	<ul style="list-style-type: none"> <li>Design, install and maintain emplacements to encapsulate and prevent migration of tailings, acid forming and potentially acid forming materials, and saline and sodic material</li> <li>Design, install and maintain emplacements to prevent and/or manage long term saline groundwater seepage</li> </ul>
Chemical and hydrocarbon storage	<ul style="list-style-type: none"> <li>Chemical and hydrocarbon products to be stored in bunded areas in accordance with the relevant Australian Standards</li> </ul>
Creek realignment and restoration works	<ul style="list-style-type: none"> <li>No net loss of creek length</li> <li>Flows to mimic pre-project flows for all flood events up to and including the 1 in 100 year ARI</li> <li>Incorporate erosion control measures based on vegetation and engineering revetments</li> <li>Incorporate persistent/permanent pools for aquatic habitat</li> <li>Revegetate with suitable native species</li> </ul>
Aquatic and riparian ecosystems	<ul style="list-style-type: none"> <li>Develop site-specific in-stream water quality objectives in accordance with ANZECC 2000 and <i>Using the ANZECC Guidelines and Water Quality Objectives in NSW</i> procedures (2006), or its latest version</li> </ul>

## Water Management Plan

29. The Applicant shall prepare a Water Management Plan for the development. This plan must:
- (a) be prepared in consultation with DPI Water and EPA, by suitably qualified and experienced persons whose appointment has been approved by the Secretary;
  - (b) be submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
  - (c) in addition to the standard requirements for management plans (see condition 2 of Schedule 5), this plan must include a:
    - (i) Water Balance that:
      - includes details of:
        - sources and security of water supply, including contingency planning for future reporting periods;
        - water use and management on site;
        - any off-site water transfers;
        - reporting procedures, including the preparation of a site water balance for each calendar year;
      - describes the measures that would be implemented to minimise clean water use by the development;
    - (ii) Salt Balance that:
      - includes details of:
        - sources of saline material on the site;
        - saline material and saline water management on site;
        - reporting procedures, including the preparation of a salt balance for each calendar year; and
      - describes the measures that would be implemented to minimise short term and long term discharge of saline water from the site;
    - (iii) Erosion and Sediment Control Plan, that:
      - is consistent with the requirements of *Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004* (Landcom), or its latest version;
      - identifies activities that could cause soil erosion, generate sediment or affect flooding;
      - describes measures to minimise soil erosion and the potential for the transport of sediment to downstream waters, and manage flood risk;
      - describes the location, function, and capacity of erosion and sediment control structures and flood management structures; and
      - describes what measures would be implemented to maintain the structures over time.
    - (iv) Surface Water Management Plan, that includes:
      - detailed baseline data on channel stability, water flows and water quality in the creeks, rivers and waterbodies that could be affected by the development;
      - a detailed description of the water management system on site;
      - a detailed description of the flood warning signage and associated street furnishings to be installed along Hebden Road under the development;
      - detailed plans, including design objectives and performance criteria, for:
        - the Hebden Road realignment and upgrade works (including the construction of a new bridge over Bowmans creek);
        - construction of an additional rail line and rail bridge crossing over Bettys Creek;
        - disturbance and realignment of sections of any third order creeks impacted by the development;
        - any restoration works to be undertaken on creeks impacted by the development;
        - sediment and mine water dams;
        - the remediation of the dirty-water dam near Hebden Road, prior to its use as an offline flow detention area for Yorks Creek;
        - emplacement of tailings, acid forming and potentially acid forming materials, and saline and sodic materials;
        - re-establishment of free draining second and third order creeks, and their associated catchments, in the final post-mining landform; and
        - any final voids for the development (see the Rehabilitation Objectives in Table 10);
      - surface water assessment criteria, including trigger levels for investigating any potentially adverse impacts, for the following:
        - the water management system, including mine water storages and sediment dams;
        - surface water user supplies;
        - downstream surface water quality;
        - downstream flooding impacts; and
        - stream and riparian vegetation health;

- a program to monitor and report on:
    - the effectiveness of the water management system;
    - impacts on downstream water users;
    - surface water flows and quality, as well as stream and riparian vegetation health in the watercourses that could be affected by the development; and
    - downstream flooding impacts;
  - reporting procedures for the results of the monitoring program; and
  - a plan to respond to any exceedances of the performance criteria, and mitigate any adverse surface water impacts of the development;
- (v) Groundwater Management Plan, that includes:
- detailed baseline data on groundwater levels, yield and quality in the region and privately-owned groundwater bores that could be affected by the development;
  - a detailed description of the groundwater management system on site;
  - detailed plans, including design objectives and performance criteria, for:
    - emplacement of tailings, acid forming and potentially acid forming materials, and saline and sodic materials;
    - any final voids for the development (see the Rehabilitation Objectives in Table 10);
  - groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts, for the following:
    - Main Creek, Glennies Creek, Bettys Creek, York Creek, Swamp Creek and Bowmans Creek alluvial aquifers and the Permian hard rock aquifer;
    - groundwater user bores;
    - groundwater inflows to the mining operations;
    - seepage/leachate from water storages, emplacements, backfilled voids and final voids; and
    - groundwater dependent ecosystems;
  - a program to monitor and report on:
    - groundwater inflows to the mining pits;
    - seepage/leachate from water storages, emplacements, backfilled voids and final voids;
    - background changes in groundwater yield/quality against mine-induced changes;
    - impacts of the development on:
      - regional and local (including alluvial) aquifers;
      - groundwater supply of potentially affected landowners; and
      - groundwater dependent ecosystems and riparian vegetation; and
  - a plan to respond to any exceedances of the groundwater assessment criteria, and mitigate any adverse groundwater impacts of the development;
- (vi) a program to validate the water balance, salt balance, surface water model and groundwater model for the development every 3 years, and compare against monitoring results with modelled predictions; and
- (vii) a protocol that has been prepared, using all reasonable endeavours, in consultation with the owners of any nearby mines (including the Glendell, Liddell, Ravensworth Operations, Integra Underground and Integra Open Cut Mines) to:
- minimise cumulative water quantity and quality impacts;
  - review opportunities for water sharing between the mines;
  - co-ordinate water quality monitoring programs where practicable;
  - undertake joint investigations/studies in relation to complaints/exceedances of trigger levels where cumulative impacts are considered likely; and
  - co-ordinate modelling programs for validation, re-calibration and re-running of water models.

The Applicant shall implement the approved Water Management Plan to the satisfaction of the Secretary.

## BIODIVERSITY

### Biodiversity Offset Strategy

30. The Applicant shall implement the biodiversity offset strategy described in the EIS, summarised in Table 9 and shown conceptually in Appendix 5.

*Table 9: Summary of the biodiversity offset strategy*

Area	Offset Name	Minimum Size hectares (ha)
On-site Offsets	Northwest Offset	72
	Northeast Offset	93



	Southeast Offset	61
	TSR Offset	27
	Forest East Offset	84
	Southeast Corridor Offset	78
	Southern Remnant Offset	4
	Cross Creek Offset	367
	Stringybark Creek Habitat Corridor Offset	98
	Rehabilitation Woodland	1740
Off-site Offsets	Esparanga Offset	303
<b>Total Area</b>		<b>2927</b>

*Note: To identify the areas referred to in Table 9, see the applicable figures in Appendix 5.*

### Threatened Species

31. The Applicant shall ensure that the biodiversity offset strategy and the rehabilitation strategy for the development focus on the regeneration, enhancement and/or re-establishment of:
- significant and/or threatened flora communities, including:
    - Central Hunter Grey Box — Ironbark Woodland EEC; and
    - Central Hunter Ironbark — Spotted Gum — Grey Box Forest EEC;
  - significant and/or threatened flora species, including:
    - Ozothamnus tessellatus;
    - Slaty Red Gum;
    - Tiger Orchid;
    - Weeping Myall; and
    - River Red Gum; and
  - habitat for other significant and/or threatened flora and fauna species, including:
    - Spotted-tailed Quoll;
    - Squirrel Glider;
    - Koala;
    - Swift Parrot;
    - Regent Honeyeater;
    - Green and Golden Bell Frog;
    - Brush-tailed Phascogale;
    - Eastern Bentwing-bat;
    - East-coast Freetail Bat;
    - Southern Myotis;
    - Speckled Warbler;
    - Little Lorikeet;
    - Grey-crowned Babbler;
    - Diamond Firetail; and
    - Masked Owl.

### Long Term Security of Offsets

32. The Applicant shall make suitable arrangements for the long term protection of the offset areas in Table 9, to the satisfaction of the Secretary. These arrangements must be implemented by:
- the end of June 2017, unless the Secretary agrees otherwise, for all on-site and off-site offsets excluding the Rehabilitation Woodland area; and
  - within 12 months of the cessation of mining, unless the Secretary agrees otherwise, for the Rehabilitation Woodland area.

