

# Project Approval

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

I, the Minister for Planning approve the project referred to in schedule 1, subject to the conditions set out in schedules 2 to 5.

The reason for these conditions is to:

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

Frank Sartor MP  
**Minister for Planning**

Sydney

2007

File No. 9040608

### **SCHEDULE 1**

|                             |  |
|-----------------------------|--|
| <b>Project Application:</b> | 06_0074  |
| <b>Proponent:</b>           | Boral Resources (NSW) Pty Ltd                                |
| <b>Approval Authority:</b>  | Minister for Planning  |
| <b>Land:</b>                | See Appendix 1   |
| <b>Project:</b>             | Marulan South hard rock quarry and associated infrastructure |

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**Red type represents March 2009 Modification**

**Blue type represents November 2011 Modification**

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## DEFINITIONS

|                    |  |
|--------------------|--|
| Annual Review      | The review required by condition 4 of schedule 5   |
| BCA                | Building Code of Australia   |
| CCC                | Community Consultative Committee   |
| Council            | Goulburn Mulwaree Council  |
| Day                | Day is defined as the period from 7.00am to 6.00pm, Monday to Saturday and 8.00am to 6.00pm Sundays and Public Holidays  |
| Department         | Department of Planning and Infrastructure  |
| Director-General   | Director-General of the Department of Planning and Infrastructure (or delegate)  |
| DPI                | Department of Primary Industries   |
| EA                 | Environmental Assessment for the project titled <i>Marulan South Quarry Environmental Assessment Report</i> Volumes 1 and 2 dated October 2006 prepared by ERM     |
| EP&A Act           | <i>Environmental Planning and Assessment Act 1979</i>  |
| EP&A Regulation    | <i>Environmental Planning and Assessment Regulation 2000</i>   |
| EPL                | Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i>  |
| Evening            | Evening is defined as the period from 6.00pm to 10.00pm  |
| Land               | Land means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval |
| Night              | Night is defined as the period from 10.00pm to 7.00am Monday to Saturday and 10.00pm to 8.00am Sundays and Public Holidays   |
| Noise Bund         | Bunds built for noise and visual mitigation purposes and which do not exceed 10 metres in height   |
| NOW                | NSW Office of Water, within the Department of Primary Industries   |
| OEH                | Office of Environment and Heritage   |
| Project            | Development to which the Project Approval applies  |
| Proponent          | Boral Resources (NSW) Pty Ltd  |
| RTA                | Roads and Traffic Authority  |
| Site               | Land to which the Project Approval applies (see Appendix 1)  |
| Submissions Report | <i>Marulan South Quarry Submissions Report</i> dated December 2006   |

## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### Obligation to Minimise Harm to the Environment

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

### Terms of Approval

2. The Proponent shall carry out the project generally in accordance with the:
  - (a) EA;
  - (b) submissions report; and
  - (c) modification application 06\_0074 – MOD 1 and accompanying Statement of Environmental Effects entitled *Marulan South Quarry Statement of Environmental Effects for a Pre-commencement Exploratory Test Pit* dated 13 November 2008, and letter from Boral Resources Pty Ltd to the Department dated 13 February 2009;
  - (d) modification application 06\_0074 – MOD 2 and the accompanying EA titled *Boral Peppertree Quarry Section 75W Modification Report*, dated June 2011, prepared by ERM Australia, and the responses to issues raised in submissions, including those titled *Peppertree Quarry Submissions Report*, dated 24 August 2011, *Response to OEH Submission*, dated 12 October 2011, and *Response to Armitt Submission*, dated 25 October 2011; and
  - (e) conditions of this approval.

*Note: The general layout of the project is shown in the figure in Appendix 2.*

3. If there is any inconsistency between the above, either the most recent document or the conditions of this approval shall prevail to the extent of the inconsistency.
4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
  - (a) any reports, plans, programs or correspondence that are submitted in accordance with this approval; and
  - (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.
- 4A. The proponent shall be permitted to undertake pre-construction exploratory test pit activities as described in modification application 06\_0074 MOD 1.

*Note: The commencement of test pit activities as described in modification application 06\_0074 MOD 1 is not subject to the preparation of management plans.*

### Limits on Approval

5. This approval shall lapse at the end of 2038.
6. The Proponent shall not transport more than 3.5 million tonnes of product from the site in a year.
7. All extractive materials and products shall be transported from the site by rail. However, the Proponent may transport some product by road in an emergency with the written approval of the Director-General.

### Structural Adequacy

8. The Proponent shall ensure that all new buildings and structures on the site are constructed in accordance with the relevant requirements of the BCA.

*Notes:*

- Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for any building works.
- Part 8 of the EP&A Regulation sets out the detailed requirements for the certification of development.

### Demolition

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

### Protection of Public Infrastructure

10. The Proponent shall:
  - (a) repair, or pay all reasonable costs associated with repairing any public infrastructure that is damaged by the project; and

- (b) relocate, or pay all reasonable costs associated with relocating any public infrastructure that needs to be relocated as a result of the project.

**Operation of Plant and Equipment**

- 11. The Proponent shall ensure that all plant and equipment used at the site is:
    - (a) maintained in a proper and efficient condition; and
    - (b) operated in a proper and efficient condition.
  - 12. With the approval of the Director-General, the Proponent may prepare and submit any management plan or monitoring program required by this approval on a progressive basis.
-

## SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

### GENERAL EXTRACTION AND PROCESSING PROVISIONS

#### Identification of Boundaries

1. Prior to the commencement of construction, or as otherwise agreed by the Director-General, the Proponent shall:
  - (a) engage an independent registered surveyor to survey the boundaries of the approved limit of extraction;
  - (b) submit a survey plan of these boundaries to the Director-General; and
  - (c) ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits.

