



# **Environmental Management Strategy**

## **Blakebrook Quarry**

**MP07\_0020**

**September 2023**

# Environmental Management Strategy

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## DOCUMENT HISTORY

| Revision | Date       | Prepared By<br>(Name)                   | Reviewed By<br>(Name)                                                   | Change Remarks                              |
|----------|------------|-----------------------------------------|-------------------------------------------------------------------------|---------------------------------------------|
| Rev B    | Feb 2011   | LCC & ERM Australia                     | Manager Commercial Services<br>ERM Australia<br>Director General of DoP | Final draft                                 |
| 2.0      | Dec 2017   | LCC & ERM Australia                     | Manager Business Development<br>ERM Australia<br>DPE Secretary          | Update                                      |
| 3.0      | March 2018 | LCC & ERM Australia                     | Manager Business Development<br>ERM Australia                           | Update as per CoA                           |
| 3.1      | Aug 2018   | LCC & ERM Australia                     | Manager Business Development<br>ERM Australia<br>DPE Secretary          | Update as per CoA                           |
| 4.0      | Sept 2022  | Commercial Services<br>Compliance (LCC) | Compliance Manager<br>Manager Commercial Services<br>DPE Secretary      | Update as per CoA                           |
| 4.1      | April 2023 | LCC                                     | Compliance Manager<br>Manager Commercial Services<br>DPE Secretary      | Address comments in<br>Post Approval Review |
| 4.2      | Sept 2023  | LCC                                     | Compliance Manager<br>Head of Roads and Quarry<br>DPE Secretary         | Address comments in<br>Post Approval Review |
|          |            |                                         |                                                                         |                                             |
|          |            |                                         |                                                                         |                                             |
|          |            |                                         |                                                                         |                                             |
|          |            |                                         |                                                                         |                                             |
|          |            |                                         |                                                                         |                                             |
|          |            |                                         |                                                                         |                                             |

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## DEFINITIONS

| Term                                | Definition                                                                                                                                                                                       |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Audit</b>                        | Systematic, independent and documented process for obtaining evidence and objectively evaluating it to determine the extent to which the environmental management system meets the criteria set. |
| <b>Auditor</b>                      | Person with appropriate training and competence to perform an audit.                                                                                                                             |
| <b>Continual Improvement</b>        | Recurring process of enhancing the construction of environmental management plans in order to achieve improvements in overall environmental performance.                                         |
| <b>Contractor</b>                   | Contractor engaged by LCC in order to achieve improvements in overall environmental performance.                                                                                                 |
| <b>Corrective Action</b>            | Action to eliminate the cause of a non-conformance.                                                                                                                                              |
| <b>Environment</b>                  | Surrounding in which Contractor operates including air, water, land, natural resources, flora, fauna, humans, heritage and their interrelation.                                                  |
| <b>Environmental Aspect</b>         | Element of organisational activities or products that can interact with the environment.                                                                                                         |
| <b>Environmental Impact</b>         | Any changes to the environment, whether adverse or beneficial, wholly or partially resulting from an organisational aspect.                                                                      |
| <b>Environmental Management</b>     | The management system used to develop and implement the environment system policy and manage environmental aspects.                                                                              |
| <b>Environmental Objective</b>      | Overall environmental goal, consistent with the environment policy that an organization sets itself to achieve.                                                                                  |
| <b>Environmental Performance</b>    | Detailed performance requirement that arises from the environmental objectives.                                                                                                                  |
| <b>Integrated Management System</b> | A single system designed to manage multiple aspects of an organisations operations in line with multiple standards, such as those for quality, environmental and health and safety management    |
| <b>Non-conformance</b>              | Non fulfilment of a requirement.                                                                                                                                                                 |
| <b>Performance Indicators</b>       | Indicators that have been developed as leading or lagging to monitor and assess performance.                                                                                                     |
| <b>Preventative Action</b>          | The action required to eliminate the cause of a possible non-conformance.                                                                                                                        |
| <b>Prevention of Pollution</b>      | The method employed to avoid, reduce or control the creation, emission or discharge of any type of pollutant or waste, in order to reduce adverse environmental impacts.                         |
| <b>Procedure</b>                    | Specified way to carry out an activity or a process.                                                                                                                                             |
| <b>Subcontractor</b>                | Any company, body or person who is contracted to the Contractor for the purposes of supplying goods or services.                                                                                 |

# Environmental Management Strategy

## ABBREVIATIONS

| Abbreviation | Meaning                                                   |
|--------------|-----------------------------------------------------------|
| CoA          | Conditions of Approval                                    |
| DP           | Deposited Plan                                            |
| DPE          | Department of Planning and Environment                    |
| EAR          | Environmental Assessment Report                           |
| EMP          | Environmental Management Plan                             |
| EMS          | Environmental Management Strategy                         |
| EMSMP        | Environmental Management Strategy Management Plan         |
| EPA          | NSW Environment Protection Authority                      |
| EPL          | Environmental Protection Licence                          |
| ERM          | Environmental Resources Management                        |
| ERP          | Emergency Response Plan                                   |
| IMS          | Integrated Management System                              |
| ISO          | International Organisation for Standardisation            |
| LCC          | Lismore City Council                                      |
| LEP          | Local Environmental Plan                                  |
| LGA          | Local Government Area                                     |
| OHWP         | Out of Hours Work Protocol relating to Asphalt operations |
| PIRMP        | Pollution Incident Response Management Plan               |
| SEE          | Statement of Environmental Effects (Mitchel Hanlon)       |
| SoC          | Statement of Commitments                                  |
| SWB          | Site Water Balance                                        |
| SWMP         | Soil & Water Management Plan                              |

# Environmental Management Strategy

## 1 INTRODUCTION

This Environmental Management Strategy (EMS) has been prepared by Lismore City Council (LCC) and applies to all activities proposed as part of the current expansion for Blakebrook Quarry (the Quarry) pursuant to Project Approval 07\_0020.

Blakebrook Quarry (the Quarry) is operated by Northern Rivers Quarry (NRQ) which is a commercial entity owned by Lismore City Council. The Quarry is located at 550 Nimbin Road, Blakebrook, approximately seven (7) kilometres north west of Lismore on Lot 53 DP 1254990 for Extraction Areas and Lot 54 DP 1254990 for Asphalt Plant an ancillary activity.

The site occupies an area of approximately 128 ha (incorporating 45ha rezoned to C2 Environmental Conservation (gazetted on 18 December 2020), providing long term security for the biodiversity offset area). Surrounding land is used for agricultural and rural purposes. The location of the Quarry is as shown in *Figure 1*. Nearby potentially sensitive receptors have also been identified as part of this management plan and are outlined in *Figure 2 and Figure 3*.

The Quarry is identified as a State Significant Development (SSD) and undertakes activities relating (but not limited to):

- site grubbing and clearing
- topsoil and overburden removal
- extraction of quarry product
- processing
- stockpiling
- loading
- transportation of material

The Quarry provides a range of quarry products to northern NSW on behalf of Council including:

- Aggregates
- Drainage rock
- Road base
- Basalt products
- Metal dust
- Fill material
- Bituminous products including hot mix and cold mix – blended according to mix design

### 1.1 PURPOSE

The purpose of this EMS is to provide a systematic management framework for the protection of the environment during the execution of the Quarry expansion in order to meet the requirements of the CoA and LCC's guiding documents relating to the environment.

The EMS has been specifically prepared to assess all of the environmental risks associated with the activities of the Quarry & Asphalt expansion and provide appropriate systems and processes to control and manage those risks.

### 1.2 OBJECTIVES

The objectives of the EMS are to:

- Govern environmental management of all activities associated with the Quarry & Asphalt expansion including those carried out by LCC, any Contractors, LCC staff seconded to the Contractor, sub-contractors and visitors.
- Describe how LCC (or a Contractor) will conform to the environmental management requirements of the CoA, Commonwealth and State environmental legislation and LCC environmental guidance documents.
- Provide a systematic framework for the identification, assessment and management of environmental risks associated with the Quarry & Asphalt expansion.

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## 1.3 REVIEW SCHEDULE

In accordance with the CoA Schedule 5, condition 11, this EMS will be formally reviewed by LCC each year as part of the annual review and reporting process. An official update will be submitted to the DPE at minimum every three (3) years. Noting minor revisions as part of the outcomes of the yearly review and administrative corrections will be undertaken without EPA and DPE consultation. A copy will be provided to all parties for record.

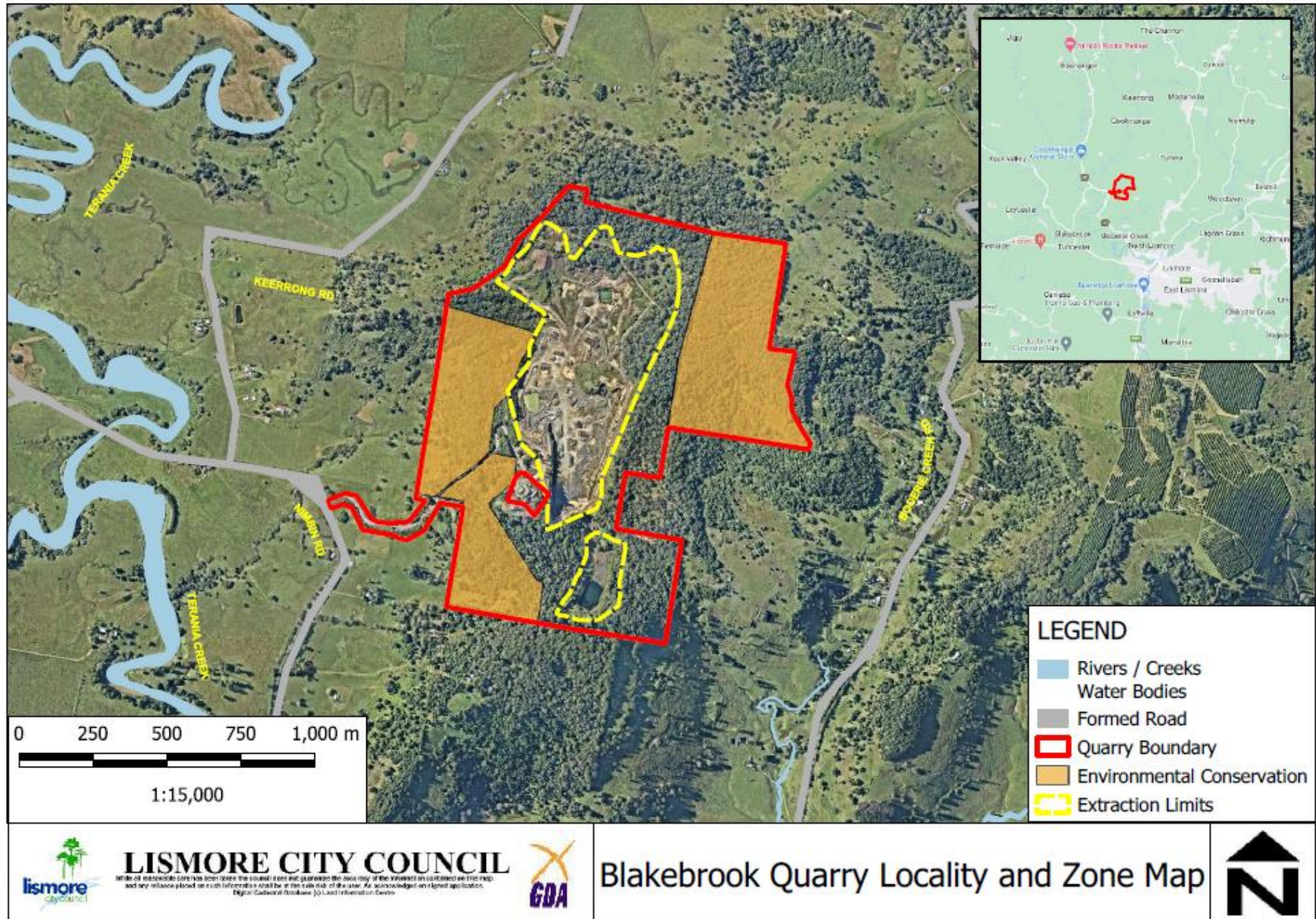
Accordingly, the next reviews of the document are listed in *Table A*. Full requirements for document revisions are listed in Section 9.4.1.