*Note: This condition can be satisfied for any offset area identified in Table 9 that is already subject to long term protection mechanisms under previous development consents for the Mount Owen Mine or Ravensworth East Mine, if the Secretary agrees that the existing mechanism/s provides sufficient protection to address the requirements of this condition.*

## Biodiversity Management Plan

33. The Applicant shall prepare a Biodiversity Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with OEH, and be submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
  - (b) describe the short, medium, and long term measures that would be implemented to:
    - manage the remnant vegetation and fauna habitat on the site and in the offset areas (see Table 9);
    - implement the biodiversity offset strategy;
    - minimise the impacts of the development on the Green and Golden Bell Frog and Eastern Free-tail Bat and, where appropriate, enhance available habitat for and support the recovery of these species on the site;
    - integrate the implementation of the biodiversity offset strategy to the greatest extent practicable with the rehabilitation of the Mount Owen Complex;
    - include detailed performance and completion criteria for evaluating the performance of the biodiversity offset strategy, and triggering remedial action (if necessary);
  - (c) include a detailed description of the measures that would be implemented over the next 3 years for:
    - enhancing the quality of existing vegetation and fauna habitat in the approved disturbance area and biodiversity offset areas, including through revegetation and/or the promotion of regenerating canopy, sub-canopy, understorey and ground strata;
    - creating native vegetation and fauna habitat in the biodiversity offset and rehabilitated woodland areas through focusing on assisted natural regeneration, targeted vegetation establishment and the introduction of naturally scarce fauna habitat features (i.e. den structures and nest boxes, where necessary);
    - maximising the salvage of resources within the approved disturbance area - including vegetative and soil resources – for beneficial reuse in the enhancement of the biodiversity offset and/or Rehabilitation Woodland areas;
    - managing any potential conflicts between regeneration and restoration works in the biodiversity offset areas and any Aboriginal heritage values (both cultural and archaeological) in these areas;
    - collecting and propagating seed;
    - protecting vegetation and fauna habitat outside the approved disturbance area on-site;
    - minimising the impacts on fauna on site, including undertaking pre-clearance surveys;
    - salvaging, transplanting and/or propagating threatened flora (including any threatened orchids found during pre-clearance surveys), in accordance with the *Guidelines for the Translocation of Threatened Plants in Australia* (Vallee *et al.*, 2004);
    - managing salinity using best practice management measures;
    - avoid and mitigate the spread of noxious weeds with consideration of actions identified in any relevant threat abatement plans;
    - controlling weeds and feral pests, including but not limited to goats, rabbits, red fox, cats and pigs with consideration of actions identified in relevant threat abatement plans;
    - identifying and implementing management actions and strategies to reduce the impacts of beak and feather disease on threatened parrots, including the Swift Parrot;
    - controlling erosion;
    - managing grazing and agriculture;
    - controlling access;
    - bushfire management; and
    - rehabilitating creeks and drainage lines on the site (both inside and outside the approved disturbance area), to ensure no net loss of aquatic habitat;
  - (d) include a strategy for the regeneration of woodland areas within the offset areas (see Table 9), including details of:
    - the level of direct management required to achieve the target woodland community at each offset area;
    - periodic targets for the recovery of grassland areas to woodland communities;
    - trigger levels where additional management activities (such as weed management and direct seeding or planting of underrepresented species) would be required; and
    - any specific controls or management activities required to ensure this regeneration is trending towards the target communities.
  - (e) include a seasonally-based program to monitor and report on the effectiveness of these measures, and progress against the detailed performance and completion criteria;
  - (f) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks, including provision for alternative direct and/or supplementary offset measures where regeneration of EECs and/or the propagation/translocation of threatened flora do not meet the performance and completion criteria; and
  - (g) include details of who would be responsible for monitoring, reviewing, and implementing the plan.

The Applicant shall implement the approved Biodiversity Management Plan to the satisfaction of the Secretary.

### **Conservation Bond**

34. Within 6 months of the approval of the Biodiversity Management Plan, unless otherwise agreed by the Secretary, the Applicant shall lodge a Conservation Bond with the Department to ensure that the biodiversity offset strategy is implemented in accordance with the performance and completion criteria in the Biodiversity Management Plan. The sum of the bond shall be determined by:
- (a) calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and
  - (b) employing a suitably qualified and experienced person to verify the calculated costs, to the satisfaction of the Secretary.

The calculation of the Conservation Bond must be submitted to the Department for approval at least 1 month prior to the lodgment of the bond.

If the biodiversity offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond.

If the biodiversity offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the completion of the relevant works.

*Note: Alternative funding arrangements for long term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate, can be used to reduce the liability of the conservation and biodiversity bond. The sum of the bond may be reviewed in conjunction with any revision to the biodiversity offset strategy.*

## **HERITAGE**

### **Protection of Aboriginal Heritage Items**

35. Unless otherwise authorised under the NP&W Act, the Applicant shall ensure that the development does not cause any direct or indirect impact on identified Aboriginal heritage items located outside the approved disturbance area of the development.

### **Aboriginal Heritage Management Plan**

36. The Applicant shall prepare an Aboriginal Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
  - (b) be prepared in consultation with OEH, Aboriginal stakeholders and relevant landowners, and be submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
  - (c) ensure any workers on site receive suitable heritage inductions prior to carrying out any surface disturbance activity on site, and that suitable records are kept of these inductions;
  - (d) include the following for the management of Aboriginal heritage:
    - details regarding the establishment and role of the Aboriginal Cultural Heritage Working Group in monitoring and managing cultural heritage;
    - details regarding the management of the Yorks Creek Voluntary Conservation Area and Aboriginal heritage sites within the Mount Owen Complex that would not be disturbed by the development;
    - a program and description of the measures/procedures that would be implemented for:
      - protecting, monitoring and/or managing (including any proposed archaeological investigations and/or salvage measures) Aboriginal cultural heritage on site;
      - undertaking test and salvage excavation at sites within the approved disturbance area identified as having high scientific significance and representative sites identified as potential archaeological deposits (PADs), to inform archaeological research;
      - managing any new Aboriginal objects or skeletal remains discovered during the development;
      - maintaining and managing reasonable access for relevant Aboriginal stakeholders to heritage items on site and within offset areas;
      - ongoing consultation and involvement of relevant Aboriginal stakeholders in the conservation and/or management of Aboriginal cultural heritage on the site; and
    - a strategy for the storage of heritage items salvaged on site, both during the development and in the long term.

The Applicant shall implement the approved Aboriginal Heritage Management Plan to the satisfaction of the Secretary.

## Historic Heritage Management Plan

37. The Applicant shall prepare a Historic Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the Heritage Branch, Council, local historical organisations and relevant landowners, and be submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
  - (b) include the following for the management of historic heritage:
    - management plans/strategies for the heritage items identified in condition 14(b), including details of pre-blast and ongoing risk-based dilapidation surveys (subject to landowner access arrangements);
    - ensure any workers on site receive suitable heritage inductions prior to carrying out any activities which may cause impacts to historic heritage, and that suitable records are kept of these inductions;
    - a program and description of the measures/procedures that would be implemented for:
      - undertaking surface surveys and archaeological investigations (where subsurface disturbance is proposed) of any items of heritage significance (including the former Ravensworth Public School and Ravensworth village) that would be directly impacted by the Hebden Road and/or rail line construction works;
      - protecting other heritage items outside the disturbance area from the impacts of the development;
      - monitoring, mitigating and managing the effects of blasting on potentially affected heritage items;
      - managing any new historic heritage items discovered during the development; and
      - additional archaeological excavation and/or recording of any significant heritage items requiring demolition.

The Applicant shall implement the approved Historic Heritage Management Plan to the satisfaction of the Secretary.

## TRANSPORT

### Monitoring of Coal Transport

38. The Applicant shall:
- (a) keep accurate records of the:
    - amount of coal transported from the site (on a monthly basis);
    - date and time of each train movement generated by the development; and
  - (b) make these records available on its website at the end of each calendar year.

### Hebden Road

39. The Applicant shall upgrade Hebden Road and its intersection with the New England Highway, to the satisfaction of the relevant road authorities. These construction works are to be undertaken within 12 months of the commencement of development under this consent, or as otherwise agreed by the Secretary.

*Notes:*

- *The road upgrade works identified above include all road furniture, safety signage and markings required to meet relevant road standards, to the satisfaction of the relevant roads authorities.*
- *If there is a dispute between the relevant parties about the implementation of this condition, then any party may refer the matter to the Secretary for resolution.*

### Mount Owen Rail Loop

40. The Applicant shall construct the additional rail line and its connection with the Mount Owen Rail Loop and Main Northern Rail Line, in consultation with and to the satisfaction of the ARTC. These construction works are to be undertaken within 2 years of the commencement of development under this consent, or as otherwise agreed by the Secretary.

*Notes:*

- *The rail line construction works identified above include any furniture and safety signage required to meet relevant connection or safety standards, to the satisfaction of the ARTC.*
- *If there is a dispute between the parties about the implementation of this condition, then any party may refer the matter to the Secretary for resolution.*

## VISUAL

### Additional Visual Impact Mitigation

41. Upon receiving a written request from the owner of any residence on privately-owned land which has, or would have, significant direct views of the development's mining operations and infrastructure, and the Secretary agrees that additional visual impact mitigation is warranted, the Applicant shall implement additional visual impact mitigation measures (such as landscaping treatments or vegetation screens) to reduce the visibility of the mining operations and infrastructure from the residences on the privately-owned land.

These mitigation measures must be reasonable and feasible, and must be implemented within a reasonable timeframe.

If within 3 months of receiving this request, the Applicant and the owner 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.

#### Notes:

- *The additional visual impact mitigation measures must be aimed at reducing the visibility of the mining operations on site from affected residences, and do not require measures to reduce the visibility of the mining operations from other locations on the affected properties.*
- *The additional visual impact mitigation measures do not necessarily have to include the implementation of measures on the affected property itself (i.e. the additional measures could involve the implementation of measures outside the affected property boundary that provide an effective reduction in visual impacts).*

### Operating Conditions

42. The Applicant shall:
- implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development;
  - ensure no fixed outdoor lights shine directly above the horizontal or above the building line or any illuminated structure;
  - ensure no in-pit mobile lighting rigs shine directly above the pit wall and other mobile lighting rigs do not shine directly above the horizontal;
  - ensure that all external lighting associated with the development complies with relevant Australian Standards including *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version; and
  - take all reasonable and feasible measures to shield views of mining operations and associated equipment from users of public roads and privately-owned residences.

### Visual Impact Management Plan

43. The Applicant shall prepare a Visual Impact Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
  - be submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
  - include description of the measures that would be implemented for:
    - minimising visual impacts on users of public roads and privately-owned residences; and
    - monitoring the performance of the visual impact mitigation measures, including triggers for remedial action (if necessary), to ensure these measures reduce the visibility of the development.

The Applicant shall implement the approved Visual Impact Management Plan to the satisfaction of the Secretary.

## BUSHFIRE MANAGEMENT

44. The Applicant shall:
- ensure that the development is suitably equipped to respond to any fires on site; and
  - assist the RFS and emergency services as much as practicable if there is a fire in the vicinity of the site.

## WASTE

45. The Applicant shall:
- implement all reasonable and feasible measures to minimise the waste (including coal rejects and tailings) generated by the development;
  - ensure that the waste generated by the development is appropriately stored, handled and disposed of;
  - manage on-site sewage treatment and disposal in accordance with the requirements of Council; and
  - monitor and report on effectiveness of the waste minimisation and management measures in the Annual Review.

## REHABILITATION

### Rehabilitation Objectives

46. The Applicant shall rehabilitate the site to the satisfaction of DRE. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EIS (and shown conceptually in Appendix 7), and comply with the objectives in Table 10.