*Note: The limit of extraction is shown conceptually on the plan in Appendix 2.*

### NOISE

#### Construction of Bunds

2. In carrying out the construction of the noise bunds, the Proponent shall:
  - (a) comply with the construction noise criteria in the *Environmental Noise Control Manual 1994* for the first three months of the construction work; and
  - (b) thereafter, comply with the daytime operational noise criteria in condition 4.

#### Construction Noise Management Plan

3. The Proponent shall prepare and implement a Construction Noise Management Plan for the project to the satisfaction of the Director-General. This plan must be submitted to the Director-General for approval prior to the commencement of construction, and include:
  - (a) a detailed description of the measures that would be implemented to achieve the construction noise limits in the *Environmental Noise Control Manual 1994* and the operational noise criteria in condition 4;
  - (b) a community notification protocol for the proposed construction activities;
  - (c) a description of the measures that would be implemented where the construction noise limits and/or operational noise limits are unlikely to be achieved or are not being achieved; and
  - (d) details of who would be responsible for monitoring, reviewing and implementing the plan.

#### Operational Noise Impact Assessment Criteria

4. The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1.

| <i>Residential Receiver</i>        | <i>Day Shift</i>                  | <i>Night Shift</i>                |                                   |                                 |
|------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                                    | <i>Day</i>                        | <i>Evening</i>                    | <i>Night</i>                      |                                 |
|                                    | <i>L<sub>Aeq</sub>(15 minute)</i> | <i>L<sub>Aeq</sub>(15 minute)</i> | <i>L<sub>Aeq</sub>(15 minute)</i> | <i>L<sub>A1</sub>(1 minute)</i> |
| 1                                  | 35                                | 35                                | 35                                | 45                              |
| 2                                  | 39                                | 35                                | 35                                | 45                              |
| 3                                  | 42                                | 35                                | 35                                | 46                              |
| 4                                  | 37                                | 35                                | 35                                | 46                              |
| 5                                  | 35                                | 35                                | 35                                | 45                              |
| 6                                  | 35                                | 35                                | 35                                | 45                              |
| 16                                 | 41                                | 35                                | 35                                | 45                              |
| Any other noise sensitive location | 35                                | 35                                | 35                                | 45                              |

*Table 1: Noise Impact Assessment Criteria*

*Notes:*

- *The identified "Day" noise criteria apply throughout the period of the site's Day Shift (ie 7.00am to 7.00pm) on all days, despite the general definitions of Evening and Night otherwise applying to the approval. The*

identified "Evening" and "Night" criteria apply only during the period of the site's Night Shift (ie 7.00pm to 7.00am).

- Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.
- Residential receiver locations are shown in Appendix 2A.

### Land Acquisition Criteria

- If the noise generated by the project exceeds the criteria in Table 2, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 6-8 of Schedule 4.

| <b>Residential Receiver</b> | <b>Day</b><br><i>L<sub>Aeq</sub>(15 minute)</i> | <b>Evening / Night</b><br><i>L<sub>Aeq</sub>(15 minute)</i> |
|-----------------------------|---|---|
| 1                           | 41  | 40  |
| 2                           | 44  | 44  |
| 3                           | 44  | 44  |
| 4                           | 41  | 41  |
| 5                           | 40  | 40  |
| 6                           | 40  | 40  |
| 16                          | 44  | 44  |

Table 2: Land Acquisition Criteria

Note: The notes under Table 1 apply equally to Table 2.

### Cumulative Noise Criteria

- The Proponent shall take all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by other extractive industries does not exceed the following amenity criteria on any privately owned land, to the satisfaction of the Director-General:
  - *L<sub>Aeq</sub>(11 hour)* 50 dB(A) – Day;
  - *L<sub>Aeq</sub>(4 hour)* 45 dB(A) – Evening; and
  - *L<sub>Aeq</sub>(9 hour)* 40 dB(A) – Night.

### Additional Noise Mitigation Measures

- Upon receiving a written request from the owner of residential receiver 3 (except where a negotiated noise agreement is in place) the Proponent shall implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the owner. These additional mitigation measures must be reasonable and feasible. If within 3 months of receiving this request from the landowner, the Proponent 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 Director-General for resolution.
- Within 3 months of this approval, the Proponent shall notify the owner of residential receiver 3 that he/she is eligible for additional noise mitigation measures.

### Operating Conditions

- The Proponent shall:
  - implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the noise generated by the project;
  - investigate ways to minimise the noise generated by the project;
  - operate a comprehensive noise management system that uses a combination of predictive meteorological forecasting and noise monitoring data to guide the day to day planning of quarrying operations and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval;
  - minimise noise impacts during adverse weather conditions; and
  - report on these investigations and the implementation and effectiveness of these measures in the Annual Review,
 to the satisfaction of the Director-General.

### Noise Management Plan

- The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with OEH and submitted to the Director-General for approval by the end of March 2012, and must:

- (a) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;
- (b) describe the noise management system;
- (c) include a noise monitoring program that:
  - supports the noise management system;
  - provides information to evaluate the performance of the project;
  - includes a protocol for determining exceedances of relevant conditions of this approval; and
  - provides for the use of real-time and/or supplementary attended monitoring measures, if directed by the Director-General;
- (d) include a community notification protocol for the proposed construction activities; and
- (e) detail who would be responsible for monitoring, reviewing and implementing the plan.

