



# Karuah East Quarry Project Environmental Management Strategy

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Karuah East Quarry Pty Limited  
PO Box 3284  
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# Karuah East Quarry Project

## Environmental Management Strategy

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## 1 INTRODUCTION

SLR Consulting Australia Pt Ltd (SLR) has been engaged by Karuah East Quarry Pty Ltd (Karuah East) to prepare an Environmental Management Strategy (EMS) to satisfy the requirements of the Project Approval (PA 09\_0175) granted on 17 June 2014 by the Department of Planning and Environment for the Karuah East Quarry Project.

The EMS has been prepared with reference to the following documents:

- *Environmental Assessment Report – Proposed Karuah East Hard Rock Quarry* prepared by ADW Johnson Pty Ltd dated 31 January 2013 (hereafter referred to as the EA);
- Environment Protection Licence (EPL) 20611;
- Environmental Management Strategy – Prepared by GSS Environmental (August 2011);
- *Preferred Project Report – Proposed Karuah East Quarry* prepared by ADW Johnson Pty Ltd dated 30 July 2013 (hereafter referred to as the PPR);
- ISO 14001:2015 *Environmental management systems – Requirements and guidance for use*;
- Key environmental management plans for Karuah East; and
- Project Approval 09\_0175.

### 1.1 Purpose and Objectives

The EMS provides guidance and direction to site management and incorporates environmental policies and procedures, as well as relevant legislation, guidelines, standards and policies to ensure best practice environmental management on the site. This EMS document has been developed to provide an overview of environmental management at Karuah East, including introducing key management plans associated with the project.

The EMS is continually changing; responding to changes in the operation, changes in legislation and the results of environmental audits, and is updated to reflect changes as part of the management review and continuous improvement process.

The primary purpose and objectives of the EMS are to:

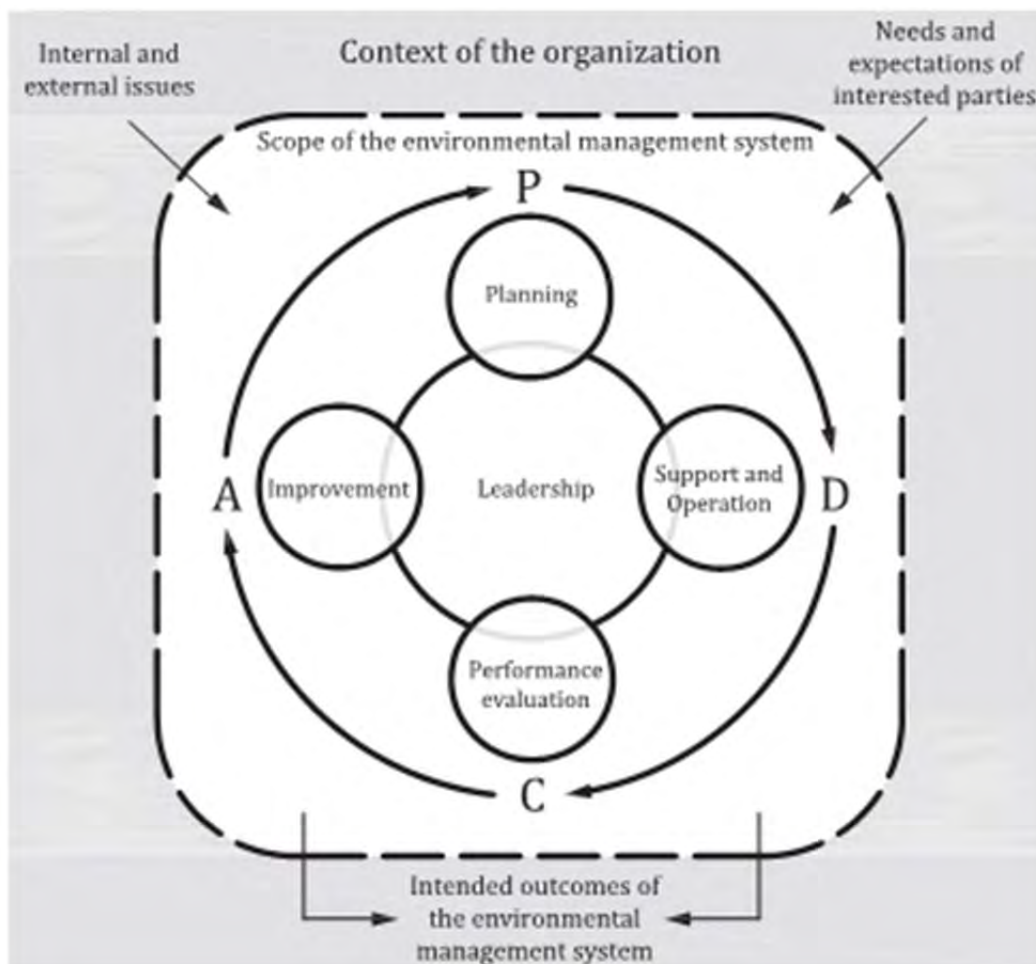
- Provide all employees and contractors of Karuah East with a clear description and understanding of responsibilities and requirements regarding environmental management;
- Comply with all approval requirements, guidelines, standards and legislative requirements relevant to this EMS;
- Ensure environmental risk is considered in all risk assessments conducted across Karuah East;
- Minimise environmental and community impacts and consequences by identifying and managing risks;
- Provide processes to monitor ongoing compliance with regulatory and legislative requirements;
- Provide for effective communication in relation to environmental management and planning;
- Facilitate continual improvement of environmental and community performance;
- Provide direction and resources to operations for environmental management;
- Build the environmental capacity of employees by providing direction to relevant training programs;
- Assist in developing and maintaining good relations with the community and stakeholders; and
- Reduce the likelihood of incidents and community complaints.

## 1.2 Strategic Framework for Environmental Management

The EMS has been prepared with reference to ISO 14001:2015 *Environmental management systems – Requirements and guidance for use*. The EMS incorporates the Plan-Do-Check-Act (PDCA) concept which provides an iterative process to achieve continual improvement. The PDCA model is described as follows:

- Plan – establish environmental objectives and procedures necessary to deliver results in accordance with the company's environmental policy (refer **Section 2**, **Section 4** and **Appendix F**);
- Do – implement the processes as planned (refer **Section 5**);
- Check – monitor and measure processes against environment objectives, requirements and operating criteria and report the results (refer **Section 6** and **Section 7**); and
- Act – take actions to continually improve (refer **Section 8** and **Section 9**).

Figure 1 ISO 14001:2015 Plan-Do-Check-Act Model



Source: ISO 14001:2015

### **1.3 Consultation for this EMS**

This EMS has been prepared as per Schedule 5, Condition 1(a) of the PA which required this plan to be submitted to the Secretary for approval prior to the commencement of construction activities. In accordance with this requirement the EMS was submitted to the DP&E for review on 16 October 2015. The EMS has been updated to incorporate all comments received. The DP&E's review is attached as **Appendix A.**

## 2 STATUTORY REQUIREMENTS

### 2.1 Project Approval Requirements

Requirements of the EMS are provided in Schedule 5, Condition 1, and Schedule 5, Condition 3 of the PA. These are reproduced in **Table 1** together with the relevant section(s) of the EMS where the requirements have been addressed. The PA is attached in **Appendix B**.

**Table 1 Project Approval (PA 09\_0175) Requirements**

Condition	Requirement	Relevant Section
<b>Schedule 5 – Environmental Management, Reporting and Auditing</b>		
<b>Environmental Management Strategy</b>		
1 a)	The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must: be submitted to the Secretary for approval prior to the commencement of construction activities;	This document
1b)	provide the strategic framework for environmental management of the project;	Section 1.2
1c)	identify the statutory approvals that apply to the project;	Section 2
1d)	describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;	Section 5.1
1e)	describe the procedures that would be implemented to: <ul style="list-style-type: none"> <li>keep the local community and relevant agencies informed about the operation and environmental performance of the project;</li> <li>receive, handle, respond to, and record complaints;</li> <li>resolve any disputes that may arise during the course of the project;</li> <li>respond to any non-compliance;</li> <li>respond to emergencies; and</li> </ul>	Section 6.2 Section 5.3.5 Section 5.3.5 and Section 6.2 Section 5.5 Section 5.5
1f)	include: <ul style="list-style-type: none"> <li>copies of any strategies, plans and programs approved under the conditions of this approval; and</li> <li>a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.</li> </ul>	Management Plans form part of the EMS.  Section 6 and Appendix H
<b>Schedule 5 – Environmental Management, Reporting and Auditing</b>		
<b>Management Plan Requirements</b>		
3	The Proponent shall ensure that the Management Plans required under this approval are prepared in accordance with any relevant guidelines, and include:	Whole of document
3(a)	Detailed baseline data	Covered under specific management plans
3(b)	A description of: <ul style="list-style-type: none"> <li>The relevant statutory requirements (including any relevant approval, licence or lease conditions);</li> <li>Any relevant limits or performance measures/criteria; and</li> <li>The specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;</li> </ul>	Section 2

Condition	Requirement	Relevant Section
3(c)	A description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Covered under specific management plans
3(d)	A program to monitor and report on the: <ul style="list-style-type: none"> <li>Impacts and environmental performance of the project; and</li> <li>Effectiveness of any management measures (see (c) above);</li> </ul>	Covered under specific management plans. See Appendix H for monitoring locations
3(e)	A contingency plan to manage any unpredicted impacts and their consequences;	Covered under specific management plans
3(f)	A program to investigate and implement ways to improve the environmental performance of the project over time;	Section 6.4
3(g)	A protocol for managing and reporting any: <ul style="list-style-type: none"> <li>Incidents;</li> <li>Complaints;</li> <li>Non-compliances with statutory requirements; and</li> <li>Exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul>	Section 5.5 and Section 5.3
3(h)	A protocol for periodic review of the plan.	Section 7

## 2.2 Federal Approval

Federal Approval (EPBC 2014/7282) was granted for the site under the Environment Protection and Biodiversity Conservation Act (EPBC Act 1999) on 20 March 2015.

The Federal Approval contains no conditions with regard to the EMS.

The Federal Approval is attached in **Appendix B**.

## 2.3 Environment Protection Licence Requirements

The Environment Protection Authority (EPA) regulates the operations conducted at Karuah East through an Environment Protection Licence (EPL 20611) issued under the *Protection of the Environment Operations Act 1997 (POEO Act)*. EPL conditions for the EMS (general environmental management) are outlined in **Table 2** together with the relevant section(s) of the EMS indicating where the requirements have been addressed.

**Table 2 Environment Protection Licence Requirements – General Environmental Management**

Condition	Requirement	Relevant Section
M5 and M6	Recording pollution complaints Telephone complaints line	See Section 5.3.5.
R2	Notification of Environmental Harm	See Section 5.5.3
R3	EPA Written Report	See Section 5.5.3

The EPL is attached as **Appendix C**.

## 2.4 Statement of Commitments

The EA Statement of Commitments outlined that the following general environmental management plans would be prepared prior to construction works commencing at Karuah East:

- Environmental Management Plan; and
- Environmental Management Strategy.

As separate environmental management plans have been completed for key aspects, an overall Environmental Management Plan has not been required as this is covered under the EMS. This EMS covers the requirement to complete an Environmental Management Strategy in the Statement of Commitments as well as the requirement in Schedule 5 Condition 1 of the Project Approval.

## 3 PROJECT DESCRIPTION

### 3.1 Overview

Hunter Quarries currently extract hard black andesite material from its existing quarry operation (Karuah Quarry) on adjoining lands. Approval was granted for this designated development on the adjoining land (Lot 21 DP 1024341, Lot 11 DP 1024564 & Lot 12 DP 1024564) by the Minister as State Significant Development on 3rd June 2005 (DA265/10/2004).

The existing Karuah Quarry currently operates under development approval DA 265/2004 and is approved to extract up to 500,000 tonnes per annum (tpa) of 'andesite' basalt material suitable for use as road base, construction aggregate and concrete batching, among various other applications.

Following exploratory works adjacent to the existing approved quarry, additional resource has been identified to the east on land owned by the Proponent (Project site). On 17 June 2014 the approval was granted by the Minister for Planning and Environment (PA 09\_0175) for the extraction of this additional resource through the development of Karuah East, a stand-alone operation to the existing quarry.

### 3.2 Project Site

Karuah East is located on Lots 12 and 13 DP 1024564, off the Pacific Highway, approximately 3 km north of Karuah, NSW.

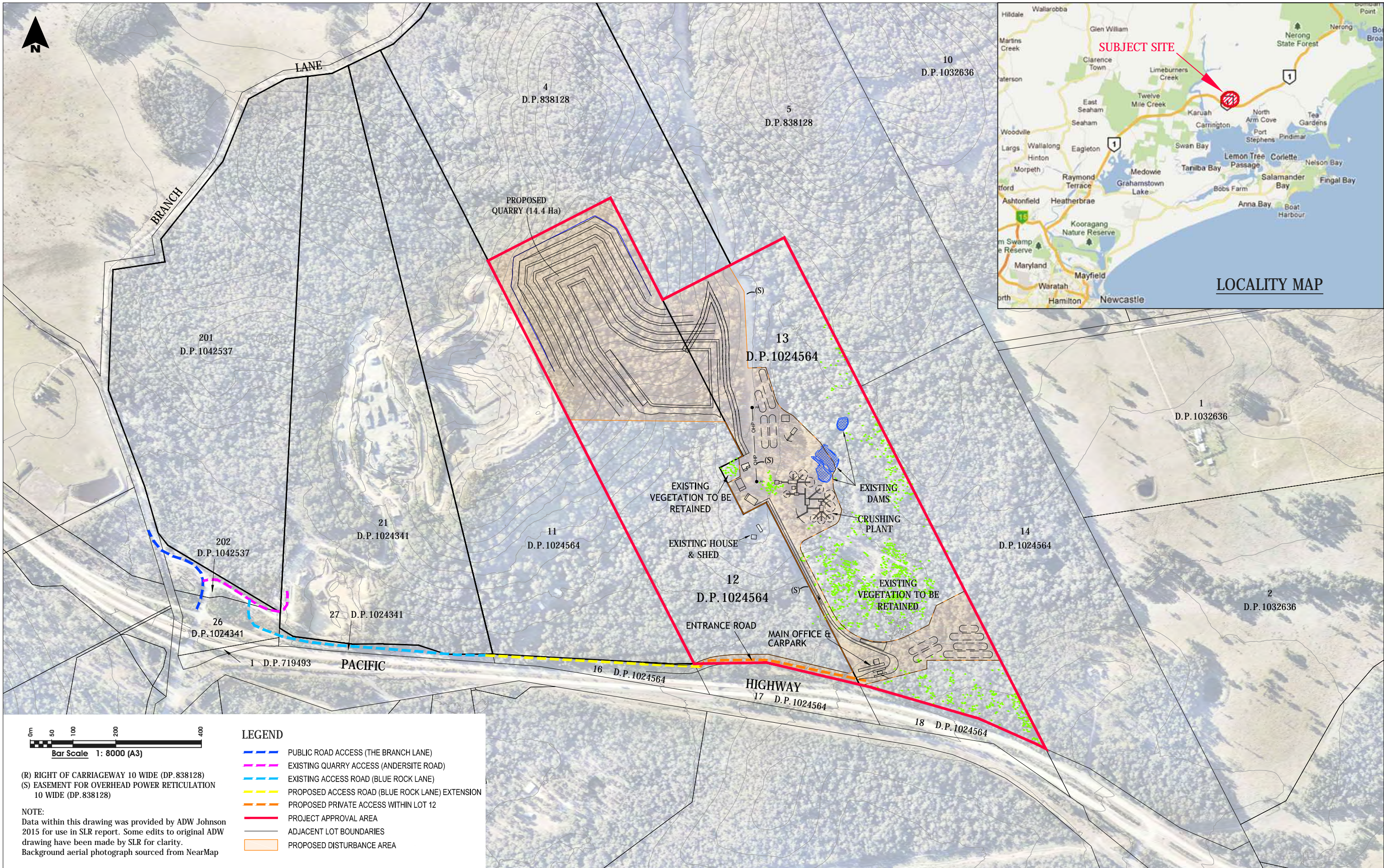
The approved development includes the following key elements:

- Staged extraction of approximately 29 million tonnes of "andesite" over a 20 year timeframe;
- Extraction of up to 1.5 million tonnes of andesite material per year;
- Removal and stockpiling of an estimated 380,000 m<sup>3</sup> of overburden (approximately 750,000 tonnes) from the quarry extraction area in accordance with the Rehabilitation Plan prepared for the project. Removal of overburden is not included in the proposed extraction rate of 1.5 million tonnes of andesite annually;
- Haulage of up to 1.5 million tonnes of andesite per year from the site to market by 25 to 30 tonne haul trucks via the Pacific Highway;
- Up to 216 truck loads per day (at maximum production);
- Implementation of water management and erosion and sediment control works to ensure no loss of sediment, dust minimisation and to control discharges from the site to ensure that all discharges are within acceptable volumetric and water quality criteria;

- Roadworks to secure access to the site including upgrade & extension of Blue Rock Lane, realignment of Andesite Road & Blue Rock Lane intersection and adjust road markings at Branch Lane & Andesite Road intersection;
- Employment of 28 on-site staff;
- Construction of new haul road and access through adjoining RMS land;
- Staged clearing;
- Drilling and blasting activities;
- Loading and hauling of extracted material;
- Crushing and screening of extracted material;
- Stockpiling of material on-site; and
- Location of plant on Lot 13 comprised of office buildings, workshops, parking areas, crushing plant, wash plant, weigh bridge and product storage areas.

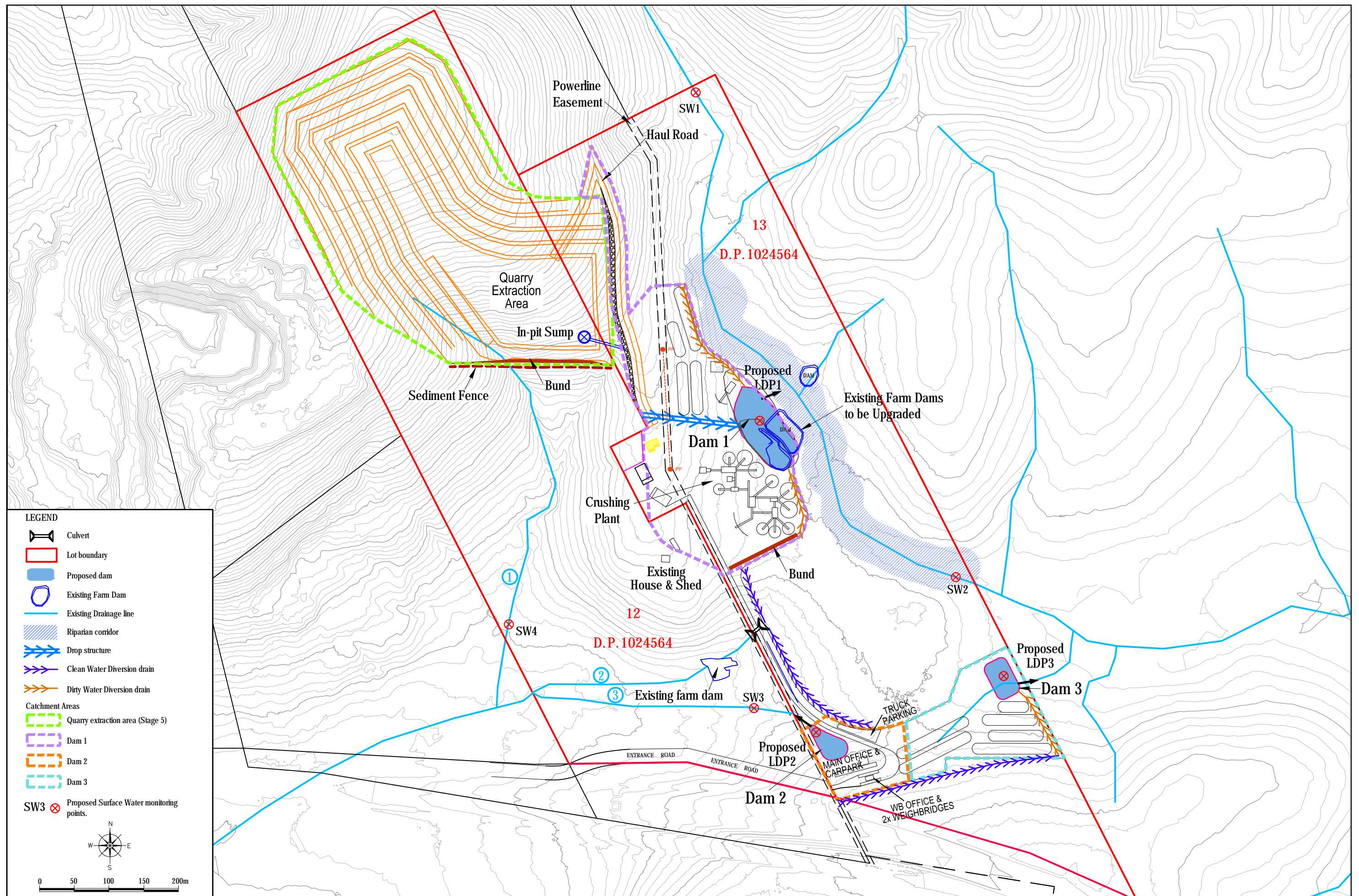
**Figure 2** presents the Karuah East site plan and layout. **Figure 3** outlines the water management system.