Table 10: Rehabilitation Objectives

Feature	Objective
Mine site (as a whole)	<ul style="list-style-type: none"> <li>Safe, stable and non-polluting</li> <li>Final landforms designed to incorporate micro-relief and integrate with surrounding natural landforms</li> <li>Constructed landforms maximise surface water drainage to the natural environment (excluding final void catchments)</li> <li>Minimise long term groundwater seepage zones</li> <li>Minimise visual impact of final landforms as far as is reasonable and feasible</li> </ul>
Final voids	<ul style="list-style-type: none"> <li>Designed as long term groundwater sinks to maximise groundwater flows within backfilled pits to the final void</li> <li>Minimise to the greatest extent practicable: <ul style="list-style-type: none"> <li>size and depth of final voids</li> <li>drainage catchment of final voids</li> <li>high wall instability risk</li> <li>risk of flood interaction for all flood events up to and including the Probable Maximum Flood</li> </ul> </li> </ul>
Rehabilitation areas and other vegetated land	<ul style="list-style-type: none"> <li>Restore at least 1740 ha of self-sustaining woodland ecosystems in accordance with the rehabilitation plan.</li> <li>Establish areas of self-sustaining: <ul style="list-style-type: none"> <li>aquatic habitat, within any diverted and/or re-established creek lines and retained water features;</li> <li>habitat for threatened flora and fauna species; and</li> <li>wildlife corridors, as far as is reasonable and feasible, and as generally shown in Appendix 7</li> </ul> </li> </ul>
Agricultural land	<ul style="list-style-type: none"> <li>Rehabilitate grassland areas identified in Appendix 7 as being potential grazing areas to support sustainable grazing activities</li> </ul>
Creek restoration works	<ul style="list-style-type: none"> <li>Flows to mimic pre-development flows for all flood events up to and including the 1 in 100 year ARI</li> <li>Incorporate erosion control measures based on vegetation and engineering revetments</li> <li>Incorporate structures for aquatic habitat</li> <li>Revegetate with suitable native species</li> </ul>
Surface infrastructure	<ul style="list-style-type: none"> <li>To be decommissioned and removed, unless DRE agrees otherwise</li> </ul>
Community	<ul style="list-style-type: none"> <li>Ensure public safety</li> <li>Minimise adverse socio-economic effects associated with mine closure</li> </ul>

### Rehabilitation Strategy

47. The Applicant shall prepare a Rehabilitation Strategy for the Mount Owen Complex to the satisfaction of the Secretary. This strategy must:
- be prepared in consultation with DRE and Council, and be submitted to the Secretary for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;

- (b) update the existing rehabilitation plan for the Mount Owen Complex to reflect and build upon the Rehabilitation Objectives in Table 10, including identification of opportunities for increasing the areas of woodland and habitat connectivity within the rehabilitated landscape;
- (c) include details of the canopy, sub-canopy, understorey and ground strata species to be established in the rehabilitation areas;
- (d) identify opportunities for the incorporation of preferred feed trees, foraging resources and habitat for threatened fauna species identified in condition 31; and
- (e) include an indicative schedule for the staged rehabilitation of the development.

*Note: The strategy should build on the Rehabilitation Plan shown in Appendix 7.*

The Applicant shall implement the approved Rehabilitation Strategy to the satisfaction of the Secretary.

### **Progressive Rehabilitation**

48. The Applicant shall 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 rehabilitation 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.*

### **Rehabilitation Management Plan**

49. The Applicant shall prepare a Rehabilitation Management Plan for the Mount Owen Complex to the satisfaction of DRE. This plan must:
- (a) be prepared in consultation with the Department, DPI Water, OEH, DPI, Council and the CCC;
  - (b) be submitted to DRE for approval prior to carrying out any development under this consent, unless the Secretary agrees otherwise;
  - (c) be prepared in accordance with any relevant DRE guideline;
  - (d) describe how the rehabilitation of the site would achieve the outcomes described in the Rehabilitation Strategy described in condition 47 and be integrated with the biodiversity offset strategy described in condition 30;
  - (e) include a detailed Tailings Management Plan and soil balance for the development;
  - (f) include a detailed plan for the reinstatement and review of the proposed:
    - agricultural land capability of grassland areas in the final landform, including a protocol for periodic trials to demonstrate that the land capability is being achieved; and
    - rehabilitated woodland areas and fauna habitat, including a protocol for periodic trials to demonstrate that the target vegetation community is being achieved;
  - (g) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary);
  - (h) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including mine closure, final landform (including final voids) and final land use;
  - (i) include interim rehabilitation where necessary to minimise the area exposed for dust generation;
  - (j) include a research program that seeks to improve the understanding and application of rehabilitation techniques and methods in the Hunter Valley for EECs, including Central Hunter Box-Ironbark Woodland;
  - (k) include a program to monitor, independently audit and report on the effectiveness of the measures in paragraph (h) above, and progress against the detailed performance and completion criteria in paragraph (g) above; and
  - (l) build to the maximum extent practicable on the other management plans required under this consent.

The Applicant shall implement the approved Rehabilitation Management Plan to the satisfaction of DRE.

## **SCHEDULE 4 ADDITIONAL PROCEDURES**

### **NOTIFICATION OF LANDOWNERS/TENANTS**

1. Within 2 months of the commencement of development under this consent, the Applicant shall:
  - (a) notify in writing the owner of:
    - the residences listed in Tables 1 and 2 of Schedule 3 that they are entitled to ask the Applicant to install additional noise mitigation measures at the residence; and
    - any privately-owned land within 3 kilometres of the approved open cut mining pit/s that they are entitled to ask the Applicant for an inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous property inspection report updated;
  - (b) notify the tenants of any mine-owned land of their rights under this consent; and
  - (c) send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the EIS identify that dust emissions generated by the development are likely to be greater than the relevant air quality criteria in Schedule 3 at any time during the life of the development.
2. Prior to entering into any tenancy agreement for any land owned by the Applicant that is predicted to experience exceedances of the recommended dust and/or noise criteria, the Applicant shall:
  - (a) advise the prospective tenants of the potential health and amenity impacts associated with living on the land, and give them a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time); and
  - (b) advise the prospective tenants of the rights they would have under this consent, to the satisfaction of the Secretary.
3. As soon as practicable after obtaining monitoring results showing:
  - (a) an exceedance of any relevant criteria in Schedule 3, the Applicant shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria; and
  - (b) an exceedance of the relevant air quality criteria in Schedule 3, the Applicant shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).

### **INDEPENDENT REVIEW**

4. If an owner of privately-owned land considers the development to be exceeding the 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, then within 2 months of the Secretary's decision, the Applicant shall:

- (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Secretary, to:
  - consult with the landowner to determine his/her concerns;
  - conduct monitoring to determine whether the development is complying with the relevant impact assessment criteria in Schedule 3; and
  - if the development is not complying with these criteria then:
    - determine if more than one mine is responsible for the exceedance, and if so the relative share of each mine regarding the impact on the land;
    - identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Secretary and landowner a copy of the independent review.

### **LAND ACQUISITION**

5. Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant shall make a binding written offer to the landowner based on:
  - (a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the development, 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 land 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 and/or air quality mitigation measures in condition 2 of Schedule 3;



- (b) the reasonable costs associated with:
  - relocating within the Singleton, Cessnock or Muswellbrook local government area, or to any other local government area determined by the Secretary; and
  - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and
- (c) reasonable compensation for any disturbance caused by the land acquisition process.

However, if 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 will request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:

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

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

However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Secretary for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Secretary will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report of the party that disputes the independent valuer's determination and any other relevant submissions.

Within 14 days of this determination, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the Secretary's determination.

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

6. The Applicant shall pay all reasonable costs associated with the land acquisition process described in condition 5 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.
-

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

### **ENVIRONMENTAL MANAGEMENT**

#### **Environmental Management Strategy**

1. The Applicant shall prepare an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:
  - (a) be submitted to the Secretary for approval within 6 months of the commencement of development under this consent, unless the Secretary agrees otherwise;
  - (b) provide the strategic framework for the environmental management of the project;
  - (c) identify the statutory approvals that apply to the project;
  - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
  - (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 project;
    - receive, handle, respond to, and record complaints;
    - resolve any disputes that may arise during the course of the project;
    - respond to any non-compliance;
    - respond to emergencies; and
  - (f) include:
    - copies of any strategies, plans and programs approved under the conditions of this approval; and
    - a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

The Applicant shall implement the approved Environmental Management Strategy to the satisfaction of the Secretary.

#### **Management Plan Requirements**

2. The Applicant shall 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.*

#### **Application of Existing Management Plans**

3. Prior to the approval of management plans under this consent, the Applicant shall manage development undertaken pursuant to this consent in accordance with any equivalent or similar management plan/s required under current consents for the Mount Owen and Ravensworth East Mines.

## Relationships between Management Plans

4. With the agreement of the Secretary, the Applicant may combine any strategy, plan or program required by this consent with any similar strategy, plan or program required for the Glendell Mine.

## Revision of Strategies, Plans and Programs

5. Within 3 months of:
  - (a) the submission of an incident report under condition 9 below;
  - (b) the submission of an annual review under condition 11 below;
  - (c) the submission of an audit under condition 12 below; or
  - (d) any modification to the conditions of this consent (unless the conditions require otherwise);the Applicant shall 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

6. The Applicant must regularly review the strategies, plans and programs required under this consent and ensure that these documents are updated to incorporate measures to improve the environmental performance of the development and reflect current best practice in the mining industry. To facilitate these updates, 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.

## Adaptive Management

7. The Applicant must assess and manage project-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.

## Community Consultative Committee

8. The Applicant shall operate a Community Consultative Committee (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 Department will accept the continued representation of CCC members appointed under the existing development consents for the Mount Owen Mine and Ravensworth East Mine.

## REPORTING

### Incident Reporting

9. The Applicant shall 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 shall 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.

## ANNUAL REVIEW

11. By the end of March each year, or as otherwise agreed with the Secretary, the Applicant shall review 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 EIS;
  - (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.

## INDEPENDENT ENVIRONMENTAL AUDIT

12. Within a year of the commencement of development under this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant shall 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;
  - (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 (including any assessment, plan or program required under these approvals);
  - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
  - (e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals.