## Hours of Operation

11. The Proponent shall comply with the hours of operation in Table 3.

| <b>Activity</b>  | <b>Day</b>                 | <b>Time</b>      |
|--|----------------------------|------------------|
| Construction works   | Monday-Friday              | 7.00am to 6.00pm |
|  | Saturday                   | 8.00am to 1.00pm |
|  | Sunday and public holidays | None             |
| Topsoil/overburden removal/emplacement   | Any day                    | 7.00am to 7.00pm |
| Blasting   | Monday-Saturday            | 9.00am to 5.00pm |
|  | Sunday and public holidays | None             |
| In-pit activities (including drilling, extraction, processing, and transfer of material out of the pit)    | Any day                    | 7.00am to 7.00pm |
| Out-of-pit activities (including processing, stockpiling, train loading and distribution, and maintenance) | Any day                    | 24 hours         |

Table 3 – Hours of Operation

## BLASTING AND VIBRATION

### Airblast Overpressure Criteria

12. The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 4 at any residence on privately-owned land.

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

Table 4: Airblast Overpressure Impact Assessment Criteria

### Ground Vibration Criteria

13. The Proponent shall ensure that the ground vibration level from blasting at the project does not exceed the criteria in Table 5 at any residence or sensitive receiver on privately-owned land.

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

Table 5: Ground Vibration Impact Assessment Criteria for Residences on Privately-owned Land

## Operating Conditions

14. The Proponent shall implement best blasting practice to:
- (a) ensure that no flyrock leaves the site;
  - (b) protect the safety of people, property, and livestock; and
  - (c) minimise the dust and fume emissions from blasting on the site, to the satisfaction of the Director-General.



## Public Notice

15. The Proponent shall:
- notify the landowner/occupier of any residence within 2 kilometres of the quarry pit who registers an interest in being notified about the blasting schedule on site;
  - operate a blasting hotline, or alternative system agreed to by the Director-General, to enable the public to get up-to-date information on blasting operations at the project; and
  - keep the public informed about this hotline (or any alternative system), to the satisfaction of the Director-General.

## Monitoring

16. The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program must:
- be submitted to the Director-General for approval prior to the commencement of construction;
  - be prepared in consultation with the [OEHL](#); and
  - monitor the performance of the project against the relevant blasting criteria.

## AIR QUALITY

### Air Quality Impact Assessment Criteria

17. The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not exceed the criteria listed in Tables 6, 7 and 8 at any residence on privately owned land, or on more than 25 percent of any privately owned land.

Table 6: 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 7: Short term impact assessment criterion for particulate matter

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

Table 8: Long term impact assessment criteria for deposited dust

| <b>Pollutant</b>            | <b>Averaging period</b> | <b>Maximum increase<sup>2</sup> in deposited dust level</b> | <b>Maximum total<sup>1</sup> deposited dust level</b> |
|-----------------------------|-------------------------|---|---|
| <sup>c</sup> Deposited dust | Annual                  | <sup>b</sup> 2 g/m <sup>2</sup> /month                      | <sup>a</sup> 4 g/m <sup>2</sup> /month                |

Notes to Tables 6-8

<sup>a</sup> Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);

<sup>b</sup> Incremental impact (i.e. incremental increase in concentrations due to the project 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; and

<sup>d</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General.

### Land Acquisition Criteria

18. If particulate matter emissions generated by the project exceed the criteria in Tables 9, 10, and 11 at any residence on privately-owned land, or on more than 25 percent of any privately owned land, then upon written request for acquisition from the landowner, the Proponent shall acquire the land in accordance with the procedures in conditions 6-7 of schedule 4.

Table 9: Long term land acquisition 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 10: Short term land acquisition criteria for particulate matter

| Pollutant                                      | Averaging period | <sup>da</sup> Criterion            |
|--|------------------|------------------------------------|
| Particulate matter < 10 µm (PM <sub>10</sub> ) | 24 hour          | <sup>a</sup> 150 µg/m <sup>3</sup> |
| Particulate matter < 10 µm (PM <sub>10</sub> ) | 24 hour          | <sup>b</sup> 50 µg/m <sup>3</sup>  |

Table 11: Long term land acquisition criteria for deposited dust

| Pollutant                   | Averaging period | Maximum increase <sup>2</sup> in deposited dust level | Maximum total <sup>1</sup> 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 9-11

<sup>a</sup> Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);

<sup>b</sup> Incremental impact (i.e. incremental increase in concentrations due to the project 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; and

<sup>d</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Director-General.

## Operating Conditions

19. The Proponent shall:
- implement best management practice on site, including all reasonable and feasible measures to minimise the off-site odour, fume and dust emissions generated by the project;
  - minimise any visible air pollution generated by the project;
  - minimise the surface disturbance of the site generated by the project; and
  - operate a comprehensive air quality management system that uses a combination of predictive meteorological forecasting and air quality monitoring data to guide the day to day planning of quarrying operations and the implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this approval;
- to the satisfaction of the Director-General.

## Air Quality Management Plan

20. The Proponent shall prepare and implement a detailed Air Quality Management Plan for the project to the satisfaction of the Director-General. This plan must:
- be prepared in consultation with OEH and submitted to the Director-General by the end of March 2012;
  - describe the measures that would need to be implemented to ensure compliance with the relevant conditions of this approval;
  - include a program for the implementation of the measures referred to in (b) above; and
  - include an air quality monitoring program that:
    - uses a combination of high volume samplers and dust deposition gauges to evaluate the performance of the project;
    - supports the air quality management system;
    - provides information to evaluate the performance of the project;
    - includes a protocol for determining exceedances of relevant conditions of this approval; and
    - provides for the use of real-time monitoring measures, if directed by the Director-General.

## METEOROLOGICAL MONITORING

21. For the life of the project, the Proponent shall ensure that there is a meteorological station in the vicinity of the site that:
- complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
  - is capable of continuous real-time measurement of temperature lapse rate in accordance with the *NSW Industrial Noise Policy*.