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Proposed Surface Water Management Plan  
**FIGURE 3**

### 3.3 Operating Hours

In accordance with Schedule 2, Condition 7 of the PA, Karuah will operate during the following hours (see **Table 3**):

**Table 3     Operating Hours**

Activity	Operating Hours
Quarrying Operations	7.00 am to 6.00 pm, Monday to Friday; and 7.00 am to 1.00 pm, Saturdays. No quarrying operations on Sundays or Public Holidays
Construction activities	7.00 am to 6.00 pm, Monday to Friday; and 8.00 am to 1.00 pm, Saturdays. Unless noise from the activities does not exceed 35 dB(A) <sub>L<sub>Aeq</sub>(15minute)</sub> at any privately-owned residence.
Maintenance activities	24 hours a day, 7 days per week, providing maintenance activities are inaudible at any privately-owned residence.

Note: This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons regarding works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.

## 4 PLANNING

### 4.1 Environmental Risk Management

To assist in developing and continually improving Karuah East's environmental management, an environment and community risk assessment has been undertaken to identify the potential environmental impacts associated with Karuah East. The main activities have been separated into construction and operational phases.

The process of identifying the quarry's environmental aspects will involve generation of a risk register, which will capture any actual and/or potential environmental impacts, as follows:

1. Systematic identification of all activities undertaken by the quarry. Activities will include those that are infrequent, supporting activities such as administration and maintenance, and services provided by contractors.
2. Identification of how those activities can interact with the environment.
3. Identification of the environmental impacts associated with the environmental aspects. The following key areas are considered to be relevant to the quarry:
  - Threatened flora and fauna;
  - Aboriginal and Cultural Heritage
  - Air Quality;
  - Noise;
  - Erosion and sediment;
  - Spillage of hydrocarbons;
  - Issues associated with traffic
  - Blast Management;
  - Hydrocarbons;
  - Traffic Management;
  - Rehabilitation and closure;
  - Waste; and
  - Visual.
4. Analysis of the risks to determine risk levels.
5. Evaluation of the risks to determine which environment and community aspects and impacts are significant risks to the environment and/or the community.

The environmental risks register is attached as **Appendix E**.

## 4.2 Legislation Requirements

Amendments and updates to relevant legal and the other relevant documentation will be recorded and maintained by a variety of methods including, but not limited to:

- Advice received from Government Agencies (Commonwealth, State and Local) including:
  - Commonwealth Department of Sustainability, Environment, Water, Population and Communities (SEWPaC);
  - NSW Department of Planning and Environment;
  - Roads and Maritime Services;
  - NSW Department of Primary Industries - Water (DPI Water);
  - NSW Office of Environment and Heritage (OEH);
  - NSW Environmental Protection Agency (EPA); and
  - Great Lakes Council.
- Direct access to the relevant Commonwealth and State legislation is on the internet at [www.austlii.edu.au](http://www.austlii.edu.au).

It is the responsibility of the Quarry Manager to keep up to date with approvals and environmental legislation. The Quarry Manager may seek the assistance of the Contract Environmental Officer.

The Statutory Requirements Register which summarise the current environmental legislation and standards as they relate to Karuah East is attached as **Appendix D**.

## 5 IMPLEMENTATION AND OPERATION

### 5.1 Resources, Roles, Responsibility & Authority

**Table 4** outlines the key roles and responsibilities for environment and community management at Karuah East.

**Table 4 Roles and Responsibilities – Environment and Community Management**

Role	Responsibilities
Quarry Manager	<ul style="list-style-type: none"> <li>Overall responsibility for environment and community compliance with licences and approvals;</li> <li>Coordinate environmental monitoring, reporting, inspections, environmental training, authority liaison, maintaining complaints register, rehabilitation planning, representation on Consultative Committee, community liaison;</li> <li>Prepare the necessary documentation to demonstrate compliance and meet legislative obligations;</li> <li>Review outcomes of environment and community incident investigations;</li> <li>Record, investigate and respond to complaints and/or enquiries and review outcomes of investigations;</li> <li>Investigate community complaints and or enquiries in consultation with the Environmental Specialists and review outcomes of investigations;</li> <li>The implementation and adherence to the EMS and other key management plans;</li> <li>Providing adequate training to employees and contractors regarding their requirements under the EMS and key environmental management plans;</li> <li>Monitor relevant site environmental performance – compliance, risk assessment and improvement actions;</li> <li>Planning for adequate resources to implement the EMS; and</li> <li>Develop and implement an audit and review schedule for the site.</li> </ul>
All Employees and Contractors	<p>All employees and contractors have specific environmental responsibilities including:</p> <ul style="list-style-type: none"> <li>Become familiar and comply with the EMS and key environmental management plans;</li> <li>Support Karuah East's commitment to environmental management;</li> <li>Work in a manner that will not harm the environment;</li> <li>Report all environmental incidents/complaints; and</li> <li>Report any inappropriate environmental management practices and take immediate action.</li> </ul>

### 5.2 Competence, Training and Awareness

Karuah East will develop and maintain an environmental training and awareness program to provide the workforce (including subcontractors) with the knowledge and skills necessary to achieve environmental policy aims and objectives and to ensure a high standard of environmental management on the site. Details below include (but should not be limited to) a list of programs to help assist the workforce onsite.

### 5.2.1 New Starter Inductions (including contractors)

The Quarry Manager (or their nominated representative) will undertake a New-Starter Induction with all new employees prior to their commencement of works at the site. The induction will include, but should not be limited to, information related to Karuah East's Environment and Community Policy (refer **Appendix F**), various aspects of the EMS and will emphasise the roles and responsibilities of employees and contractors. See **Section 5.2.3** for toolbox talks.

### 5.2.2 Visitor Induction

The Quarry Manager (or their representative) will ensure that all visitors to the site are taken through a brief environment and community induction upon arrival at the site. The information given in the induction will ensure that the visitor is able to report any environmental incidents or issues that they may observe during their visit to the site.

### 5.2.3 Toolbox Talks

The Quarry Manager (or their representative) will undertake regular toolbox talks to discuss relevant environment and community issues with the workforce. Additional Toolbox sessions will be scheduled if a particular environment and community issue needs to be brought to the immediate attention of the workforce (e.g. following a major environmental incident). A specific tool box/induction training session will be undertaken for both the construction and operation phases of the project.

### 5.2.4 Noticeboard Attachments

The Quarry Manager (or their representative) will place announcements on notice boards around the site to highlight various environmental issues as required.

## 5.3 Communication

Karuah East acknowledges the need for appropriate community consultation and sees stakeholder engagement as an integral component to environmental management at the site.

### 5.3.1 Company Website

Karuah East is committed to building a company website where all relevant information about the quarry will be available for viewing. Schedule 5 Condition 11 of the Project Approval outlines the requirement to make information publically available.

*The Proponent shall:*

*(a) make the following information publicly available on its website:*

- *the EA;*
- *any statutory approvals for the project;*
- *approved strategies, plans and/or programs;*
- *a summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval;*
- *a complaints register, updated quarterly;*
- *minutes of CCC meetings;*
- *annual reviews;*
- *any independent environmental audit, and the Proponent'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.*

The Karuah East website will be made publically available prior to commencement of construction.



### 5.3.2 Internal Communications

Internal communications regarding environmental matters are maintained through a number of methods which include, but are not limited to, monthly environmental inspection reports, toolbox talks and inductions.

### 5.3.3 Community Consultation

Karuah East will form a Community Consultative Committee (CCC) prior to the commencement of construction. This is a requirement of Schedule 5 Condition 6 of the Project Approval:

*The Proponent shall establish and operate a Community Consultative Committee (CCC) for the project. The CCC must:*

- a. be established and 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); and*
- b. be established prior to the commencement of construction activities, to the satisfaction of the Secretary.*

*Notes:*

- The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.*
- In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the local community.*

According to the Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (2007), the CCC is to consist of the following:

- An independent chair person;
- Three to five representatives of the local community;
- One representative from the local council;
- Two or three representatives from the company, including the person with direct managerial responsibility for environmental management at the quarry.

Where possible Karuah East's contract environment and community officer will also attend the meetings, which would be held every six months.

Karuah East is in the process of advertising in the local papers regarding the CCC, requesting participation in the CCC and an independent chair person. Once established, the CCC will be provided with this EMS and associated management plans for consultation and discussion at the first CCC meeting.

As outlined in **Section 5.3.1** the minutes of all CCC meetings will be made publically available on the Karuah East website.

### 5.3.4 Communication with nearby residents for blasting

In accordance with Schedule 3 Condition 11(c), a blasting notification register has been established at the quarry, with all registered individuals notified of upcoming blasting operations at the site.

### 5.3.5 Complaints Management

A telephone number will be established by the quarry to enable the community to contact the quarry with any complaints or enquiries. The line will be available during normal office hours and have an answering service for after hours. The telephone answering service will be checked at the commencement of each project day and the complaint will be classified in terms of urgency and anticipated turn around.

All complaints received by the Quarry will be acknowledged within 24 hours and will be investigated as soon as possible after the event.

The complainant will be verbally notified of the outcome from the investigation within a maximum of 3 working days from receipt of the complaint and where applicable, provided with the necessary written responses within 10 working days, or otherwise agreed with the complainant.

Condition M5 of the EPL outlines the process for recording pollution complaints. This is outlined in **Table 5**.

**Table 5 Requirement to Record Pollution Complaints**

Condition Number	Condition
M5.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.
M5.2	The record must include details of the following: <ul style="list-style-type: none"><li>a) the date and time of the complaint;</li><li>b) the method by which the complaint was made;</li><li>c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;</li><li>d) the nature of the complaint;</li><li>e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and</li><li>f) if no action was taken by the licensee, the reasons why no action was taken.</li></ul>
M5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.
M5.4	The record must be produced to any authorised officer of the EPA who asks to see them.

Condition M6 of the EPL outlines the requirement to operate a telephone complaints line for Karuah East. Karuah East must notify the public of the complaints telephone number.

All complaints (including the findings of any investigation) will be recorded on a standard complaints record form (**Appendix J**), and documented in the Annual Review. Schedule 5 Condition 11 outlines that a complaints register is to be updated on the website quarterly.

### 5.3.6 Dispute Resolution

In the case of any dispute between the complainant and the Proponent arising with regard to the management or outcomes of any complaint investigations then either party may refer the matter to the DP&E for resolution. Karuah East will liaise with DP&E to ensure the dispute is resolved to the Secretary's satisfaction.

## 5.4 Documentation and Document Control

This EMS will be retained in a controlled format by the Quarry Manager. Management, retention, revision and superseding of environmental documentation are the responsibility of the Quarry Manager.



The purpose of establishing and maintaining procedures for controlling all EMS documentation is to ensure that all documents can be located, reviewed and revised as necessary and current and obsolete documents easily identified.

#### 5.4.1 EMS Documents

If any part of the document is revised and changed, replacement versions will be sent out to all personnel registered as holding a controlled copy of the EMS. All copies of the old version will be destroyed, and the old master copy marked "*Superseded*" and filed in the central filing system.

#### 5.4.2 Environmental Documentation

Copies of all environmental documentation referenced in the EMS will be kept in the main office filing system.

To ensure that document control procedures are maintained and effective in enabling documents to be located, reviewed and revised as necessary and for current and obsolete documents to be easily identified, the Quarry Manager will conduct a document audit as part of the management review process in accordance with **Section 8** of this EMS.

### 5.5 Emergency Preparedness and Response

#### 5.5.1 Definition of a Pollution Incident

The Project Approval defines a pollution incident as:

*a set of circumstances that:*

- *Causes or threatens to cause material harm to the environment; and/or*
- *Breaches or exceeds the limits or performance measures/criteria in this approval*

#### 5.5.2 Minor Environmental Incident

Karuah East defines a Minor or Insignificant Environmental Incident as a smaller/manageable incident that can be contained within the site, or a minor non – compliance relating to criteria. eg. 10L oil leak. All minor environmental incidents will be reported to the Quarry Manager on the nominated Environmental Incident Reporting Form.

A copy of this form is included in **Appendix I**. Management of non - compliances relating to a breach or exceedance of limits/criteria is outlined in **Section 6.3**.

#### 5.5.3 Serious or Moderate Environmental Incident

This section covers an environmental incident that has caused material environmental harm which is defined below:

A licensee is required to notify the relevant regulatory authorities of a pollution incident if there is a risk of 'material harm to the environment', which is defined in section 147 of the POEO Act as:

- a. *harm to the environment is material if:*
  - i. *it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
  - ii. *it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and*
- b. *loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.*

Schedule 5 Condition 7 of the Project Approval requires:

*The Proponent shall immediately notify the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment.*

*For any other incident associated with the project, the Proponent shall notify the Secretary and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Secretary any relevant agencies with a detailed report on the incident, and such further reports as may be requested.*

Condition R2 of the EPL outlines that *notifications of an environmental harm are to be made by telephoning the Environment Line service on 131 555. The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.*

Condition R3 of the EPL outlines that an EPA officer can request a written report if they believe an event has occurred.

Emergency and incident situations with the potential to have an impact on the environment are identified by Karuah East as part of the risk assessment process.

#### **5.5.4 Pollution Incident Response Management Plan**

Karuah East has developed a Pollution Incident Response Management Plan (PIRMP). The PIRMP covers the key actions to minimise occurrence of a pollution incident and manage a pollution incident if one occurs (during and after a pollution incident). The PIRMP does not have procedures for the treatment of injured persons or the remediation of the environment following a pollution incident.

The PIRMP has been prepared for managing the impact to human health (employees and nearby neighbours) and the environment (onsite and offsite). Licensees will now be required to report pollution incidents "immediately" instead of "as soon as practicable" (section 148 POEO Act). Licensees must notify all of the Appropriate Regulatory Authorities (ARA) about the incidents.

The PIRMP will be reviewed every twelve months as per the requirement of the *POEO(G) Regulation*. The review of the PIRMP is to be carried out in such a manner as to ensure that the information included in the plan is accurate and up to date, and that each plan is capable of being implemented in a workable and effective manner. The PIRMP review will involve undertaking desktop simulations of incidents and if necessary completing exercises or drills. The review will need to cover all the components of the PIRMP including the effectiveness of training.

The PIRMP must also be reviewed within one month of any pollution incident occurring in the course of an activity to which a licence relates, to assess, in the light of that incident, whether the information included in the plan is accurate and up to date and the plan is still capable of being implemented in a workable and effective manner.

## **6 MEASUREMENT AND EVALUATION**

### **6.1 Monitoring and Measurement**

Compliance evaluation and review of environmental performance against relevant licences and approvals will be carried out annually as part of the Annual Review in compliance with relevant Project Approval conditions, the EPL, and the EMPs developed for the quarry.

The Quarry Manager will be responsible for the management and co-ordination of specialist consultants who will undertake environmental performance monitoring on behalf of Karuah East. The Quarry Manager will also be responsible for collating all data as provided by specialist consultants and/or gathered on site and for inclusion in the Annual Review.

#### **6.1.1 Monitoring Equipment**

Monitoring equipment will be installed, serviced and calibrated by qualified consultants where required. The consultants are required to maintain records of calibration and are to provide this information to the Quarry Manager on request.

#### **6.1.2 Monitoring Standards and Guidelines**

All monitoring will be carried out in accordance with the relevant Australian standards and guidelines applicable to each particular area.

#### **6.1.3 Chain of Custody Documentation**

All samples required to be collected and sent from the quarry for further analysis will be accompanied by Chain of Custody (CoC) documentation. Only NATA (or equivalent) accredited laboratories will be used for the analysis of the various parameters required as part of the environmental monitoring and measurement for the quarry.

### **6.2 Reporting**

#### **6.2.1 External Environmental Reporting**

The reporting of all monitoring and measurement data will be undertaken in accordance with the requirements of the Annual Review and where required, any other annual reporting requirements from relevant authorities. All monitoring records will be kept onsite for a period of four years. Copies of the Annual Review will be retained by Karuah East's Head Office and be sent to the relevant agencies.

A Monthly Environmental Monitoring Report is to be updated on the Karuah East website to meet the requirements of the *EPA Guidelines for Publishing of Environmental Monitoring Data*.

#### **6.2.2 Environmental Incident Reporting**

Environmental incidents will be reported as per **Section 5.5** of this EMS.

All minor environmental incidents will be reported to the Quarry Manager on a standard environmental incident reporting form. The form will include detail on what happened, who was involved, what action was taken to clean up or contain the incident and recommendations for improvement so that the environmental incident can be avoided in the future. Environmental incident reporting forms will be made readily available around the site.

All incidents reported will be presented for discussion during toolbox talks where appropriate and all environmental incidents will be reported in the Annual Review. In addition, all major incidents will be reported immediately to the relevant authorities.

## **6.3 Non - compliance, Corrective and Preventive Action**

### **6.3.1 Review and Corrective Action**

The purpose of this section is to establish and maintain procedures for identifying and defining the responsibility (and authority) for investigating and correcting environmental non-compliances. The Quarry Manager will be responsible for all review and corrective action necessary for the mitigation of Karuah East environmental non-compliances.

Environmental non - compliances may include, but not limited to the following:

- Exceedance of criteria for noise, air, blast, water; and
- Site not operating in accordance with conditions of the Project Approval or EPL.

A non - compliance of criteria within the Project Approval or EPL is classified as an environmental incident in accordance with the definition of incident in the Project Approval. Environmental incidents are outlined in **Section 5.5**.

## **6.4 Continual Improvement**

Through the effective application of best practice principles to on-site activities including, where cost-effective and practicable, the adoption of best practice technologies and blast control measures, the quarry will continue to improve on the quarry's environmental performance with progress to be monitored against the performance indicators noted in specific environmental management plans.

## 7 MONITORING PROGRAM

In order to verify the degree of impact the operation is having on the environment and the success of mitigation measures employed, a number of monitoring programs have been produced to cover Karuah East's operations. The specific construction and operational management plans for Karuah East cover monitoring frequency and requirements in detail. The following monitoring is undertaken at Karuah East:

- Surface water quality and quantity;
- Groundwater quality and quantity;
- Air quality monitoring;
- Meteorological monitoring;
- Noise monitoring;
- Ecology and weed management reviews; and
- Waste Monitoring.

See **Table 6** below for details regarding environmental monitoring.

**Table 6 Summary of Environmental Monitoring**

Monitoring Focus/Parameter	Monitoring sites	Frequency	Criteria	Responsibility	Reference / Comments
<b>Meteorology</b>					
Temperature, relative humidity, rainfall, wind speed, wind direction and sigma theta	Project meteorological station	Continuous	N/A	Quarry Manager Meteorological Specialist	Schedule 3 Condition 17 of the Project Approval; and <i>Approved Methods for Sampling of Air Pollutants in New South Wales</i> guidelines.
<b>Noise</b>					
Operator attended noise monitoring	Location A, B, F and G.	<u>Construction</u> At the commencement of any new activities.  <u>Operations</u> A minimum of once per quarter.	Refer to Noise Management Plan	Quarry Manager Noise Specialist	Noise Management Plan (SLR 2015a); and NSW Interim Construction Noise Guideline (DECCW 2009)
<b>Blasting</b>					
Ground vibration and overpressure	Location B	Every blast	Refer to Blast Management Plan	Quarry Manager Specialist blasting contractor	Blast Management Plan (SLR 2015b)
<b>Air Quality</b>					
Depositional dust, TSP and PM10	DDG1, DDG2, DDG3, DDG4 and HVAS	Monthly for depositional dust. Continuous for TSP and PM10.	Refer to Air Quality Management Plan	Quarry Manager Air quality Specialist	Air Quality and Greenhouse Gas Management Plan (SLR 2015c)

Monitoring Focus/Parameter	Monitoring sites	Frequency	Criteria	Responsibility	Reference / Comments
Greenhouse Gas					
Monitoring of site electricity and fuel usage	N/A	Annual	N/A	Quarry Manager	Air Quality and Greenhouse Gas Management Plan (SLR 2015c)
Surface Water					
Water quality	Dam1, Dam2, Dam 3	Monthly and during discharge. Also prior to and during any controlled discharge.	Refer Water Management Plan for criteria and frequency of monitoring (SLR 2015d)	Quarry Manager Environmental Technician.	Water Management Plan (SLR 2015d); and EPL
	SW1, SW4	Monthly (if creek flowing)			
	SW2, SW3	Monthly (if creek flowing) and if discharge occurs through LDP's.			
Erosion and sediment control	All noted erosion and sediment control structures.	Monthly and after significant rainfall events.			
Baseline ecological health assessment of Yalimbah Creek	Yalimbah Creek	Prior to commencement of operations Annually			
Groundwater					
Groundwater levels	BH205, BH207, BH208 and BH303	Quarterly	Refer Water Management Plan (SLR 2015d)	Quarry Manager Environmental Technician.	Water Management Plan (SLR 2015d); and EPL
Groundwater quality	BH205, BH207, BH208 and BH303	6 monthly			

Monitoring Focus/Parameter	Monitoring sites	Frequency	Criteria	Responsibility	Reference / Comments
Landscape and Rehabilitation					
Only applicable once there is final rehabilitation at the site ie rehabilitation is not temporary for stabilisation	Final rehabilitation sites	Annually for final rehabilitation	Criteria within Landscape and Rehabilitation Management Plan	Independent Rehabilitation Specialist	Statement of Commitments
Flora and Fauna					
Pre clearing inspections	Areas of pre clearance	Pre clearance	See Landscape and Rehabilitation Management Plan	Ecologist and Quarry Manager	Landscape and Rehabilitation Management Plan Biodiversity Offset Area Management Plan <i>Tetratheca juncea</i> Translocation Strategy
Ecological Monitoring within Karuah East	Defined locations within the Project Approval Area	As per the Landscape and Rehabilitation Management Plan	See Landscape and Rehabilitation Management Plan		
Offset Area Ecological Monitoring	Defined locations within the Offset Area		See Biodiversity Offset Area Management Plan		
<i>Tetratheca juncea</i> monitoring	Translocated areas		See <i>Tetratheca juncea</i> Translocation Strategy		
Waste					
Monitoring of site waste generation and management	N/A	Monthly	N/A	Quarry Manager	Waste Management Plan



## 8 PERIODIC REVIEW

Forms will be made available to document any activity that needs changing due to an actual incident occurring. They can also be used to identify and prevent the likelihood of an incident occurring (e.g. avoid potential spread of hydrocarbon spill/contamination by the installation of secondary bunding around fuel storage).