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

13. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report

## ACCESS TO INFORMATION

14. From the commencement of development under this consent, the Applicant shall:
  - (a) make copies of the following publicly available on its website:
    - the EIS;
    - 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**

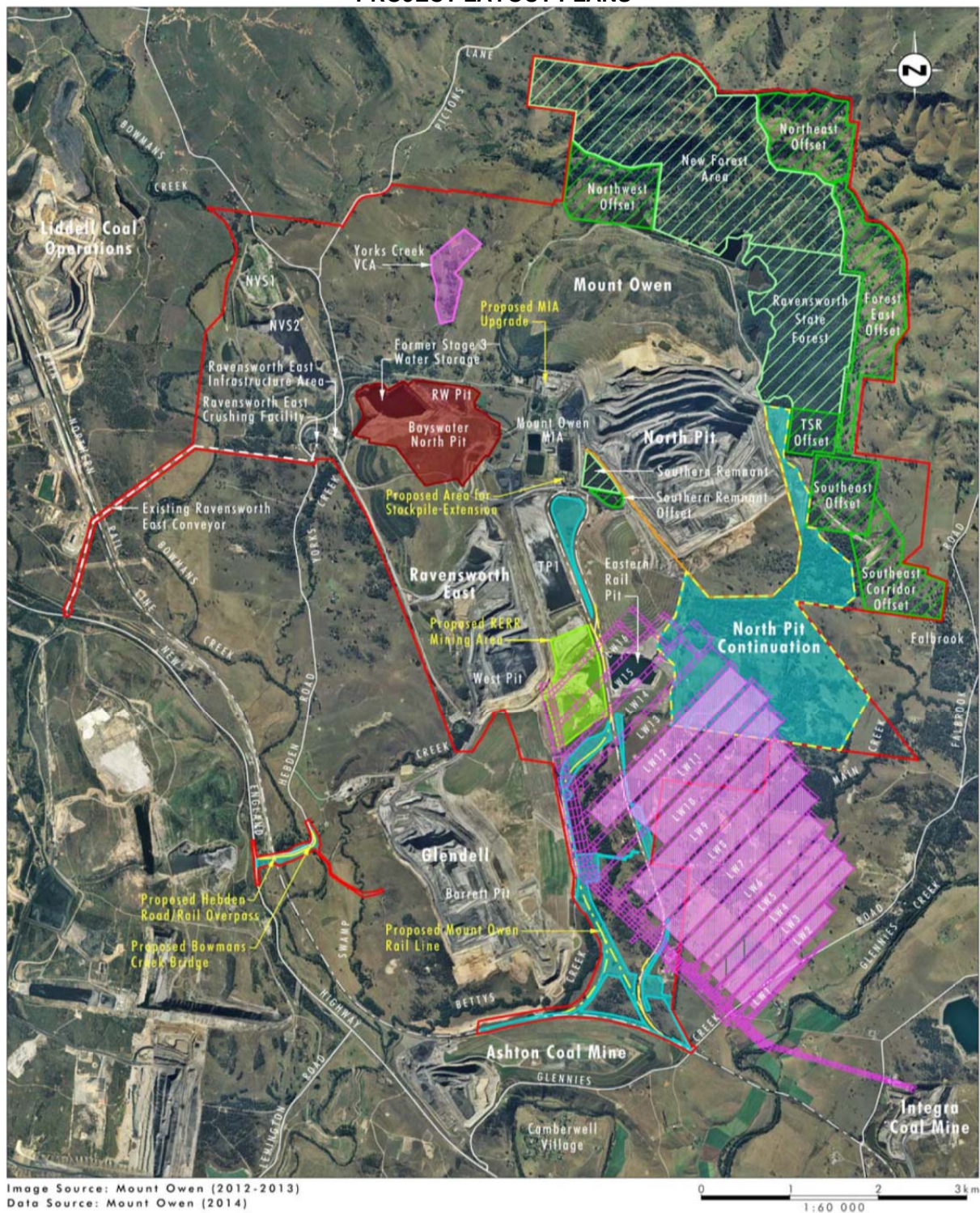
<b>Lot</b>	<b>DP</b>	<b>Owner</b>
1	1072124	Mine Owned Glencore
1	135026	Mine Owned Glencore
1	137381	Mine Owned Glencore
1	137382	Mine Owned Glencore
1	151176	Mine Owned Glencore
1	159786	Mine Owned Glencore
1	380676	Mine Owned Glencore
1	48490	Government Authority
1	745486	Mine Owned Glencore
1	793886	Government Authority
1	804150	Mine Owned Glencore
1	823167	Mine Owned Glencore
1	865784	Mine Owned Glencore
1	925901	Mine Owned Glencore
1	940619	Mine Owned Glencore
2	1041696	Nimbahwee Pty Limited
2	1072124	Mine Owned Glencore
2	1142103	Macquarie Generation
2	233019	Australian Rail Track Corporation
2	38725	Mine Owned Glencore
2	549723	Mine Owned Glencore
2	6842	Mine Owned Glencore
2	730978	Mine Owned Glencore
2	804150	Mine Owned Glencore
2	823167	Mine Owned Glencore
2	829977	Government Authority
2	859544	Mine Owned Glencore
2	865784	Mine Owned Glencore
3	38725	Mine Owned Glencore
3	195598	Mine Owned Glencore
3	662944	Mine Owned Glencore
3	1072124	Mine Owned Glencore
3	823167	Mine Owned Glencore
3	859544	Mine Owned Glencore
4	1072124	Mine Owned Glencore
4	255403	Mine Owned Glencore
4	38725	Mine Owned Glencore
4	823167	Mine Owned Glencore
4	859544	Mine Owned Glencore
5	1077004	Mine Owned Glencore
5	38725	Mine Owned Glencore
5	823167	Mine Owned Glencore
5	859544	Mine Owned Glencore
6	1077004	Mine Owned Glencore
6	255403	Mine Owned Glencore
6	38725	Mine Owned Glencore
6	859544	Mine Owned Glencore
7	38725	Mine Owned Glencore
7	859544	Mine Owned Glencore

Lot	DP	Owner
8	6830	Mine Owned Glencore
8	38725	Mine Owned Glencore
8	859544	Mine Owned Glencore
8	1077004	Government Authority
9	6842	Mine Owned Glencore
9	38725	Mine Owned Glencore
10	38725	Mine Owned Glencore
11	6830	Mine Owned Glencore
11	6842	Mine Owned Glencore
11	38725	Mine Owned Glencore
11	825904	Mine Owned Glencore
11	873459	Mine Owned Glencore
12	38725	Mine Owned Glencore
12	825904	Mine Owned Glencore
12	873459	State Forest
12	1017435	Mine Owned Glencore
13	247945	Macquarie Generation
13	38725	Mine Owned Glencore
13	665120	Mine Owned Glencore
13	6830	Private
13	825904	Mine Owned Glencore
14	38725	Mine Owned Glencore
14	825904	Mine Owned Glencore
15	38725	Mine Owned Glencore
15	247945	Macquarie Generation
15	873459	Mine Owned Glencore
16	38725	Mine Owned Glencore
17	6830	Mine Owned Glencore
19	38725	Mine Owned Glencore
20	38725	Mine Owned Glencore
20	841165	Mine Owned Glencore
21	6830	Mine Owned Glencore
21	38725	Mine Owned Glencore
21	841165	Mine Owned Glencore
22	841165	Mine Owned Glencore
23	6842	Mine Owned Glencore
23	841165	Mine Owned Glencore
24	6830	Mine Owned Glencore
24	841165	Mine Owned Glencore
25	6830	Mine Owned Glencore
25	841160	Mine Owned Glencore
26	6830	Mine Owned Glencore
26	841160	AusGrid
27	6830	Mine Owned Glencore
30	752462	Mine Owned Glencore
31	6830	Private
32	535087	Mine Owned Glencore
32	545601	Mine Owned Glencore
37	752462	Mine Owned Glencore
58	752462	Mine Owned Glencore
60	752462	Mine Owned Glencore
71	625171	Mine Owned Glencore

<b>Lot</b>	<b>DP</b>	<b>Owner</b>
81	607296	Mine Owned Glencore
100	752462	Mine Owned Glencore
100	791739	Mine Owned Glencore
101	752462	Mine Owned Glencore
101	791739	Mine Owned Glencore
102	752462	Mine Owned Glencore
107	880058	Mine Owned Glencore
112	850054	Mine Owned Glencore
121	752462	Mine Owned Glencore
122	872131	Macquarie Generation
123	752462	Mine Owned Glencore
180	858299	Mine Owned Glencore
190	752462	State Forest
191	752462	State Forest
192	752462	State Forest
193	752462	State Forest
194	752462	State Forest
195	752462	State Forest
197	752462	State Forest
198	752462	State Forest
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204	752462	State Forest
205	752462	State Forest
206	752462	State Forest
207	752462	State Forest
208	752462	State Forest
217	752462	State Forest
232	752470	Mine Owned Glencore
234	752462	Mine Owned Glencore
235	752462	Mine Owned Glencore
352	867083	Mine Owned Glencore
353	867083	Mine Owned Glencore
354	867083	Mine Owned Glencore
355	867083	Mine Owned Glencore
356	867083	Crown Land
383	752462	Mine Owned Glencore
921	844642	Mine Owned Glencore
922	844642	Mine Owned Glencore
923	844642	Mine Owned Glencore
924	862883	Mine Owned Glencore
925	862883	Mine Owned Glencore
1221	709371	Mine Owned Glencore
7001	93635	Crown Land (TSR)
7302	1132839	Crown Land (TSR)
7303	1132839	State Forest
2A	6842	Mine Owned Glencore
A	158063	Mine Owned Glencore
Various Crown Land reserves and State Forest		