*Table A: Review Schedule*

| No.  | Date         | Type                                       | Reviewer  |
|------|--------------|--------------------------------------------|-----------|
| R2   | 18 Dec 2017  | Revision (Submission of draft Amended EMS) | LCC       |
| R3   | 20 Mar 2018  | Submission of Amended EMS                  | LCC / DPE |
| R3.1 | 18 Dec 2018  | Internal Review                            | LCC       |
| R3.1 | 18 Dec 2019  | Internal Review                            | LCC       |
| R3.1 | 18 Dec 2020  | Internal Review                            | LCC       |
| R4   | 30 Sept 2022 | Revision (extension granted by DPE)        | LCC / DPE |
| R4.2 | 30 Sept 2024 | Internal review                            | LCC       |
| R4.2 | 30 Sept 2025 | Internal review                            | LCC       |
| R5   | 30 Sept 2026 | Revision                                   | LCC / DPE |



Figure 1: Project Locality and Land Zoning Map



# Environmental Management Strategy

## 2 QUARRY OPERATIONS

### 2.1 BACKGROUND

The Quarry has an identified resource of approximately 13.6 million tonnes which, based on an extraction rate of 600,000 tonnes per annum, would allow for quarrying for approximately 22 years. The maximum proposed extraction rate is not expected to be achieved in all years of quarrying. Project approval was therefore sought for an area sufficient for 30 years of quarrying with a maximum extraction rate of 600,000 tonnes per annum, continuing in the existing main pit (herein also referred to as the 'North Pit') and a new smaller pit (herein also referred to as the 'South Pit') located to the south of the existing main pit.

In accordance with the State Conditions of Approval MP07\_0020 (CoA), the Quarry may carry out quarrying and asphalt plant operations on the site until 31 December 2039. Additionally, the Environmental Protection Licence EPL3384, authorises extractive or processed activities annually scaled between >100,000 tonnes – 500,000 tonnes. Quarry extraction depths must not exceed 55 m AHD in the North Pit or 105 m AHD in the South Pit (as prescribed in conditions listed in Appendix A).

In August 2017, LCC submitted a Modification Application to the DPE in order to mine up the first 10 metres of the cap rock in the South Pit at the Quarry. The South Pit was previously unable to be mined until late 2018, at the completion of the detailed groundwater assessment. On 18 September 2017, approval was granted to LCC to undertake these works, in accordance with the revised CoA.

On 11 January 2019, LCC submitted a Modification Application to amalgamate the approvals for the Asphalt Plant and the Quarry. This application was subsequently approved (Modification 3) by the Minister of Planning in July 2021.

### 2.2 OPERATIONAL OVERVIEW

Quarrying has initially commenced laterally in the existing North pit from 2009. Initial excavation works for the South Pit commenced in late 2014 under a temporary approval to service a specific state government project. These initial works within the South Pit have been completed. No further excavation works for the South Pit are scheduled in the immediate future unless specific rock is needed. Extraction areas within the North Pit are chosen based on the present rock type and quality for supply. Mobile crushing and screening plant equipment is currently utilised for Quarry operations.

Initially it was expected that over the initial 10 years of the 30 year life of the Quarry that production would average approximately 450,000 tonnes per annum including extraction of high quality production from the southern pit. The production was expected to increase beyond 10 years to the maximum of 600,000 tonnes per annum. Production tonnages to date have been substantially less than originally projected as result of changing market demands, cost of production and unprecedented weather events impacting operational performance.

Quarrying at the site will involve the following four (4) main stages:

- Topsoil and overburden removal (along with associated bund, drainage and dam construction).
- Blasting and crushing of raw feed in-pit.
- Final in-pit crushing, screening and stockpiling.
- Loading, transport and distribution.

The remaining relatively thin layer of soil and overburden on-site will be stripped off the proposed expanded quarrying areas and hauled to emplacement areas. Suitable overburden will be used to build visual and acoustic bunds, stormwater diversions and dam walls as needed.

After overburden stripping, rock will be drilled and blasted. The crushing plant is then parked near the blast stockpile and raw feed is loaded directly into the mobile crushing plant for processing into various products.

Asphalt operations were amalgamated into the Mod 3 CoA as of 20 July 2021 and include asphalt operations to be undertaken for limited campaign works.



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Asphalt operations are conducted during standard work hours to the fullest extent, however require the additional operating hours to cope with the current demands of the region.

The Asphalt Plant is permitted to transport up to 50,000 tonnes of Asphalt from the Quarry each calendar year. An Out of Hours Work Protocol (OHWP) was developed to undertake limited campaign Asphalt operations as required by the Mod 3 CoA, this was accepted by DPE in February 2022.

The mobile asphalt plant (operated by RPQ (Downer Group) as an ancillary activity) offers a quieter and more efficient operation, with a production capacity of 80 tonnes per hour. The Quarry and Asphalt plant are situated on separate lots within the same deposited plan (DP) and operate within the same site footprint. As such, the Quarry supply aggregate, tested to asphalt specification requirements to the asphalt plant, where it is stockpiled

Trucks are used to haul asphalt aggregate out of the pit, while most material will be hauled directly off-site.

Maintenance of Quarry plant, equipment and vehicles is managed and undertaken by LCC Fleet Services during business hours.

## 2.3 TOPSOIL & OVERBURDEN REMOVAL

As quarrying continues in the North pit removal of overburden will occur as required. Overburden material will be stockpiled on-site and will be re-used where necessary for the construction of bunds and water diversion. Remaining stockpile overburden will be appropriately managed and saved on-site for re-use in rehabilitation activities at the end of the Quarry life.

Overburden removal will be generally by excavator and truck, with other plant required for compaction, shaping and rehabilitation. In some instances bulldozers may be used to stockpile loose material prior to loading onto trucks and to push out overburden piles.

The small volumes of vegetative debris produced from the limited clearing proposed will be either spread onto the overburden storage areas or in areas adjacent to the Quarry to provide native animal habitat.

## 2.4 EXTRACTION OF QUARRY PRODUCT

The main resource targeted at the Quarry is the massive grey basalt. This rock is strong and will require drilling and blasting to produce fragments suitable for crushing and screening. Traditional drill and blast methods will be used, that will require a drill rig stationed on top of each production bench.

The rig will drill a series of holes that are later charged with explosives, detonators and delays. 'Best practice' management will be implemented during blast design and blasting operations to ensure that maximum instantaneous charge (MIC) is achieved, relevant to noise and vibration criteria.

The Quarry expects that approximately two (2) blasts per month on average will be required at peak production although this may vary depending on demand for product. Blast scheduling will be in accordance with CoA Schedule 3, condition 1.

Notification to local residents will continue as per current practice, in accordance with EPL L5.3 whereby, all sensitive receivers will be given at least 24 hours' notice when blasting is to be undertaken, unless otherwise stipulated by the EPL. The Noise & Blast Management Plan and Explosive Control Plan for the Quarry outline procedures employed on site.

In some cases blasting will produce oversized material that will not fit into the primary crusher. In this case, an excavator with hammer may be used to break up the stone or alternatively a small explosive charge might be applied to the individual stones. The use of the hydraulic hammer would be for short duration only and not a regular occurrence. Noise levels are expected to be progressively reduced as the pit depth is increased so no significant increases in noise is expected and as such no additional impact on surrounding properties is expected. Routine noise monitoring will ensure that noise levels produced from this machinery are compliant with the site noise criteria and additional measures such as screening may be used to further mitigate noise.

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## 2.5 PROCESSING

Following a blast, an excavator will be located on the muck heap, loading directly into the mobile crushing plant. All material will undergo a two stage primary and secondary crushing process and a two stage primary and secondary screening process. Crushing and screening will be undertaken in the quarry pit using mobile plant.

## 2.6 STOCKPILING

All product stockpiles will be located on the quarry pit floor with water sprinklers to be employed to suppress the dispersion of dust. As the height of the stockpiles will be less than 10 metres high, and the average bench height is 15 metres, negative impacts on visual amenity are unlikely.

Overburden and topsoil from the north pit will be used for bund construction or stored for later use in rehabilitation activities. Strategic placement of these products will be such that they do not adversely impact on the visual amenity of the area (i.e. behind existing vegetated screen and vegetation stands). Seeding will be incorporated into the management of the topsoil and overburden stockpiles where required to minimise the potential for fugitive dust.

## 2.7 LOADING, TRANSPORT & DISTRIBUTION

A front end loader (FEL) will be used to load material into trucks that will transport material directly off-site. The trucks enter and leave the Quarry carrying extracted and processed material. There are no changes proposed to the existing access and transport routes for the development, with the internal site layout to operate as per the current situation.

Following the traffic study conducted by RoadNet (2008), a Traffic Impact Assessment was undertaken as part of the Statement of Environment Effects (SEE) by Mitchel Hanlon in 2019 states the following:

*Currently, the quarry delivers approximately 5% of product to the north of the site. The remaining material is transported towards Lismore, south of the quarry. From this material, approximately 30% is taken along Terania Street. Approximately 70% of the material is transported via Wilson Street to the Bruxner Highway or Ballina Road and deposited in the industrial area and the CBD. It is considered the asphalt plant truck movements would be distributed in a similar manner.*

A study conducted by Geocounts (2022) on traffic volumes utilising Nimbin Road to the north and south of the quarry access indicated average weekday traffic volume of 2338 vehicles north of the quarry access (Keerrong Road) increasing to 2375 vehicles south of the quarry access. Truck volumes (including single unit tippers and buses) account for 13% (average) of the traffic stream and heavy trucks (articulated) accounting for 1.2% (average) in both directions from the quarry access.

For both the current and future situation the absolute maximum number of outbound trucks is 25 per hour, based upon the capacity of the weighbridge on site. The weighbridge will not be upgraded as part of this project and, as such this upper limit on hourly flows will remain, therefore peak traffic from the Quarry is not expected to be significantly increased. Truck movements are between 7.00 am and 6.00 pm weekdays and 7.00 am and 3.00 pm Saturdays.

Significant upgrades to the road network have occurred since the initial assessment (RoadNet 2008) whereby the road surface has been completely replaced and signage upgrades along its length to meet current guidelines.

Truck numbers leaving the Quarry are currently limited to an average of 120 trucks per day following several road upgrades which have been completed, as per CoA requirements.

LCC has completed the following road upgrade works:

- a) upgrade the intersection of the Quarry Access and Nimbin Road to a 'Type AUR Intersection Treatment', prior to 31 December 2010;
- b) upgrade the guard rails on the approaches to Boorie Creek Bridge prior to 31 December 2010;

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- c) upgrade the Booerie Creek Road and Nimbin Road intersection to a 'Type BAR Right Turn Treatment on the Through Road' prior to 31 December 2010;
- d) upgrade the Wilson Street and Nimbin Road intersection to a 'Type CHR Right Turn Bay Treatment' prior to 31 December 2010; and
- e) re-align Nimbin Road and the Quarry Access intersection to meet the AUSTROADS sight distance requirements for vehicles travelling in both directions through the intersection prior to 31 December 2011.

LCC is yet to complete the following road upgrade works. This will be completed before any truck movement increases.

- f) upgrade the intersection at Nimbin Road and the Quarry Access from the current Type AUR intersection to a Type CHR-S (Shortened Channelised Right Hand Turn) to the satisfaction of TfNSW, if truck movements are forecast to exceed 120 laden trucks from the site on any calendar day as required by Condition 8(d) of Schedule 2.

Note: The road works must be constructed in accordance with the relevant TfNSW or AUSTROADS standards, and signposted and lit in accordance with AS:1742 – Manual of Uniform Traffic Control Devices and AS/NZ 1158:2020 – Lighting for Roads and Public Spaces.

Dispatch of laden trucks is also controlled under the site's Hours of Operation (Schedule 3, condition 1).

All intersections along the primary transport route are currently operating well within their capacity, with sufficient spare capacity to accommodate the minor increase in peak hour vehicles movements as a result of this proposal.

# Environmental Management Strategy

## 3 STATUTORY REQUIREMENTS

### 3.1 ENVIRONMENTAL MANAGEMENT STRATEGY STRUCTURE

In accordance with Schedule 5, Condition 1 of the CoA, the EMS for the Quarry consists of this EMS framework document for the environmental management and monitoring systems for the Quarry and a series of issue-specific management plans. Where applicable, these management plans also contain associated monitoring programs along with general quarry expansion information, environmental and operational performance detail, and review and reporting requirements.

The EMS must be implemented throughout the duration of the project and subsequent remedial works. It is the responsibility of Quarry Management to implement and ensure the EMS is up to date and adhered to by all staff and contractors as detailed in *Section 8.1*.

Each issue-specific management plan will follow the prescriptive content requirements of the CoA and the Statement of Commitments (SoC) provided for the Quarry & Asphalt expansion approval.

### 3.2 LEGISLATION & POLICIES

The applicable legislative and other requirements related to environmental management for the Quarry are outlined in *Table B*.