### 8.1 Audits and Inspections

The purpose of establishing and maintaining programs and procedures for periodic audits and inspections of the EMS is to determine the level of:

- conformance with environmental conditions of licences including the environmental protection licence, mining lease and development consent conditions; and
- on-site implementation and maintenance of the EMS.

#### 8.1.1 Opportunistic Environmental Inspection

During normal operations the Quarry Manager will undertake routine inspections of activities around the quarry. Areas of non-compliance will be immediately brought to the attention of the employees so that they can be rectified to reduce the likelihood of an environmental incident occurring.

#### 8.1.2 Monthly Internal Environmental Inspections

The Quarry Manager, and when required the Contract Environmental Officer, will undertake environmental inspections every month. The findings from the inspections will be reported internally. During the key parts of the construction phase, inspections will be undertaken fortnightly by the Quarry Manager and when required the Contract Environmental Officer.

#### 8.1.3 Department of Planning and Environment Audits

Schedule 5 Condition 9 of the Project Approval outlines the requirement to undertake an Independent Environmental Audit at Karuah East:

*Within 12 months of the commencement of development on the site, and every 3 years thereafter, unless the Secretary 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 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 project and whether it is complying with the relevant requirements in this approval and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);*
- d. review the adequacy of any approved strategy, plan or program required under the these approvals; and*
- e. recommend measures or actions to improve the environmental performance of the project, 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.*

## 9 MANAGEMENT AND DOCUMENT REVIEW

The purpose of the management review is to assess the suitability and effectiveness of the EMS and to determine whether any changes in policy, objectives, methods or operations are considered necessary to meet the current or future needs of the quarry.

The Management Review will be completed annually during the preparation of the Annual Review and include the Quarry Manager, Contract Environmental Officer and other key staff as required:

- Assess the continuing suitability and effectiveness of the EMS;
- Assess the relevance of environmental commitments;
- Review outcomes of environmental audits, inspections and non-compliances since the last management review meeting;
- Documentation of meeting decisions; and
- Assess the possible need for change in environmental policy and/or objectives and targets in light of changing circumstances and in view of continual environmental improvement.

The EMS shall be reviewed and revised and/or updated in accordance with Schedule 5 Condition 5 of the Project Approval, within three (3) months of any of the following:

- The submission of an annual review;
- The submission of an incident report;
- The submission of an audit; or
- Any modification to the conditions of the Project Approval.

The Karuah East management team will discuss and review the status of all management plans on an annual basis, but unless required all site environmental management plans (including this document) will be reviewed and updated every three years.

Any modifications to the EMS and other management plans will be undertaken in consultation with the appropriate government agencies.

## Appendix A – DP&E Comments on EMS

Report Number 630.11235-R1

Page 1 of 2

### Environmental Management Strategy (EMS)

Under Schedule 5, Condition 1 of the Project Approval 09\_0175, KEQ is required to prepare and implement an EMS to the satisfaction of the Secretary. Refer to the table below for the applicable approval requirements, the relevant sections in the submitted EMS and the Department's review comments.

09_0175 Requirement	Section	Review Comment	Further Action
<i>The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:</i>			
<i>(a) be submitted to the Secretary for approval prior to the commencement of construction activities;</i>	n/a	Requirement has been met satisfactorily.	NFA
<i>(b) provide the strategic framework for environmental management of the project;</i>	Section 1.2	Linking the listed principles and aspects to the project would be useful. Please provide a brief project description for each of the principles and aspects listed.	As per comment
<i>(c) identify the statutory approvals that apply to the project;</i>	Section 2	Requirement has been met satisfactorily.	NFA
<i>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</i>	Section 5.1	Requirement has been met satisfactorily.	NFA
<i>(e) describe the procedures that would be implemented to:</i> <ul style="list-style-type: none"> <li>• keep the local community and relevant agencies informed about the operation and environmental performance of the project;</li> <li>• receive, handle, respond to, and record complaints;</li> <li>• resolve any disputes that may arise during the course of the project;</li> <li>• respond to any non-compliance; and</li> <li>• respond to emergencies; and</li> </ul>	Section 5 & 6	<p>Section 5.3.5 – The Department recommends that complaints be at least acknowledged within 24 hours. Also, 3 working days may be too long for complaints of an urgent nature. This section should be updated to include a procedures to be in place where the telephone voicemail is checked at the start of each project day, and the complaint is classified in terms of urgency and response turnaround.</p> <p>The MP does not specify procedures for dispute resolution.</p>	Amend complaints response time and include procedures for dispute resolution.
<i>include:</i> <ul style="list-style-type: none"> <li>• copies of any strategies, plans and programs approved under the conditions of this approval; and</li> <li>• a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.</li> </ul>	Appendix 7 & relevant MPs	Requirement has been met satisfactorily.	NFA
<b>Other Comments</b>			
	5.1	Table 4 – should also include land manager,	Clarify roles.

## Appendix A – DP&E Comments on EMS

Report Number 630.11235-R1

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09_0175 Requirement	Section	Review Comment	Further Action
		given that is a key role under the Heritage Management Plan. Unless this is the same as Quarry Manager. Please specify.	
	5.3	Please specify any specific community consultation undertaken for the management plans and EMS, including outcomes from CCC meetings as relevant.	As per comment
	5.3.1	Please advise when website will be available.	As per comment
	5.3.3	Last sentence - Replace 'anticipated' with 'must'	As per comment

## **Appendix B – Key Approvals for Karuah East**

Report Number 630.11235-R1

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# Project Approval

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

As delegate of the Minister for Planning and Environment, the Planning Assessment Commission approves the project 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 project.



Alan Coutts  
Member of the Commission



David Johnson  
Member of the Commission

Sydney

17 June 2014

### SCHEDULE 1

**Application Number:**

09\_0175

**Proponent:**

Karuah East Quarry Pty Limited

**Approval Authority:**

Minister for Planning and Environment

**Land:**

Lot 12 DP 1024564  
Lot 13 DP 1024564  
Lot 202 DP 1042537  
Lot 26 DP 1024341  
Lot 27 DP 1024341  
Lot 16 DP 1024564  
Lot 17 DP 1024564

**Project:**

Karuah East Quarry Project

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## DEFINITIONS

Annual review	The review required under condition 4 of Schedule 5
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EA, and depicted conceptually in the figure in Appendix 4
CCC	Community Consultative Committee
Conditions of this approval	Conditions contained in Schedules 1 to 5 inclusive
Council	Great Lakes Council
CPI	Australian Bureau of Statistics Consumer Price Index
Day	The period from 7.00 am to 6.00 pm Monday to Friday, and from 7.00 am to 1.00 pm on Saturday
DRE	Division of Resources and Energy within the Department of Trade and Investment, Regional Services and Infrastructure
EA	Environmental Assessment titled <i>Environmental Assessment Report, Proposed Karuah East Hard Rock Quarry</i> , prepared by ADW Johnson Pty Limited and dated 31 January 2013, including the response to submissions prepared by ADW Johnson Pty Limited and dated 31 May 2013 and the Preferred Project Report titled <i>Preferred Project Report Proposed Karuah East Quarry</i> , prepared by ADW Johnson Pty Limited and dated 30 July 2013
EPA	NSW 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>
EPL	Environment Protection Licence under the <i>POEO Act</i>
Extraction Area	Extraction Area shown in Figure 1 in Appendix 1
Feasible	Feasible relates to engineering considerations and what is practical to build
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 approval</li> </ul>
km	Kilometre
Land	As defined in the EP&A Act, except where used in the noise and air quality conditions in schedules 3 and 4 of this approval 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 approval
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Minister	Minister for Planning and Environment, or delegate
NOW	NSW Office of Water
OEH	Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or the Proponent (or its subsidiary)
Project	The development as described in the EA
Proponent	Karuah East Quarry Pty Limited, or its successors in title, or any other person who seeks to carry out the project
Quarrying operations	Includes the removal of overburden and extraction, processing, handling, storage and transportation of quarry products on the site
Quarry products	Extractive material which extracted from and transported from the site
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 treatment or management of land disturbed by the project for the purpose of establishing an appropriately revegetated, safe, stable and non-polluting environment
RMS	Roads and Maritime Services



Secretary  
Statement of commitments  
Site

Secretary of Planning and Environment, or nominee  
The Proponent's commitments in Appendix 6  
The land listed under "Land" in schedule 1

## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this approval, the Proponent 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 project.

### TERMS OF APPROVAL

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

*Notes:*

- The general layout of the project is shown in Appendix 1.
- The statement of commitments is reproduced in Appendix 6.

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

### LIMITS ON APPROVAL

#### Quarrying Operations

5. The Proponent may carry out quarrying operations on the site until 31 December 2034.

*Note: Under this approval, the Proponent is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this approval will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.*

#### Production Limit

6. The Proponent shall not extract, process and transport more than 1.5 million tonnes of quarry products from the site in any calendar year.

#### Hours of Operation

7. The Proponent shall comply with the operating hours in Table 1.

Table 1: Operating hours

Activity	Operating Hours
Quarrying Operations	7.00 am to 6.00 pm, Monday to Friday; and 7.00 am to 1.00 pm, Saturdays. No quarrying operations on Sundays or Public Holidays.
Construction activities	7.00 am to 6.00 pm, Monday to Friday; and 8.00 am to 1.00 pm, Saturdays, unless noise from these activities does not exceed 35dB(A) $L_{Aeq(15 min)}$ at any privately-owned residence.

Maintenance activities	24 hours a day, 7 days per week, providing maintenance activities are inaudible at any privately-owned residence
------------------------	--

*Note: This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons regarding works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.*

## STRUCTURAL ADEQUACY

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

*Notes:*

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

## 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 the full costs associated with repairing, any public infrastructure that is damaged by the project; and
  - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.

## DEVELOPER CONTRIBUTIONS

11. The Proponent shall pay Council, in accordance with Council's *Great Lakes Wide Development Contributions Plan (November 2007) – Amended*:
- (a) a one-off Headquarters Building contribution of \$1.00 per \$1,000.00 of capital value of the project; and
  - (b) annual road maintenance contributions of \$.037 per tonne per km, for every tonne of quarry products transported from the site on local roads in accordance with Council's *Great Lakes Wide Development Contributions Plan (November 2007) – Amended*. Each payment must be:
    - (i) paid to Council at the end of each calendar year;
    - (ii) based on weighbridge records of the quantity of quarry products transported from the site; and
    - (iii) increased annually over the life of the project in accordance with the CPI.

*Note: If the parties are not able to agree on any aspect of the road maintenance contributions, either party may refer the matter to the Secretary for resolution.*

## OPERATION OF PLANT AND EQUIPMENT

12. 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 manner.

### **STAGED SUBMISSION OF ANY STRATEGY, PLAN OR PROGRAM**

13. With the approval of the Secretary, the Proponent may submit any strategy, plan or program required by this approval on a progressive basis.

*Notes:*

- *While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and*
- *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.*

### **PRODUCTION DATA**

14. The Proponent shall:
- (a) provide annual quarry production data to DRE using the standard form for that purpose; and
  - (b) report this data in the Annual Review (see condition 4 of Schedule 5).

### SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

#### IDENTIFICATION OF APPROVED LIMITS OF EXTRACTION

1. The Proponent shall, prior to carrying out quarrying operations on the site:
  - (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the Extraction Area; and
  - (b) submit a survey plan of the extraction boundaries, to the satisfaction of the Secretary.
2. The Proponent shall ensure that the extraction boundaries are clearly marked at all times while quarrying operations are being carried out, in a manner that allows the limits of extraction to be clearly identified.

#### NOISE

##### Operational Noise Criteria

3. The Proponent shall ensure that the operational noise generated by the project does not exceed the criteria in Table 2.

Table 2: Operational noise criteria (dB(A)  $L_{Aeq}(15\text{ min})$ )

Location	Criteria (day)
Residence on Lot 11 DP 1024564	43
A	40
B	37
G	38
All other residences	35

Notes:

- Receiver locations are shown in Appendix 2.
- Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.
- Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

However, the noise criteria in Table 2 do not apply if the Proponent has an agreement with the relevant landowner to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of the agreement.

##### Road Traffic Noise Criteria

4. The Proponent shall take all reasonable and feasible measures to ensure that the traffic noise generated by the project does not cause additional exceedances of the criteria in Table 3 at any residence on privately-owned land.

Table 3: Road traffic noise criteria (dB(A)  $L_{Aeq}(\text{period})$ )

Road	Criteria (day)
Pacific Highway	60
Local roads	55

### Cumulative Noise Criteria

5. The Proponent shall implement all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by adjacent quarrying operations does not cause any exceedances of the criteria in Table 4.

Table 4: Cumulative noise criteria (dB(A)  $L_{Aeq}(\text{period})$ )

Location	Criteria (day)
F	50
G	50
All other privately-owned residences, except the residence on Lot 11	55

Notes:

- Receiver locations are shown in Appendix 2.
- The structure used as a residence on Lot 11 is excluded from Table 4 because the other major contributor to cumulative noise totals is quarrying operations conducted on this Lot, under agreement with the Lot owner.
- Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.
- Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

### Operating Conditions

6. The Proponent shall:
- implement best management practice, to minimise the construction, operational and traffic noise of the project;
  - minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply; and
  - regularly assess noise monitoring data and relocate, modify, and/or stop operations on site to ensure compliance with the relevant conditions of this approval;
  - apply and enforce a speed limit of 40 km/hour for all project-related vehicles on site;
  - ensure that project-related trucks slowing to use the intersection of Branch Lane and Andesite Road do not use engine or compression braking systems, to the satisfaction of the Secretary.

### Noise Management Plan

7. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:
- be prepared by a suitably qualified expert whose appointment has been approved by the Secretary;
  - be prepared in consultation with EPA, and submitted to the Secretary for approval prior to the commencement of construction activities;
  - describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;
  - describe the proposed noise management system in detail; and
  - include a monitoring program that:
    - uses attended and unattended monitoring to evaluate the compliance of the project against the noise criteria in this approval;
    - evaluates and reports on:
      - the effectiveness of the on-site noise management system; and
      - compliance against the noise operating conditions; and
    - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

## BLASTING

### Blasting Criteria

8. The Proponent shall ensure that blasting on the site does not cause exceedances of the criteria in Table 5.

Table 5: Blasting criteria

<b>Location</b>	<b>Airblast overpressure (dB(Lin Peak))</b>	<b>Ground vibration (mm/s)</b>	<b>Allowable exceedance</b>
Any residence on privately-owned land, or any public infrastructure	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months

However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner or infrastructure provider/owner, and the Proponent has advised the Department in writing of the terms of this agreement.

### Blasting Hours

9. The Proponent shall ensure that blasting on site is only carried out during the hours in Table 6.

Table 6: Blasting hours

<b>Day</b>	<b>Blasting hours</b>
Monday – Friday	9.00 am to 4.00 pm
Saturdays, Sundays and Public Holidays	No blasting

### Blasting Frequency

10. The Proponent shall not carry out more than 2 blasts a week on the site, unless an additional blast is required following a blast misfire.

*Note: A blast may involve a number of explosions within a short period, typically less than two minutes.*

### Operating Conditions

11. The Proponent shall:
- implement best blast management practice to:
    - protect the safety of people and livestock in the surrounding area;
    - protect public or private infrastructure/property in the surrounding area from any damage; and
    - minimise the dust and fume emissions of any blast;
  - schedule blasts to avoid the blasting schedule of any nearby quarrying operation;
  - operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on the site, and
  - not undertake blasting within 500 metres of:
    - any public road without the approval of the relevant road authority; or
    - any land outside the site not owned by the Proponent, unless:
      - the Proponent has a written agreement with the relevant landowner to allow blasting to be carried out closer to the land, and the Proponent has advised the Department in writing of the terms of this agreement, or
      - the Proponent has:
        - demonstrated to the satisfaction of the Secretary that the blasting can be carried out closer to the land without compromising the safety of the people or livestock on the land, or damaging the buildings and/or structures on the land; and
        - updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the land,
- to the satisfaction of the Secretary.

## Blast Management Plan

12. The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the Secretary. This plan must:
- be prepared by a suitably qualified expert whose appointment has been approved by the Secretary;
  - be prepared in consultation with Council and EPA, and submitted to the Secretary for approval prior to the commencement of construction activities;
  - describe the measures that would be implemented to ensure:
    - best management practice is being employed; and
    - compliance with the relevant conditions of this approval;
  - include a road closure protocol if blasting occurs within 500 metres of a public road;
  - include a specific blast fume management protocol, to demonstrate how emissions will be minimised including risk management strategies if blast fumes are generated; and
  - include a monitoring program for evaluating the performance of the project including:
    - compliance with the applicable criteria; and
    - minimising fume emissions from the site.

## AIR QUALITY

### Air Quality Criteria

13. 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 in Tables 7 to 9 at any residence on privately-owned land.

Table 7: Long-term impact assessment criteria for particulate matter

Pollutant	Averaging period	<sup>d</sup> Criterion
Total suspended particulates (TSP)	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 8: Short-term impact assessment criteria 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 9: 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 7-9:

- <sup>a</sup> Total impact (ie incremental increase in concentrations due to the project plus background concentrations due to all other sources);
- <sup>b</sup> Incremental impact (ie 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.
- <sup>d</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.

## Greenhouse Gas Emissions

14. The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site.



### **Operating Conditions**

15. The Proponent shall:
- (a) implement best management practice to minimise dust emissions by the project;
  - (b) regularly assess air quality monitoring data and relocate, modify, and/or stop operations on site as may be required to ensure compliance with the air quality criteria in this approval;
  - (c) minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see note d under Tables 7-9); and
  - (d) minimise surface disturbance of the site, other than as permitted under this approval.

### **Air Quality Management Plan**

16. The Proponent shall prepare and implement an Air Quality Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared by a suitably qualified expert whose appointment has been approved by the Secretary;
  - (b) be prepared in consultation with Council and EPA, and submitted for approval to the Secretary prior to the commencement of construction activities;
  - (c) describe the measures that would be implemented to ensure:
    - compliance with the relevant air quality conditions of this approval;
    - best management practice is employed; and
    - the air quality impacts of the project are minimised during adverse meteorological conditions and extraordinary events;
  - (d) describe the proposed air quality management system; and
  - (e) include a monitoring program that:
    - is capable of evaluating the performance of the project;
    - includes a protocol for determining any exceedances of the relevant conditions of approval;
    - effectively supports the air quality management system; and
    - evaluates and reports on the adequacy of the air quality management system.

### **METEOROLOGICAL MONITORING**

17. For the life of the project, the Proponent shall ensure that there is a suitable meteorological station operating 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.

### **SOIL & WATER**

*Note: The Proponent is required to obtain the necessary water licences for the project under the Water Act 1912 and/or the Water Management Act 2000.*

#### **Water Supply**

18. The Proponent shall ensure it has sufficient water during all stages of the project, and if necessary, adjust the scale of quarrying operations on site to match its available supply.

#### **Surface Water Discharges**

19. The Proponent shall comply with the discharge limits in any EPL, or with Section 120 of the POEO Act.

#### **Effluent Management**

20. The Proponent shall:
- (a) not irrigate, discharge or dispose of sewage or bathroom effluent from the site; and
  - (b) operate and maintain a suitable effluent storage facility, to the satisfaction of Council and EPA.

## Water Management Plan

21. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA and NOW by suitably qualified and experienced person/s whose appointment has been approved by the Secretary;
  - (b) be submitted to the Secretary for approval prior to the commencement of construction activities;
  - (c) include:
    - (i) a Site Water Balance that includes details of:
      - sources and security of water supply, including contingency planning;
      - water use on site; and
      - measures that would be implemented to minimise use of clean water and maximise recycling of dirty water on the site;
    - (ii) a Surface Water Management Plan, that includes:
      - baseline data on surface water flows and quality in the watercourses that could be affected by the project;
      - a detailed description of the surface water management system on the site, including the design objectives and performance criteria for the:
        - clean water diversions;
        - erosion and sediment controls;
        - water storages (including Maximum Harvestable Rights requirements); and
        - control of water pollution from areas of the site that have been rehabilitated;
      - surface water impact assessment criteria, to be developed following analysis of baseline data, including trigger levels for investigating any potentially adverse surface water quality impacts;
      - a program to monitor:
        - any surface water discharges;
        - the effectiveness of the water management system;
        - surface water flows and quality in local watercourses; and
        - ecosystem health of local watercourses; and
      - an assessment of appropriate options to improve storage and retention times in accordance with *Managing Urban Stormwater: Soils and Construction* (Landcom);
    - (iii) a Groundwater Monitoring Program that includes:
      - baseline data of groundwater levels surrounding the site;
      - groundwater impact assessment criteria, to be developed following analysis of baseline data, including trigger levels for investigating any potentially adverse groundwater impacts; and
      - a program to monitor and/or validate the impacts of the project on groundwater resources; and
    - (iv) a Surface and Ground Water Response Plan that describes the measures and/or procedures that would be implemented to:
      - respond to any exceedances of the surface water impact assessment criteria and groundwater impact assessment criteria; and
      - mitigate and/or offset any adverse impacts on surface water and groundwater resources located within and adjacent to the site.