## APPENDIX 2 PROJECT LAYOUT PLANS



### Legend

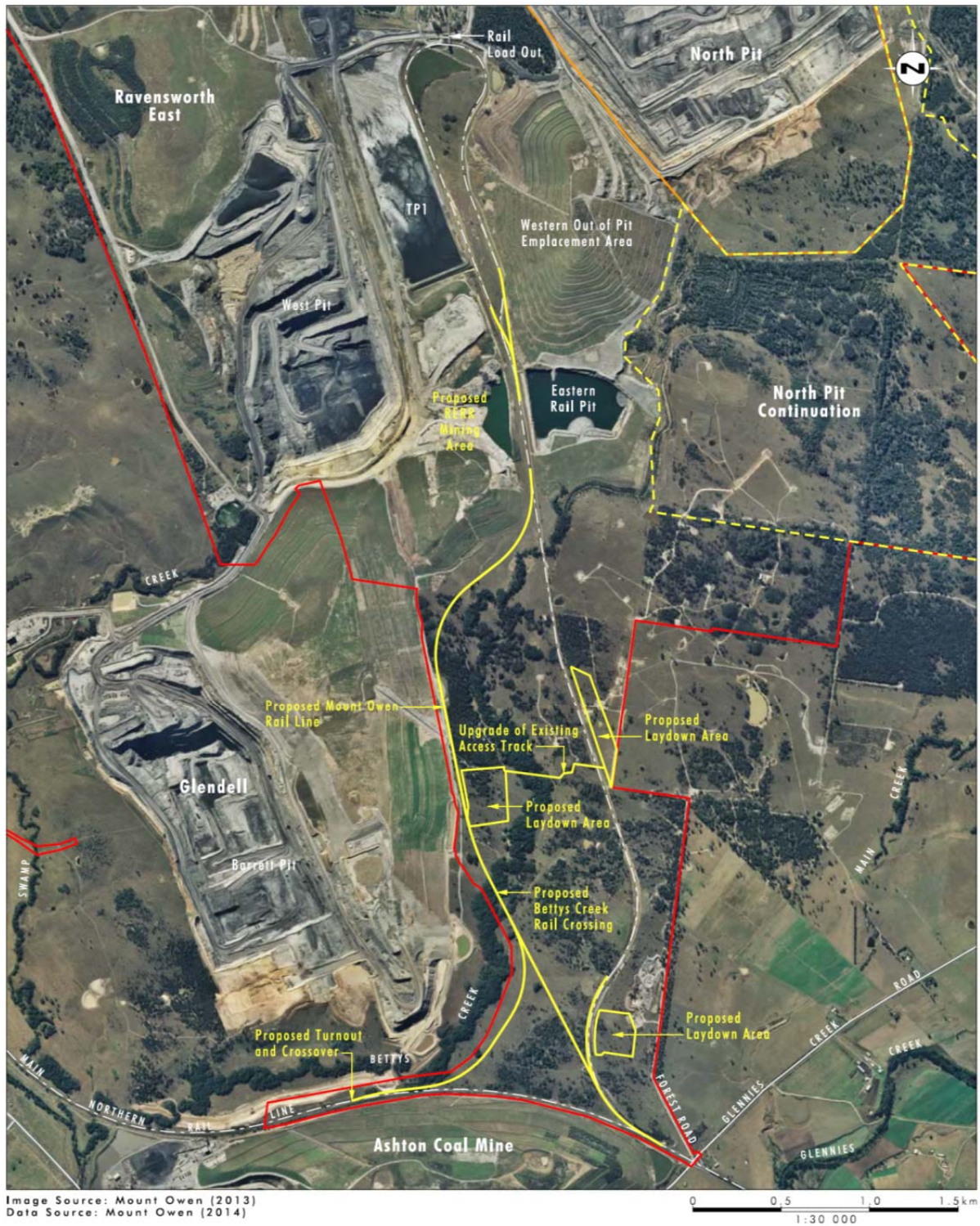
- |  |   |
|--|---|
| <span style="border: 1px solid red; display: inline-block; width: 20px; height: 10px;"></span> Project Area                          | <span style="background-color: #d4edda; border: 1px solid #c3e6cb; display: inline-block; width: 20px; height: 10px;"></span> Existing Biodiversity Offset Area             |
| <span style="border: 1px solid orange; display: inline-block; width: 20px; height: 10px;"></span> Approved North Pit Mining Extent   | <span style="background-color: #d1ecf1; border: 1px solid #bee5eb; display: inline-block; width: 20px; height: 10px;"></span> Ravensworth State Forest                      |
| <span style="border: 1px solid green; display: inline-block; width: 20px; height: 10px;"></span> Proposed North Pit Continuation     | <span style="background-color: #fff3cd; border: 1px solid #ffeeba; display: inline-block; width: 20px; height: 10px;"></span> Integra Coal Mine Plan                        |
| <span style="border: 1px solid blue; display: inline-block; width: 20px; height: 10px;"></span> Proposed Rail Upgrade Works          | <span style="background-color: #f8d7da; border: 1px solid #f5c6cb; display: inline-block; width: 20px; height: 10px;"></span> Integra Underground Mined Area as at May 2014 |
| <span style="border: 1px solid purple; display: inline-block; width: 20px; height: 10px;"></span> Proposed Hebden Road Upgrade Works | <span style="background-color: #f2d2d2; border: 1px solid #f8d7da; display: inline-block; width: 20px; height: 10px;"></span> Bayswater North Pit                           |
| <span style="border: 1px solid cyan; display: inline-block; width: 20px; height: 10px;"></span> Proposed Disturbance Area            | <span style="background-color: #d1ecf1; border: 1px solid #bee5eb; display: inline-block; width: 20px; height: 10px;"></span> Yorks Creek VCA                               |
| <span style="border: 1px solid magenta; display: inline-block; width: 20px; height: 10px;"></span> Proposed RERR Mining Area         |   |

FIGURE 2.7

Proposed Project Area and  
Integra Underground

**Figure 2A: Project Layout – Mount Owen Continued Operations Project**





#### Legend

- Project Area
- Approved North Pit Mining Extent
- Proposed North Pit Continuation
- Proposed Rail Upgrade Works

FIGURE 2.13  
Proposed Rail Line  
Conceptual Design

Figure 2B: Project Layout – Rail Infrastructure Upgrades



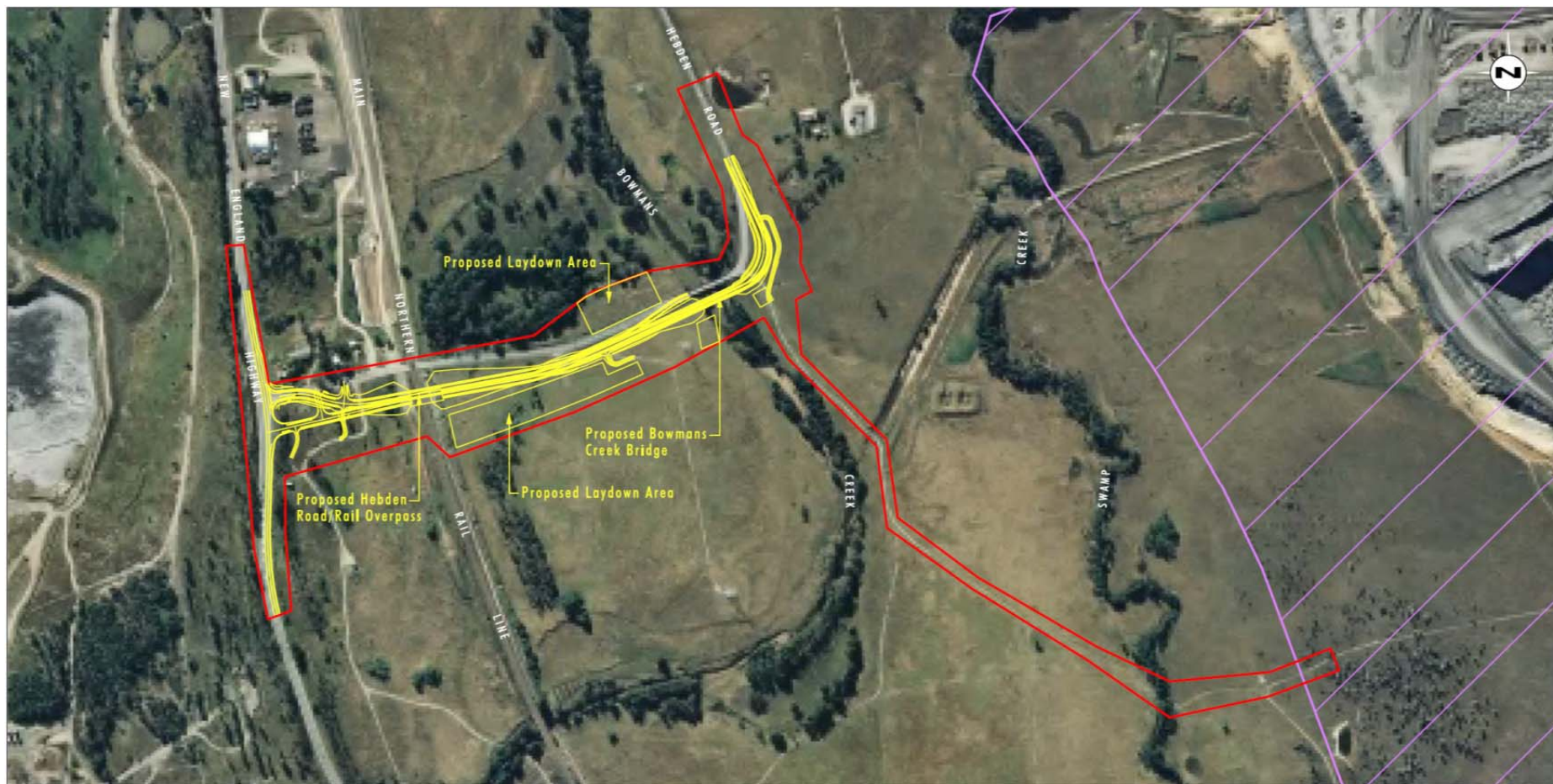


Image Source: Mount Owen (2013)  
Data Source: Mount Owen (2014)