*Table B: Legislation and Policies of Relevance*

| Legislation and Policies    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Commonwealth Legislation    | <ul style="list-style-type: none"> <li>• Environment Protection and Biodiversity Conservation Act 1999</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| New South Wales Legislation | <ul style="list-style-type: none"> <li>• Environment Planning and Assessment Act 1979</li> <li>• Protection of the Environment Operations Act 1997</li> <li>• Protection of the Environment Operations (Clean Air) Regulation 2021</li> <li>• Protection of the Environment Operations (Noise Control) Regulation 2017</li> <li>• Protection of the Environment Operations (Waste) Regulation 2014</li> <li>• Protection of the Environment Operations (General) Regulation 2022</li> <li>• Environmentally Hazardous Chemicals Act 1985</li> <li>• Environmentally Hazardous Chemicals Regulation 2017</li> <li>• Pesticides Act 1999</li> <li>• Waste Avoidance and Resource Recovery Act 2001</li> <li>• Local Government Act 1993</li> <li>• Rural Fires Act 1997</li> <li>• Work Health and Safety Act 2011</li> <li>• Work Health and Safety (Mines and Petroleum Sites) Regulation 2022</li> <li>• EPA NSW Noise Policy for Industry 2017</li> <li>• Dangerous Goods (Road and Rail Transport) Act 2008</li> <li>• Heavy Vehicle National Law (NSW) 2013</li> </ul> |
| Regional Planning Documents | <ul style="list-style-type: none"> <li>• North Coast Regional Plan 2036</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Local Government Documents  | <ul style="list-style-type: none"> <li>• Lismore City Council Biodiversity Management Strategy 2015-2035</li> <li>• Comprehensive Koala Plan of Management 2013</li> <li>• Local Environmental Plan 2012</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

# Environmental Management Strategy

## **Local Planning Instruments**

### Lismore City Council Biodiversity Management Strategy 2015-2035

LCC adopted a Biodiversity Management Strategy (BMS) which aims to protect or improve biodiversity in the Lismore LGA, providing for ecologically sustainable development and operations. The Quarry will operate in accordance with this management strategy. The document can be obtained from: <https://lismore.nsw.gov.au/protecting-and-conserving-biodiversity-in-an-active-farming-region>

### Comprehensive Koala Plan of Management, 2013

In 2013 the Comprehensive Koala Plan of Management (CKPoM) for south-east Lismore was approved by the NSW Government. The CKPoM aims to protect the koala population within the south-eastern part of the Lismore GLA, providing clear direction on managing threats to koala populations. The document can be obtained from <https://lismore.nsw.gov.au/managing-the-health-and-habitat-of-our-koala-population-in-south-east-lismore>

In 2017 Council commissioned a study on koala habitat and population in the CKPoM area. This study will help to guide management actions outlined in the 2013 Comprehensive Koala Plan of Management. The document can be obtained from:

[https://lismore.nsw.gov.au/files/Final\\_Koala\\_Habitat\\_and\\_Population\\_Assessment\\_2017.pdf](https://lismore.nsw.gov.au/files/Final_Koala_Habitat_and_Population_Assessment_2017.pdf)

### Lismore City Council Environmental Policies

LCC operates in accordance with its Environmental Policies which are provided as Appendix C. The Environmental Policies aim to minimise the impacts of Councils activities on the environment, as referred to below.

- Atmosphere
- Biodiversity – Flora and Fauna
- Heritage
- Land
- Waste
- Water Quality and Quantity

LCC is committed to responsible environmental management of the Quarry expansion and believes that all potential adverse environmental impacts can be effectively managed.

As part of the Quarry Integrated Management System (IMS) accreditation extends to:

- ISO 9001 – Quality Management System
- ISO 45001 – Occupational Health & Safety Management System
- ISO 14001 – Environmental Management System

The Quarry is committed to its own Quality, Safety & Environment Policy that encompasses a holistic approach towards daily operations and management on site (refer Appendix C).

The IMS is externally audited each year with re-accreditation every three (3) years.

# Environmental Management Strategy

## 3.3 APPROVAL CONDITIONS

### Minister's Conditions of Approval

In January 2009, ERM completed the Environmental Assessment Report (EAR) for the quarry expansion, which was submitted to the Minister for Planning seeking Project Approval. Additional noise and air quality monitoring was undertaken during July 2009.

Pursuant to the *Environmental Planning and Assessment Act 1979* (EP&A Act), the Quarry expansion was declared to be a project under Part 3A of the Act and Project Approval was granted by the Minister for Planning on 24 November 2009.

The quarry expansion was not considered to be a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or trigger any other Commonwealth environmental legislation.

Project Approval MP07\_0020 is identified under a State significant development (SSD) under Division 4.7 of the EP&A Act. The quarry expansion approval was modified on 18 September 2017 in order to authorise the commencement of quarrying within the South Pit prior to the previously identified schedule of works. On 11 January 2019, LCC submitted a Modification Application to amalgamate the approvals for the Asphalt Plant and the Quarry. This application was subsequently approved (Modification 3) by the Minister of Planning in July 2021.

Project Approval Conditions outline the requirements for an EMS associated with the Quarry, along with licence conditions pertaining to EPA licence 3384, as provided in Appendix A.

In addition to the aforementioned management plans, the CoA requires the development and implementation of a detailed Biodiversity Offset Strategy which was developed and submitted with the Biodiversity & Rehabilitation Management Plan in 2019.

In September 2017 a modified approval was granted by DPE, which stated the Quarry must undertake a detailed groundwater assessment prior to the extraction below 105m AHD in the North pit or below 118.5m AHD in the South pit. This was undertaken in March 2019, with instruction received from Natural Resources Access Regulator (NRAR) to obtain a Water Access Licence (WAL) for a predicted maximum annual take of 70ML. LCC successfully applied and obtained a WAL on 19 January 2021.

As stated in the Soil & Water Management Plan (SWMP):

Groundwater inflow monitoring will be undertaken in accordance with the following requirements:

1. Once the northern pit reaches an extraction depth of 87.5 mAHD the volumes of the groundwater inflows to the pit will be monitored.
2. Once the southern pit reaches an extraction depth of 113 mAHD the volumes of the groundwater inflows to the pit is to be monitored.

A Site Water Balance (SWB) is to be incorporated into the SWMP, capturing water storage areas, rainfall, ground and surface water, and on site usage. The site water balance is essential to estimating likely impacts on groundwater and on surface water flows discharging from the site. Site records of water usage and an effective water monitoring program to establish base line conditions are necessary to gauge or mitigate potential future impacts. The Site Water Balance will be provided to DPE (Water) to determine any requirements for, and type of licences or approvals that are required under the relevant water legislation of the time.

In the interests of protecting public infrastructure, (unless agreed otherwise) the Quarry and Asphalt operations in consultation with the relevant authority, are required to:

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

*Note: This condition does not apply to damage to roads caused as a result of general road usage or otherwise addressed by contributions required by condition 13 of Schedule 2.*



# Environmental Management Strategy

## **Out of Hours Work Protocol – Asphalt Operations**

Management and staff responsible for asphalt plant operations, will notify in writing to LCC, EPA and local residents of the timing and expected duration of any out of hours construction works, prior to each instance. LCC will notify the EPA on behalf of the Asphalt plant operators.

Activities permitted under the OHWP are asphalt operations consisting of bituminous products (hot or cold mix) during the hours of 6pm to 7am Monday to Sunday. Out of hours operations are anticipated to occur approximately 5 nights per month.

# Environmental Management Strategy

## 3.4 GUIDELINES & STANDARDS

Relevant project management standards, policies and guidelines, applicable to this management plan are provided in *Table C*.

*Table C: Environmental Standards, Policies and Guidelines*

| Guidelines & Standards                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Biodiversity & Rehabilitation           | <ul style="list-style-type: none"> <li>• NSW Mining Operations Plan (MOP) Guidelines 2013 (ESG3)</li> <li>• NSW Biodiversity Offset Policy for Major Projects 2014</li> <li>• State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44)</li> <li>• State Environmental Planning Policy (Resources and Energy) 2021</li> <li>• Mining Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth) 2016</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Traffic                                 | <ul style="list-style-type: none"> <li>• TfNSW Traffic Control on Worksites 2022</li> <li>• TfNSW Supplements to Austroads Guides</li> <li>• AS 1742 – Manual of Uniform Traffic Control Devices</li> <li>• AS 1743 – Road Signs Specifications</li> <li>• Austroads Guide to Traffic Management 2020</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Air Quality                             | <ul style="list-style-type: none"> <li>• AS/NZS 3580.10.1 – Methods for Sampling &amp; Analysis of Ambient Air: Determination of Particulate Matter – Deposited Matter – Gravimetric Method</li> <li>• AS/NZS 3580.9.6 – Methods for Sampling &amp; Analysis of Ambient Air – Determination of Suspended Particulate Matter – PM10 High Volume Sampler with Size Selective Inlet – Gravimetric Method</li> <li>• AS 3580.1.1 – Methods for Sampling &amp; Analysis of Ambient Air – Guide to Siting Air Monitoring Equipment</li> <li>• AS/NZS 3580.14 - Methods for sampling and analysis of ambient air Meteorological monitoring for ambient air quality monitoring applications</li> <li>• National Environmental Protection Council (Ambient Air Quality) Measure</li> <li>• NSW EPA DEC - Approved Methods for the Modelling &amp; Assessment of Air Pollutants in New South Wales 2016</li> <li>• The EPA refers to the <a href="#">repealed version</a> when assessing air quality impact assessments submitted as part of any planning application before 9 September 2022.</li> <li>• NSW EPA – EPA Ambient Air Monitoring Guidance note 2022</li> </ul> |
| Noise & Blasting                        | <ul style="list-style-type: none"> <li>• NSW EPA Noise Policy for Industry 2017</li> <li>• NSW Road Noise Policy (RNP) March 2011</li> <li>• Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure &amp; Ground Vibration 1990 (ANZECC)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Cultural Heritage                       | <ul style="list-style-type: none"> <li>• Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales 2010</li> <li>• Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</li> <li>• The Australia ICOMOS Burra Charter for Places of Cultural Significance 2013 (Burra Charter)</li> <li>• Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales 2010</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Water                                   | <ul style="list-style-type: none"> <li>• Managing Urban Stormwater – Soils &amp; Construction 'The Blue Book' 2004 (Landcom)</li> <li>• NSW Wetlands Policy (DPE)</li> <li>• Australian &amp; New Zealand Water Quality Guidelines for Fresh &amp; Marine Waters 2000 (ANZECC)</li> <li>• National Water Quality Management Strategy (NWQMS)</li> <li>• Guidelines for Groundwater Quality Protection in Australia</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Other relevant Guidelines and Standards | <ul style="list-style-type: none"> <li>• AS 1940 (latest version) The Storage and handling of flammable and combustible liquids</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

# Environmental Management Strategy

## Guidelines & Standards

- Code of Practice for Managing the Work Environment and Facilities
- Planning for Bush fire Protection (Addendum 2019)

### 3.5 RELATED MANAGEMENT PLANS

The various management plans (and incorporated monitoring programs) that will compliment this EMS are denoted in *Table D*.

*Table D: Blakebrook Quarry Management Plans*

| Reference No. | Management Plan                                 | CoA condition                         |
|---------------|-------------------------------------------------|---------------------------------------|
| EMS-MP1       | Noise and Blast Management Plan                 | Schedule 3, Condition 5 & Condition 9 |
| EMS-MP2       | Air Quality Management Plan                     | Schedule 3, Condition 12              |
| EMS-MP3       | Soil and Water Management Plan                  | Schedule 3, Condition 19              |
| EMS-MP4       | Biodiversity and Rehabilitation Management Plan | Schedule 3, Condition 28              |
| EMS-MP5       | Aboriginal Heritage Management Plan             | Schedule 3, Condition 24              |
| EMS-MP6       | Operational Traffic Management Plan             | Schedule 3, Condition 23              |

# Environmental Management Strategy

## 4 ENVIRONMENTAL CHARACTERISTICS & RISK MANAGEMENT FRAMEWORK

### 4.1 ENVIRONMENTAL CHARACTERISTICS

As described in *Section 1*, the Quarry is located in a rural environment on the top of a hill (approximately 135 metres high) known as Blakebrook Hill and cannot be seen from the surrounding area. Access to the site is via a sealed access road from Nimbin Road. Terania Creek is located to the west of the site on the western side of Nimbin and Keerrong Roads and Booerie Creek is located to the south east.

The site is vegetated on all sides, with more dense vegetation on the south western, southern and eastern sides. Quarry and Asphalt operations are located below the tree line and do not impact the visual amenity or lighting impacts on the local area. There is an internal haulage road with the site leading from the site entrance to the site office and then on to the quarry floor.

The existing quarry pit floor is approximately 9 ha in area with the faces of the pit varying in height from 20-30 metres at the southern end and 9-10 metres at the northern section. The floor level of the quarry varies between 101 metres Australian Height Datum (AHD) and 110 metres AHD.

There are a number of residences located in reasonably close proximity to the Quarry, with the closest dwelling approximately 600 metres to the south west of the Quarry.