## TRANSPORT

### Roadworks

22. The Proponent shall, at its own cost, complete the following roadworks shown conceptually in Figure 2 of Appendix 1, prior to transporting quarry products from the site:
- (a) extending Blue Rock Close, with tar seal and appropriate pavement, road markings and advance warning signage, to the satisfaction of Council and RMS;
  - (b) realigning and upgrading the Blue Rock Close/Andersite Road intersection with appropriate road markings, pavement thickening and advance warning signage, to the satisfaction of Council;

- (c) upgrading the Branch Lane/Andersite Road intersection with appropriate road markings and advance warning signage, to the satisfaction of Council;
- (d) constructing the site access road on Lots 12 and 13 DP 1024564 with appropriate pavement and advance warning signage, to the satisfaction of Council; and
- (e) installing a wheel-wash facility on the site.

#### **Monitoring of Product Transport**

23. The Proponent shall:
- (a) keep accurate records of:
    - the amount of quarry products transported from the site (per calendar month and year); and
    - the number of laden truck movements from the site (per hour, day, week, calendar month and year); and
  - (b) publish these records on its website quarterly.

#### **Parking**

24. The Proponent shall provide sufficient parking on-site for all project-related traffic, in accordance with Council's parking codes, to the satisfaction of the Secretary.

#### **Operating Conditions**

25. The Proponent shall ensure that all project-related heavy vehicles:
- (a) enter and exit the site in a forward direction; and
  - (b) exit the site with loads covered.

#### **Transport Management Plan**

26. The Proponent shall prepare and implement a Transport Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared by a suitably qualified traffic consultant whose appointment has been approved by the Secretary;
  - (b) be prepared in consultation with RMS and Council, and submitted to the Secretary for approval prior to the commencement of construction activities;
  - (c) include a Driver Code of Conduct;
  - (d) describe the measures that would be implemented to ensure:
    - compliance with the relevant conditions of this approval;
    - that drivers of project-related heavy vehicles are aware of potential safety issues along the haulage routes; and
    - that drivers of project-related heavy vehicles comply with the Driver Code of Conduct; and
  - (e) include a program to monitor the effectiveness of these measures.

#### **LANDSCAPE**

##### ***Tetratheca Juncea* Translocation**

27. The Proponent shall develop and implement a translocation program for *Tetratheca juncea* to the satisfaction of the Secretary. This program must:
- (a) be prepared in consultation with OEH, by a suitably qualified and experienced ecologist whose appointment has been approved by the Secretary;
  - (b) be submitted to the Secretary for approval prior to the commencement of construction activities that involve clearing of or potential harm to *Tetratheca juncea*;
  - (c) include measures for the translocation of all *Tetratheca juncea* stems in the area of disturbance to nearby areas with similar physical and biological habitat features;
  - (d) include a monitoring program to study the *Tetratheca juncea* stems before and after translocation;
  - (e) include short and long-term goals and performance criteria to measure the effectiveness of the program; and
  - (f) provide for the transfer of information obtained as a result of implementing the program to OEH and P&I.

## Biodiversity Offset Strategy

28. The Proponent shall, prior to the commencement of vegetation clearing activities, finalise and implement the Biodiversity Offset Strategy, as described in the EA, summarised in Table 10 and shown conceptually in Figure 1 of Appendix 4, in consultation with OEH and Council, and to the satisfaction of the Secretary.

Table 10: Biodiversity Offset Strategy

Area	Offset Type	Minimum Size (ha)
Offset Area	Existing vegetation to be managed and enhanced	129.32 ha

*Note:* The Biodiversity Offset Strategy shall direct that the land proposed as the Biodiversity Offset shall be free of any dwelling-houses and associated sheds, bushfire asset protection zones and other related utilities or structures so as to preserve the integrity and function of that offset area. The Biodiversity Offset Strategy shall also provide details of the revegetation of any parts of the offset area that are cleared of native vegetation or are in an otherwise substantially modified state, other than required management trails and boundary fencing buffer distances.

## Long Term Security of Offsets

29. The Proponent shall, within 12 months of the finalisation of the Biodiversity Offset Strategy, make suitable arrangements to provide appropriate long-term security for the offset area, in consultation with OEH and Council, and to the satisfaction of the Secretary.

*Note:* In order of preference, mechanisms to provide appropriate long term security to the land within the Biodiversity Offset Strategy include transfer to the National Park Estate, Biobanking Agreement, Voluntary Conservation Agreement, or restrictive covenant on land titles.

## Rehabilitation Objectives

30. The Proponent shall rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must:
- be generally consistent with the rehabilitation strategy as described in the EA and shown conceptually in Figure 1 in Appendix 5; and
  - comply with the objectives in Table 11.

Table 11: Rehabilitation Objectives

Feature	Objective
Site (as a whole)	Safe, stable & non-polluting.
Surface Infrastructure	To be decommissioned and removed, unless the Secretary agrees otherwise.
Quarry Wall Benches	Landscaped and revegetated utilising native tree and understorey species, ensuring that the tree canopy is restored and integrated with the surrounding tree canopy.
Quarry Pit Floor	Landscaped and revegetated with wetland vegetation.
Other land affected by the project	Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of: <ul style="list-style-type: none"> <li>native endemic species; and</li> <li>a landform consistent with the surrounding environment.</li> </ul>
Community	Ensure public safety. Minimise the adverse socio-economic effects associated with quarry closure.

## Progressive Rehabilitation

31. The Proponent shall:
- rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance;

- (b) take all reasonable and feasible measures to minimise the total area of the site exposed at any time; and
- (c) implement interim rehabilitation strategies where areas prone to dust generation cannot yet be permanently rehabilitated.

#### **Landscape and Rehabilitation Management Plan**

32. The Proponent shall prepare and implement a Landscape and Rehabilitation Management Plan for the project to the satisfaction of the Secretary. This Plan would relate to the area of the quarry and all perimeter lands. This plan must:

- a. be prepared by a suitably qualified expert whose appointment has been approved by the Secretary;
- b. be prepared in consultation with OEH and Council, and submitted to the Secretary for approval prior to the commencement of construction activities;
- c. describe how the implementation of the *Tetratheca juncea* Translocation Program would be integrated with the overall rehabilitation of the site;
- d. describe the short, medium and long-term measures that would be implemented to:
  - manage remnant vegetation and habitat on the site; and
  - ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations of this approval.
- e. include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, including triggers for any remedial action;
- f. include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following initial preparation of the plan), including the procedures to be implemented for:
  - ensuring compliance with the rehabilitation objectives and progressive rehabilitation obligations of this approval;
  - enhancing the quality of remnant vegetation and fauna habitat;
  - restoring native endemic vegetation and fauna habitat within the rehabilitation area, including details of the target revegetation communities of the rehabilitated landform;
  - coordinating the relocation of native fauna to protected habitats associated with pre-clearing fauna surveys;
  - maximising the salvage of environmental resources within the approved disturbance area - including tree hollows, vegetative and soil resources - for beneficial reuse in the enhancement of the rehabilitation area;
  - collecting and propagating seed;
  - ensuring minimal environmental consequences for threatened species, populations and habitats;
  - minimising the impacts on native fauna on site, including the details and implementation of appropriate pre-clearance surveys;
  - minimising the impacts on fauna movement between undisturbed areas of the site and nearby vegetation (including potential fauna crossings);
  - controlling weeds and feral pests;
  - controlling erosion;
  - controlling access and providing for management trails; and
  - bushfire management and implementation of ecologically appropriate bushfire intervals.
- g. include a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;
- h. identify the potential risks to successful implementation of the *Tetratheca juncea* Translocation Program and rehabilitation of the site, and include a description of the contingency measures that would be implemented to mitigate these risks;
- i. include details as to how the rehabilitated land would be permanently conserved and managed as part of the broader Biodiversity Offset Area approved in these conditions;
- j. include details of who would be responsible for monitoring, reviewing, and implementing the plan; and

- k. include details as to the timing of actions set-out in the plan

#### **Biodiversity Offset Area Management Plan**

33. The Proponent shall prepare and implement a Biodiversity Offset Area Management Plan for the project to the satisfaction of the Secretary. This Plan would relate to the area of the Biodiversity Offset Area required in these Conditions. This plan must:
- a. be prepared by a suitably qualified expert whose appointment has been approved by the Secretary;
  - b. be prepared in consultation with OEH and Council, and submitted to the Secretary within 12-months of the approval of the Biodiversity Offset Strategy required in these conditions;
  - c. describe how the implementation of the *Tetratheca juncea* Translocation Program would be integrated with the Biodiversity Offset Area management;
  - d. describe the short, medium and long-term measures that would be implemented to manage remnant vegetation and habitat on the Biodiversity Offset Area;
  - e. include detailed performance and completion criteria for evaluating the performance of the conservation, restoration and management of the Biodiversity Offset Area, including triggers for any remedial action;
  - f. providing for the transfer of environmental resources from the approved disturbance area - including tree hollows, vegetative and soil resources - for beneficial reuse in the enhancement of the Biodiversity Offset Area;
  - g. providing for the incorporation of the final rehabilitated landform into the Biodiversity Offset Area and its management;
  - h. include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following initial preparation of the plan), including the procedures to be implemented for:
    - enhancing the quality of remnant vegetation and fauna habitat;
    - restoring native endemic vegetation and fauna habitat within the parts of the Biodiversity Offset Area that are cleared or modified, including details of the target revegetation communities of the restored landform;
    - coordinating the relocation of native fauna to protected habitats associated with pre-clearing fauna surveys;
    - collecting and propagating seed;
    - maximising the protection and restoration of threatened species, populations and habitats in the Biodiversity Offset Area;
    - maximising fauna movement between the Biodiversity Offset Area and adjacent habitats;
    - controlling weeds and feral pests;
    - controlling erosion;
    - controlling access and providing for management trails; and
    - bushfire management and implementation of ecologically appropriate bushfire intervals.
  - i. include a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;
  - j. identify the potential risks to successful implementation of the Biodiversity Offset program, and include a description of the contingency measures that would be implemented to mitigate these risks;
  - k. include details of who would be responsible for monitoring, reviewing, and implementing the plan;
  - l. include details of the indicative costs of management actions; and
  - m. include details as to the timing of actions set-out in the plan

#### **Conservation & Rehabilitation Bond**

34. The Proponent shall lodge a Conservation and Rehabilitation Bond with P&I within 6 months of the approval of the Landscape and Rehabilitation Management Plan, to ensure that the Biodiversity Offset Strategy and the rehabilitation of the site is implemented in accordance with the performance and completion criteria set out in the Landscape and Rehabilitation Management Plan. The sum of the bond shall be determined by:
- (a) calculating the cost of implementing the Biodiversity Offset Strategy over the next 3 years;

- (b) calculating the cost of rehabilitating disturbed areas of the site, taking into account the likely surface disturbance over the next 3 years of quarrying operations; and
- (c) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs, to the satisfaction of the Secretary.

*Notes:*

- *If capital and other expenditure required by the Landscape and Rehabilitation Management Plan is largely complete, the Secretary may waive the requirement for the lodgement of a bond in respect of the remaining expenditure.*
- *If the Biodiversity Offset Strategy and rehabilitation of the site area are completed to the satisfaction of the Secretary, then the Secretary will release the bond. If the Biodiversity Offset Strategy and rehabilitation of the site are not completed to the satisfaction of the Secretary, then the Secretary will call in all or part of the bond, and arrange for the completion of the relevant works.*
- *The component of the bond relating to the implementation of the Biodiversity Offset Strategy may be waived, if a separate arrangement is entered into between the Proponent and OEH which satisfactorily replaces that component, to the satisfaction of the Secretary.*

35. Within 3 months of each Independent Environmental Audit (see condition 9 of schedule 5), the Proponent shall review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the Secretary. This review must:
- (a) consider the performance of the implementation of the Biodiversity Offset Strategy and rehabilitation of the site to date;
  - (b) consider the effects of inflation; and
  - (c) calculate the cost of implementing the Biodiversity Offset Strategy and rehabilitating the disturbed areas of the site (taking into account the likely surface disturbance over the next 3 years of quarrying operations); and

## **HERITAGE**

### **Heritage Management Plan**

36. The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared by a suitably qualified expert whose appointment has been approved by the Secretary;
  - (b) be prepared in consultation with the local Aboriginal community and OEH, and submitted to the Secretary for approval prior to the commencement of construction activities;
  - (c) describe the measures that would be implemented to:
    - monitor initial surface disturbance on site for Aboriginal cultural heritage sites or objects;
    - manage the discovery of Aboriginal cultural heritage sites, objects or human remains on site; and
    - ensure ongoing consultation with Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage values on site.

## **VISUAL**

37. The Proponent shall:
- (a) ensure that clearing vegetation from any visually prominent ridgeline is undertaken in a progressive manner, to provide for a maximum of 6 months of future quarrying operations; and
  - (b) mitigate the visual impact of the project through the progressive and early rehabilitation of the upper quarry benches in accordance with the objectives in Table 11, to the satisfaction of the Secretary.

### **Advertising Signage**

38. The Proponent shall not erect or display any advertising structure or sign on the site without the written approval of the Secretary.

*Note: This condition does not apply to business identification, traffic management, and/or safety or environmental signs.*

## **EMEGENCY AND HAZARDS MANAGEMENT**

### **Dangerous Goods and Hazardous Materials**

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

### **Safety**

40. The Proponent shall secure the site to ensure public safety at all times, to the satisfaction of the Secretary.

### **Bushfire Management**

41. 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 in the surrounding area.

## **WASTE**

42. The Proponent shall:
- (a) minimise the waste generated by the project; and
  - (b) ensure that the waste generated by the project is appropriately stored, handled, and disposed of,
- to the satisfaction of the Secretary.



## **SCHEDULE 4 ADDITIONAL PROCEDURES**

### **NOTIFICATION OF LANDOWNERS**

1. As soon as practicable after obtaining monitoring results showing an:
  - (a) exceedance of any relevant criteria in Schedule 3, the Proponent shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and
  - (b) an exceedance of the relevant air quality criteria in Schedule 3, the proponent 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.

### **INDEPENDENT REVIEW**

2. If an owner of privately-owned land considers the project to be exceeding the relevant criteria in schedule 3, then the landowner may ask the Secretary in writing for an independent review of the impacts of the project on its land.

If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Proponent 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 its concerns;
    - conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 3; and
    - if the project is not complying with these criteria, then 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.
3. If the independent review determines that the project is complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Secretary.

If the independent review determines that the project is not complying with the relevant criteria in Schedule 3, 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 criteria, to the satisfaction of the Secretary.

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

### **ENVIRONMENTAL MANAGEMENT**

#### **Environmental Management Strategy**

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:
  - (a) be submitted to the Secretary for approval prior to the commencement of construction activities;
  - (b) provide the strategic framework for 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; and
    - 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 approval.

#### **Adaptive Management**

2. The Proponent shall 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 Proponent shall, at the earliest opportunity:

- (a) take all reasonable and feasible measures 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.

#### **Management Plan Requirements**

3. The Proponent shall ensure that the Management Plans required under this approval 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; and
    - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project 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 project; and

- 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 project 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.*

#### **Annual Review**

4. By the end of March each year, the Proponent shall review the environmental performance of the project to the satisfaction of the Secretary. This review must:
  - (a) describe the development (including 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 project over the previous calendar year, which includes a comparison of these results against:
    - 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 the measures that would be implemented over the current calendar year to improve the environmental performance of the project.

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

5. Within 3 months of:
  - (a) the submission of an annual review under Condition 4 above;
  - (b) the submission of an incident report under Condition 7 below;
  - (c) the submission of an audit report under Condition 9 below; or
  - (d) any modification to the conditions of this approval, (unless the conditions require otherwise),
 the Proponent shall review the strategies, plans, and programs required under this approval, 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: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the project.*

#### **Community Consultative Committee**

6. The Proponent shall establish and operate a Community Consultative Committee (CCC) for the project. The CCC must:
  - (a) be established and 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); and
  - (b) be established prior to the commencement of construction activities, to the satisfaction of the Secretary.

##### **Notes:**

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.*
- *In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the local community.*

## REPORTING

### Incident Reporting

7. The Proponent shall immediately notify the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the project, the Proponent shall notify the Secretary and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Secretary any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

### Regular Reporting

8. The Proponent shall regularly report on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.

## INDEPENDENT ENVIRONMENTAL AUDIT

9. Within 12 months of the commencement of development on the site, and every 3 years thereafter, unless the Secretary 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 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 project and whether it is complying with the relevant requirements in this approval and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);
  - (d) review the adequacy of any approved strategy, plan or program required under the these approvals; and
  - (e) recommend measures or actions to improve the environmental performance of the project, 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.*

10. Within 3 months of commissioning this audit, or as otherwise agreed by the Secretary, the Proponent 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

11. The Proponent shall:
  - (a) make the following information publicly available on its website:
    - the EA;
    - any statutory approvals for the project;
    - approved strategies, plans and/ programs;
    - a summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval;
    - a complaints register, updated quarterly;
    - minutes of CCC meetings;
    - annual reviews;
    - any independent environmental audit, and the Proponent's response to the recommendations in any audit; and
    - any other matter required by the Secretary; and
  - (a) keep this information up-to-date, to the satisfaction of the Secretary.