#### Legend

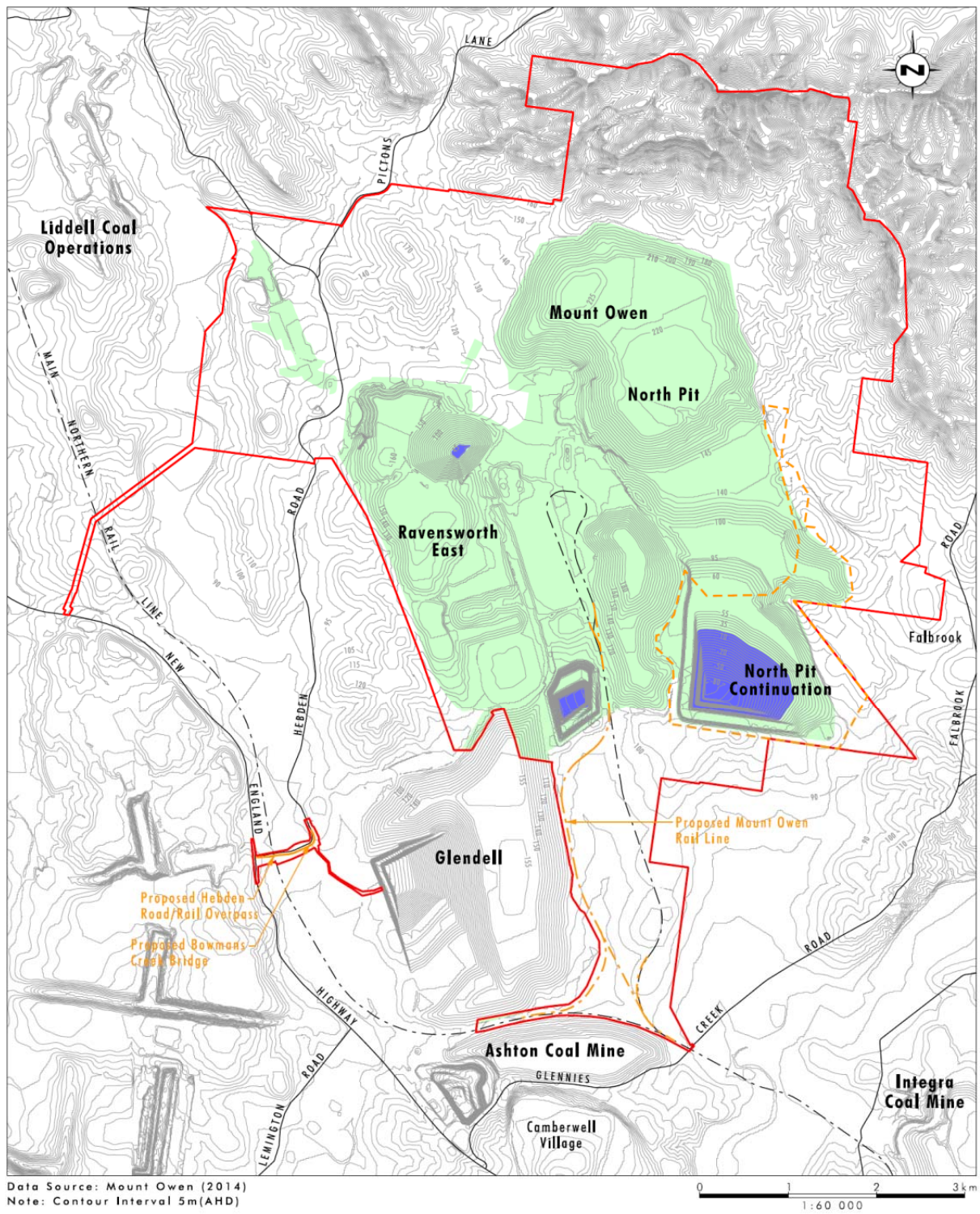
- ▬ Project Area
- ▬ Proposed Hebden Road Upgrade Works
- ▬ Approved Glendell Disturbance Area

0 100 200 400m  
1:7 500

FIGURE 2.15  
Hebden Road Upgrade Works  
Conceptual Design

**Figure 2C:** Project Layout – Hebden Road Upgrades





- Legend**
- Project Area
  - Proposed North Pit Continuation
  - Proposed Rail Upgrade Works
  - Proposed Hebdon Road Upgrade Works
  - Contour
  - Rehabilitation - Complete
  - Final Void Water Level

**Figure 2D: Conceptual Final Landform**

**FIGURE 2.12**  
**Proposed Mount Owen**  
**Conceptual Mine Plan**  
**Final Landform**



### APPENDIX 3 RECEIVER ZONES AND LOCATIONS

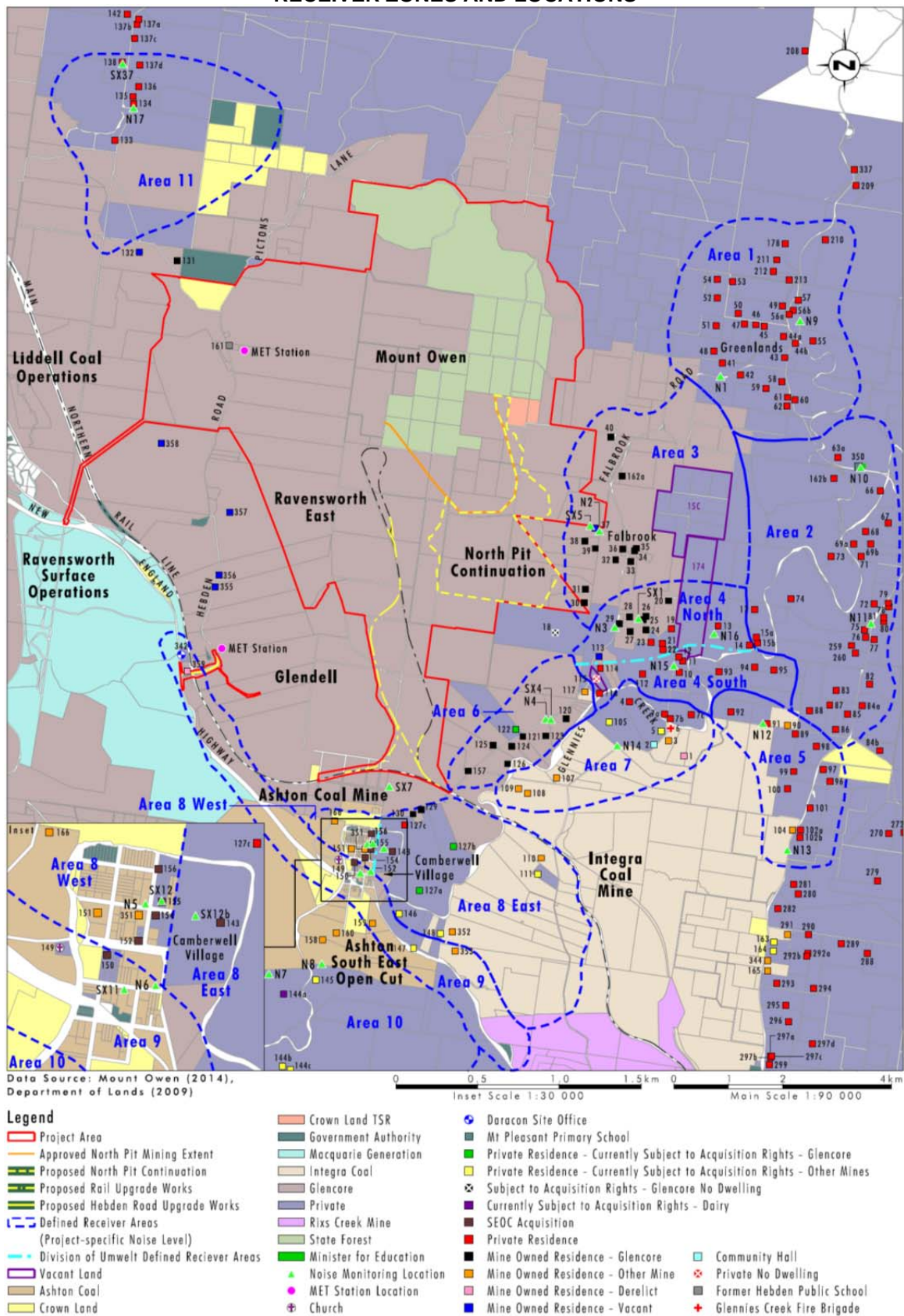


Figure 3A: Receiver Zones and Locations

## **APPENDIX 4 NOISE COMPLIANCE ASSESSMENT**

### **Applicable Meteorological Conditions**

1. The noise criteria in Table 3 of the conditions are to apply under all meteorological conditions except the following:
  - (a) during periods of rain or hail;
  - (b) average wind speed at microphone height exceeds 5 metres/second;
  - (c) wind speeds greater than 3 metres/second measured at 10 metres above ground level; or
  - (d) temperature inversion conditions greater than 3°C/100 metres.

### **Determination of Meteorological Conditions**

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station located on the site.

### **Compliance Monitoring**

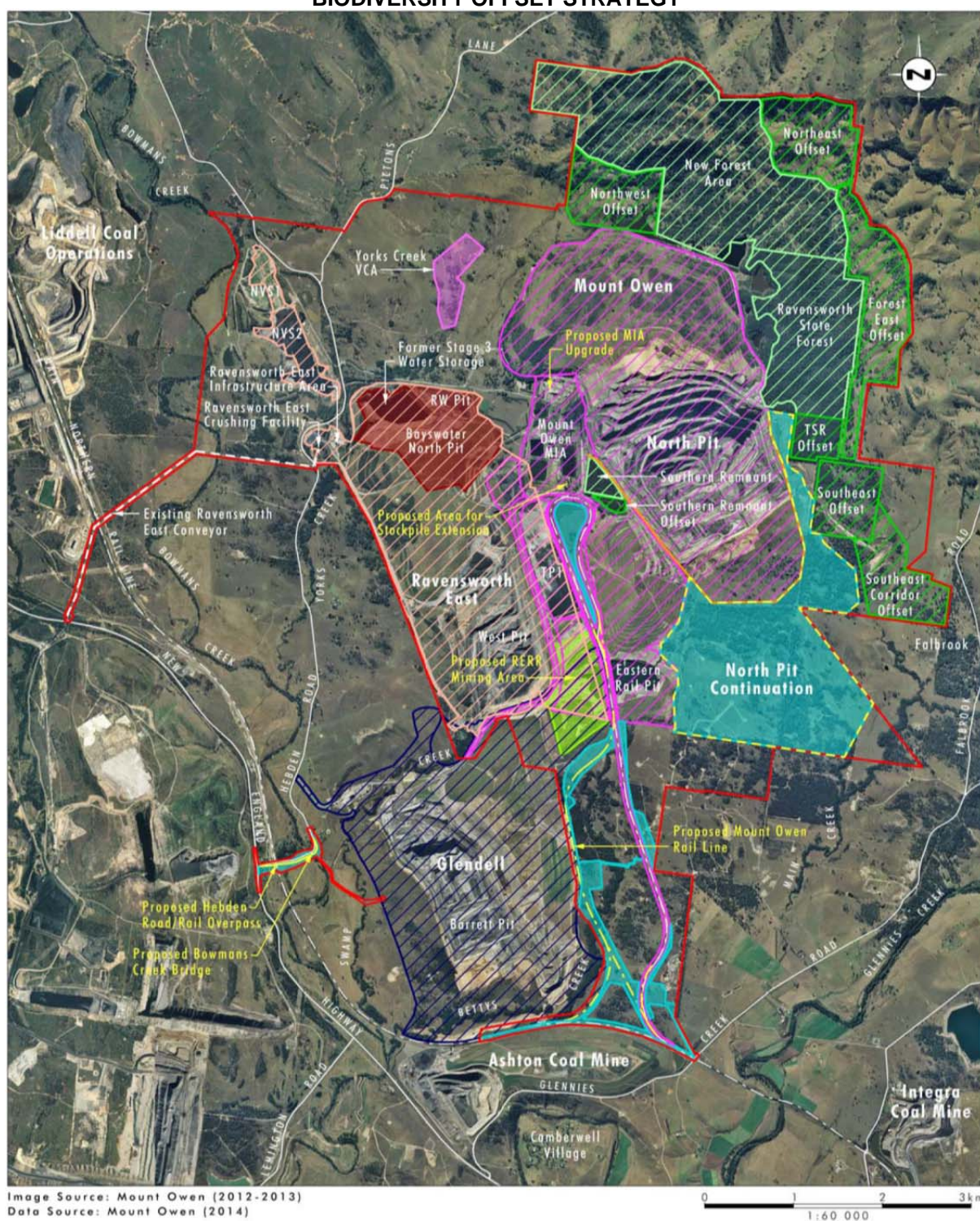
3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this consent.
4. This monitoring must be carried out at least once a month (at least two weeks apart) for the first 12 months following commencement under this consent, and then quarterly thereafter, unless the Secretary directs otherwise.