## SURFACE AND GROUND WATER

### Water Supply

22. Prior to the commencement of construction, the Proponent shall obtain the necessary approvals for the project under the *Water Act 1912*.

Note: The Water Management Act 2000 may apply to the project. The Proponent shall consult with the [NOW](#) on the relevant approvals at the time the application is made.

### Discharges

23. Except as may be expressly provided for by an EPL, the Proponent shall not discharge any dirty water from the quarry or ancillary operational areas.
- 23A. The Proponent shall prepare an onsite wastewater report for the proposed effluent management system consistent with the requirements of *Sydney Catchment Authority – “Developments in Sydney’s Drinking Water Catchment” – Water Quality Information Requirements, 2011*. The effluent management system must be designed and constructed to be in accordance with this onsite wastewater report and its design must be approved by Council prior to construction.

### Tangarang Creek Environmental Flow

24. The proponent shall provide an environmental flow to Tangarang Creek equivalent to 10% of average daily flows. Details of the management of these environmental flows shall be included in the Site Water Balance for the project (see below).

### Sediment Dams

25. The Proponent shall ensure that:
- (d) critical structures such as “dirty water” dams are designed, constructed and maintained to accommodate a 1 in 100 year ARI 24-hour event; and
  - (e) other dams and water management structures are designed, constructed and maintained to accommodate a 1 in 20 year ARI 24-hour event.

### Management and Monitoring

26. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must:
- (a) be submitted to the Director-General for approval prior to the commencement of construction;
  - (b) be prepared in consultation with the [NOW](#), [OEH](#) and Sydney Catchment Authority; and
  - (c) include a:
    - Site Water Balance;
    - Erosion and Sediment Control Plan;
    - Surface Water Monitoring Program;
    - Ground Water Monitoring Program; and
    - Surface and Ground Water Response Plan to address any potential adverse impacts associated with the project.

### Site Water Balance

27. The Site Water Balance shall
- (a) include details of all water extracted (including make up water), dewatered, transferred, used and/or discharged by the project; and
  - (b) describe measures to minimise water use by the project.

### Erosion and Sediment Control

28. The Erosion and Sediment Control Plan shall:
- (a) be consistent with the requirements of *Managing Urban Stormwater: Soils and Construction, Volume 1, 4<sup>th</sup> Edition, 2004* (Landcom);
  - (b) identify activities that could cause soil erosion and generate sediment;
  - (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
  - (d) describe the location, function, and capacity of erosion and sediment control structures; and
  - (e) describe what measures would be implemented to maintain (and if necessary decommission) the structures over time.

### Surface Water Monitoring

29. The Surface Water Monitoring Program shall include:
- (a) detailed baseline data on surface water flows and quality in Tangarang Creek and Barbers Creek;
  - (b) surface water impact assessment criteria;
  - (c) a program to monitor surface water flows and quality;
  - (d) a protocol for the investigation of identified exceedances of the surface water impact assessment criteria; and
  - (e) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.

## Ground Water Monitoring Program

30. The Ground Water Monitoring Program shall include:
- (a) detailed baseline data on ground water levels, flows, and quality, based on statistical analysis;
  - (b) groundwater impact assessment criteria for monitoring bores;
  - (c) a program to monitor regional ground water levels and quality; and
  - (d) a protocol for the investigation of identified exceedances of the ground water impact assessment criteria.

## TRAFFIC AND TRANSPORT

31. The Proponent shall prepare and implement a construction traffic management plan for the project to the satisfaction of the RTA and Council.

## ABORIGINAL HERITAGE

32. The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:
- (f) be submitted to the Director-General for approval prior to the commencement of construction;
  - (g) be prepared in consultation with the [OEH](#) and relevant Aboriginal communities; and
  - (h) include a:
    - description of the measures that would be implemented for the mapping, and salvage or relocation of the archaeological relics in the Tangarang Creek Dam 1 area;
    - description of the measures that would be implemented if any new Aboriginal objects or relics are discovered during the project; and
    - protocol for the ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site.

## FLORA AND FAUNA

33. The Proponent shall:
- (a) rehabilitate the site in a manner that is generally consistent with the conceptual rehabilitation principles in Chapter 2.8 of the EA; and
  - (b) implement the Habitat Management Area in a manner that is generally consistent with the proposal outlined in the Submissions Report (and shown conceptually in Appendix 3), including the establishment, conservation and maintenance of at least 12 hectares of vegetation species characteristic of Box Gum Woodland, to the satisfaction of the Director-General.

## Threatened Species Protection

- 33A. The Proponent shall:
- (a) prior to clearing of vegetation and site preparation on the site of the Western Overburden Emplacement and extension, clearly and securely mark out the proposed boundary of the emplacement and extension;
  - (b) avoid disturbance of *Box Gum Woodland* Endangered Ecological Community and other native vegetation adjacent to the site of the Western Overburden Emplacement and extension;
  - (c) only undertake clearing of vegetation on the site of the Western Overburden Emplacement and extension following a recent fauna survey undertaken by a suitably qualified expert who has been approved by the Director-General; and
  - (d) seek to avoid clearing of native vegetation on the site of the Western Overburden Emplacement and extension during the period August to November of any year.

## Landscape and Rehabilitation Management Plan

34. The Proponent shall prepare and implement a Landscape and Rehabilitation Management Plan for the project to the satisfaction of the Director-General. This plan must:
- (e) be submitted to the Director-General for approval prior to the commencement of construction;
  - (f) be prepared in consultation with the [OEH](#) and Council;
  - (g) describe in general the short, medium, and long-term measures that would be implemented to:
    - rehabilitate the site;
    - implement the Habitat Management Area;
    - manage the remnant vegetation and habitat on the site; and
    - landscape the site (including the bunds and overburden emplacement areas) to mitigate any visual impacts of the project;
  - (h) describe in detail the measures that would be implemented over the next 5 years to rehabilitate and manage the landscape on the site;
  - (i) describe how the performance of these measures would be monitored over time; and
  - (j) set completion criteria for the rehabilitation of the site.