## APPENDIX 1 PROJECT LAYOUT

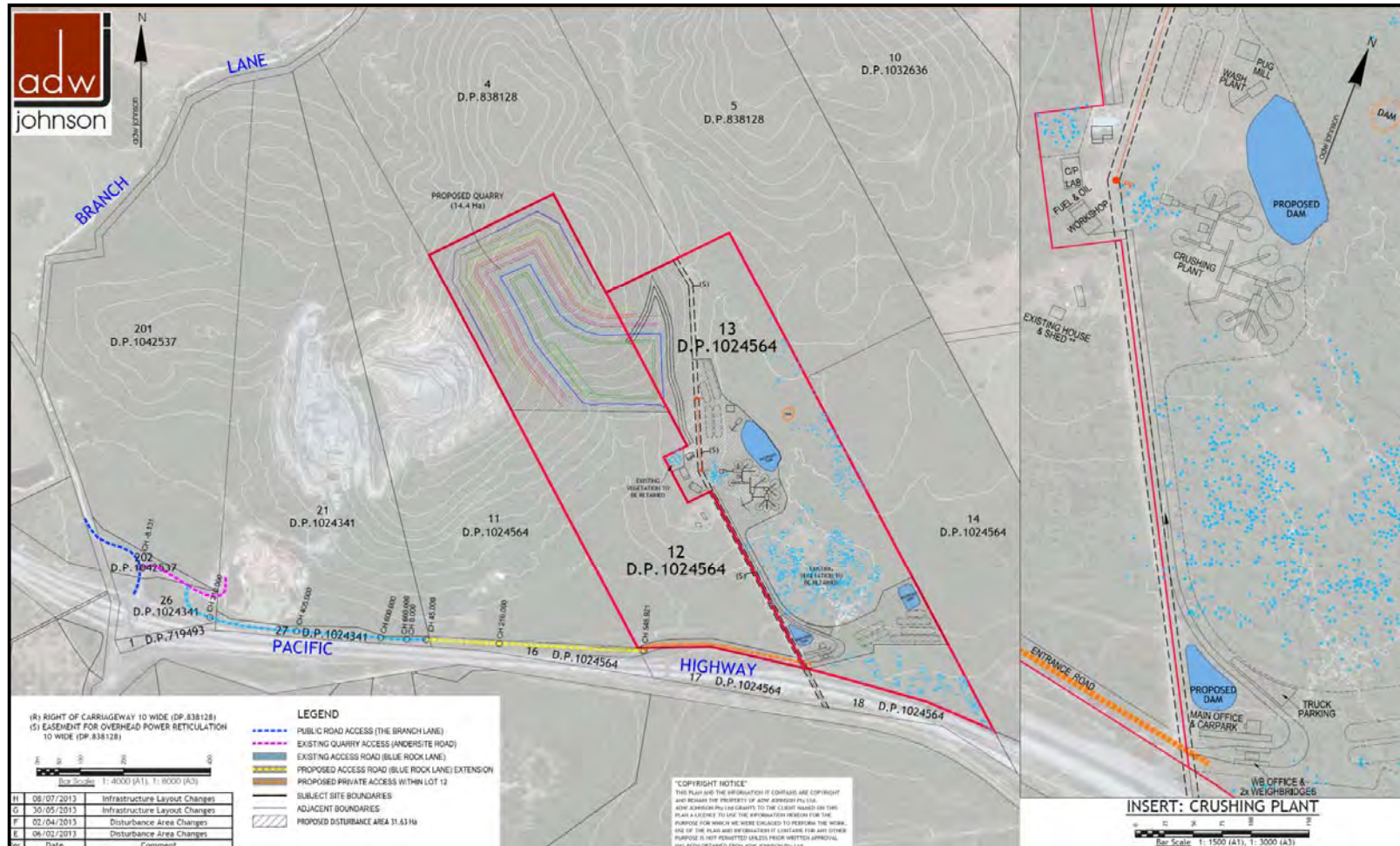


Figure 1: Project Layout



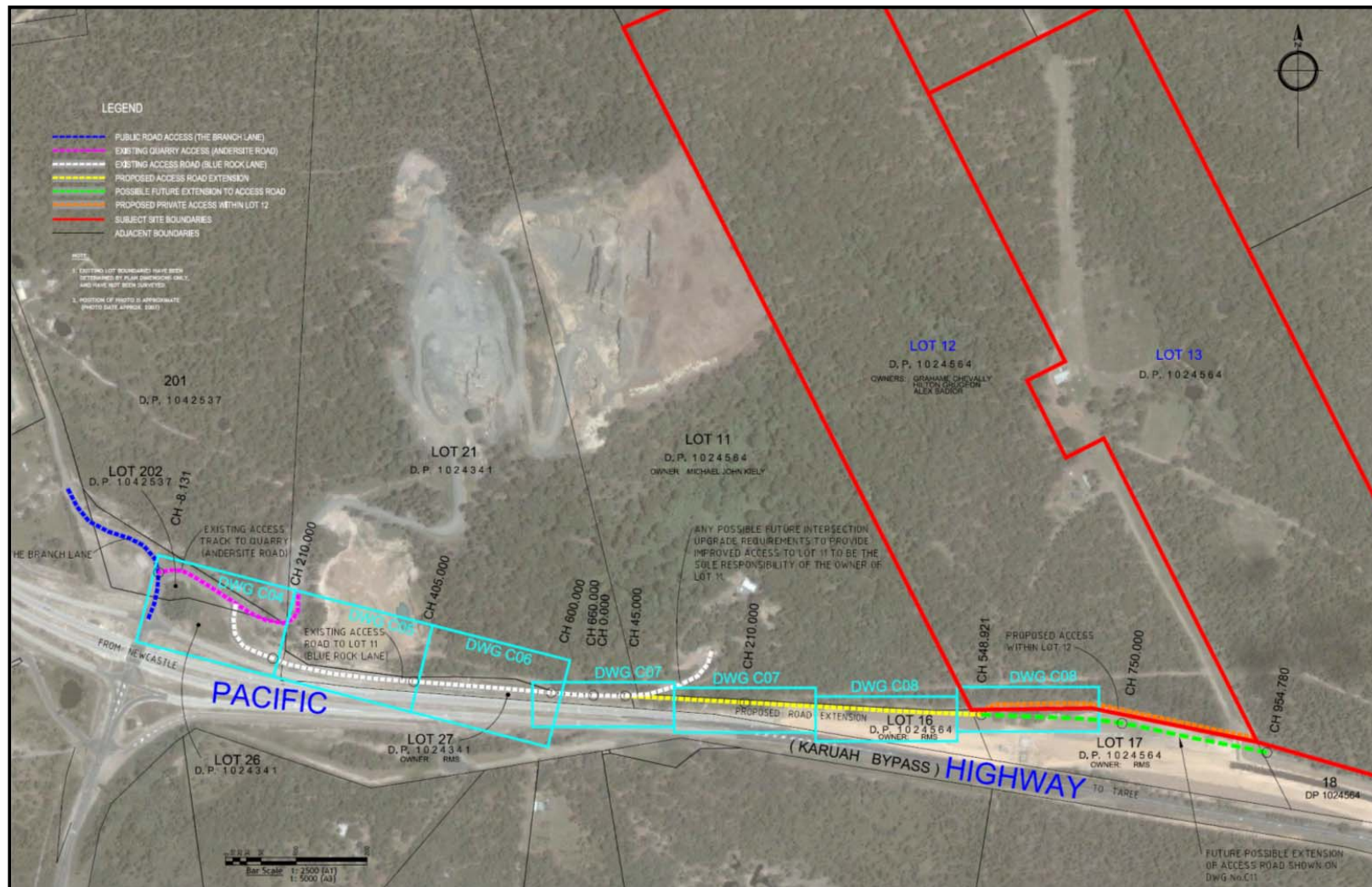


Figure 2: Proposed roadworks

**APPENDIX 2  
NOISE RECEIVER LOCATIONS**



*Figure 1: Closest residences*

### **APPENDIX 3 NOISE COMPLIANCE ASSESSMENT**

#### **Applicable Meteorological Conditions**

1. The noise criteria in Tables 2 and 4 are to apply under all meteorological conditions except the following:
  - (a) during periods of rain or hail; or
  - (b) wind speeds greater than 3 m/s measured at 10 m above ground level.

#### **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 in the vicinity of the site.

#### **Compliance Monitoring**

3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.
4. Unless otherwise agreed with the Secretary, 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.



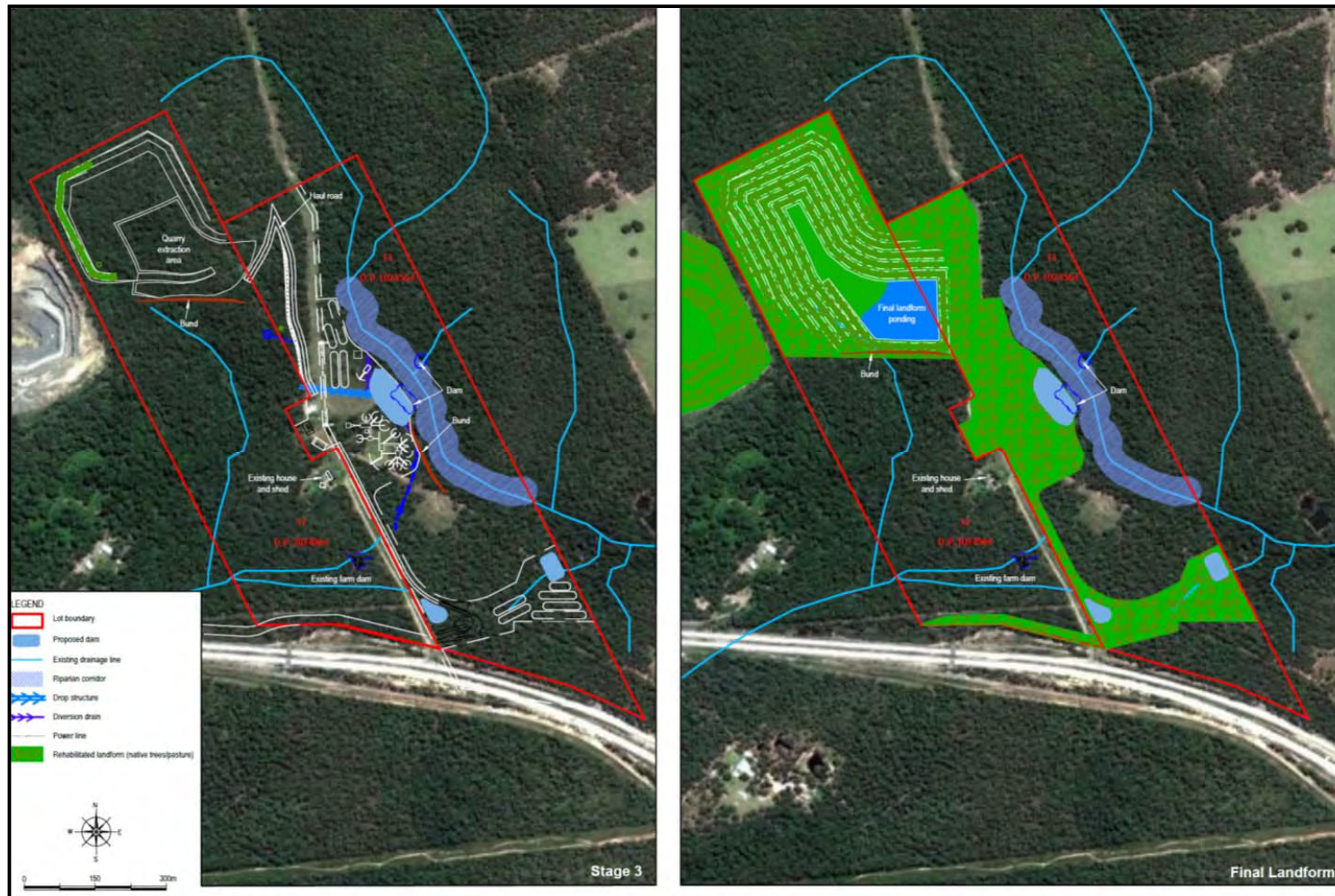
# APPENDIX 4 CONCEPTUAL BIODIVERSITY OFFSET AREA



Figure 1: Conceptual Biodiversity Offset Area



## APPENDIX 5 REHABILITATION STRATEGY



**Figure 1: Conceptual Rehabilitated Landform**

**APPENDIX 6**  
**STATEMENT OF COMMITMENTS**





**Australian Government**  
**Department of the Environment**

**Approval**

**Karuah East Quarry, Pacific Highway, 3 km from Karuah, NSW (EPBC 2014/7282)**

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

**Proposed action**

**Person to whom the approval is granted** Karuah East Quarry Pty Ltd

**Proponent's ACN** 141 505 035

**Proposed action** To develop a hard rock (andesite) quarry and associated infrastructure in the Lower North Coast, Pacific Highway, 3 km north of Karuah, NSW

**Approval decision**

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved

**Conditions of approval**

This approval is subject to the conditions specified below.

**Expiry date of approval**

This approval has effect until 30 March 2045.

**Decision-maker**

**name and position** Tim Wyndham  
Acting Assistant Secretary  
South-Eastern Australia Environment Assessments Branch

**signature**

**Date of decision**

20.3.15



## Conditions attached to the approval

---

### *Proposed project area*

1. The person taking the action must not impact on any **Black-eyed Susan** or **Trailing Woodruff** outside the **project area** identified at **Appendix A**.
2. The person taking the action must not impact on any habitat for the **Koala** outside the **project area** identified at **Appendix B**.

### *Mitigation*

3. Prior to the **commencement of construction**, the person taking the action must install fencing around the perimeter of the **project area** and identify signed **no-go areas**. Fencing and **no-go areas** must be maintained for the life of the action.
4. Prior to the **commencement of construction** and for the life of the action, all on-site personnel must be inducted on environmental sensitivities in the area, including the risk of **Koala** vehicle strike. Induction material is to be prepared by a **suitably qualified ecologist**.
5. Should injury to Koalas occur, advice from a **wildlife expert** must be sought and action taken in accordance with that advice. Records of any Koala injury within the **project area** must be documented and maintained.
6. Within 48 hours before the clearing of vegetation, pre-clearance surveys must be undertaken by a **suitably qualified ecologist** to ensure the absence of the **Koala** in the **project area**. If any **Koalas** are found to be present, **salvage and translocation** must be undertaken by a **suitably qualified ecologist**.

### *Offsets*

7. The person taking the action must comply with the offset conditions set out in the **NSW Project Approval**.
8. Prior to the **commencement of construction**, to compensate for the impact to the **Trailing Woodruff** and habitat for the **Koala**, the person taking the action must secure suitable offset sites consistent with the **Karuah East Quarry EPBC Act Assessment Report**. In the case that offsets for the **Trailing Woodruff** or habitat for the **Koala** consistent with those set out in the **Karuah East Quarry EPBC Act Assessment Report** cannot be secured, alternative offset sites must be secured, consistent with the **EPBC Act Offsets Policy**.



9. Prior to the **commencement of construction**, the person taking the action must provide the **Minister** with a Biodiversity Area Offset Management Plan for approval. The Biodiversity Area Offset Management Plan must be consistent with the **NSW Project Approval** and include:
- a) **survey information** identifying the number of **Trailing Woodruff** present across all proposed offset sites; and
  - b) details on the management and monitoring of the **Trailing Woodruff**, and corrective actions and **contingency plans** to be implemented where the re-establishment of the **Trailing Woodruff** fails to meet targets specified in the **Karuah East Quarry EPBC Act Assessment Report**.

The approved Biodiversity Area Offset Management Plan must be implemented.

#### *Administrative*

10. Within 30 days after the **commencement of construction**, the person taking the action must advise the **Department** in writing of the actual date of **commencement of construction**.
11. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plan, and make it available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department's** website. The results of audits may also be publicised through the general media.
12. Within three months of every 12 month anniversary of the **commencement of construction**, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval over the previous 12 months, including implementation of any management plan, as specified in the conditions. Documentary evidence providing proof of the date of publication must be provided to the Department at the same time as the compliance report is published. The compliance reports must remain on the website for 12 months from the date of publishing. Potential or actual contraventions of the conditions of the approval must be reported to the **Department** in writing within 2 business days of the person taking the action becoming aware of the potential or actual contravention. All contraventions must also be included in the compliance reports.
13. Upon the direction of the **Minister**, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.
14. If the person taking the action wishes to carry out any activity otherwise than in accordance with the management plan as specified in the conditions, the person taking the action must submit to the Department for the **Minister's** written approval a revised version of that management plan. The varied activity shall not commence until the **Minister** has approved the varied management plan in writing. If the **Minister** approves the revised management plan, that management plan must be implemented in place of the management plan originally.



15. If the **Minister** believes that it is necessary or convenient for the better protection of listed threatened species and ecological communities to do so, the **Minister** may request that the person taking the action make specified revisions to the management plan specified in the conditions and submit the revised management plan for the **Minister's** written approval. The person taking the action must comply with any such request. The revised approved management plan must be implemented. Unless the **Minister** has approved the revised management plan then the person taking the action must continue to implement the management plan originally approved, as specified in the conditions.
16. If, at any time after 5 years from the date of this approval, the person taking the action has not **substantially commenced** the action, then the person taking the action must not **substantially commence** the action without the written agreement of the **Minister**.
17. Unless otherwise agreed to in writing by the **Minister**, the person taking the action must publish all management plans referred to in these conditions of approval on their website. Each management plan must be published on the website within 1 month of being approved. The person taking the action must notify the **Department** within 5 business days of publishing the management plan on their website and the management plan must remain on the website for the period this approval has effect.



## Definitions:

**Black-eyed Susan** is the EPBC listed threatened species *Tetratheca juncea*.

**Commencement of construction** is the date that preparatory works are first undertaken, including but not limited to clearing of vegetation, the erection of any onsite temporary structures and the use of heavy duty equipment for the purpose of breaking the ground for infrastructure or earthworks. This does not include investigative activities such as accessing the site for surveying or planning purposes.

**Contingency plans** include compensatory measures such as additional direct offsets which would be required to meet the EPBC Act Offsets Policy.

**Department** means the Australian Government Department administering the *Environment Protection and Biodiversity Conservation Act 1999*.

**EPBC Act Offsets Policy** means the Australian Government policy document titled: *EPBC Act environmental offsets policy Department of the Environment, 2013 Policy guiding the use of offsets under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*.

**Karuah East Quarry EPBC Act Assessment Report** means the report prepared by Eco Logical Australia, October 2014.

**Koala** is the EPBC listed threatened species *Phascolarctos cinereus*.

**Minister** means the Australian Government Minister administering the *Environment Protection and Biodiversity Conservation Act 1999* and includes a delegate of the Minister.

**No-go areas** means areas adjacent to the **project area** containing habitat for EPBC listed threatened species, to be excluded from construction, vehicles, personnel and equipment.

**NSW Project Approval** means Project Approval number 09\_0175, granted under section 75J of the *Environmental Planning and Assessment Act 1979* by the Minister for Planning to Karuah East Quarry Pty Ltd and dated 17 June 2014.

**Project area** means the Karuah East Hard Rock Quarry identified by the red line at Appendix A and Appendix B.

**Salvage and translocation** means the relocation of animals or plants from an area adversely affected by development to an area reserved or protected from ongoing impacts.

**Substantially commence/d** means the installation of any permanent infrastructure associated with the action excluding signage and fences.

**Suitably qualified ecologist** means an ecologist with relevant tertiary qualifications and at least 2 years of experience in koala surveying and salvage and translocation.

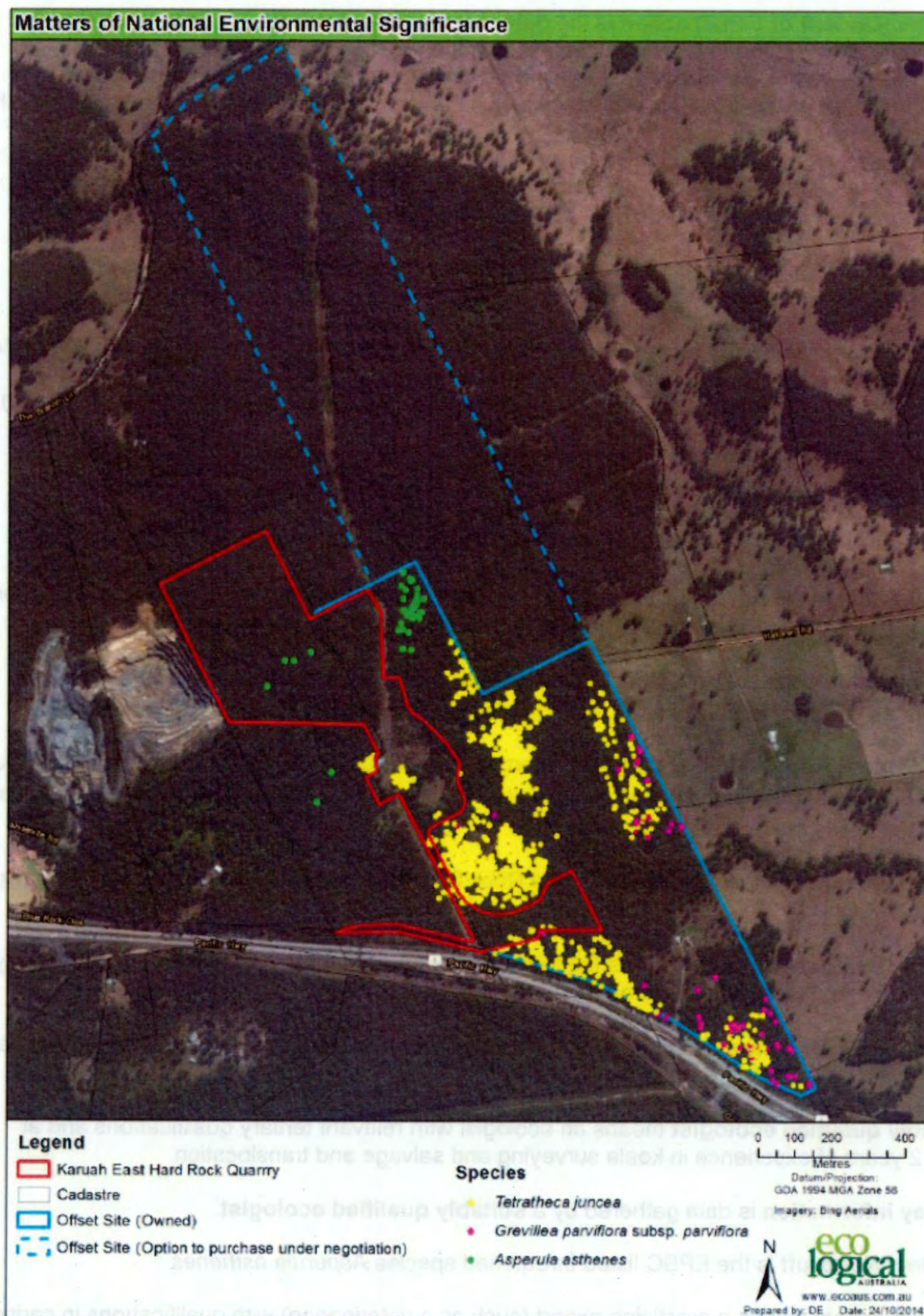
**Survey information** is data gathered by a **suitably qualified ecologist**.

**Trailing Woodruff** is the EPBC listed threatened species *Asperula asthenes*.

**Wildlife expert** means a practicing expert (such as a veterinarian) with qualifications in caring for injured wildlife and access to adequate equipment to provide appropriate care.



**Appendix A** – locations of the Black-eyed Susan and Trailing Woodruff in the **project area** and surrounding properties.