*Note: The Secretary may direct that the frequency of attended monitoring increase or decrease at any time during the life of the development.*

5. Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
  - (a) monitoring locations for the collection of representative noise data;
  - (b) meteorological conditions during which collection of noise data is not appropriate;
  - (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
  - (d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.



## APPENDIX 5 BIODIVERSITY OFFSET STRATEGY



### Legend

- |  |   |
|--|---|
| <span style="border: 1px solid red; display: inline-block; width: 20px; height: 10px;"></span> Project Area  | <span style="background-color: #FFB6C1; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Yorks Creek VCA                   |
| <span style="border: 1px solid orange; display: inline-block; width: 20px; height: 10px;"></span> Approved North Pit Mining Extent                             | <span style="background-color: #FFA07A; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Bayswater North Pit               |
| <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Proposed North Pit Continuation    | <span style="background-color: #FFDAB9; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Mount Owen Operational Area       |
| <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Proposed Rail Upgrade Works        | <span style="background-color: #ADD8E6; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Glendell Operational Area         |
| <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Proposed Hebden Road Upgrade Works | <span style="background-color: #FFDAB9; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Ravensworth East Operational Area |
| <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Proposed Disturbance Area          | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Existing Biodiversity Offset Area |
| <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Proposed RERR Mining Area          | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Ravensworth State Forest          |

FIGURE 1.4

Proposed Mount Owen  
Continued Operations Project

**Figure 5A: Existing On-site Biodiversity Offset Areas**



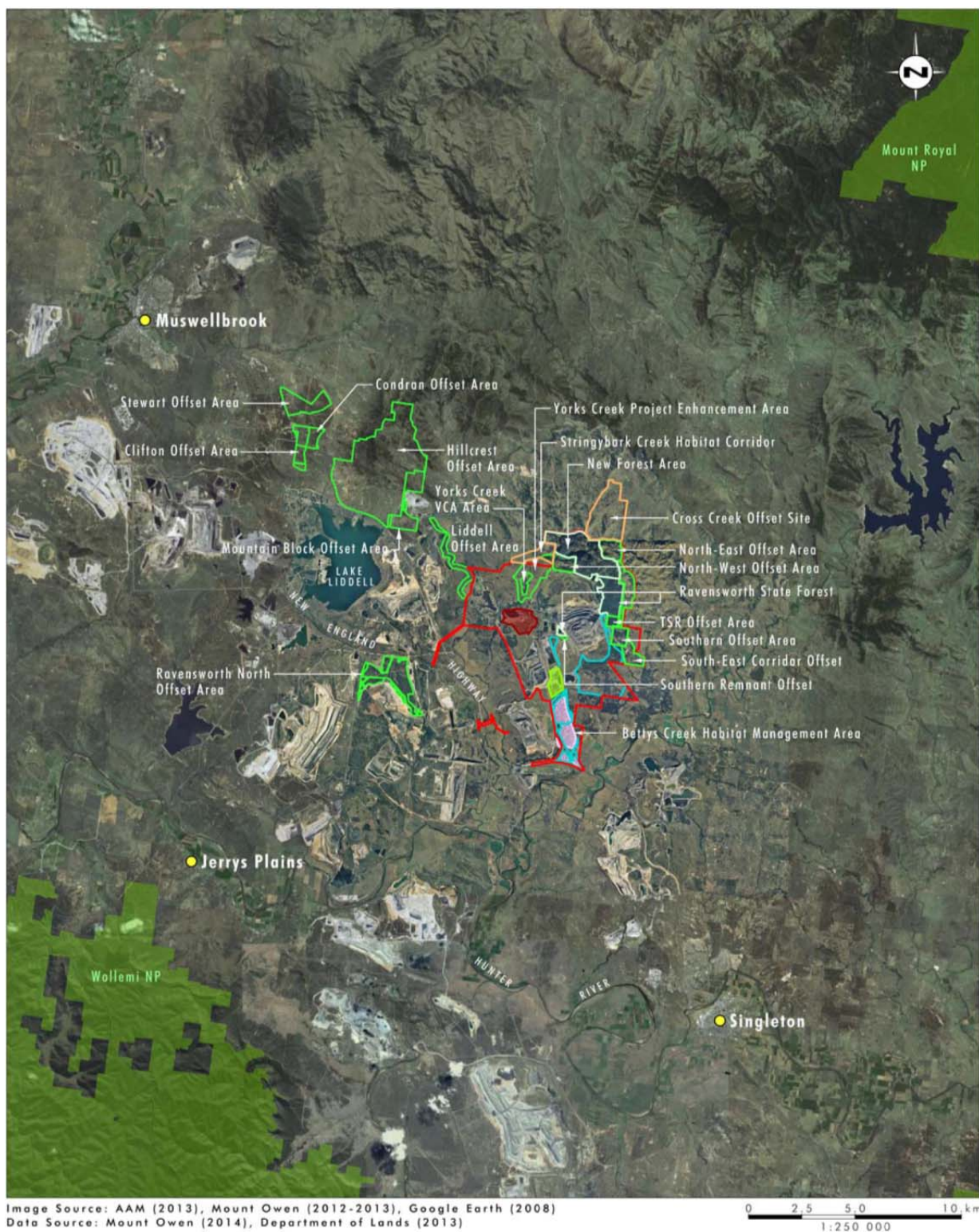


FIGURE 7.1

Strategic Location of Cross Creek Offset Site  
 in the Mount Owen Offset Cluster