## Rehabilitation Bond

35. Within 3 months of the first Independent Environmental Audit the Proponent shall lodge a rehabilitation bond for the project with the Director-General. The sum of the bond shall be calculated at \$2.50/m<sup>2</sup> for the total area to be disturbed in each 5 year period, or as otherwise directed by the Director-General.

*Notes:*

- *If the rehabilitation is completed to the satisfaction of the Director-General, the Director-General will release the rehabilitation bond.*
- *If the rehabilitation is not completed to the satisfaction of the Director-General, the Director-General will call in all or part of the rehabilitation bond, and arrange for the satisfactory completion of the relevant works.*

36. Within 3 months of subsequent audits, the Proponent shall review, and if necessary revise, the sum of the bond to the satisfaction of the Director-General. This review must consider:
- (a) the effects of inflation;
  - (b) any changes to the total area of disturbance; and
  - (c) the performance of the rehabilitation against the completion criteria of the Rehabilitation and Landscape Management Plan.

## **VISUAL IMPACT**

### **Visual Amenity and Lighting**

37. The Proponent shall:
- (a) *minimise the visual impacts, and particularly the off-site lighting impacts, of the project;*
  - (b) *revegetate overburden emplacements, emplacement extensions and bunds as soon as practicable;*
  - (c) *take all practicable measures to further mitigate off-site lighting impacts from the project; and*
  - (d) *ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the Director-General.*

38. *(Deleted)*

39. *(Deleted)*

### **Advertising**

40. The Proponent shall not erect or display any advertising structure(s) or signs on the site without the written approval of the Director-General.

*Note – This does not include business identification, traffic management and safety or environmental signs.*

## **WASTE MANAGEMENT**

41. The Proponent shall:
- (a) monitor the amount of waste generated by the project;
  - (b) investigate ways to minimise waste generated by the project;
  - (c) implement reasonable and feasible measures to minimise waste generated by the project; and
  - (d) report on waste management and minimisation in the [Annual Review](#).
- to the satisfaction of the Director-General.
42. The Proponent shall ensure that all waste generated or stored on site is assessed, classified and managed in accordance with the [OEHS's Environmental Guidelines: Assessment Classification and Management of Liquid and Non-Liquid Wastes](#).

## **EMERGENCY AND HAZARDS MANAGEMENT**

### **Dangerous Goods**

43. The Proponent shall ensure that the storage, handling, and transport of dangerous goods are conducted in accordance with the relevant *Australian Standards*, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

### **Safety**

44. The Proponent shall secure the project to ensure public safety to the satisfaction of the Director-General.

## **Bushfire Management**

45. The Proponent shall:
- (a) ensure that the project is suitably equipped to respond to any fires on-site; and
  - (b) assist the rural fire service and emergency services as much as possible if there is a fire on-site.

## **PRODUCTION DATA**

46. The Proponent shall:
- (a) provide annual production data to the DPI using the standard form for that purpose; and
  - (b) include a copy of this data in the [Annual Review](#).

## **QUARRY EXIT STRATEGY**

47. The Proponent shall prepare and implement a Quarry Exit Strategy for the project to the satisfaction of the Director-General. This strategy must:
- (a) be submitted to the Director-General for approval at least 5 years prior to the cessation of the project;
  - (b) be prepared in consultation with the relevant agencies;
  - (c) define the objectives and criteria for quarry closure;
  - (d) investigate options for the future use of the site, including any final void/s;
  - (e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and
  - (f) describe how the performance of these measures would be monitored over time.
-

## SCHEDULE 4 ADDITIONAL PROCEDURES

### NOTIFICATION OF LANDOWNERS

1. If the results of monitoring required in Schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, then the Proponent shall notify the Director-General and the affected landowners and/or existing or future tenants (including tenants of quarry owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the relevant criteria.

### INDEPENDENT REVIEW

2. If a landowner (excluding quarry owned properties) considers that the operations of the quarry are exceeding the impact assessment criteria in Schedule 3, then he/she may ask the Proponent in writing for an independent review of the impacts of the project on his/her land.

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

- (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Director-General, to:
  - consult with the landowner to determine his/her concerns;
  - conduct monitoring to determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and
  - if the project is not complying with these criteria then:
    - determine if the more than one quarry/mine is responsible for the exceedance, and if so the relative share of each quarry/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 Director-General and landowner a copy of the independent review.

3. If the independent review determines that the quarrying operations are complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.
4. If the independent review determines that the quarrying operations are not complying with the relevant criteria in Schedule 3, and that the quarry is primarily responsible for this non-compliance, then the Proponent shall:
  - (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until the project complies with the relevant criteria; or
  - (b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.

If the independent review determines that the project is not complying with the relevant acquisition criteria, and that the project is primarily responsible for this non-compliance, then upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land in accordance with the procedures in condition 6-7 below.

5. If the independent review determines that the relevant criteria are being exceeded, but that more than one quarry/mine is responsible for this exceedance, then together with the relevant quarry/mine/s, the Proponent shall:
  - (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, and conduct further monitoring until there is compliance with the relevant criteria; or
  - (b) secure a written agreement with the landowner and other relevant mine/s to allow exceedances of the relevant impact assessment criteria, to the satisfaction of the Director-General.