**Figure 11** Threatened species recorded within the offset site



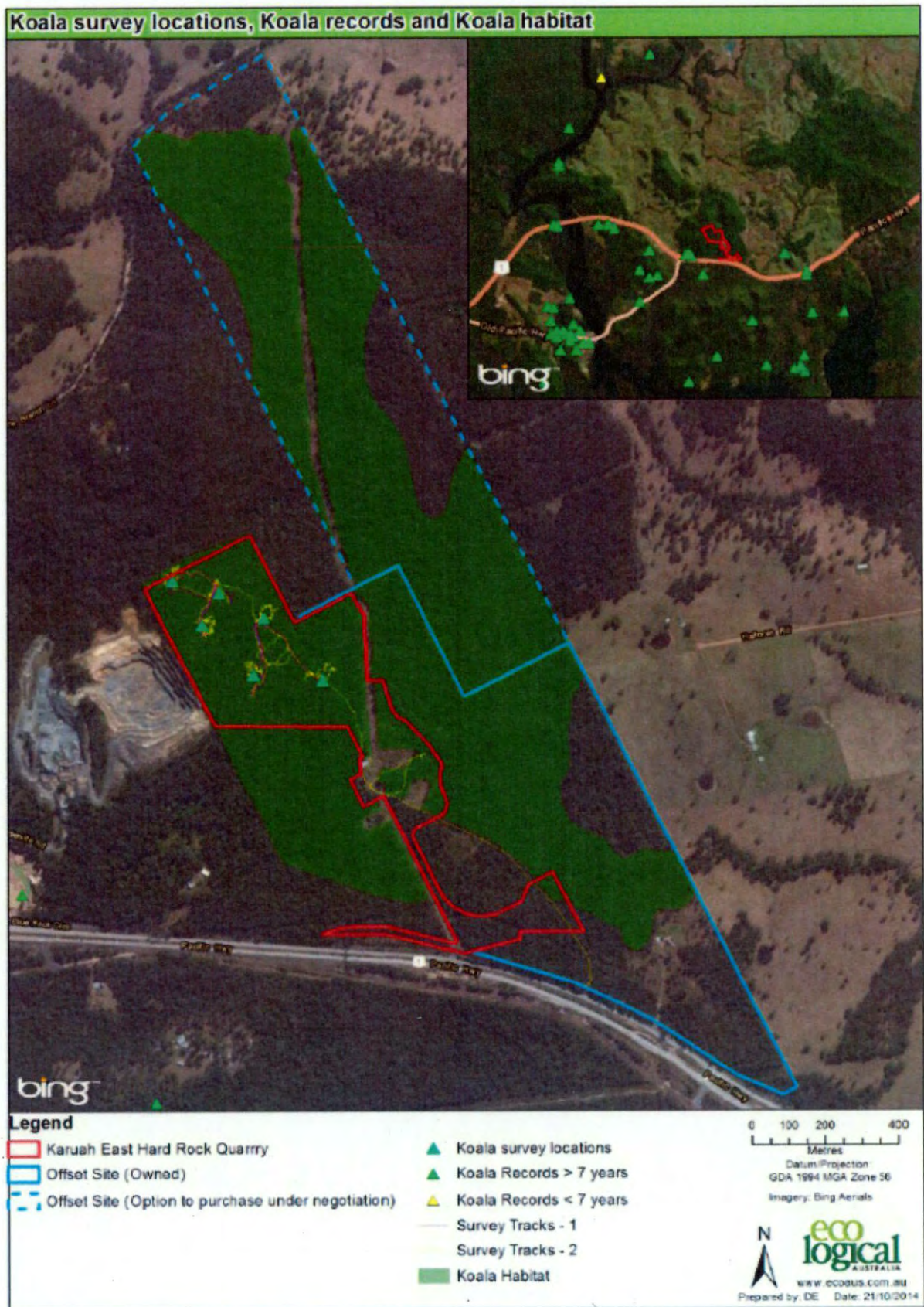


Figure 9 Koala habitat within both the quarry impact area and the adjacent offset areas



Item	Location	Notes
1. [Illegible]	[Illegible]	[Illegible]
2. [Illegible]	[Illegible]	[Illegible]
3. [Illegible]	[Illegible]	[Illegible]
4. [Illegible]	[Illegible]	[Illegible]
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19. [Illegible]	[Illegible]	[Illegible]
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21. [Illegible]	[Illegible]	[Illegible]
22. [Illegible]	[Illegible]	[Illegible]
23. [Illegible]	[Illegible]	[Illegible]
24. [Illegible]	[Illegible]	[Illegible]
25. [Illegible]	[Illegible]	[Illegible]

These items are to be included in the project area and surrounding area.

## **Appendix C – Environment Protection Licence**

Report Number 630.11235-R1

Page 1 of 1

# Licence Variation

Licence - 20611

RECEIVED  
30 SEP 2015

R.Y.

NSW



Karuah East Quarry Pty Limited  
ABN 80 141 505 035  
PO BOX 3284  
THORNTON NSW 2322

Attention: Mr Grahame Chevalley

Notice Number 1533596  
File Number EF15/9364  
Date 21-Sep-2015

## NOTICE OF VARIATION OF LICENCE NO. 20611

### BACKGROUND

- A. Karuah East Quarry Pty Limited ("the licensee") is the holder of Environment Protection Licence No. 20611 ("the licence") issued under the *Protection of the Environment Operations Act 1997* ("the Act"). The licence authorises the carrying out of activities at Pacific Highway, KARUAH, NSW, 2324 ("the premises").
- B. At the time the licence was first issued, the Blast Monitoring location (monitoring point 11) was identified as being at the front gate to the premises as nominated in the Licence Application.
- C. The EPA notified the Licensee that the Blast Monitoring location should be located adjacent to the closest or most affected residence. The Front Gate was deemed acceptable by the EPA at the time because the blast monitor was to be located between the quarry and the nearest Council approved residence and that compliance with all limits was expected at this location.
- D. On 26 August 2015, the Licensee requested that the Blast Monitoring location (monitoring point 11) be changed to Receiver Location B (within Lot 3 DP 785172), the closest receiver to Karuah East quarry.
- E. The Licence has been updated to reflect this change in location.

### VARIATION OF LICENCE NO. 20611

1. By this notice the EPA varies licence No. 20611. The attached licence document contains all variations that are made to the licence by this notice.
2. The following variations have been made to the licence:
  - Condition P1.4 has been updated changing the location of the Blast Monitoring location to adjacent to Residence B.

# Licence Variation

---



A handwritten signature in black ink, appearing to read 'Karen Marler', positioned above a horizontal dotted line.

**Karen Marler**

**Unit Head**

**North - Hunter**

(by Delegation)

## INFORMATION ABOUT THIS NOTICE

- This notice is issued under section 58(5) of the Act.
- Details provided in this notice, along with an updated version of the licence, will be available on the EPA's Public Register (<http://www.epa.nsw.gov.au/prpoeo/index.htm>) in accordance with section 308 of the Act.

## Appeals against this decision

- You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

## When this notice begins to operate

- The variations to the licence specified in this notice begin to operate immediately from the date of this notice, unless another date is specified in this notice.
- If an appeal is made against this decision to vary the licence and the Land and Environment Court directs that the decision is stayed the decision does not operate until the stay ceases to have effect or the Land and Environment Court confirms the decision or the appeal is withdrawn (whichever occurs first).

# Environment Protection Licence

Licence - 20611



## Licence Details

Number: 20611  
Anniversary Date: 26-August

## Licensee

KARUAH EAST QUARRY PTY LIMITED  
PO BOX 3284  
THORNTON NSW 2322

## Premises

KARUAH EAST QUARRY  
PACIFIC HIGHWAY  
KARUAH NSW 2324

## Scheduled Activity

Crushing, Grinding or Separating  
Extractive Activities

## Fee Based Activity

## Scale

Crushing, grinding or separating	> 500000-2000000 T processed
Land-based extractive activity	> 500000-2000000 T extracted, processed or stored

## Region

North - Hunter  
Ground Floor, NSW Govt Offices, 117 Bull Street  
NEWCASTLE WEST NSW 2302  
Phone: (02) 4908 6800  
Fax: (02) 4908 6810  
PO Box 488G NEWCASTLE  
NSW 2300

# Environment Protection Licence

Licence - 20611



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# Environment Protection Licence

Licence - 20611



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# Environment Protection Licence

---

Licence - 20611



## Information about this licence

### Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

### Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

### Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

### Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

### Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

### Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

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The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

## Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

## Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

## This licence is issued to:

KARUAH EAST QUARRY PTY LIMITED

PO BOX 3284

THORNTON NSW 2322

subject to the conditions which follow.

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## 1 Administrative Conditions

### A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled development work listed below at the premises listed in A2:

Works necessary to commence quarry operations (eg stormwater controls, development of roads).

A1.2 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Crushing, Grinding or Separating	Crushing, grinding or separating	> 500000 - 2000000 T processed
Extractive Activities	Land-based extractive activity	> 500000 - 2000000 T extracted, processed or stored

A1.3 Notwithstanding the condition above, the scale of the land-based extractive activity and / or scale of crushing, grinding and separating authorised under this licence must not exceed 1.5 million tonnes of quarry products per annum, being the amount equivalent to the extraction limit approved by the project approval MP09\_0175 granted under the *Environmental Planning and Assessment Act 1979* for the premises specified in A2.

### A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
KARUAH EAST QUARRY
PACIFIC HIGHWAY
KARUAH
NSW 2324
LOT 26 DP 1024341, LOT 27 DP 1024341, LOT 12 DP 1024564, LOT 13 DP 1024564, LOT 16 DP 1024564, LOT 17 DP 1024564, LOT 202 DP 1042537

### A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

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- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

## 2 Discharges to Air and Water and Applications to Land

### P1 Location of monitoring/discharge points and areas

- P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

<i>Air</i>			
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
4	Air emissions monitoring		Adjacent to Residence C at 5760 Pacific Highway, Karuah, referred to as DDG1 on Figure 2 "Sensitive Receivers & Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Plan", July 2015. Located within EPA document DOC15/281558.
5	Air emissions monitoring		Adjacent to Residence B at 5770 Pacific Hwy, Karuah, referred to as DDG2 on Figure 2 titled "Sensitive Receivers & Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Plan", July 2015. Located within EPA document DOC15/281558
6	Air emissions monitoring		Located Lot 24 DP 1024341 Pacific Karuah, referred to as DDG3 on Figure 2 titled "Sensitive Receivers and Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Plan", July 2015. Located within EPA document DOC15/281558.
7	Air emissions monitoring		Located at 21 Halloran Road, North Arm Cove, referred to as DDG4 on Figure 2 titled "Sensitive Receivers and Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Plan", July 2015. Located within EPA document DOC15/281558.
8	Air emission monitoring		Located at front gate to Lot11 DP1024564 Pacific Hwy, Karuah, referred to as DDG5 on Fig 2 "Sensitive Receivers & Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Plan", July 2015. Located within EPA document DOC15/281558.

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9	Air emission monitoring	Near Residence A located at 5772 Pacific Hwy, Karuah, referred to as HVAS on Fig 2 "Sensitive Receivers & Air Quality Monitoring Locations" in draft Karuah East Quarry Project Air Quality Mgt Plan, July 2015. Located within EPA document DOC15/281558.
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P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.3 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

## Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Discharge to waters	Discharge to waters	The discharge point from Dam 1 as shown on the plan titled "Proposed Surface Water Management Plan - Figure 3", which is filed as part of EPA document DOC15/253402.
2	Discharge to waters	Discharge to waters	The discharge point from Dam 2 as shown on the plan titled "Proposed Surface Water Management Plan - Figure 3", which is filed as part of EPA document DOC15/253402.
3	Discharge to waters	Discharge to waters	The discharge from Dam 3 as shown on the plan titled "Proposed Surface Water Management Plan - Figure 3", which is filed as part of EPA document DOC15/253402.

P1.4 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or setting of limits for the emission of noise from the point.

## Noise

EPA identification no.	Type of monitoring point	Location description
11	Air blast overpressure & ground vibration peak particle velocity monitoring	Blast Monitor located adjacent to Residence B as identified in 'Figure 1 - Appendix 2 - Noise Receiver Locations' located in EPA document DOC15/253402.

## 3 Limit Conditions

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## L1 Pollution of waters

- L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

## L2 Concentration limits

- L2.1 For each monitoring/discharge point or utilisation area specified in the table\ls below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.
- L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.
- L2.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\ls.
- L2.4 Water and/or Land Concentration Limits

### POINT 1,2,3

Pollutant	Units of Measure	50 Percentile concentration limit	90 Percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre				5 and/or none visibl
pH	pH				6.5 - 8.5
Total suspended solids	milligrams per litre				40

## L3 Waste

- L3.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.
- L3.2 This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.

## L4 Noise limits



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- L4.1 Noise generated at the premises must not exceed the noise limits in the table below. The locations referred to in the table below are indicated in Table 3 and Figure 10 of the document entitled Environmental Assessment Report - Proposed Karuah East Quarry (ADW Johnson Pty Limited 2013) which has been filed on EPA file LIC08/1088-03.

Location	Noise Limit dB(A)
	Day LAeq (15 minute)
Residence A on Lot 100 DP 785172	40
Residence B on Lot 3 DP 785172	37
Residence G on Lot 1 DP 1032636	38
Any other residence or sensitive receiver not subject to a private negotiated agreement	35
Any approved residence on Lot 11 DP 1024564	43

- L4.2 For the purpose of the table above, Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.

- L4.3 The noise limits set out in this licence apply under all meteorological conditions except for the following:
- Wind speed greater than 3 metres/second at 10 metres above ground level; or
  - Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
  - Stability category G temperature inversion conditions.

#### L4.4 Determining Compliance

To determine compliance:

- with the Leq(15 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located:
  - approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
  - within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable
  - within approximately 50 metres of the boundary of a National Park or a Nature Reserve.
- with the LA1(1 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located within 1 metre of a dwelling façade.
- with the noise limits in the Noise Limits table, the noise measurement equipment must be located:
  - at the most affected point at a location where there is no dwelling at the location; or
  - at the most affected point within an area at a location prescribed by part (a) or part (b) of this condition.

Note: A non-compliance of the Noise Limits table will still occur where noise generated from the premises in excess of the appropriate limit is measured:

- at a location other than an area prescribed in part (a) and part (b); and/or
- at a point other than the most affected point at a location.

- L4.5 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.



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## L5 Blasting

- L5.1 Blasting in or on the premises must only be carried out between 0900 hours and 1600 hours, Monday to Friday. No blasting is permitted Saturdays, Sundays or public holidays. Blasting outside of the hours specified in this condition can only take place with the written approval of the EPA.
- L5.2 Blasting is not permitted simultaneously with adjacent quarry(s).
- L5.3 The airblast overpressure level from blasting operations in or on the premises must not exceed: 115 dB (Lin Peak) for more than 5% of the total number of blasts during each reporting period at monitoring point 11 detailed in Condition P1.4.
- L5.4 The airblast overpressure level from blasting operations in or on the premises must not exceed: 120 dB (Lin Peak) at any time at monitoring point 11 detailed in Condition P1.4.
- L5.5 The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed 5 mm/second for more than 5% of the total number of blasts during each reporting period at monitoring point 11 detailed in Condition P1.4.
- L5.6 The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed 10 mm/second at any time at monitoring point 11 detailed in Condition P1.4.
- L5.7 Error margins associated with any monitoring equipment used to measure airblast overpressure or peak particle velocity are not to be taken into account in determining whether or not the limit has been exceeded.
- L5.8 The airblast overpressure and ground vibration levels in the conditions above do not apply at noise sensitive locations that are owned by the licensee or subject to a private agreement, relating to airblast overpressure and ground vibration levels, between the licensee and land owner.
- L5.9 Offensive blast fume must not be emitted from the premises.

### *Definition:*

*Offensive blast fume means post-blast gases from the detonation of explosives at the premises that by reason of their nature, duration, character or quality, or the time at which they are emitted, or any other circumstances:*

- 1. are harmful to (or likely to be harmful to) a person that is outside the premises from which it is emitted, or*
- 2. interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted.*

## L6 Hours of operation

- L6.1 All construction work at the premises must be conducted between 7am to 6pm Monday to Friday and between 8am to 1pm Saturdays and at no time on Sundays and public holidays. This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons.

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Note: 'safety or emergency reasons' refers to emergency works which may need to be undertaken to avoid loss of life, property loss and/or prevent environmental harm.

- L6.2 Construction may occur outside these hours provided the noise (LAeq 15min) from these activities does not exceed 35 dBA at any privately owned residence.
- L6.3 All quarrying operations, including extraction, processing and loadings / transport must be conducted between 7am to 6pm Monday to Friday and 7am to 1pm Saturdays and at no time on Sundays and public holidays.

Maintenance activities may occur 24 hours per day, 7 days per week, provided these activities are inaudible at any privately owned residence.

## L7 Potentially offensive odour

- L7.1 No condition of this licence identifies a potentially offensive odour for the purposes of Section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

## 4 Operating Conditions

### O1 Activities must be carried out in a competent manner

- O1.1 Licensed activities must be carried out in a competent manner.  
This includes:
- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
  - b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

### O2 Maintenance of plant and equipment

- O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
- a) must be maintained in a proper and efficient condition; and
  - b) must be operated in a proper and efficient manner.

### O3 Dust

- O3.1 All areas in or on the premises must be maintained in a condition that prevents or minimises the emission of dust to the air.

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- O3.2 Any activity carried out in or on the premises must be carried out by such practical means as to prevent dust or minimise the emission of dust to the air.
- O3.3 Any plant operated in or on the premises must be operated by such practical means to prevent or minimise dust or other air pollutants.
- O3.4 All trafficable areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the emission of dust to the air, or emission from the premises of wind-blown or traffic generated dust.
- O3.5 The licensee must ensure it has sufficient water during all stages of the quarry, and if necessary adjust the scale of quarrying operations on the premises to match its available supply.
- O3.6 Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.

## O4 Emergency response

- O4.1 The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The licensee must keep the incident response plan on the premises at all times. The incident response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment.

The PIRMP must be tested at least annually or following a pollution incident.

The licensee must develop the Pollution Incident Response Management Plan in accordance with the requirements in Part 5.7A of the Protection of the Environment Operations (POEO) Act 1997 and POEO regulations.

## O5 Processes and management

- O5.1 All tanks and storage areas for drums containing material that has potential to cause environmental harm must be bunded or have an alternative spill containment system in-place.

The bunding and/or spill containment systems must be properly designed, engineered, and constructed to be suitable for the material types and quantities stored therein in accordance with all appropriate standards, including Australian Standards (AS)1940 and AS1596.

- O5.2 Bunds must:
  - a) have walls and floors constructed of impervious materials;
  - b) be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed);
  - c) have floors graded to a collection sump; and
  - d) not have a drain valve incorporated in the bund structure,

or be constructed and operated in a manner that achieves the same environmental outcome.

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- O5.3 All refuelling must be undertaken in a dedicated refuelling area. The refuelling area must be a hardstand and suitably bunded in accordance with EPA bunding guidance.
- O5.4 The licensee must, before undertaking any earthmoving or vegetation removal works, implement erosion and sediment control measures to prevent pollution of waters in accordance with Soils and Construction: Managing Urban Stormwater 2004 (Landcom, 2004).
- O5.5 Stormwater from all areas of the premises which has the potential to mobilise sediments and other material must be controlled and diverted through the appropriate erosion and sediment control and/or pollution control measures/structures, so as not to cause, permit or allow water pollution to occur.
- O5.6 The in-pit sump must be sized at all times to prevent a discharge to waters in the event of pump failure.

## **O6 Waste management**

- O6.1 The licensee must not irrigate, discharge or dispose of sewage effluent, on the premises.
- O6.2 The licensee must operate and maintain a wastewater collection and storage tank/s to enable the pump out and offsite disposal of any sewage effluent.
- O6.3 The licensee must ensure that sewage effluent collected at the premises is pumped out and disposed of in a lawful manner.

## **O7 Other operating conditions**

### **Noise and Blast Management**

- O7.1 All acoustic bunds necessary to achieve compliance with the noise limits specified in this licence must be constructed prior to the commencement of quarrying activities and be maintained throughout the operational life of the premises to the height and location described in the Noise Management Plan.

### **Bitumin Pre-coat Plant**

- O7.2 The licensee must not have a bitumin pre-coat plant on the site. Project Approval MP09\_0175 did not assess or approve such a plant.

## **5 Monitoring and Recording Conditions**

### **M1 Monitoring records**

- M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.
- M1.2 All records required to be kept by this licence must be:

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- a) in a legible form, or in a form that can readily be reduced to a legible form;
- b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and
- d) the name of the person who collected the sample.

## M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

### M2.2 Air Monitoring Requirements

#### POINT 4,5,6,7,8

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19

#### POINT 9

Pollutant	Units of measure	Frequency	Sampling Method
PM10	micrograms per cubic metre	Every 6 days	AM-18
Total suspended particles	micrograms per cubic metre	Every 6 days	AM-15

### M2.3 Water and/ or Land Monitoring Requirements

#### POINT 1,2,3

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	milligrams per litre	Special Frequency 1	Visual Inspection
pH	pH	Special Frequency 1	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 1	Grab sample
Turbidity	nephelometric turbidity units	Special Frequency 1	Grab sample

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Note: For the purposes of the table above 'Special Frequency 1' means:

- (a) within 12 hours prior to any controlled discharge; and
- (b) daily during a controlled discharge; or
- (c) daily during any uncontrolled discharge.

## M3 Testing methods - concentration limits

- M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
- a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
  - b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
  - c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

- M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

## M4 Weather monitoring

- M4.1 Prior to the commencement of operation of the development, the Proponent must establish a permanent meteorological station complying with the Approved Methods for Sampling and Analysis and the Australian Standard AS2923 - 1987, at the facility. The meteorological station must monitor the following parameters:

Parameter	Units of measure	Averaging period	Frequency	Sampling Method
Rainfall	mm/hr	1 hour	Continuous	AM-4
Sigma Theta @ 10m	degrees	1 hour	Continuous	AM-2
Siting	-	-	-	AM-1
Temperature @ 10m	Kelvin	1 hour	Continuous	AM-4
Temperature @ 2m	Kelvin	1 hour	Continuous	Am-4
Total Solar Radiation @ 10m	W/m2	1 hour	Continuous	AM-4

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Wind direction @ 10m	degrees	1 hour	Continuous	AM-2
Wind speed @ 10m	m/s	1 hour	Continuous	AM-2

Note: Sampling methods as identified in the table above refer to those outlined in NSW EPA, 2001, Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.