**Figure 5B: Additional On-site Biodiversity Offset Areas**



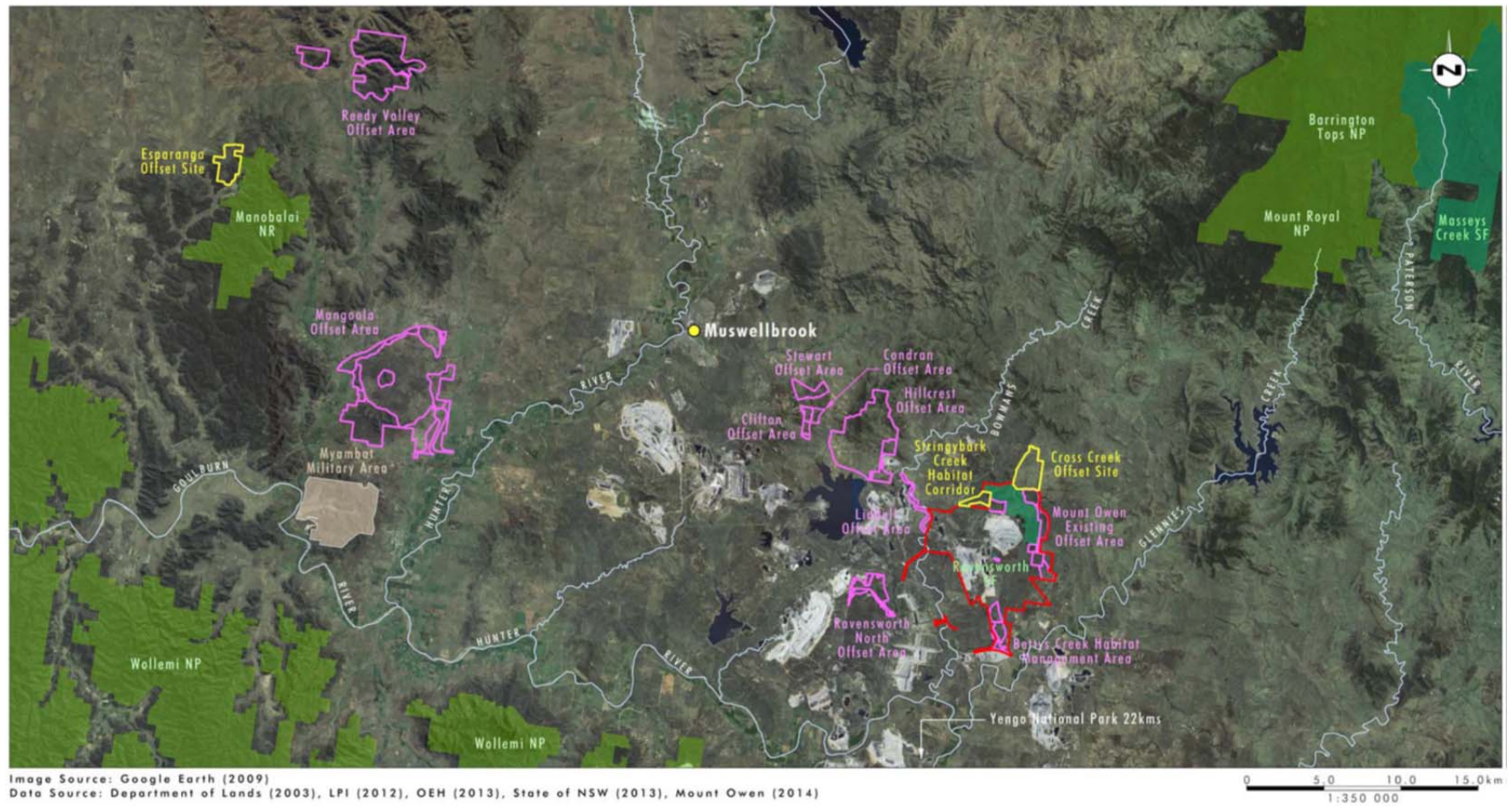
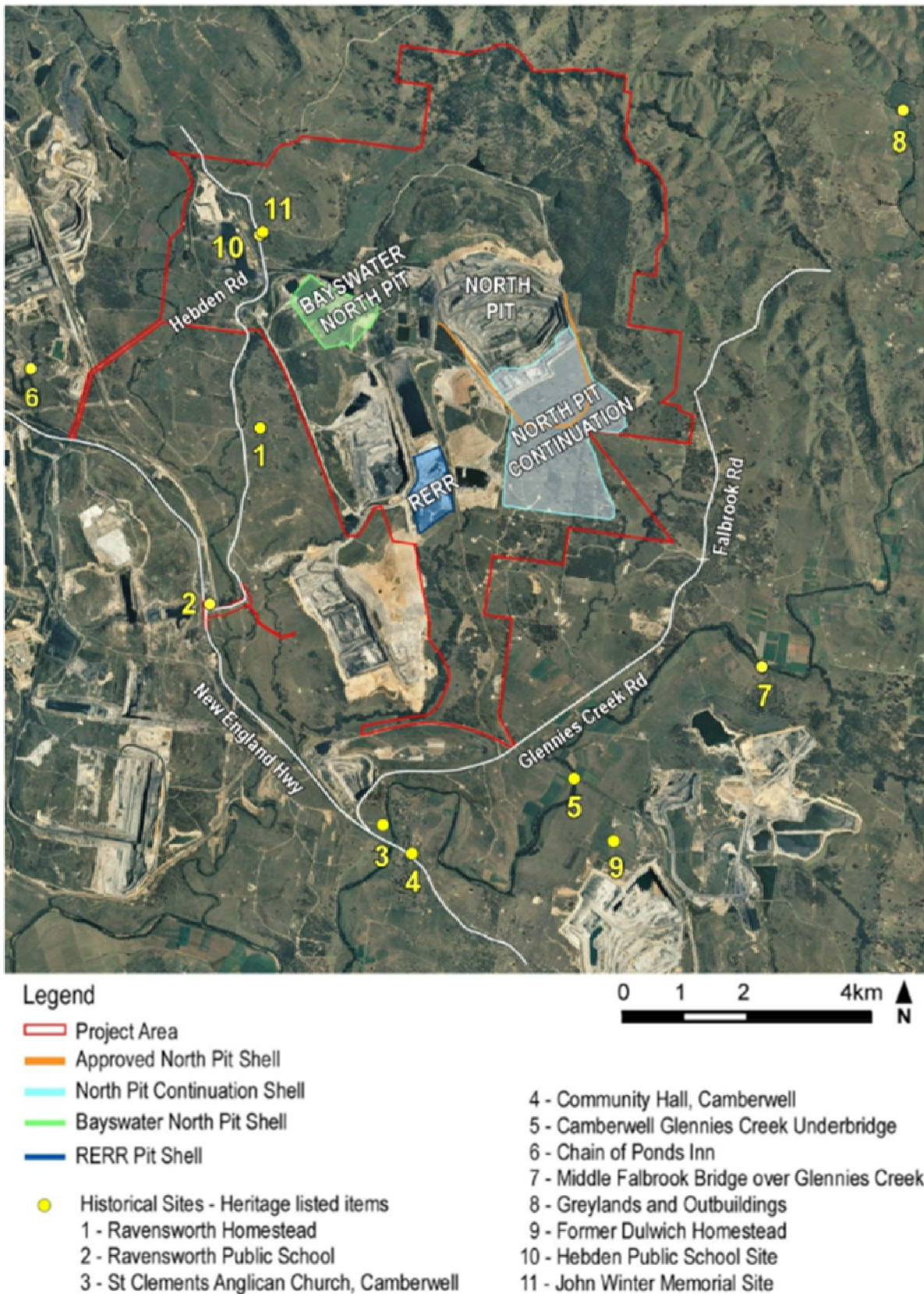


FIGURE 5.21  
Glencore Biodiversity Offset Areas  
Regional Setting

Figure 5C: Off-site (Esparanga) Biodiversity Offset Area



## APPENDIX 6 HISTORIC HERITAGE SITES



**Figure 6A:** Historic Heritage Sites



## APPENDIX 7 REHABILITATION PLAN

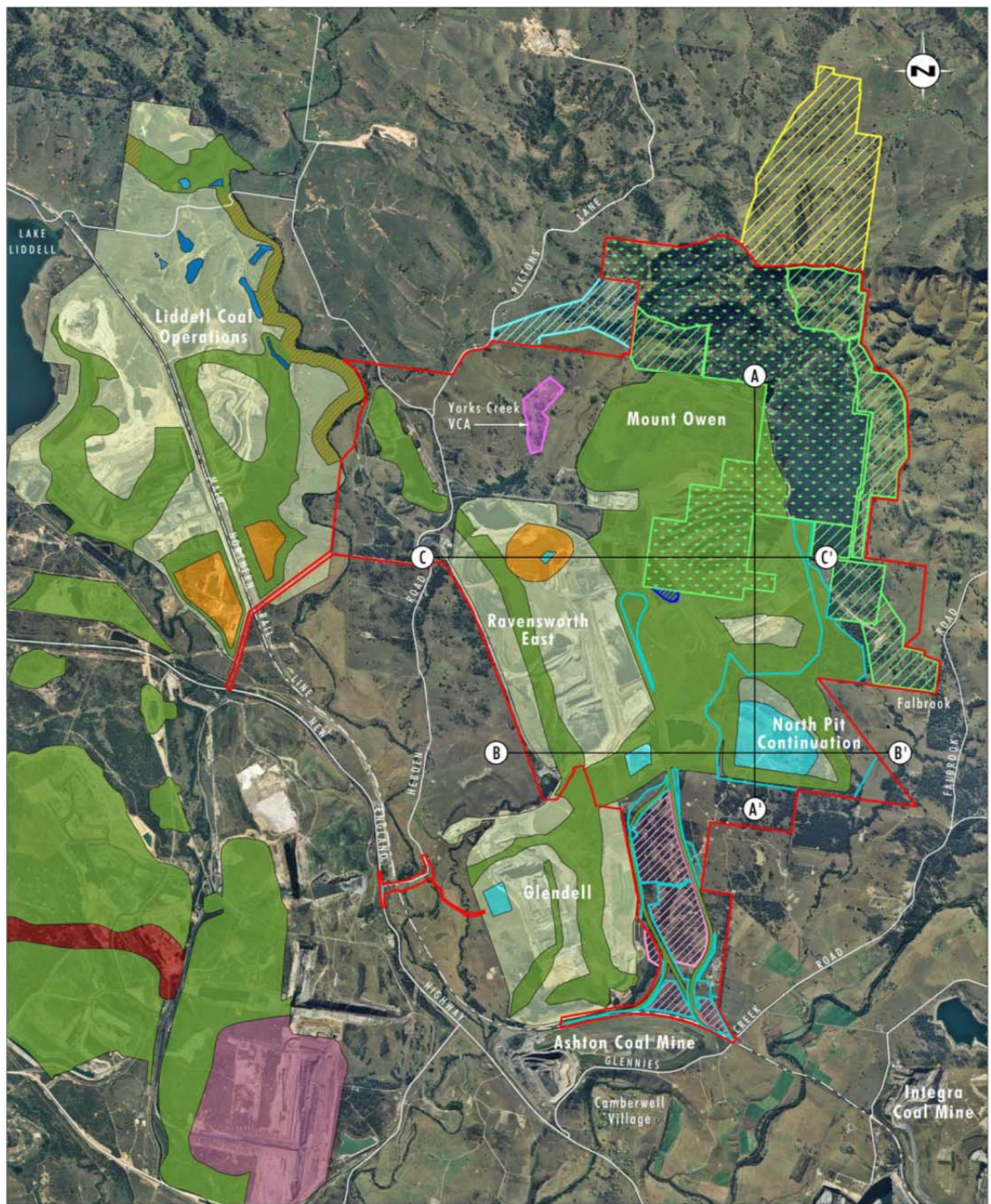


Image Source: Mount Owen (2012-2013)

Data Source: Mount Owen (2014)

Note: Refer to Figure 5.19.2 for A-A', B-B' and C-C' cross sections

### Legend

- |  |   |                    |
|--|---|--------------------|
| Project Area   | Ravensworth State Forest  | Grazing            |
| Proposed Disturbance Area  | Proposed Corridor Habitat Enhancement on Non-Mined land (Liddell Coal Operations) | Riparian / Wetland |
| Yorks Creek VCA  | Existing Biodiversity Offset Area   | Water Storage      |
| Final Void Water Level   | Proposed Cross Creek Biodiversity Offset Area                                     | Section Line       |
| Native Woodland  | Bettys Creek Habitat Management Area  |                    |
| Open Grassland (Potential grazing areas) with pockets of Native Vegetation | Southern Remnant Biodiversity Offset Area   |                    |
| Grassland for Stabilisation  | Stringybark Creek Habitat Corridor  |                    |

FIGURE 5.54

Mount Owen Continued  
Operations Project Proposed  
Post Mining Land Use

Figure 7A: Final Landform Rehabilitation Plan

**APPENDIX 8**  
**GENERAL TERMS OF APPLICANT'S VPA OFFER**

<b>Development Contribution</b>	<b>Intended Use</b>	<b>Payment Details</b>
<b>TBC</b>	TBC	TBC