#### 4.1.1 Sensitive Areas & Receivers

Sensitive Areas and Receivers were identified in the EAR (ERM 2009) for the Quarry expansion. These receptors comprised:

- Endangered ecological communities.
- Threatened species, populations or their habitats.
- Fauna corridors.
- Proximity to neighbouring properties.

These areas are illustrated on Figure 2 and Figure 3. These diagrams will also provide a visual, day to day management tool for on-site environmental management personnel, auditors and regulatory agencies.

### 4.2 RISK MANAGEMENT FRAMEWORK

The Quarry has invested significantly towards adaptive management practices and contingency planning, through the development and identification of risk management on site through accreditation of ISO 45001, ISO 14001, ISO 9001 and compliance with *Work Health and Safety (Mines and Petroleum Sites) Regulation 2022* with Principal Hazard Management Plans and site risk registers.

Through various aspects of risk analysis, encompassing WHS Act & Regulation, WHS (Mines and Petroleum Sites) Act & Regulation, Heavy Vehicle National (HVN) Law and CoA, demonstrates the Quarry's dedication to implementing all reasonable and feasible measures to prevent or reduce environmental risks or harm on site. LCC integrates risk management into all aspects of its operations, with the intent to prevent environmental incidents from occurring and to appropriately control any incident which may occur.

The risk management framework will:

- *Identify* potential environmental hazards.
- *Assess* risks.
- *Provide* a mechanism for developing risk controls.

To ensure compliance with the above standards and legislation, the Quarry has developed a risk management program to manage, reduce and eliminate safety, quality, and environmental risks wherever practicable as per the *Safety Risk Management Procedure*.

The program follows the typical Plan/Do/Check/Act (PDCA) cycle as recommended by regulators and ISO Standards to achieve continuous improvement in the elimination of risk. The overall risk management approach is detailed in the IMS Manual. The Site Safety Risk Register documents the hazards, risks and controls associated with site activities.

# Environmental Management Strategy

## 4.2.1 Risk Identification & Assessment

Given that the activities undertaken at the Quarry have the potential to impact on the surrounding environment, the commensurate level of risk associated with these impacts is required to be identified in order to better ensure that it can be mitigated and managed to an acceptable level via means of this management plan.

The environmental hazards and risks associated with the Quarry expansion activities were identified and assessed by LCC prior to the expansion works commencing. A risk assessment was prepared as part of the Quarry expansion impact assessment and Environment Assessment Report (ERM 2009). This risk assessment formed the base for the individual risk analyses undertaken in the various issue-specific management plans, prior to endorsement of the CoA (Mod 1) refer Appendix D.

As a consequence, each of the issue-specific management plans consider the environmental impacts of the issue and assign a risk level assuming that no mitigation measures or controls are put in place to manage the impacts.

The risk assigned to each environmental impact corresponds to one of four (4) levels:

- *High* – Serious impacts and potential repercussions.
- *Medium* – Significant impacts and potential repercussions.
- *Low* – Minor impacts and potential repercussions.
- *N/A* – Risk not applicable.

It is intended that through implementation of the measures contained within each issue-specific management plan, the environmental impacts and associated risks can be managed to an acceptable level, such that the risk would be considered negligible.

As part of the Quarry IMS compliance schedule, Quality, Safety and Environmental Risk Registers have been developed for task specific activities on site. The risk registers are reviewed six (6) monthly by Quarry operations and Compliance staff, to ensure a proactive approach towards identification and controlling of risks.

Actions relating to any identified exceedances of CoA criteria will be managed as per Section 9.2.



Figure 2: Environmental Monitoring Locations map

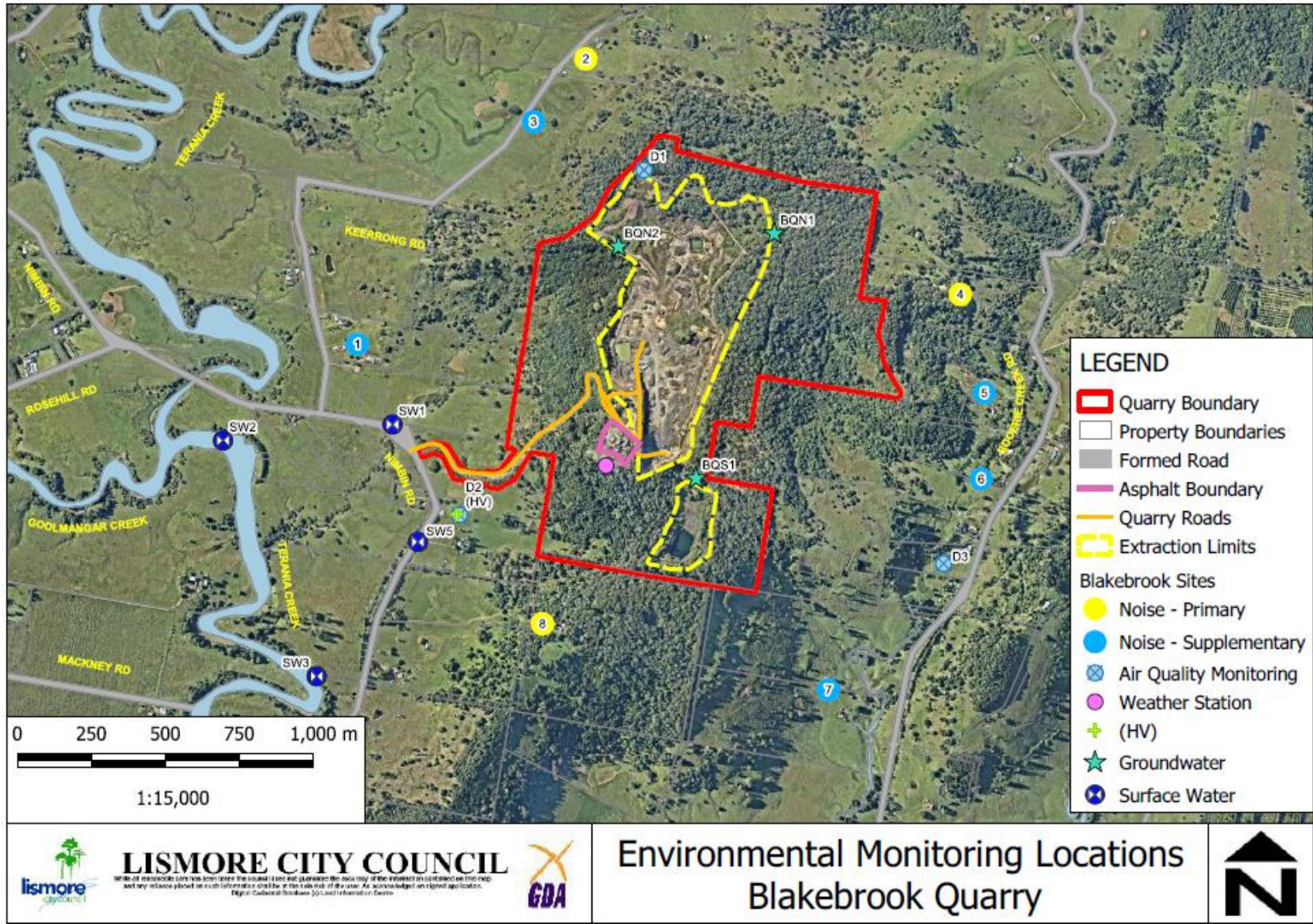
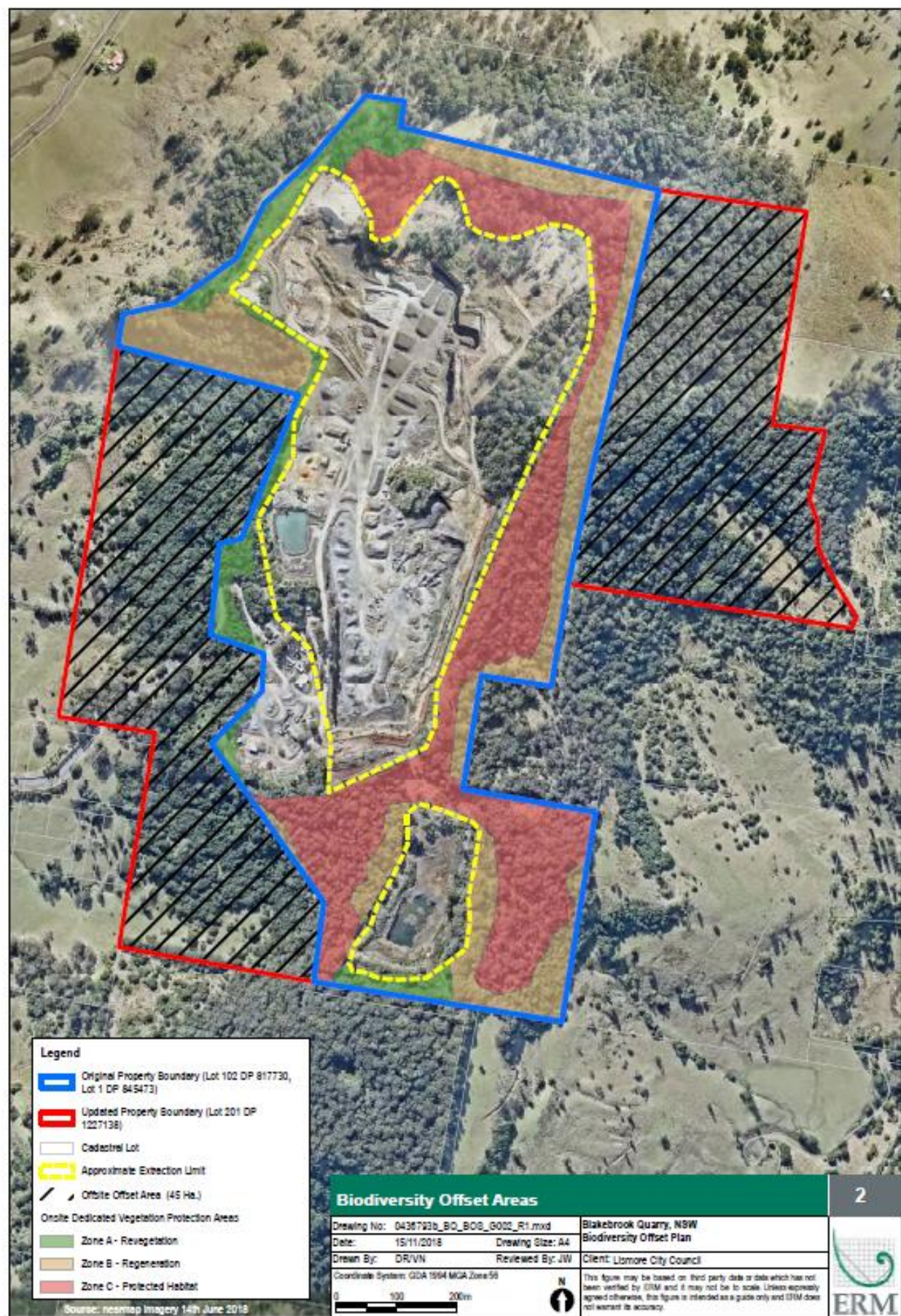




Figure 3: Biodiversity on site & off site areas



# Environmental Management Strategy

## 5 PERFORMANCE CRITERIA & INDICATORS

The intention of this EMS is to ensure that the Quarry and Asphalt works do not have an adverse impact on the identified sensitive receptors as a result of general operational activities. In order to minimise and mitigate the impacts of the various risks to each environmental issue, the issue-specific management plans associated with the EMS cover a range of performance criteria and indicators.

These performance criteria are relevant to the specific environmental issue and incorporate the objectives of the wider management plan. Usually, these performance criteria will incorporate external guidance documents to ensure a robust and 'Best Practice' approach to performance management.

Performance criteria set by each issue-specific management plan will be:

- *Distinctive* – Each criteria must pertain to the environmental issue considered in the management plan.
- *Realistic* – The criteria set for the various environmental issues need to be realistic for the Quarry and Asphalt operations.
- *Relevant* – The criteria must be relevant to the surrounding environment and the expected impacts of the site.

In addition, the performance indicators set by each issue-specific management plan will be:

- *Measurable* – The various indicators will need to be easily quantifiable or contains components which will allow for each of achievement confirmation.
- *Achievable* – The indicators established should be achievable by the Quarry and Asphalt businesses. If the indicators are too aspirational and/or occur in the long term achievement may not be understood when considered during review periods.
- *Specific* – It is important that the indicators are not too broad or generalistic but rather provide specific reference or requirements.