- M4.2 The location of the site chosen for the station and details of equipment, measurement and maintenance / service procedures and schedules to be installed and maintained must be submitted to the EPA and approved in writing by the EPA before any sampling or analysis is carried out.
- M4.3 The meteorological monitoring station must be calibrated at least once every 12 months. The EPA is to be provided with data on request in a Microsoft Office software compatible format.

## M5 Recording of pollution complaints

- M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.
- M5.2 The record must include details of the following:
- a) the date and time of the complaint;
  - b) the method by which the complaint was made;
  - c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
  - d) the nature of the complaint;
  - e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
  - f) if no action was taken by the licensee, the reasons why no action was taken.
- M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.
- M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

## M6 Telephone complaints line

- M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M6.3 The preceding two conditions do not apply until 1 month after the date of the issue of this licence.

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## M7 Blasting

M7.1 To determine compliance with Blast Limit conditions of this licence:

- a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for monitoring point 11 for the parameters specified in Column 1 of the table below; and
- b) The licensee must use the units of measure, sampling method, and sample at the frequency specified opposite in the other columns.

Parameter	Units of Measure	Frequency	Sampling Method
Airblast Overpressure	Decibels (Linear Peak	All blasts	Australian Standard AS 2187.2-2006
Ground Vibration Peak Particle Velocity	millimetres/second	All blasts	Australian Standard AS 2187.2-2006

## M8 Noise monitoring

M8.1 To assess compliance with the noise limits for this premises attended noise monitoring must be undertaken in accordance with all noise conditions and:

- a) at each one of the locations listed in the noise limits table of this licence;
- b) occur annually each reporting period at the time of year generally associated with maximum noise transmission (ie generally winter conditions);
- c) occur during each day period as defined in the NSW Industrial Noise Policy.

Note: the frequency of this noise monitoring may be varied at the discretion of the EPA.

## 6 Reporting Conditions

### R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

- a) a Statement of Compliance; and
- b) a Monitoring and Complaints Summary.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.



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**Note:** An application to transfer a licence must be made in the approved form for this purpose.

- R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
  - b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.
- R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').
- R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.
- R1.7 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
- a) the licence holder; or
  - b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

## **R2 Notification of environmental harm**

- R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.
- R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

**Note:** The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

## **R3 Written report**

- R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
- a) where this licence applies to premises, an event has occurred at the premises; or
  - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.
- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
- a) the cause, time and duration of the event;

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- b) the type, volume and concentration of every pollutant discharged as a result of the event;
- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

## R4 Other reporting conditions

### Reporting blasting limit exceedance

R4.1 The licensee must report any exceedance of the licence blasting limits to the regional office of the EPA as soon as practicable after the exceedance becomes known to the licensee or to one of the licensee's employees or agents.

### Annual Blast Monitoring Report

R4.2 The licensee must supply a Blast Monitoring Report with the EPA licence Annual Return, which must include the following information relating to each blast carried out within the premises during the respective reporting period:

- a) the date and time of the blast;
- b) the location of the blast on the premises;
- c) the blast monitoring results at each blast monitoring station;
- d) an explanation for any missing blast monitoring results.

### Noise Monitoring Report

R4.3 A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the annual monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:

- a) an assessment of compliance with noise limits presented in this licence; and
- b) an outline of any management actions taken within the monitoring period to address any exceedances of the limits contained in this licence.

## 7 General Conditions

# Environment Protection Licence

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## **G1 Copy of licence kept at the premises or plant**

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

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## Dictionary

### General Dictionary

<b>3DGM [in relation to a concentration limit]</b>	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
<b>Act</b>	Means the Protection of the Environment Operations Act 1997
<b>activity</b>	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
<b>actual load</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>AM</b>	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>AMG</b>	Australian Map Grid
<b>anniversary date</b>	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>annual return</b>	Is defined in R1.1
<b>Approved Methods Publication</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>assessable pollutants</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>BOD</b>	Means biochemical oxygen demand
<b>CEM</b>	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>COD</b>	Means chemical oxygen demand
<b>composite sample</b>	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
<b>cond.</b>	Means conductivity
<b>environment</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>environment protection legislation</b>	Has the same meaning as in the Protection of the Environment Administration Act 1991
<b>EPA</b>	Means Environment Protection Authority of New South Wales.
<b>fee-based activity classification</b>	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
<b>general solid waste (non-putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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<b>flow weighted composite sample</b>	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
<b>general solid waste (putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>grab sample</b>	Means a single sample taken at a point at a single time
<b>hazardous waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>licensee</b>	Means the licence holder described at the front of this licence
<b>load calculation protocol</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>local authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>material harm</b>	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
<b>MBAS</b>	Means methylene blue active substances
<b>Minister</b>	Means the Minister administering the Protection of the Environment Operations Act 1997
<b>mobile plant</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>motor vehicle</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>O&amp;G</b>	Means oil and grease
<b>percentile [in relation to a concentration limit of a sample]</b>	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
<b>plant</b>	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
<b>pollution of waters [or water pollution]</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>premises</b>	Means the premises described in condition A2.1
<b>public authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>regional office</b>	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
<b>reporting period</b>	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>restricted solid waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>scheduled activity</b>	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
<b>special waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>TM</b>	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

# Environment Protection Licence

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<b>TSP</b>	Means total suspended particles
<b>TSS</b>	Means total suspended solids
<b>Type 1 substance</b>	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
<b>Type 2 substance</b>	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
<b>utilisation area</b>	Means any area shown as a utilisation area on a map submitted with the application for this licence
<b>waste</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>waste type</b>	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Mr Peter Jamieson

Environment Protection Authority

(By Delegation)

Date of this edition: 26-August-2015

## End Notes

## **Appendix D – Statutory Requirements Register**

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**TABLE 1: Summary of Environmental Legislation**

Activity/Area of Work	Legislation (as applicable)	Obligations/required Actions – Summary Information Only – Further definition must be sought directly from the relevant legislation.
<b>Federal –</b> Conservation Legislation	<ul style="list-style-type: none"> <li><i>Environmental Protection and Biodiversity Conservation Act 1999 (Cth)</i></li> </ul>	<ul style="list-style-type: none"> <li>An Act relating to the protection of the environment and the conservation of biodiversity –administered by Commonwealth Department of Environment &amp; Heritage.</li> <li>Federal Government approval may be required for activities that have, will have or are likely to have an impact on matters of national environmental significance</li> </ul>
<b>State (NSW) -</b> Planning/Building	<ul style="list-style-type: none"> <li><i>Environmental Planning and Assessment Act 1979 (NSW)</i></li> <li><i>Local Government Act 1993 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>Karuah East has obtained Project Approval for the project; all future works to be in accordance with instructions provided by Karuah East from Project Approval Conditions.</li> <li>Local Council approval is required to erect/demolish buildings, moveable dwellings and site structures such as compounds. This includes operating a bio-cycle sewerage treatment plant (or similar).</li> </ul>
Mining Activities – Environmental Management	<ul style="list-style-type: none"> <li><i>Mining Act 1992 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>Regulates mining and quarrying – works to comply with the environmental requirements of the Act (e.g. requirements to rehabilitate).</li> </ul>
Water Management/erosion Control	<ul style="list-style-type: none"> <li><i>Water Act 1912 / Water Management Act 2000 (NSW)</i></li> <li><i>Rivers &amp; Foreshores Improvement Act 1948 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>Licences required for bores, test monitoring bores, water works diversions and the active pit area.</li> <li>Disturbance of riverbanks requires a licence from NOW.</li> </ul>
Pollution Control	<ul style="list-style-type: none"> <li><i>Protection of the Environment Operations Act 1997 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>Environment Protection Licence (EPL) from the EPA. Karuah East holds EPL 20611.</li> </ul>
Hazardous/Dangerous Goods & Contamination	<ul style="list-style-type: none"> <li><i>Environmentally Hazardous Chemicals Act 1985 (NSW)</i></li> <li><i>Contaminated Land Management Act 1997 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>Storage and distribution of certain chemicals requires a licence from the OEH.</li> <li>Contamination that has a significant risk of harm must be reported to the OEH. If a significant risk exists then the site must be remediated.</li> </ul>
Land Management	<ul style="list-style-type: none"> <li><i>Rural Lands Protection Act 1998 (NSW)</i></li> <li><i>Noxious Weeds Act 1993 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>Responsibility of occupiers of land to suppress and destroy noxious animals, noxious insects and the control of pest animals as per control orders issued under the Act.</li> <li>Responsibility to control noxious weeds, requirement to notify local council of the presence of noxious weeds and destroy</li> </ul>



Activity/Area of Work	Legislation (as applicable)	Obligations/required Actions – Summary Information Only – Further definition must be sought directly from the relevant legislation.
	<ul style="list-style-type: none"> <li><i>Soil Conservation Act 1938 (NSW)</i></li> </ul>	<p>and/or prevent them from spreading depending on classification</p> <ul style="list-style-type: none"> <li>Notice may be served of actions required to mitigate or avoid soil erosion, siltation or land degradation associated with prescribed works and catchment areas.</li> </ul>
Bushfire Management	<ul style="list-style-type: none"> <li><i>Rural Fire Act (1997)</i></li> </ul>	<ul style="list-style-type: none"> <li>An Act to establish the NSW Rural Fire Service and define its functions; to make provision for the prevention, mitigation and suppression of rural fires; to repeal the <i>Bush Fires Act 1949</i>; to amend certain other Acts; and for other purposes.</li> </ul>
Archaeology	<ul style="list-style-type: none"> <li><i>National Parks &amp; Wildlife Act 1974 (NSW)</i></li> <li><i>Heritage Act 1977 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>Regulates the disturbance of relics, Aboriginal places and flora and fauna. Karuah East is to notify the OEH of the discovery of any artefacts or sites.</li> <li>No items older than 50 years to be disturbed or removed without discussion of the need for a permit from the Heritage Council of NSW.</li> </ul>
Waste Management	<ul style="list-style-type: none"> <li><i>Waste Avoidance and Resource Recovery Act 2001 (NSW)</i></li> <li><i>Protection of Environment Operations (Waste) Regulation 2014</i></li> </ul>	<ul style="list-style-type: none"> <li>Waste products to be disposed of in a controlled manner.</li> </ul>
Flora and Fauna/Clearing of vegetation	<ul style="list-style-type: none"> <li><i>Threatened Species Conservation Act 1995 (NSW)</i></li> <li><i>Native Vegetation Act 2003 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>Need to consider effect on threatened species and communities. Threatened species sightings are to be reported to the quarry Manager.</li> <li>To prevent the inappropriate clearing of vegetation and provide for the management and conservation of native vegetation on a regional basis.</li> </ul>
Storage and use of Explosives	<ul style="list-style-type: none"> <li><i>Explosives Act 2003 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>An Act to provide for the regulation and control of the handling of explosives and explosive precursors; to provide for the regulation of certain other dangerous goods; and for related purposes.</li> </ul>
Ozone Materials	<ul style="list-style-type: none"> <li><i>Ozone Protection Act 1989 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>An Act to empower the regulation and prohibition of the manufacture, sale, distribution, use, emission, re-cycling, storage and disposal of stratospheric ozone depleting substances and articles which contain those substances; and for other purposes.</li> </ul>
Radioactive Materials	<ul style="list-style-type: none"> <li><i>Radiation Control Act 1990 (NSW)</i></li> </ul>	<ul style="list-style-type: none"> <li>An Act to make provision for the regulation and control of the sale, use, keeping and disposal of radioactive substances and</li> </ul>

Activity/Area of Work	Legislation (as applicable)	Obligations/required Actions – Summary Information Only – Further definition must be sought directly from the relevant legislation.
		radiation apparatus and for other purposes.

**TABLE 2: Summary of relevant Standards and Guidelines**

<b>Policy, Guideline and Standards</b>	<b>Obligations/required Actions</b>
<ul style="list-style-type: none"> <li>• <i>Environmental Noise Control Manual (EPA, 1994)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Sets criteria for operational noise, detailing monitoring method. Document under which the current consent was approved.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>Industrial Noise Policy (EPA, 2000)</i></li> </ul>	<ul style="list-style-type: none"> <li>• To be used for Noise Assessment work in conjunction with the ENCM above (EPA, 2000).</li> </ul>
<ul style="list-style-type: none"> <li>• <i>AS1055.1, AS1055.2 &amp; AS1055.3 Acoustics Description and measurement of environmental noise</i></li> </ul>	<ul style="list-style-type: none"> <li>• Australian Standards for description and measurement of environmental noise.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>AS2659.1 – Guide to the use of sound measuring equipment</i></li> </ul>	<ul style="list-style-type: none"> <li>• Guidelines for using sound level meter noise monitoring.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>AS2659 – Sound Level Meters</i></li> </ul>	<ul style="list-style-type: none"> <li>• Description and types of sound level meters.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>Australian and NZ Water Quality Guidelines for Fresh and Marine Waters (ANZECC, 2000)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Set objectives and targets for water quality monitoring.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>Managing Urban Storm water – Soils &amp; Construction (Dept of Housing, 1998) (Blue Book)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Management techniques for sediment control/runoff.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>Approved Methods for Sampling &amp; Analysis of Waste Water Pollutants in NSW, EPA (1998)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Methods applicable to the sampling and analysis of water on the quarry.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>Approved Methods for sampling and Analysis of Air Pollutants in NSW (EPA, 1999)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Guidelines for sampling and analysis of air pollutants.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>AS2724.3 – 1994 Air Particulates Determination of Total Suspended Particulates (TSP)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Australian Standard for sampling and analysis of air pollutants (TSP).</li> </ul>
<ul style="list-style-type: none"> <li>• <i>AS3580.9.6 – 1990 Suspended Particulate Matter – PM<sub>10</sub> High Volume air sampler with size selective inlet-gravimetric method</i></li> </ul>	<ul style="list-style-type: none"> <li>• Australian Standard for sampling and analysis of air pollutants (PM<sub>10</sub>).</li> </ul>
<ul style="list-style-type: none"> <li>• <i>AS2923-1987 Ambient Air – Guide for Siting of Sample units and AS3580.10.1 – 1991 Methods for sampling and analysis of ambient air</i></li> </ul>	<ul style="list-style-type: none"> <li>• Australian Standards for siting, sampling and analysis of depositional dust.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>Guidelines for Best practice Community Consultation in the NSW Mining &amp; Extractive Industries (DMR, 1996).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Guidelines for undertaking community consultation.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>AS2187.7.1993 – Explosives – Storage, Transport and use of explosives</i></li> </ul>	<ul style="list-style-type: none"> <li>• The storage of explosives – and reference to limits for ground vibration and overpressure.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>AS1940-1993 – The storage and handling of Combustible liquids</i></li> </ul>	<ul style="list-style-type: none"> <li>• Give reference to standards required for fuel farms, bunding and the storage of combustible liquids.</li> </ul>
<ul style="list-style-type: none"> <li>• <i>AS44528-1997 – The Storage and Handling of Toxic Substances</i></li> </ul>	<ul style="list-style-type: none"> <li>• This Standard sets out requirements and recommendations for the safe storage and handling of toxic substances, including reference to bunding requirements.</li> </ul>

**Appendix E – Environmental Aspects/Impacts Register**

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Activity	Aspect	Existing Controls	Existing Controls			Main Proposed Controls	
			C	P	R		
Construction and Operations	Disturbance/ damage to threatened flora and fauna	EIS Management Plan preparation	3	d	3d	17	Relocation of T.J. Management Plan and specialists assisting. Inspections and monitoring. Fauna crossings.
	Disturbance of Aboriginal heritage sites		5	e	5e	25	Stay in defined footprint. Disturbance limit clearly identified.
	Disturbance of European heritage sites		5	e	5e	25	Stay in defined footprint. Disturbance limit clearly identified.
	Dust Issue/Non Compliance		4	c	4c	18	Water haul roads. Meteorological monitoring. Dust monitoring. Minimise disturbance area. Inspections.
	Noise Issue/Non Compliance		4	c	4c	18	Noise monitoring. Daytime construction and operational hours. Maintain equipment. Operate in quiet efficient manner. Switch off plant and equipment when not in use. 40kph speed limit onsite.
	Erosion with sediment leaving site		4	d	4d	21	<ul style="list-style-type: none"><li>• Temporary erosion and sediment controls.</li><li>• Conducting best practice land clearing procedures for all proposed disturbance areas;</li><li>• Minimising the disturbance footprint.</li><li>• Coordinating construction sequences to minimise exposure of disturbed soils to the elements.</li><li>• Separate/diversion of upslope 'clean' water catchment runoff prior to land disturbance.</li><li>• Ensuring sediment-laden runoff is treated via designated sediment control devices.</li><li>• Appropriate storage of topsoil stockpiles in areas away from roadways and other drainage lines.</li><li>• Revegetation of disturbed areas as soon as possible following the completion of construction activities.</li><li>• Implementing an effective maintenance period.</li></ul> * Inspections.
	Spillage of hydrocarbons		4	d	4d	21	<ul style="list-style-type: none"><li>* major vehicle repairs/maintenance will occur offsite.</li><li>• Refuelling will be undertaken in a designated non-permeable (compacted clay or concrete) area.</li><li>• Runoff water from the Project site will be collected and monitored for environmental mitigation to prevent chemicals and hydrocarbon pollutants such as petroleum, diesel, and oil seeping into the groundwater system.</li><li>• Fuel storage facilities will be installed in accordance with relevant statutory requirements.</li></ul>
	issues associated with Traffic		4	d	4d	21	Covered loads. Operating hours. Trained drivers. Speed limits.
	Transfer of hydrocarbons from fuel truck		4	d	4d	21	<ul style="list-style-type: none"><li>• Refuelling will be undertaken in a designated non-permeable (compacted clay or concrete) area.</li><li>• Runoff water from the Project site will be collected and monitored for environmental mitigation to prevent chemicals and hydrocarbon pollutants such as petroleum, diesel, and oil seeping into the groundwater system.</li><li>• Fuel storage facilities will be installed in accordance with relevant statutory requirements.</li></ul>
	Blasting		4	d	4d	21	Blasting contractor. Blast monitoring.
	Rehabilitation and Closure		4	d	4d	21	Progressive Rehabilitation. Rehabilitation monitoring as required.
	Waste		4	d	4d	21	Waste management contractor. Defined waste collection areas. Waste monitoring.
Visual	4	d	4d	21	Monthly inspections. Progressive rehabilitation.		

# RISK MANAGEMENT STANDARD

# Management Standard-004

Karuah East - Risk Management							Likelihood					Description (D)
Rating	Consequence Note: Consequence may result from a single event or may represent a cumulative impact over a period of 12 months. Use the worst case reasonable consequence if there is more than one.						A Certain	B Probable	C Possible	D Remote	E Improbable	
	Impact to Annual Business Plan (F)	Personal Injury (PI)	Business Interruption (BI)	Legal (L)	Reputation (R)	Environment (E)	Common"	Has Happened within Centennial"	"Could Happen & has happened in non-CEY operations	Not Likely	"Practically impossible	Probability (Pb)
							Frequent incidents	Regular incidents	Infrequent incidents	Unlikely to occur. Very few recorded or known incidents	May occur in exceptional circumstances. Almost no recorded incidents.	Incident Frequency (IF)
							Operations – within 3 months	Operations – within 2 years	Operations – within 5 years	Operations – within 10 years	Operations – within 30 years	Operations (Op)
							Project – Every project	Project – Every 2 projects	Project – Every 5 projects	Project – Every 10 projects	Project – Every 30 projects	Project (Pr)
1. Catastrophic	>\$50m	Multiple Fatalities	> 1month	Prolonged litigation, heavy fines, potential jail term	Prolonged International media attention	Long term impairment habitats/ ecosystem	1 (E)	2 (E)	5 (H)	7 (H)	11 (S)	
2. Major	\$10m - \$50m	Single Fatality	1 week to 1 month	Major breach/ major litigation	International media attention	Long term effects of ecosystem	3 (E)	4 (E)	8 (H)	12 (S)	16 (M)	
3. Moderate	\$1m - \$10m	Serious/ Disabling Injury	1 day to 1 week	Serious breach of regulation. prosecution/ fine	National media attention	Serious medium term environmental effects	6 (H)	9 (H)	13 (S)	17 (M)	20 (L)	
4. Minor	\$100k - \$1m	Lost Time Injury	12 hrs to 1 day	Non-compliance, breaches in regulation	Adverse local public attention	Minor effects to physical environment	10 (S)	14 (S)	18 (M)	21 (L)	23 (L)	
5. Insignificant	<\$100k	First Aid Treatment Only	< 12 hrs	Low level compliance issue	Local complaints	Limited physical damage	15 (S)	19 (M)	22 (L)	24 (L)	25 (L)	

## **Appendix F – Environment and Community Policy**

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## **KARUAH EAST**

# **ENVIRONMENT AND COMMUNITY POLICY**

### **Applicable to all Employees and Contractors working on the quarry)**

Karuah East Quarry Pty Ltd (Karuah East) believes that businesses are responsible for achieving good environmental practice and operating in a sustainable manner.