If the independent review determines that the project is not complying with the relevant acquisition criteria in schedule 3, but that more than one mine is responsible for this non-compliance, then upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land on as equitable a basis as possible with the relevant quarries/mine/s, in accordance with the procedures in conditions 6-7 below.

### LAND ACQUISITION

6. Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:



- (i) the current market value of the landowner's interest in the property at the date of this written request, as if the **land** was unaffected by the project the subject of the project application, having regard to the:
  - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
  - presence of improvements on the **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 mitigation measures' in condition 7 of Schedule 3;
- (j) the reasonable costs associated with:
  - relocating within the Goulburn Mulwaree local government area, or to any other local government area determined by the Director-General; and
  - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and
- (k) reasonable compensation for any disturbance caused by the land acquisition process.

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

Upon receiving such a request, the Director-General 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 Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.

However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Director-General for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Director-General 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 Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.

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

- 7. The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 6 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.
  - 8. *(deleted)*
-



## **SCHEDULE 5 ENVIRONMENTAL MANAGEMENT AND MONITORING CONDITIONS**

### **ENVIRONMENTAL MANAGEMENT STRATEGY**

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must be submitted to the Director-General for approval prior to the commencement of construction, and:
  - (a) provide the strategic context for environmental management of the project;
  - (b) identify the statutory requirements that apply to the project;
  - (c) describe in general how the environmental performance of the project would be monitored and managed;
  - (d) describe the procedures that would be implemented to:
    - keep the local community and relevant agencies informed about the construction, operation and environmental performance of the project;
    - receive, handle, respond to, and record complaints;
    - resolve any disputes that may arise during the life of the project;
    - respond to any non-compliance;
    - manage cumulative impacts; and
    - respond to emergencies; and
  - (e) describe the role, responsibility, authority, and accountability of the key personnel involved in the environmental management of the project.

### **ENVIRONMENTAL MONITORING PROGRAM**

2. The Proponent shall prepare an Environmental Monitoring Program for the project to the satisfaction of the Director-General. This program must be submitted to the Director-General prior to the commencement of construction, and consolidate the various monitoring requirements in Schedule 3 of this approval into a single document.

### **INCIDENT REPORTING**

3. Within 7 days of detecting an exceedance of the goals/limits/performance criteria in this approval or an incident causing (or threatening to cause) material harm to the environment, the Proponent shall report the exceedance/incident to the Department and any relevant agencies. This report must:
  - (a) describe the date, time, and nature of the exceedance/incident;
  - (b) identify the cause (or likely cause) of the exceedance/incident;
  - (c) describe what action has been taken to date; and
  - (d) describe the proposed measures to address the exceedance/incident.

### **Annual Review**

4. By the end of March each year, the Proponent shall prepare and submit a review of the environmental performance of the project to the satisfaction of the Director-General. This review must:
  - (a) describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the next year;
  - (b) include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against the
    - the relevant statutory requirements, limits or performance measures/criteria;
    - the monitoring results of previous years; and
    - the relevant predictions in the EA;
  - (c) identify any non-compliance over the last 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 project;
  - (e) identify any discrepancies between the predicted and actual impacts of the project, 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 project.

### **INDEPENDENT ENVIRONMENTAL AUDIT**

5. Within 3 years of the date of the commencement of construction, and every 5 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
  - (a) be conducted by a suitably qualified, experienced, and independent person(s) whose appointment has been approved by the Director-General;
  - (b) include consultation with the relevant agencies;
  - (c) assess the environmental performance of the project, and its effects on the surrounding environment;
  - (d) assess whether the project is complying with the relevant standards, performance measures and statutory requirements;

- (e) review the adequacy of any strategy/plan/program required under this approval; and, if necessary,
  - (f) recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.
6. Within 1 month of completion of each Independent Environmental Audit, the Proponent shall submit a copy of the audit report to the Director-General and relevant agencies, with a response to any of the recommendations in the audit report.

## REVISION OF STRATEGIES, PLANS AND PROGRAMS

7. Within 3 months of:
- the submission of an incident report under condition 3 above;
  - the submission of an Annual Review under condition 4 above;
  - the submission of an audit report under condition 5 above; and
  - any modification to the conditions of this approval, (unless the conditions require otherwise),
- the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.

*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 project.*

## COMMUNITY CONSULTATIVE COMMITTEE

8. Prior to the commencement of construction, the Proponent shall establish a Community Consultative Committee (CCC) for the project. The CCC shall:
- (a) be comprised of:
    - 2 representatives from the Proponent, including the person responsible for environmental management at the quarry;
    - 1 representative from Council (if available); and
    - at least 3 representatives from the local community, whose appointment has been approved by the Director-General;
  - (b) be chaired by an independent chairperson, whose appointment has been approved by the Director-General;
  - (c) meet at least twice a year;
  - (d) review the Proponent's performance with respect to environmental management and community relations;
  - (e) undertake regular inspections of the quarry operations;
  - (f) review community concerns or complaints about the quarry operations, and the Proponent's complaints handling procedures; and
  - (g) provide advice to:
    - the Proponent on improved environmental management and community relations, including the provision of information to the community and the identification of community initiatives to which the Proponent could contribute;
    - the Department regarding the conditions of this approval; and
    - the general community on the performance of the quarry with respect to environmental management and community relations.

### Notes

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.*
- *The membership of the CCC should be reviewed on a regular basis (every 3 years).*
- *If possible, an alternate member should be appointed for each of the representatives from the local community.*

9. At its own expense, the Proponent shall,:
- (a) ensure that 2 of its representatives attend CCC meetings;
  - (b) provide the CCC with regular information on the environmental performance and management of the project;
  - (c) provide meeting facilities for the CCC;
  - (d) arrange site inspections for the CCC, if necessary;
  - (e) take minutes of the CCC meetings;
  - (f) make these minutes available to the public;
  - (g) respond to any advice or recommendations the CCC may have in relation to the environmental management or community relations; and
  - (h) forward a copy of the minutes of each CCC meeting, including a response to any recommendations from the CCC, to the Director-General within a month of the CCC meeting.