# Environmental Management Strategy

## 6 MANAGEMENT & MITIGATION CONTROLS

### 6.1 'BEST PRACTICE' MANAGEMENT APPROACH

In managing the Quarry, LCC is seeking to ensure that a 'Best Practice' management approach is used across all areas of potential impact management. This approach involves incorporating a suite of site-specific mitigation measures and management controls, in accordance with the most relevant guidelines and standards to minimise, mitigate and manage environmental risks associated with Quarry and Asphalt operations as referenced in Table C.

### 6.2 PROPOSED MANAGEMENT CONTROLS

A range of environmental obligations and control measures have been identified in the EAR (ERM 2009) and the CoA.

Hazards and risks associated with the proposal are expected to be minimal. This is due to the quarry being operational with mitigation measures already in place.

The mobile asphalt plant (Benninghoven Portable Asphalt Plant) results in quieter and more efficient operations. The mobile asphalt mixing plants are simply mounted on mobile steel foundations which only require a compacted gravel surface for the entire setup area.

Specific measures and procedures have been identified to address each of the obligations and included in relevant issue-specific management plans and associated monitoring programs. This process of matching actions with obligations and assigning responsibility for each action will ensure that each obligation is being implemented.

In addition to the proposed management controls contained in each issue-specific management plan, Work Method Statements (WMS) have been prepared for particular activities to ensure sound environmental practices are implemented and to minimise the risk of environmental incidents or system failures.

#### 6.2.1 Waste Management

Waste minimisation strategies on site align with the LCC Corporate Waste Policy (refer Appendix C). Waste minimisation encompasses all aspects of the business, with consideration given to using energy, materials and natural resources efficiently and in a more sustainable manner with the aim of achieving a positive environmental impact, as per the Quality, Safety and Environment Policy (refer Appendix C). Practices at the Quarry involve the following:

- Waste generated by staff is separated into general waste and recyclables.
- Lismore City Council 'standard' waste collection service weekly,.
- Any asphalt product generated from plant start up/ shut down is reprocessed into product designs to be reused and sold.
- Used chemicals drums / containers are stored in the Dangerous Goods Package Store until transported to the Wyrallah Road Waste Management Facility by Quarry staff in a light vehicle Water required for amenities is sourced from the on-site water tank. On-site wastewater is collected in the septic tank. A local company specialising in liquid waste removal is engaged to remove contents via pumping to their truck and subsequent disposal at LCC Wastewater Treatment Plant
- On-site sewage is inspected by plumbing contractors, six monthly. A local company specialising in liquid waste removal is engaged to remove contents via pumping to their truck and subsequent disposal at LCC Wastewater Treatment Plant.
- Gross Pollutant Trap capturing the runoff from the truck washdown and refuelling area will be inspected regularly and pumped every 6 months or as needed. A local company specialising in liquid waste removal is engaged to remove contents via pumping to their truck and subsequent disposal at LCC Wastewater Treatment Plant

Except as expressly permitted in the EPL 3384, the site 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, except for Glass sand recovered from the Lismore Recycling and Recovery Centre.

# Environmental Management Strategy

Waste Management practices shall be reported in the Annual Environmental Monitoring Report (AEMR) as described in Section 9.5.1.

## 6.2.2 Liquid Storage and Dangerous Goods

A comprehensive external audit of dangerous and flammable goods was undertaken in conjunction with a site project to dismantle the decommissioned old asphalt plant in year 2020. Actions have been completed to upgrade liquid storage and dangerous goods on site, and include:

- Quarry fuel tank on site consists of a 10,000L self-bunded diesel tank (installed February 2022)
- Dangerous Goods Package Store to accommodate liquid chemicals
- Asphalt fuel tank on site consists of 18,000 lt self-bunded diesel tank (installed in 2019)

Diesel is transported to site by a contracted tanker. Other chemicals used on site, consisting of relatively small quantities (ie; 10/ 20 lt containers), is purchased locally and transported by site staff, secured in a light vehicle.

All liquid chemicals, fuels and oils are stored in the bunded package store, bunded tanks or pallet bunds in accordance with:

- Australian Standard (AS 1940) The Storage and Handling of Flammable and Combustible Liquids
- Australian Standard (AS 1596) The Storage and Handling of LP Gas
- Australian Dangerous Goods Code

Bunds are inspected monthly by the site staff (delegated by Quarry Manager) using the Monthly/Quarterly Inspection Checklist. Spill kits are located strategically in relevant areas for immediate access, in the event of a fuel or chemical spill. Refer to the *Pollution Incident Response Management Plan (section 4.2.3 – Significant Fuel / Chemical Spill)*

A six monthly audit is undertaken by site staff to reconcile the chemical inventory list and Safety Data Sheets recorded in ChemAlert to maintain accurate records and safety standards.

## 6.2.3 Bush Fire Management

Bush regeneration activities are undertaken on a monthly basis by a specialised bush regeneration contractor. The current contractor has worked with the Quarry since 2015 and carries out weed maintenance (including woody weed control to reduce fire fuel load), bush regeneration activities and monitoring of fauna and flora.

Bushfire management on site will be considered in relation to 'Planning for Bush Fire Protection' (RFS, latest version) to minimise the bush fire risk associated with quarrying operations to impact upon neighbouring properties. In accordance with the guidelines the following management actions will be undertaken:

- regular maintenance of perimeter access undertaken six monthly
- maintenance of a defendable space around all site sheds and buildings associated with the quarrying activities that pose a potential risk of fire ignition
- provision of an appropriate water supply suitable for firefighting purposes – sourced from several water bodies on site with the on-site water truck available at all times.
- Consideration of biodiversity and operational asset protection

These measures must be implemented in cooperation with the NSW Rural Fire Service (RFS).

# Environmental Management Strategy

## 7 MONITORING PROGRAMS

Where appropriate, the issue-specific management plans include monitoring programs. These monitoring programs have been developed, to provide the DPE with confirmation that operations associated with the Quarry expansion are undertaken in accordance with the relevant limits and standards, and that LCC is acting in accordance with the requirements of this EMS.

The timing, frequency, applicable sampling standard, comparison criteria, locations and responsibilities for any proposed environmental monitoring programs are specified in the respective monitoring programs contained within the relevant issue-specific management plans.

The monitoring programs outlined in the issue-specific management plans range from those involving formal sample collection, analysis and measurement, to those involving a more qualitative assessment. All environmental monitoring equipment, such as noise meters, water quality meters etc. will be calibrated and maintained according to manufacturer's specifications and are the responsibility of the relevant contractor.

The results of the monitoring programs will be recorded in accordance with the Record Keeping and Document Control requirements (refer to *Section 8.4*) and will be reviewed by the Compliance Manager (or delegate) to allow a prompt response to any exceedance of the performance criteria or CoA to be identified.

### 7.1 MONITORING LOCATIONS

Where issue-specific management plans require the establishment and implementation of a monitoring program, the monitoring locations will be clearly identified within the issue-specific management plan. Monitoring locations are to be determined through adherence to the assessments contained within the EAR (ERM 2009), compliance with the relevant CoA conditions, and/or as required in relevant guidance and policy documentation.

In general, monitoring will occur at identified locations as specified for the project domain. These sites are identified in *Figure 2* and each issue-specific management plan.

Primary and supplementary acoustic locations are identified in *Figure 2*. Primary acoustic monitoring locations consist of locations **2**, **4** and **8** with the remainder of locations being supplementary monitoring locations. Primary monitoring locations will be utilised during noise and blasting compliance monitoring and are considered representative in determining compliance with the relevant Conditions of Approval.

In the event that additional monitoring is required, in response to any complaints or operational changes, then additional monitoring may be undertaken at the most practical supplementary monitoring locations, as well as at the primary monitoring locations.

If additional monitoring is required, this will be considered in accordance with the Contingency Planning (refer to *Section 9.1*).

### 7.2 METHODOLOGY

Monitoring program methodologies are detailed in each of the relevant issue-specific management plans. Each methodology specified the process to quantitatively and qualitatively measure the effectiveness of environmental management measures against the assessment criteria set forth in the CoA. In addition, the methodologies outline the roles and responsibilities, and the procedures involved with, the monitoring of potential environmental issues.

### 7.3 METEOROLOGICAL PARAMETERS

Meteorological conditions data will be collected to support monitoring data as specified in the relevant issue-specific management plans and to identify weather conditions which may trigger modification to operations. For instance conditions that may be conducive to excessive dust generation and/or movement of dust onto neighbouring properties e.g. strong north-easterly winds.

# Environmental Management Strategy

The relevant issue-specific management plans to which this component is required include:

- Noise & Blast Management Plan
- Air Quality Management Plan

Meteorological parameters include cloud cover, approximate wind direction and speed and rainfall throughout the survey period is obtained from the on-site weather station by staff delegated by the Quarry Manager. Measurements will be guided by the requirements of *AS 3580.14 - Meteorological monitoring for ambient air quality monitoring applications (latest version)*, and the relevant NSW State Government body.

A weather station was installed in 2018 on site, and since updated in July 2022 to a suitable meteorological station that complies with the requirements in the *EPA Ambient Air Monitoring Guidance Note 2022*. In the event that this meteorological station is un-operational the Lismore BoM station located at the Lismore Airport (approximately 11km away) will be utilised.

## 7.4 PLANT & EQUIPMENT

Should plant and equipment contribute to potential environmental risks, data on both fixed and mobile equipment, including shift logs, will be included in the monitoring report.

## 7.5 MONITORING CRITERIA

The purpose of environmental monitoring is to track, mitigate and manage potential impacts of operations over time, to demonstrate that quarrying is not impacting on the surrounding environment. Accordingly, the relevant monitoring criteria, based on the CoA, have been established within the issue-specific management plans for assessment of environmental issues.

The Quarry operates under EPL 3384 which has in place specific assessment criteria for some relevant environmental issues which are outlined in detail in the relevant issue-specific management plans.

# Environmental Management Strategy

## 8 ENVIRONMENTAL & OPERATIONAL PERFORMANCE

### 8.1 ROLES & RESPONSIBILITIES

The Quarry Manager will be responsible for the implementation of this EMS under the direction of the Head of Roads and Quarry.

All Quarry staff and contractors are accountable through conditions of employment or contracts with each individual responsible for ensuring that their work complies with the procedures outlined in this EMS. Further details of the responsibilities of staff are provided in *Table E*. A diagram outlining the organisational structure for implementing this EMS is provided at *Figure 4*.

*Table E: Roles and Responsibilities*

| Role                     | Responsibility & Authority                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Head of Roads and Quarry | <ul style="list-style-type: none"> <li>• Ensure the CoA, Project Commitments and any other approval conditions relevant to the EMS are adhered to</li> <li>• Reviewing the EMS and issue-specific management plans (in accordance with their audit schedule) and authorise revised documents be distributed to relevant Agencies and other stakeholders.</li> <li>• Provide adequate budget to implement and maintain environmental monitoring programs</li> <li>• Ensure all staff and contractors have environmental induction and training</li> <li>• Consult with Quarry Manager and Compliance Manager regarding incidents / complaints</li> <li>• Liaise with Government agencies and relevant stakeholders when required</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Quarry Manager           | <ul style="list-style-type: none"> <li>• Ensuring the day to day running of the Quarry expansion is performed in a safe manner and that all employees and contractors adhere to all relevant regulations, policies and procedures identified in the EMS.</li> <li>• Environmental outcomes and compliance of the Quarry expansion with the legislative regulatory framework, including the CoA.</li> <li>• Maintaining and auditing the EMS, issue-specific management plans and associated monitoring programs (in accordance with their audit schedule) and providing reports to interested parties.</li> <li>• Ensuring that all works are performed in an environmentally friendly manner and to carry out regular checks to identify possible hazards and risks that may have arisen as a result of the works being performed.</li> <li>• Notifying the Head of Roads and Quarry if any archaeological remains are discovered during the course of the works and authority is given for stopping work if unacceptable impact is likely to occur.</li> <li>• Ensure no work requiring a licence or permit is undertaken without the (up to date) licence or permit required.</li> <li>• Complete environmental checklists.</li> <li>• Provide input and advice on Work Method Statements.</li> <li>• Provide environmental induction and training.</li> <li>• Assist with preparation of environmental induction and training materials.</li> <li>• Liaise with Government agencies and relevant stakeholders.</li> <li>• Provide a regular quarrying program.</li> <li>• Consult and coordinate with Compliance Manager regarding: <ul style="list-style-type: none"> <li>○ Managing the environmental budget.</li> <li>○ Responding to environmental incidents and complaints.</li> <li>○ Overseeing the maintenance of environmental documents.</li> <li>○ Preparing reports on compliance.</li> </ul> </li> <li>• Managing environmental sub-consultants.</li> </ul> <p>Authority is given for:</p> <ul style="list-style-type: none"> <li>• Amendment and revision of the EMS and associated issue-specific management plans (and monitoring programs).</li> <li>• Issuing of non-conformances.</li> <li>• Stopping work if unacceptable impact is likely to occur.</li> </ul> |