We are therefore committed to reducing our environmental impact and continually improving our environmental performance as an integral and fundamental part of our business strategy and operating methods.

### **In carrying out the work under the Contract, the Contractor shall:**

- a) Endeavour to achieve a high standard of environmental care at all times and implement environmental management measures which seek continuous improvement in performance by taking account of evolving scientific knowledge and community expectations;
- b) Comply with all applicable laws, regulations and standards; uphold the spirit of the law; and where laws do not adequately protect the environment, apply standards that minimise any adverse environmental impacts;
- c) Ensure that employees, contractors, subcontractors and suppliers of goods and services are informed about the Karuah East Environment and Community Policy and are aware of their environmental responsibilities and act accordingly;
- d) Ensure that it has management systems to identify, control and monitor any environmental risks arising in connection with the work under the Contract;
- e) Endeavour to conserve resources, minimise wastes, improve processes and protect the environment;
- f) Ensure compliance with any plan of management applying to the Site; and
- g) Where any condition of the Project Approval is in conflict with any of the conditions outlined in this Standard, then all contractors should note that the conditions outlined in the Project Approval takes precedence.

For any issues related to Environment and Community Policy linked to this business please contact the Quarry Manager on (02) 4997 5966.

## **Appendix G – Monthly Internal Environmental Inspection**

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# **ENVIRONMENTAL INSPECTION FORM**

**Site:** Karuah East Hard Rock Quarry

**Date and time of Meeting/Inspection:**

**Is the site in Construction or Operational Phase?:**

**Inspection completed by:**

**Weather Conditions:**

**Summary of operations during inspection:**

The following areas of the site operations are to be covered. Have they been reviewed as part of this inspection?

Construction/Operational Area	YES	NO	N/A
Pit and Highwall			
Rehabilitation Areas			
Roads			
Crushing and Stockpile Area			
Workshop			
Diesel Tank			
Weighbridge and Carpark			
Waste and Laydown Areas			
Sediment dams and water management			

Document identification	Page
Environmental Inspection	Page 1 of 4



The following environment and community aspects need to be reviewed as part of the Environmental Inspection. Were these reviewed?

Aspect	YES	NO	NA	Comment
Vegetation management				
Soil management (topsoil and subsoil)				
Weed management				
Water management and erosion and sediment control				
Rehabilitation				
Cultural Heritage				
Noise				
Dust				
Visual and Lighting				
Waste management				
Hazardous substances and contamination				



## ACTIONS REQUIRED FROM INSPECTION

No.	Location of issue	Issue/Comment	Recommended Priority	Action	Close out date	Action Sign Off

Document identification	Page
Environmental Inspection	Page 3 of 4



**Definition of priorities:**

Priority	Action
Immediate	Issue to be addressed immediately and closed out on the day of the inspection.
High	Within 24 hours
Medium	Within 10 working days
Low	Within 20 working days

## **Appendix H – Environmental Monitoring Locations**

Report Number 630.11235-R1

Page 1 of 1



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Karuah East Quarry - Sensitive Receivers and Blasting Monitoring Locations

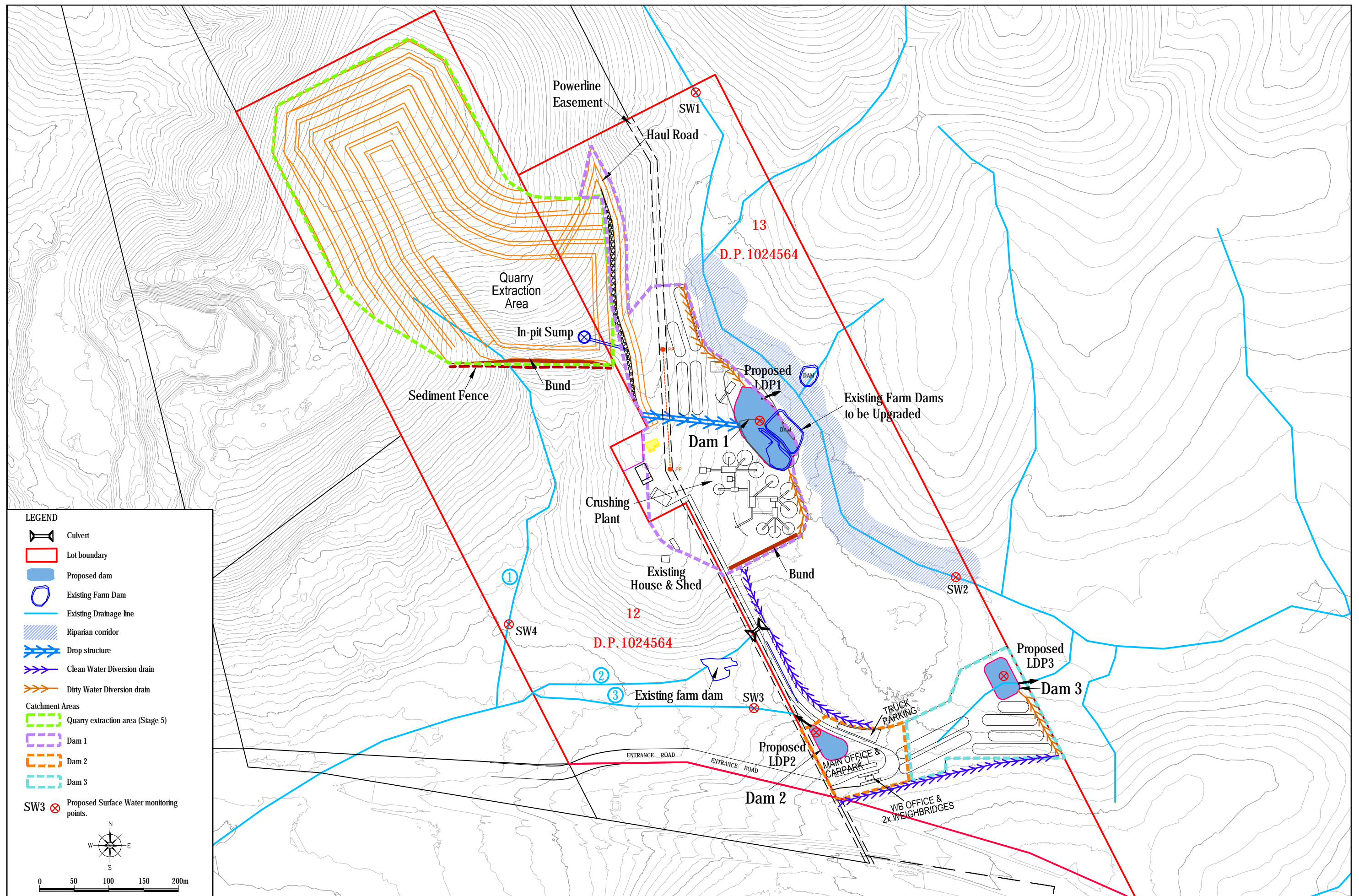
FIGURE 2





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Proposed Surface Water Management Plan

**FIGURE 4**

## **Appendix I – Environmental Incident Report**

Report Number 630.11235-R1

Page 1 of 1



## ENVIRONMENTAL COMPLAINTS RECORD FORM:

**Complaint Summary:** \_\_\_\_\_

- a. Date that complaint was received ...../...../.....
- b. Complaint received by..... At.....am/pm
- c. Method of notification of complaint

☐ In person   ☐ Telephone   ☐ Written   ☐ Email   ☐ Fax

**Complaint Details:** \_\_\_\_\_

- a. First Name..... Surname:.....
- b. Contact Number: Phone (    ).....Fax: (    ).....
- c. Address:.....  
.....

**Follow Up Actions:** \_\_\_\_\_

The following has been advised (circle):

- Quarry Manager
- Quarry Staff
- Dept. Planning and Environment
- Environment Protection Authority
- Other
- a. Complainant Contacted: yes/no by..... On...../...../.....

If no, reason why not:.....

.....

- b. Further information

provided:.....

.....

- c. Investigation Initiated (description/by).....

## ENVIRONMENTAL COMPLAINTS RECORD FORM:

**WHAT:** Describe the complaint. What is its exact nature? Air, noise, water, light, vibration etc.

☐ Blasting   ☐ Noise   ☐ Dust   ☐ Lighting   ☐ Odour   ☐ Other (Specify)

**WHERE:** Geographically, where does the concern exist? Mark on map if possible (see next page).

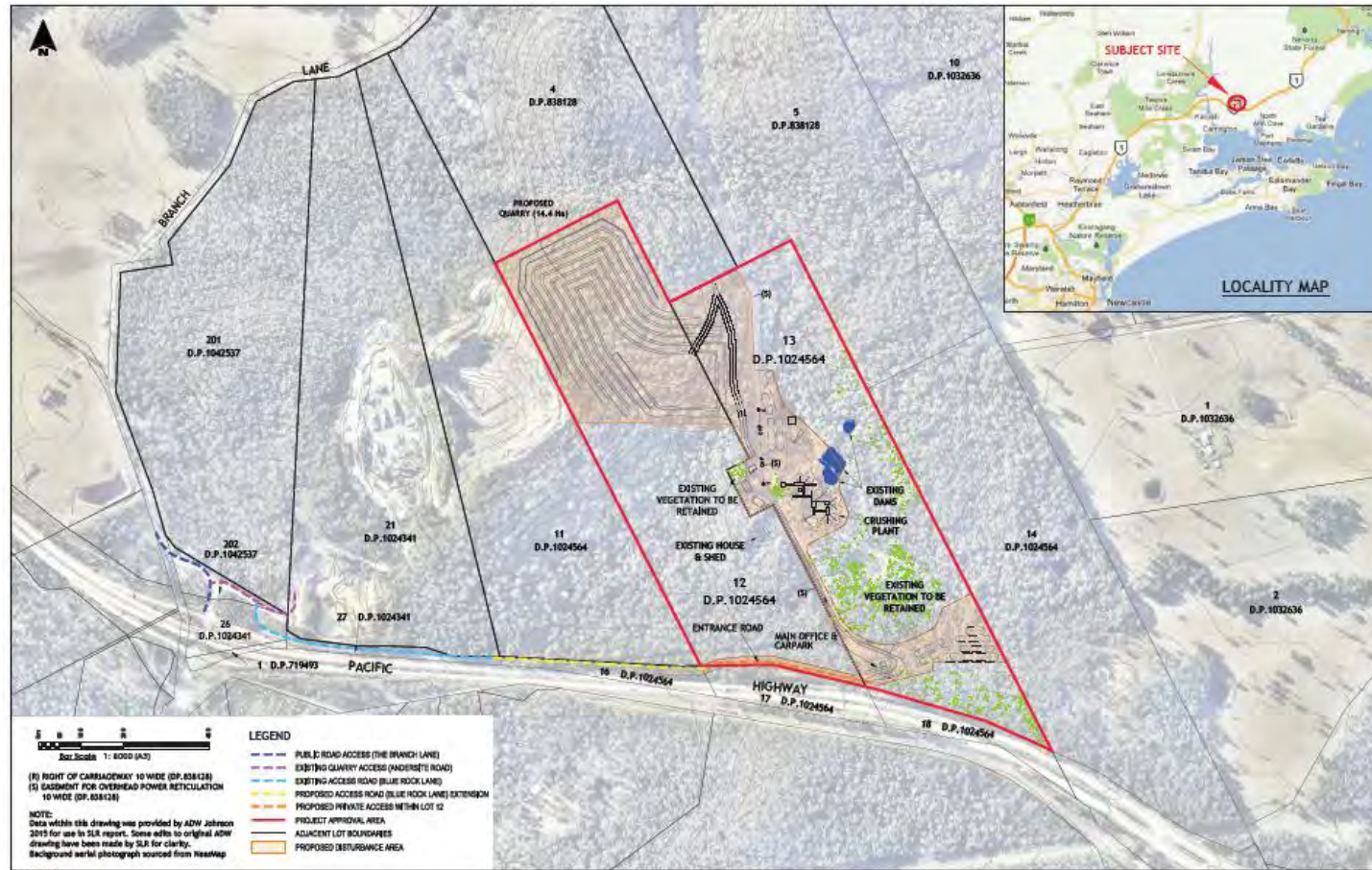
**WHEN:** When was the problem noticed? (What time, hour/day/date) When was the first time?  
Have you contacted us about this concern previously?

**EXTENT:** Is the problem getting worse or better? How severe is the problem?



## Karuah East Hard Rock Quarry

(Mark the location on the photo)



## **Appendix J – Complaints Record Form**

Report Number 630.11235-R1

Page 1 of 1



## **Environmental Incident Report – Karuah East**

This report is to be completed for all environmental incidents associated with Karuah East.

<b><u>INCIDENT SUMMARY</u></b>	
<b>Date of Incident:</b>	<b>Time of Incident:</b>
<b>Duration of Incident:</b>	
<b>Location of the Incident:</b>	
<b>Description of Incident:</b>	
<b>Incident Reported by:</b>	

<b><u>INCIDENT SUMMARY</u></b>	
<b>Responsible Supervisor:</b>	
<b>Immediate Actions:</b>	

<b><u>INCIDENT INVESTIGATION</u></b>	
<b>Further Actions Required</b> (mitigation measures, preventative measures)	
<b>Has this incident had an impact to the community?</b>	

**INCIDENT NOTIFICATION**

**Was the Environment Protection Authority and the Department of Planning and Environment required to be notified? If so details?**

**Was the Pollution Incident Response Management Plan (PIRMP) Enacted?**

**Were Staff and Contractors Notified?**

**INCIDENT REPORT SIGN OFF*****Person Reporting the Incident:***

Name (print):

Date:

Signature:

Time:

***Supervisor:***

Name (print):

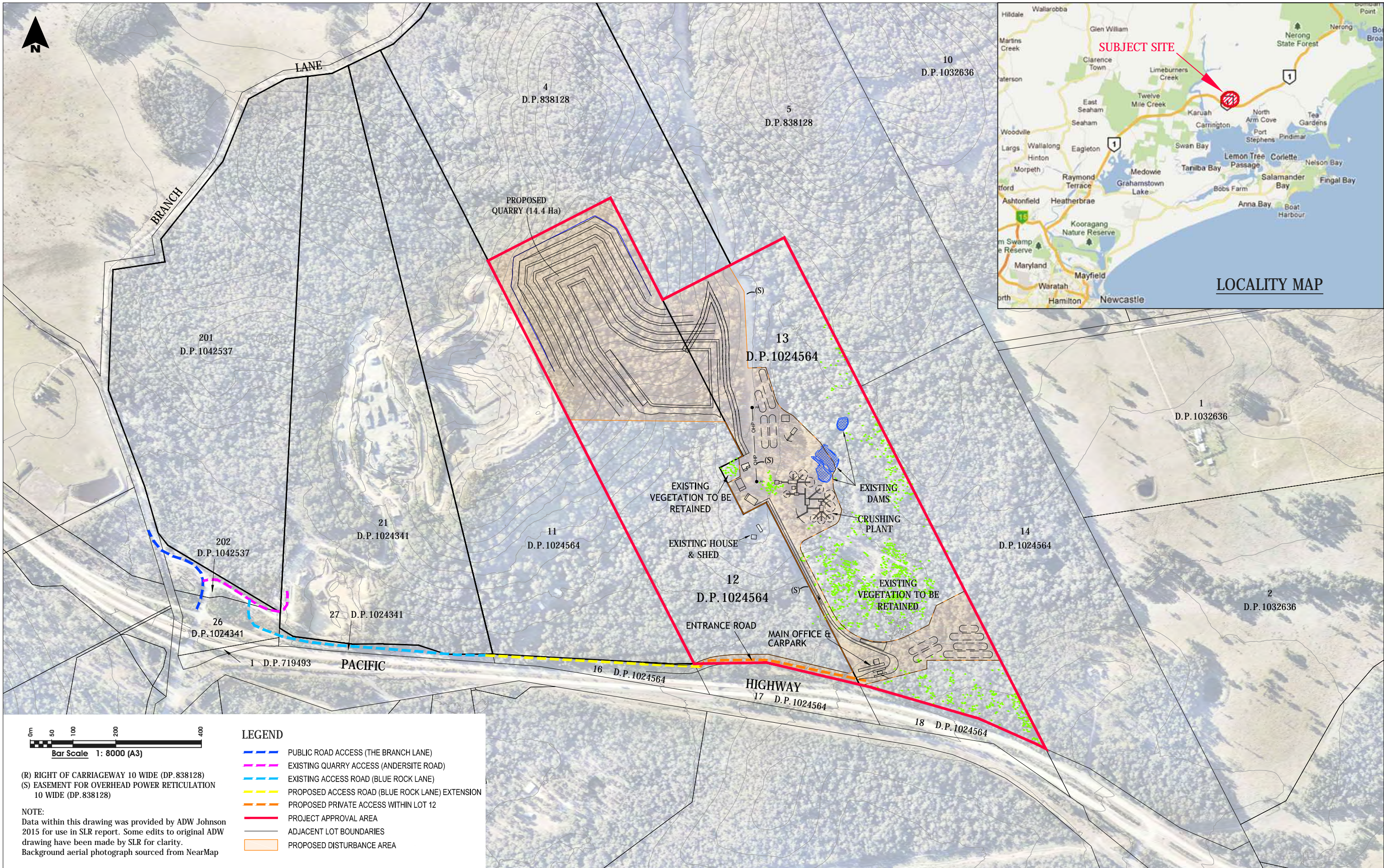
Date:

Signature:

Time:

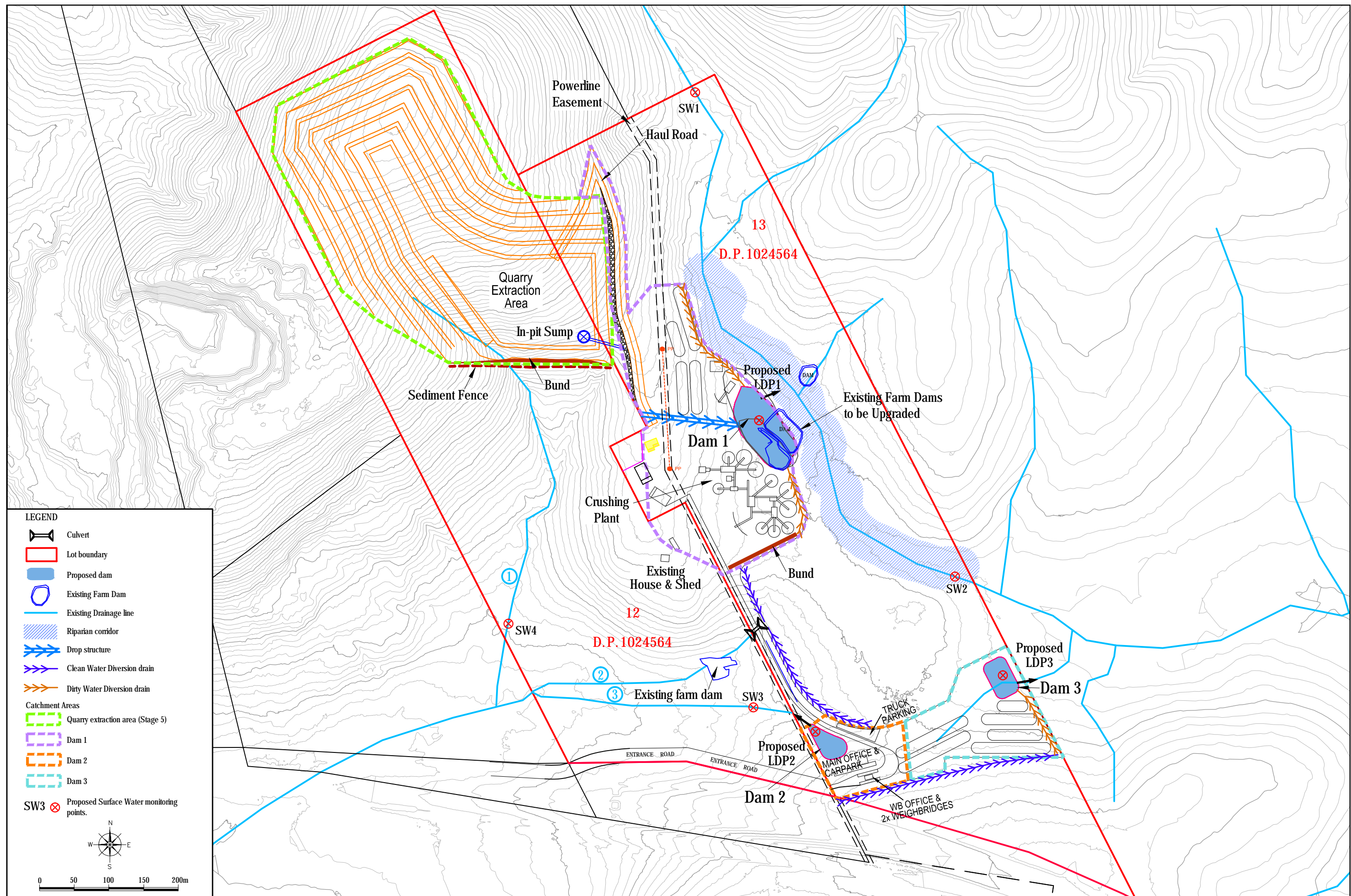
**Please Mark the Location of the Incident on the Figure Below:**





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Proposed Surface Water Management Plan

**FIGURE 2**