## ACCESS TO INFORMATION

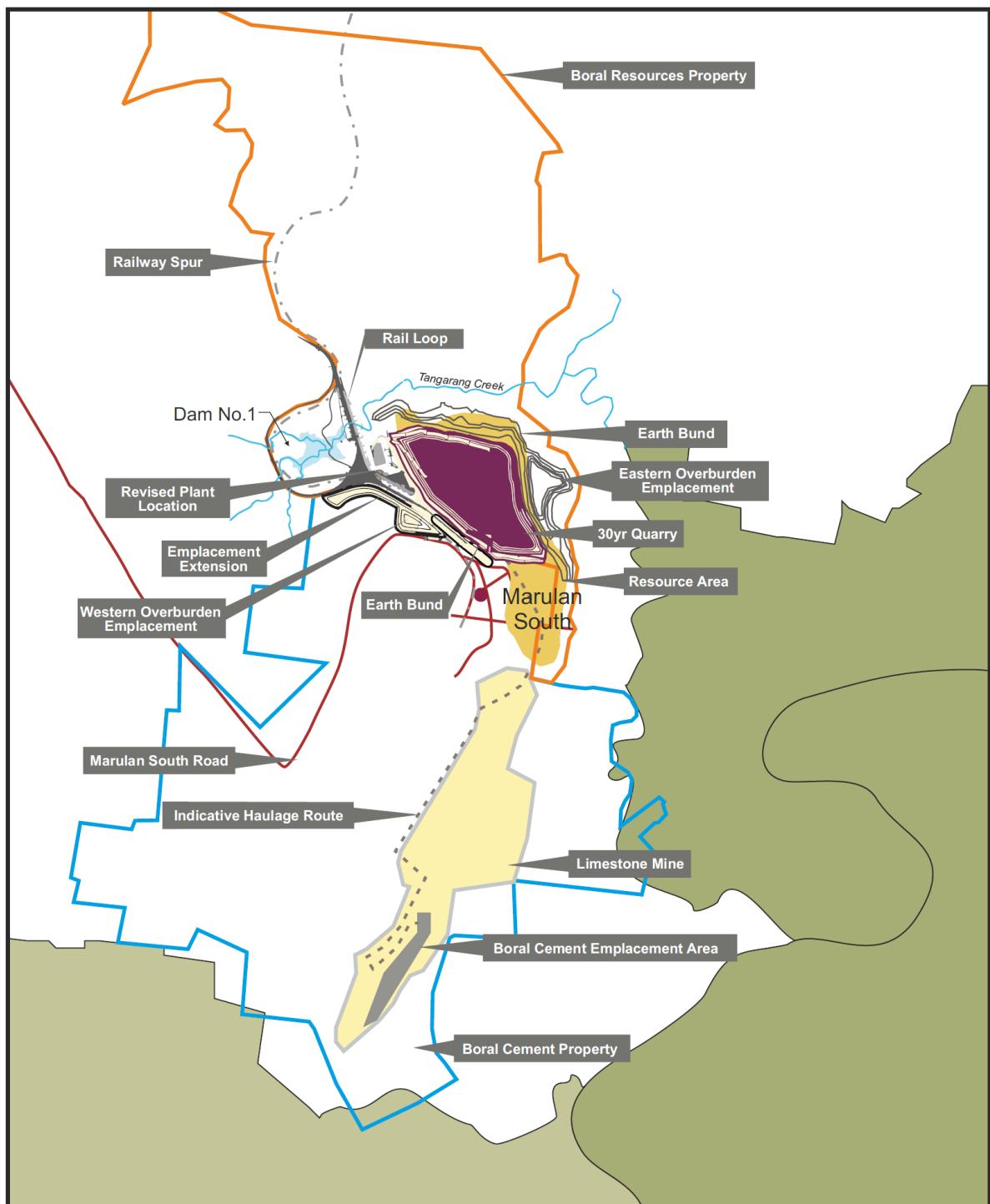
10. By 31 January 2012, the Proponent shall:
- (a) make copies of the following publicly available on its website:
- the documents referred to in condition 2 of schedule 2;
  - all current statutory approvals for the project;
  - all approved strategies, plans and programs required under the conditions of this approval;
  - the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;
  - a complaints register, updated on a monthly basis;
  - minutes of CCC meetings;
  - the annual reviews of the project;
  - any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit;
  - any other matter required by the Director-General; and
  - keep this information up-to-date,
- to the satisfaction of the Director-General.

13. (deleted)
-

**APPENDIX 1  
SCHEDULE OF LAND**

| <i><b>Lot</b></i> | <i><b>DP</b></i> |
|-------------------|------------------|
| 23                | 867667           |
| 5                 | 203290           |
| 95                | 750029           |
| 24                | 867667           |
| 109               | 750029           |
| 1                 | 371167           |
| 1-6               | 261615           |
| 1                 | 557562           |
| 143               | 750029           |
| 12                | 570616           |
| 2                 | 557562           |
| 21                | 657523           |
| 100               | 1064794          |
| 4                 | 106569           |
| 1-9               | 216767           |
| 11                | 570616           |
| 5                 | 111641           |
| 22                | 867667           |
| 1                 | 1124189          |
| 2                 | 106569           |