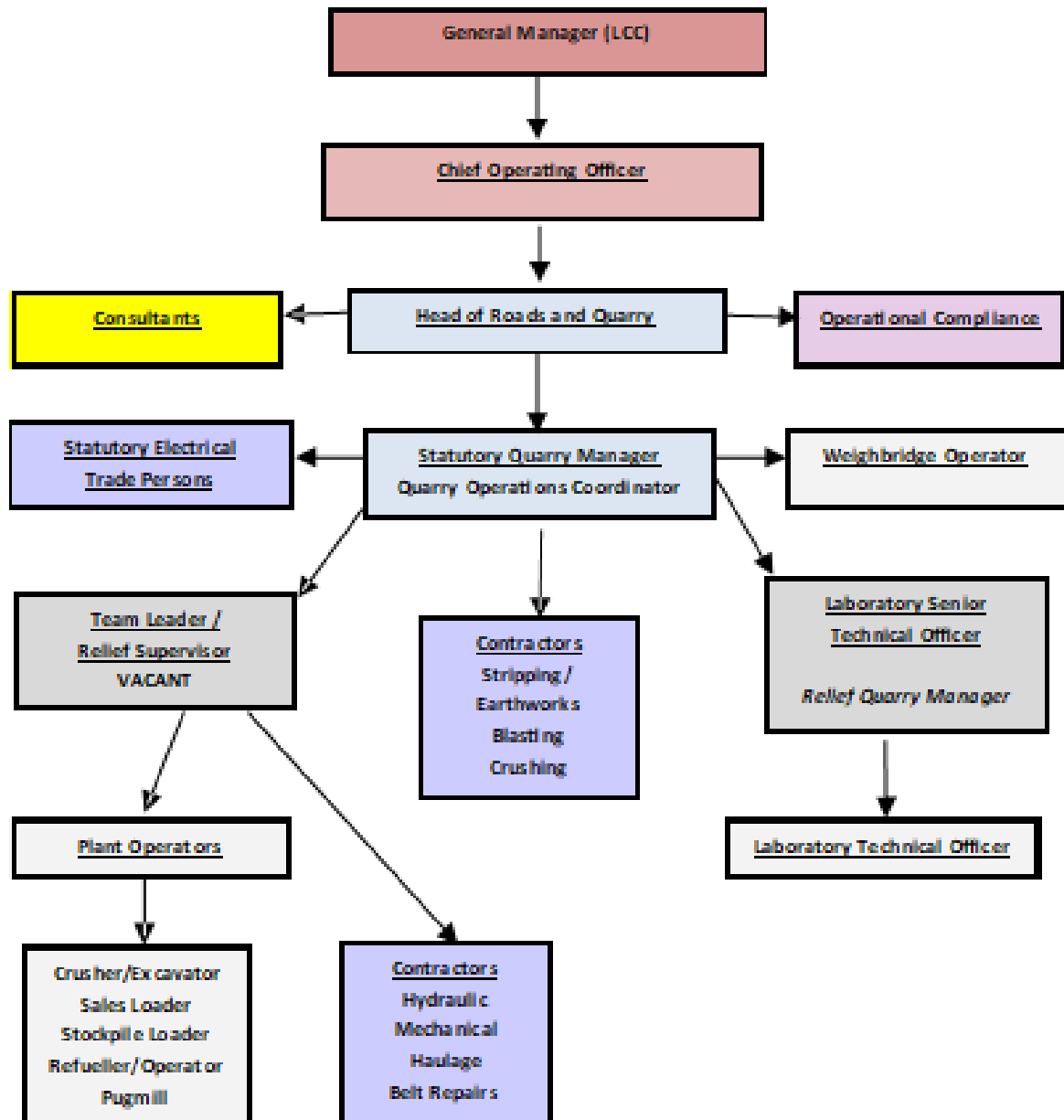
# Environmental Management Strategy

| Role        | Responsibility & Authority                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Staff       | <ul style="list-style-type: none"><li>• To undertake their work within the requirements of the CoA, EMS, associated issue-specific management plans and monitoring programs.</li><li>• Reporting any incidents on site and assisting management if directed</li></ul>                                                                                                                                                                                                                                                                                             |
| Contractors | <p>All contractors and employees are equally responsible for safety and environmental management at the work site and through the Hazard Identification, Risk Assessment and Control (HIRAC) process will be involved in:</p> <ul style="list-style-type: none"><li>• Identifying the hazards.</li><li>• Assessing the risks.</li><li>• Implementing the control measures after considering the Hierarchy of Controls.</li><li>• Evaluating and monitoring the controls.</li><li>• Reporting any incidents on site and assisting management if directed</li></ul> |



# Environmental Management Strategy

Figure 4: Organisational Structure



# Environmental Management Strategy

## 8.1.1 Consultants

Environmental consultants such as ecologists, archaeologists, acoustic engineers and air quality engineers may be commissioned by LCC (as required) to provide specialist input and advice on environmental matters, undertake surveys, inspections and monitoring. Any consultants engaged will be required to undertake their activities in accordance with this EMS.

## 8.1.2 Subcontractor Management

Some construction activities and services may be required to be performed by subcontractors, and as such, LCC requires that its subcontractors demonstrate an understanding and management of their potential environmental impact.

Depending upon the complexity of the sub-contractor's work, LCC may require the sub-contractor to produce documentation detailing their own environmental management systems and where necessary to prepare their own specific Environmental Management Plans (EMPs) and/or Environmental Procedures to augment this EMS. Details within the sub-contractors EMPs will be consistent with this EMS and the environmental requirements.

Sub-contractors working at the Quarry will be required to adhere to the *Contractor Management Procedure*, and comply with site requirements, which may include:

- Observe sub-contract and statutory requirements relating to environmental protection and all relevant Environmental Law and to follow instructions issued by the LCC management and supervisory personnel.
- Nominate representatives to liaise with LCC with respect to environmental requirements for the site activities.
- Cooperate fully with site emergency incident procedures and consultative arrangements.
- Follow procedures, mitigation measures and relevant reporting requirements identified in the EMS and associated issue-specific management plans.

The Quarry Manager will determine the appropriate environmental management requirements which will be applicable to specific sub-contractors during contract meetings and include these in any subcontract agreement or contract. In addition, relevant references to environmental management and control reflecting the EAR (ERM 2009) as associated CoA will be included in sub-contract documentation.

Contractor Performance Reports may be undertaken from time to time, to assess:

- Compliance with contractual requirements.
- Knowledge of and compliance with the EMS
- Work procedures and environmental management controls used on site as identified in the EMS and associated issue-specific management plans

## 8.2 STAKEHOLDER CONSULTATION

The CoA prescribe the regulatory authorities and community groups to be consulted in the preparation of each component of the EMS and the associated issue-specific management plans (and associated monitoring programs). These requirements are summarized in *Table F*.

# Environmental Management Strategy

Table F: Management Plan Consultation Requirements

| Regulatory Authority                                             | Management Plan/Strategy                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Department of Planning & Environment (DPE)                       | <ul style="list-style-type: none"> <li>Noise &amp; Blast Management Plan</li> <li>Air Quality Monitoring Program</li> <li>Soil &amp; Water Management Plan</li> <li>Biodiversity &amp; Rehabilitation Management Plan</li> <li>Biodiversity Offset Strategy</li> <li>Koala Management Plan</li> </ul> |
| Lismore City Council (LCC)                                       | <ul style="list-style-type: none"> <li>Operational Traffic Management Plan</li> <li>Biodiversity &amp; Rehabilitation Management Plan</li> </ul>                                                                                                                                                      |
| Environmental Protection Authority (EPA)                         | <ul style="list-style-type: none"> <li>Noise &amp; Blast Management Plan</li> <li>Soil &amp; Water Management Plan</li> </ul>                                                                                                                                                                         |
| Department of Planning & Environment (DPE Water) Water regulator | <ul style="list-style-type: none"> <li>Soil &amp; Water Management Plan</li> </ul>                                                                                                                                                                                                                    |
| Transport for NSW (TfNSW)                                        | <ul style="list-style-type: none"> <li>Operational Traffic Management Plan</li> </ul>                                                                                                                                                                                                                 |
| Heritage NSW                                                     | <ul style="list-style-type: none"> <li>Aboriginal Heritage Management Plan</li> <li>Biodiversity &amp; Rehabilitation Management Plan</li> </ul>                                                                                                                                                      |
| Registered Aboriginal Parties (RAP)                              | <ul style="list-style-type: none"> <li>Aboriginal Heritage Management Plan</li> </ul>                                                                                                                                                                                                                 |

## 8.3 TRAINING & AWARENESS

### 8.3.1 Training

LCC will provide environmental training to its employees with respect to the operations for the site. The objective of the training will be to provide a base level understanding of their individual role in maintaining this EMS. Training will also be provided for specific tasks to ensure employees are competent to perform their required duties.

In accordance with the EMS, LCC will also undertake the following with respect to training and awareness:

- Induct all employees, contractors, subcontractors and visitors (as relevant to their roles) prior to commencing works (and conduct annual refresher inductions);
- Ensure that the Drivers Induction is completed by all heavy vehicle drivers, prior to undertaking work at the quarry.
- Hold daily pre-start/toolbox talks;
- Hold WHS/staff meetings as required
- Issue Project Environmental Alerts (if required).

To ensure all plant and equipment used at the site is operated and maintained in a proper and efficient manner, mitigation measures will include those outlined in the Noise & Blast Management Plan (section 6.3) and Air Quality Management Plan (section 7.1).

### 8.3.2 Blakebrook Quarry Induction

LCC will induct all staff, contractors, subcontractors and visitors prior to commencing works and conduct annual refresher inductions. As part of the induction process staff will be made aware of key environmental risks relevant to their works, this EMS, Work Method Statements and LCC expectations regarding environmental performance and commitment.

Employee and contractor training records will be maintained using induction checklists (records will be maintained on site and/or in TRIM where relevant).

Visitors entering the Quarry will be inducted using the Driver/Visitor Induction. The visitor will be accompanied by a representative of LCC at all times.

# Environmental Management Strategy

## 8.3.3 Daily Pre-Start/Toolbox Talks

At the commencement of each day's work a short discussion will be held with all staff to discuss:

- The day's quarrying activities.
- Likely weather and any influence it may have on environmental controls.
- Any impending visitors.
- Key health, safety and environment risks and controls required to be implemented during quarrying activities during the day.

A record of all toolbox meetings shall be kept stored in LCC's record management system (TRIM) and a copy kept at the Quarry office.

All items discussed at the meeting and all staff attending that meeting shall be recorded.

## 8.3.4 WHS/Staff meetings

WHS/staff meetings will be held as required, with items discussed at the meeting and all staff attending shall be recorded. A record shall be kept stored in LCC's record management system (TRIM).

## 8.3.5 Project Environmental Alerts

Where required, Environmental Alerts (consistent in nature with safety alerts) will be prepared to convey important information to the Quarry operations and management team. This information can be triggered by a recent incident (not necessarily at the Quarry but a similar project throughout Australia or within a current project undertaken by LCC, infringement notice, change in acceptable work practices, good practices, significant weather changes etc.).

Environmental Alerts will be approved for issue by the Quarry Manager.

Environmental Alerts will be presented by the Quarry Manager at the next shift toolbox meeting, on the next staff member computer log in, on the Quarry office notice boards and other means suitable for applicable Quarry expansion team members.

## 8.4 RECORD KEEPING & DOCUMENT CONTROL

Records are to be maintained for all environmental management measures and monitoring. All record keeping and document control shall be managed in accordance with the *IMS Document Data Control and Record Keeping Procedure*.

To ensure that the correct procedures and plans are used on site, issue of the EMS, CoA and/or any other relevant document, and any associated amendments that may be required, will be controlled using a document register and stored in LCC's record management system (TRIM).

### Recording of Results

To meet the monitoring objectives of each issue-specific management plan and the CoA, monitoring results will be set out and analysed as required under each issue-specific management plan. Upon receipt of each round of monitoring results, a suitably qualified person will review results for compliance against relevant environmental parameters. The results shall be recorded in LCC's record management system (TRIM), with any trends or exceedances of the relevant assessment criteria forwarded to the Compliance Manager. Results shall be published on LCC website as appropriate.

## 8.5 SITE INSPECTIONS

Weekly inspections of work areas will be conducted by the Quarry Manager to monitor work practices and identify non-conforming areas and activities or work practices which could lead to potential environmental harm.

# Environmental Management Strategy

It is noted that weekly inspections of work sites also provide an opportunity for the Quarry Manager to address issues raised by staff, contractors or consultants and assist in the implementation of environmental controls. Often this continued support leads to better ownership of environmental management and becomes a coaching exercise for field staff to improve their skills in this specialised and complex discipline.

A 'Site Daily and Weekly Checklist' will be used to record and report any improvements required. The purpose of the inspections is to:

- Provide a surveillance tool to ensure that safeguards are being implemented.
- Identify where problems might be occurring (or have the potential to occur).
- Identify where sound environmental practices are not being implemented.
- Facilitate the identification and early resolution of problems.

Additional inspections by the Compliance team will also occur. Any non-conformance with the Site Daily and Weekly checklist will be recorded in the Quarry Non-conformance and Improvement Register.

## 8.6 INTERNAL COMMUNICATION

Adequate records shall be maintained to demonstrate conformance to specified environmental requirements. The records to be maintained include, but are not limited to:

- Important email and telephone correspondence.
- Meeting notes/minutes.
- Monthly performance reports.
- Monitoring and testing records.
- Training records.
- Audit records.
- Work Method Statements.
- Emergency procedures.
- Incident reports and investigations.

To ensure that the Quarry operations and management team as a whole is effective and aware of project wide lessons and issues, relevant staff will meet fortnightly or more frequently if required. Team members will also be able to table issues and seek feedback from others on proposed work methods and appropriate environmental management resolutions.

Typical meeting agenda items will include:

- Administration and resources.
- Incidents and monthly reporting.
- Environmental awareness (alerts, procedures, response flowcharts).
- Any other new business.

Meeting notes will be taken, with any actions noted and will be distributed to all attendees and any other staff on an as needs basis.

## 8.7 EXTERNAL COMMUNICATION & NOTIFICATION

In accordance with EPL L5.3 all sensitive receivers (residents living nearby the Quarry) will be given at least 24 hours' notice (by phone) when blasting is to be undertaken, unless otherwise stipulated by the EPL.

General information regarding the environmental performance of the Quarry and contact details regarding complaints will be available at all times through LCC website <https://www.lismore.nsw.gov.au/Council/Northern-Rivers-Quarry>

A Community Consultative Committee (CCC) is operated in accordance with Schedule 5, Condition 7 of the CoA and the DPE Community Consultative Committee Guidelines (latest version). Community meetings will be held at least once per annum, where information regarding the activities being undertaken at the site as well as environmental performance information will be detailed.

# Environmental Management Strategy

Authorities will be kept informed regarding the operation and environmental performance of the Quarry through the Annual Reporting requirements of the CoA and EPL.

## 8.8 COMPLAINT INVESTIGATION & RESPONSE

Complaints regarding the Quarry or Asphalt operations (including limited campaign asphalt operations relating to the OHWP) will be managed via LCC Corporate complaints management system. Quarry and Asphalt complaints must be received via telephone to LCC Contact Centre 02 6625 0500 (available 24 hours).

Details that are to be logged by Council staff include:

- Complainant's name.
- Telephone number / email address / postal address.
- Date of contact.
- Nature of complaint.

The details of the complaint will be passed on to the Quarry Compliance division. Quarry Management will be committed to rectifying any activity that has caused a complaint as soon as possible, with a response being provided to the complainant within five (5) business days of receipt of the complaint. The Quarry will undertake actions to identify and initiate appropriate action in response to the complaint to resolve (where practicable).

All Quarry staff are responsible for recording any complaints to the Quarry Manager. Complaints must be made through the correct channel to the LCC Corporate Customer Contact Centre in order to ensure correct record keeping and response. The response to a complaint is handled by the Compliance Manager (or delegate) and may be in writing, via phone or face to face depending on the nature of the issue and the wishes of the complainant.

Records of all complaints received are to be kept within LCC Corporate Complaints Management System. The Quarry Complaints Register (updated monthly) is added to the LCC website <https://www.lismore.nsw.gov.au/Council/Northern-Rivers-Quarry> with the Quarry's Non conformance and Improvements Register updated regularly and reviewed at least monthly.

## 8.9 DISPUTE RESOLUTION PROCESS

In the case that a dispute between the complainant and LCC arises with respect to the management and/or outcomes of the Complaint Investigation and Response (*Section 8.8*), the complainant may refer the matter to the DPE for an independent review.

If a matter is referred to the DPE and the DPE are satisfied that the dispute is genuine, the DPE can request LCC to follow procedures set out in Schedule 4, condition 2 (refer Appendix A).

In the case that an owner of privately-owned land within 2 kilometres of proposed blasting activities claims that their property has been damaged as a result of blasting activities, LCC shall follow Schedule 4, condition 5. In the event LCC and the landowner disagree with the findings of the property investigation report, either party may refer the matter to DPE for resolution.



# Environmental Management Strategy

## 9 REVIEW AND REPORTING

Annual review and reporting are required to assess the outcomes of the EMS, review its effectiveness, and consider works undertaken against annual budgets and targets.

Any issues noted regarding the success of management works will also be relayed to the site manager on an ongoing basis so that relevant improvements can be made.

### 9.1 CONTINGENCY PLANNING

Should at any time the management and/or monitoring results of any of the issue-specific management plans be determined to be negatively impacting surrounding sensitive receptors for the Quarry and Asphalt expansion (eg. Endangered ecological community, neighbouring properties etc) then the management plans and/or monitoring programs may need to be intensified to allow better identification and understanding of the impacts and facilitate design of appropriate mitigation measures.

To manage any unpredicted impacts and their consequences and to ensure that ongoing impacts are reduced to levels below relevant impact assessment criteria as quickly as possible the relevant issue specific management plan strategies/controls will be implemented. Contingencies to manage impacts include daily site inspections, regular review of risks and control implementation, review of environmental test results and trends against criteria and incident and non-conformance reporting. Relevant stakeholders will be informed of any unpredicted or potential impacts, with actions to remedy the consequences identified in a timely manner, to ensure compliance against the CoA criteria.

Before any significant changes are made to an issue-specific management plan, LCC will consult with DPE and any other relevant stakeholder to obtain their feedback. Once feedback has been incorporated into the issue-specific management plan, it will be uploaded to the Major Projects Portal for approval by the Secretary.

### 9.2 INCIDENT AND NON COMPLIANCE REPORTING

All incidents and non-compliance will be reported in accordance with the requirements of the CoA that relate to incident and non-compliance reporting (Schedule 5, conditions 8 and 9 – refer Appendix A).

- *Incident: An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.* Immediately notify DPE and any other relevant Agency immediately after becoming aware of the incident.
- *Non-compliance – An occurrence, set of circumstances or development that is a breach of this consent.* Within seven (7) days of becoming aware of a non-compliance, LCC will notify DPE and any other relevant Agency in writing.

Where there is an incident or non-compliance of the limits/performance criteria in the CoA or EPL the relevant agencies will be informed immediately (of the exceedance becoming known to the licensee) by phone (where relevant) and in writing via the Major Projects Portal.

LCC will undertake an investigation into the cause of the incident or non-compliance according to the IMS *Incident Reporting Investigation and Notification Procedure*, with strategies to prevent reoccurrence being implemented. All procedures and documents are maintained within LCC's electronic records management system (TRIM).

In addition, in the event of an exceedance that has affected nearby landowners, the Quarry will follow conditions as set out in the CoA, Schedule 4, condition 1 – Notification of Landowners where applicable. As soon as practicable and no longer than 7 days LCC will notify the affected landowners in writing of the exceedance, and provide regular monitoring results, at least every 3 months, to each affected landowner until the project is again complying with the relevant criteria.

Where applicable LCC will send out a copy of the NSW Health 'Mine Dust and You' factsheet <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=DA80/9>

# Environmental Management Strategy

[52-PA-12%2120200629T223159.711%20GMT](#) to affected landowners (including tenants of land which is not privately owned).

LCC will meet the requirements of the DPE to address the cause or impact of any incident or non-compliance within the required period as defined by the DPE. LCC will maintain a record of incidents and non-compliance in the Quarry Non conformance and Improvement Register.

## 9.3 EMERGENCY PLANNING, PREDAREDNESS & RESPONSE

LCC will ensure that all environmental incidents are promptly and effectively managed to minimise environmental impacts during the life of the Quarry.

All environmental incidents will be handled according to the *Incident Reporting Investigation & Notification Procedure* for the Quarry. The Quarry Manager (or delegated person) is responsible for investigation of incidents, notification and written reports to regulatory authorities as required, and declaring an area safe after an incident.

All staff are responsible for their own actions in preventing incidents occurring, in containing spills etc. In the event of discovering a dangerous situation, refer to the Emergency Response Plan (ERP) and/or Pollution Incident Response Management Plan (PIRMP). All procedures and documents are maintained within LCC's electronic records management system (TRIM).

In the event of an emergency or incident, the following may be carried out by the person at the scene:

- moving persons away from danger;
- contacting relevant emergency services (ambulance/fire/police);
- announcing evacuation if dangerous situation requires (radio/runner); and
- contacting Head of Roads and Quarry and Quarry Manager.

## 9.4 REVIEWS

### 9.4.1 Internal Auditing

An internal review of this EMS will be undertaken by LCC on an annual basis. The purpose of the review is to determine the appropriateness of the EMS in achieving environmental objectives and performance goals throughout the Quarry and Asphalt expansion and ensure that the system is meeting the requirements of relevant legislation, standards, policies, licences, permits, approvals and objectives. A report will be provided to the Compliance Manager with any recommendations for improvement. The Head of Roads and Quarry will review and approve changes to the system (as required).

LCC will notify DPE when a review triggered by the below has been undertaken:

- an incident report
- annual environmental monitoring review
- independent environmental audit
- any modification to the CoA

Following the outcome of a review, if a document revision is substantiated, it will be submitted via the Major Projects Portal for approval of the Secretary within six (6) weeks.

To ensure any additional measures to improve the environmental performance of the project is kept up to date, LCC may submit (at any time) revised strategies, plans or programs for approval of the Secretary, as noted in Schedule 5, condition 5 (refer Appendix A).

## 9.5 EXTERNAL REPORTING

All external reporting required by the CoA or other obligation for the Quarry will be approved by the Quarry Management. This includes management planning documentation associated with this EMS.

# Environmental Management Strategy

LCC will ensure production data is lodged with Mining, Exploration and Geoscience (MEG) within the Department of Regional NSW per calendar year (as per Schedule 2, condition 14). Due to the nature and volume of the material being extracted, standard Form S1 is required for submission for every financial year, and is submitted by 31 October annually.

Environmental monitoring reports are made available on the LCC website via <https://www.lismore.nsw.gov.au/Council/Northern-Rivers-Quarry>. Environmental monitoring reports are internally audited and reviewed as part of the Annual Environmental Monitoring Report and overall compliance audited every 3 years as part of the Independent Environmental Audit (IEA).

## 9.5.1 Annual Environmental Monitoring Review

In accordance with the Minister's CoA, an annual environmental monitoring review (AEMR) is to be prepared to the satisfaction of the DPE in accordance with CoA Schedule 5, Condition 11 (refer Appendix A).

The annual review will provide a comprehensive review of all monitoring results over the previous calendar year, including evaluation on the effectiveness of the air quality management system and compliance with the performance measures, criteria and operating conditions in the CoA.

The Head of Roads and Quarry will review and approve the outcome and recommendations in the report, which will be submitted via the Major Project Portal by the end of March annually. The AEMR will be submitted to LCC for awareness (via the Head of Roads and Quarry) and will be made available to the Community Consultative Committee or any interested person.

LCC will make available on the website via <https://www.lismore.nsw.gov.au/Council/Northern-Rivers-Quarry> any records that are relevant to enable assessment of the environmental performance of the site, relating to the CoA and EPL.

## 9.5.2 Independent Environmental Audit

Within three (3) years of the date of grant of this project approval, and every three (3) years thereafter, an independent environmental audit (IEA) will be undertaken by a suitably qualified, experienced and independent team of experts who have been endorsed by the Secretary, to assess the environmental performance of the Quarry and Asphalt operations, and compliance to the relevant requirements of the CoA, EPL or necessary water licences (including any assessment, strategy, plan or program required under these approvals). Consultation with relevant agencies and the CCC is included in the assessment of the report.

The audit is to review the adequacy of strategies, plans or programs and recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, strategy, plan or program required under the CoA.

The Head of Roads and Quarry will review the outcome and recommendations in the report. Recommendations will be reviewed against the approved CoA and this management plan, with a response to audit recommendations and an implementation timetable (if required) will be submitted to the Secretary via the Major Project Portal within 12 weeks of commencing the audit (or to any other NSW agency that request it).

The report will be submitted to LCC for awareness (via the Head of Roads and Quarry).

Upon acceptance of the report by the Secretary, LCC will make it available on the website via <https://www.lismore.nsw.gov.au/Council/Northern-Rivers-Quarry>.