## APPENDIX 2 PROJECT SITE



### Legend

- Morton National Park
- Bungonia State Conservation Area

Client: Boral  
Project: Peppertree Quarry

Drawing No: 0118026s\_Sect75W\_C001\_R4.cdr  
Date: 27/10/2011 Drawing size: A4  
Drawn by: SQW Reviewed by: RS  
Scale: Refer to Scale Bar



0 0.25 0.5 1.0km

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

Figure 1.1

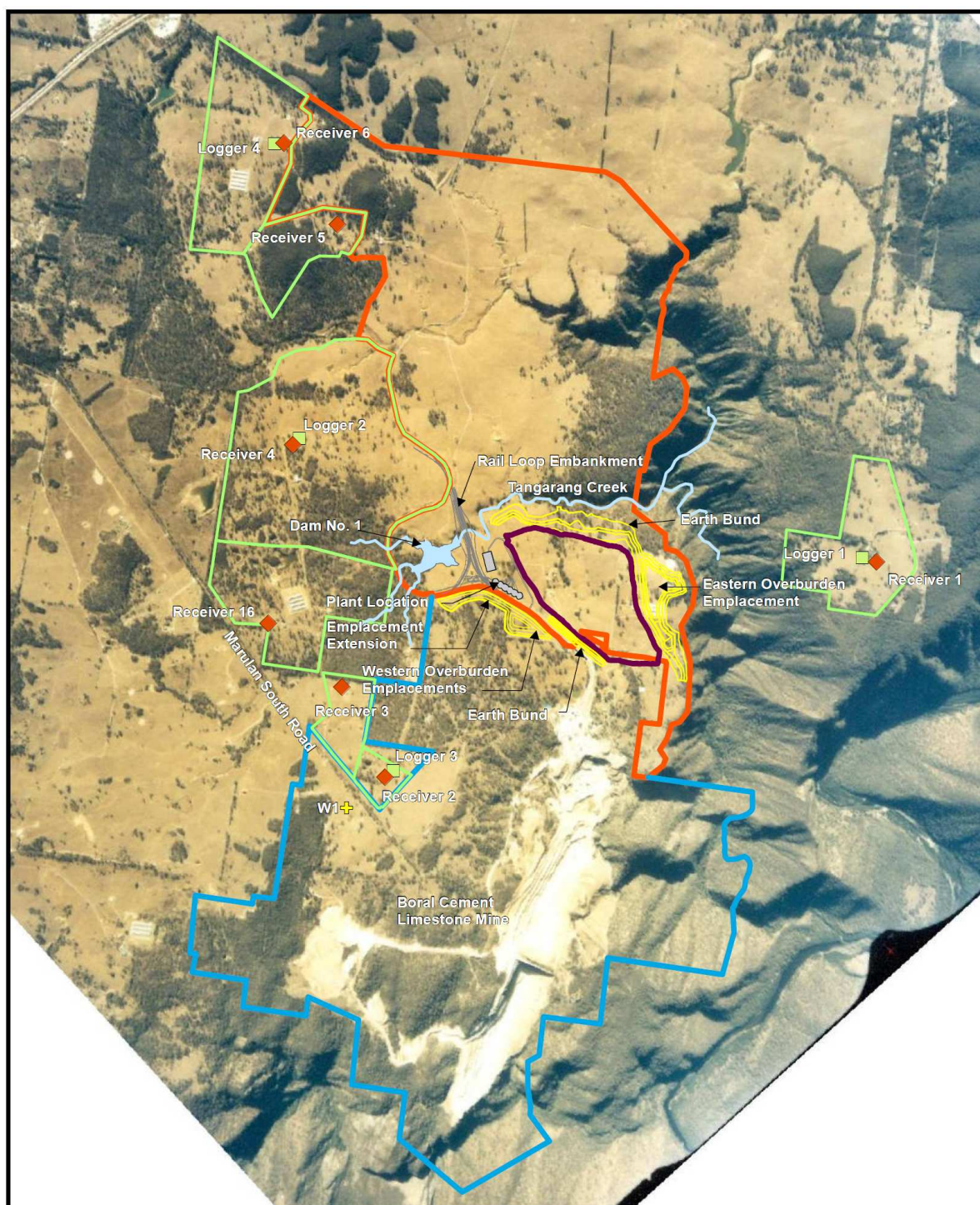
### Peppertree Quarry - Proposed Site Layout

Environmental Resources Management Australia Pty Ltd  
Building C, 33 Saunders St, Pyrmont, NSW 2009  
Telephone +61 2 8584 8888





## APPENDIX 2A NOISE RECEIVER LOCATION PLAN



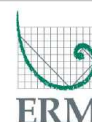
### Legend

- ◆ Receiver Locations
- Noise Logger Locations
- + Weather Station
- Quarry Location
- Boral Cement Property Boundary
- Boral Peppertree Property Boundary
- Proposed Dam Location
- Proposed Plant Location
- Cadastre
- Tangarang Creek

|  |                              |
|--|------------------------------|
| Client:  | Boral                        |
| Project:   | Peppertree Quarry            |
| Drawing:   | 0118026s_Sect75W_G016_R0.mxd |
| Date:  | 27/10/2011                   |
| Drawn By:  | SQW                          |
| Reviewed By:   | RS                           |
| Projection:  | GDA 1994 MGA Zone 56         |
| Scale:   | Refer to scale bar           |
|  |                              |
| <small>Maps and figures contained within this document may be based on third party data, may not be to scale and is intended for use as a guide only. ERM does not warrant the accuracy of any such maps or figures.</small> |                              |

**Figure 5.1**  
**Location of Noise Receivers**

Environmental Resources Management Australia Pty Ltd  
Brisbane, Canberra, Hunter Valley, Melbourne, Perth,  
Port Macquarie, Sydney





### APPENDIX 3 HABITAT MANAGEMENT AREA