# Environmental Management Strategy

## 10 REFERENCES

Department of Infrastructure, Planning and Natural Resources, 2004, Guidelines for the Preparation of Environmental Management Plans.

Environmental Resources Management Australia Pty Ltd (ERM), 2009, Blakebrook Quarry Expansion Environmental Assessment Report.

Lismore City Council Environmental Policies <https://lismore.nsw.gov.au/all-current-lismore-city-council-policies-from-a-z>

Lismore City Council Biodiversity Management Strategy <https://lismore.nsw.gov.au/protecting-and-conserving-biodiversity-in-an-active-farming-region>

Lismore City Council Koala Plan of Management <https://lismore.nsw.gov.au/managing-the-health-and-habitat-of-our-koala-population-in-south-east-lismore>

# Environmental Management Strategy

## APPENDIX A - DOCUMENT COMPLIANCE

| CoA Condition                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Compliance reference                                       |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <b>Schedule 2, condition 1</b><br><b>Obligation to minimise harm to the environment</b> | In addition to meeting the specific performance measures and criteria established under this approval, the Proponent must implement all reasonable and feasible measures to prevent or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.                                                                                                                                                                                                                                                                              | Section 1.1<br>Section 3.1<br>Section 4.2<br>Section 4.2.1 |
| <b>Schedule 2, condition 2</b><br><b>Terms of Approval</b>                              | The Proponent must carry out the project:<br>(a) generally in accordance with the EA, EA (Mod 1) and MR (Mod 3); and                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Section 2.1<br>Section 2.2<br>Section 3.3                  |
|                                                                                         | (b) in accordance with the conditions of this approval, Project Layout Plan and the Statement of Commitments.<br><i>Notes:</i> • <i>The Project Layout Plan is shown in Appendix 1;</i><br>• <i>The Statement of Commitments is reproduced in Appendix 2.</i>                                                                                                                                                                                                                                                                                                                                | Section 2.1<br>Section 2.2<br>Section 7                    |
| <b>Schedule 2, condition 4</b><br><b>Terms of Approval</b>                              | The Proponent must comply with any written requirement/s of the Secretary arising from the Department's assessment of:<br>(a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval (including any stages of these documents);<br>(b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with this approval;<br>(c) and the implementation of any actions or measures contained in these documents.                                                                  | Section 1.3<br>Table A<br>Section 9.4.1                    |
| <b>Schedule 2, condition 6</b><br><b>Limits on Approval</b>                             | The Proponent may carry out quarrying operations and Asphalt plant operations on the site until 31 December 2039.<br><br><i>Note: Under this approval, the Proponent is required to rehabilitate the site and carry out additional requirements and undertakings to the satisfaction of the Secretary. Consequently, this approval will continue to apply in all respects other than the right to conduct quarrying operations until the rehabilitation of the site and those requirements and undertakings have been carried out to the standard required by the applicable conditions.</i> | Section 2.1                                                |
| <b>Schedule 2, condition 7</b><br><b>Limits on Approval</b>                             | The Proponent must not undertake quarrying operations below 55 m AHD in the northern pit or 105 m AHD in the southern pit.<br><i>Note: Drainage sumps may be constructed below this level with the agreement of the Secretary.</i>                                                                                                                                                                                                                                                                                                                                                           | Section 2.1                                                |
| <b>Schedule 2, condition 8</b><br><b>Limits on Approval</b>                             | The Proponent must not:<br>(a) transport more than 600,000 tonnes of quarry products from the site per calendar year;<br>(b) transport more than 50,000 tonnes of asphalt from the site per calendar year;<br>(c) dispatch more than 120 laden trucks from the site on any calendar day prior to the completion of intersection upgrade required by Condition 21(f) of Schedule 3 to the satisfaction of TfNSW; and                                                                                                                                                                          | Section 2.7                                                |

## Environmental Management Strategy

|                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                             | (d) dispatch more than 150 laden trucks from the site on any calendar day following completion of the intersection upgrade required by Condition 21(f) of Schedule 3 to the satisfaction of TfNSW.<br><i>Note: Dispatch of laden trucks is also controlled under condition 1 of Schedule 3.</i>                                                                         |                                                                                                                        |
| <b>Schedule 2, condition 11</b><br><b>Protection of Public Infrastructure</b><br><br><i>Note: This condition does not apply to damage to roads caused as a result of general road usage or otherwise addressed by contributions required by condition 13 of Schedule 2.</i> | Unless the Proponent and the applicable authority agree otherwise the Proponent must:<br>(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and<br>(b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project. | Section 3.3                                                                                                            |
| <b>Schedule 2, condition 12</b><br><b>Operation of Plant and Equipment</b>                                                                                                                                                                                                  | The Proponent must ensure that all the plant and equipment used at the site, or to monitor the performance of the project is:<br>(a) maintained in a proper and efficient condition; and<br>(b) operated in a proper and efficient manner.                                                                                                                              | Section 2.2<br>Section 8.3.1<br>Noise Blast Management Plan – section 6.3<br>Air Quality Management Plan – section 7.1 |
| <b>Schedule 2, condition 14</b><br><b>Production Data</b>                                                                                                                                                                                                                   | The Proponent must:<br>(a) from the commencement of quarrying operations provide calendar year annual quarry production data to MEG using the standard form for that purpose; and<br>(b) include a copy of this data in the Annual Review.                                                                                                                              | Section 9.5                                                                                                            |
| <b>Schedule 2, condition 15</b><br><b>Compliance</b>                                                                                                                                                                                                                        | The Proponent must ensure that all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.                                                                                                                                                                                   | Section 8.1<br>Table E<br>Figure 4<br>Section 8.1.1<br>Section 8.1.2<br>Section 8.3.1<br>Section 8.3.2                 |
| <b>Schedule 2, condition 16</b><br><b>Identification of Boundaries</b>                                                                                                                                                                                                      | The Proponent must ensure that the boundaries of the approved limits of extraction are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits.                                                                                                                                          | Section 2.4<br>Figure 1<br>Figure 2<br>Figure 3                                                                        |
| <b>Schedule 3, condition 31</b><br><b>Visual</b>                                                                                                                                                                                                                            | The Proponent must implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the project to the satisfaction of the Secretary.                                                                                                                                                                                             | Section 4.1                                                                                                            |

## Environmental Management Strategy

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| <b>Schedule 3, condition 32<br/>Waste</b>                     | <p>The Proponent must:</p> <p>(a) manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Council;</p> <p>(b) minimise the waste generated by the project;</p> <p>(c) ensure that the waste generated by the project is appropriately stored, handled, and disposed of; and</p> <p>(d) report on waste management and minimisation in the Annual Review,</p> <p>to the satisfaction of the Secretary.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Section 6.2.1 |
| <b>Schedule 3, condition 33<br/>Waste</b>                     | Except as expressly permitted in an EPL, the Proponent must not receive waste at the site for storage, treatment, processing, reprocessing or disposal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Section 6.2.1 |
| <b>Schedule 3, condition 34<br/>Liquid Storage</b>            | The Proponent must ensure that all tanks and similar storage facilities (other than for water) are protected by appropriate bunding or other containment, in accordance with the relevant Australian Standards.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Section 6.2.2 |
| <b>Schedule 3, condition 35<br/>Dangerous Goods</b>           | The Proponent must ensure that the storage, handling, and transport of dangerous goods is done in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the <i>Dangerous Goods Code</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Section 6.2.2 |
| <b>Schedule 3, condition 36<br/>Bushfire</b>                  | <p>The Proponent must:</p> <p>(a) ensure that the project is suitably equipped to respond to any fires on site; and</p> <p>(b) assist the Rural Fire Service and emergency services to the extent practicable if there is a fire in the vicinity of the site.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Section 6.2.3 |
| <b>Schedule 4, condition 1<br/>Notification of Landowners</b> | <p>As soon as practicable, and no longer than 7 days, after obtaining monitoring results showing: (a) an exceedance of any criteria in Schedule 3, the Proponent must notify the affected landowners in writing of the exceedance, and provide regular monitoring results, at least every 3 months, to each affected landowner until the project is again complying with the relevant criteria; and</p> <p>(b) an exceedance of any air quality criteria in Schedule 3, the Proponent must 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 current tenants of the land (including the tenants of land which is not privately-owned).</p>                                                                                                                                                                                                                     | Section 9.2   |
| <b>Schedule 4, condition 2<br/>Independent Review</b>         | <p>If an owner of privately-owned land considers the project to be exceeding the relevant criteria in Schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land.</p> <p>If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision, the Proponent must:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:</p> <ul style="list-style-type: none"> <li>• consult with the landowner to determine his/her concerns;</li> <li>• conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 3; and</li> <li>• if the project is not complying with these criteria, then identify measures that could be implemented to ensure compliance with the relevant criteria; and</li> </ul> | Section 8.9   |



## Environmental Management Strategy

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|                                                                          | (b) give the Secretary and landowner a copy of the independent review; and<br>(c) comply with any written requests made by the Secretary to implement any findings of the review.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                      |
| <b>Schedule 4, condition 5<br/>Property Investigations</b>               | <p>If any owner of privately-owned land within 2 kilometres of proposed blasting activities, or any other landowner nominated by the Secretary, claims that his/her property, including vibration-sensitive infrastructure such as water supply or underground irrigation mains, has been damaged as a result of blasting at the project, the Proponent shall within 3 months of receiving this request:</p> <p>(a) commission a suitably qualified person whose appointment has been approved by the Secretary to investigate the claim and prepare a property investigation report; and<br/>(b) give the landowner a copy of the report.</p> <p>If this independent investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damage to the satisfaction of the Secretary.</p> <p>If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Secretary for resolution.</p> | Section 8.9                                                          |
| <b>Schedule 5, condition 1<br/>Environmental<br/>Management Strategy</b> | The Proponent must prepare an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:<br>(a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Proponent;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Appendix B                                                           |
|                                                                          | (b) provide the strategic framework for environmental management of the project;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Section 3<br>Section 3.4<br>Table D                                  |
|                                                                          | (c) identify the statutory approvals that apply to the project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Section 1<br>Section 2.1<br>Section 3.2<br>Section 3.3               |
|                                                                          | (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Section 8.1<br>Section 8.1.1<br>Section 8.1.2<br>Table E<br>Figure 4 |
|                                                                          | (e) describe the procedures to be implemented to:<br>• keep the local community and relevant agencies informed about the operation and environmental performance of the project;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Section 1.3<br>Table E<br>Sections 8.7                               |
|                                                                          | • receive, record, handle and respond to complaints;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Section 8.8                                                          |

## Environmental Management Strategy

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|                                                                                                                                                                                                                | • resolve any disputes that may arise during the course of the project;                                                                                                                                                                                                                                                                                                  | Section 8.9                                 |
|                                                                                                                                                                                                                | • respond to any non-compliance;                                                                                                                                                                                                                                                                                                                                         | Section 9.2                                 |
|                                                                                                                                                                                                                | • respond to emergencies                                                                                                                                                                                                                                                                                                                                                 | Section 9.3                                 |
|                                                                                                                                                                                                                | (a) include:<br>• copies of any strategies, plans and programs approved under the conditions of this approval; and                                                                                                                                                                                                                                                       | Section 3.4<br>Table C                      |
|                                                                                                                                                                                                                | • a clear plan depicting all the monitoring to be carried out under the conditions of this approval.                                                                                                                                                                                                                                                                     | Section 7.1<br>Figure 2                     |
|                                                                                                                                                                                                                | The Proponent must implement any Environmental Management Strategy as approved from time to time by the Secretary                                                                                                                                                                                                                                                        | Section 8.1<br>Section 9.4.1<br>Section 9.5 |
| <b>Schedule 5, condition 2<br/>Evidence of Consultation</b>                                                                                                                                                    | Where consultation with any State or local agency is required by the conditions of this approval, the Proponent must:<br>(a) consult with the relevant agency prior to submitting the required document to the Secretary for approval;<br>(b) submit evidence of this consultation as part of the relevant document;                                                     | Appendix B                                  |
|                                                                                                                                                                                                                | (c) describe how matters raised by the agency have been addressed and any matters not resolved; and                                                                                                                                                                                                                                                                      | Section 8.2<br>Table F                      |
|                                                                                                                                                                                                                | (d) include details of any outstanding issues raised by the agency and an explanation of disagreement between any agency and the Proponent.                                                                                                                                                                                                                              | Appendix B – no further comments to provide |
| <b>Schedule 5, condition 3<br/>Management Plan requirements</b><br><br><i>Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</i> | The Proponent must ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:<br>(a) detailed baseline data;                                                                                                                                                                                    | Section 3.2                                 |
|                                                                                                                                                                                                                | (b) a description of:<br>• the relevant statutory requirements (including any relevant approval, licence or lease conditions);<br>• any relevant limits or performance measures/criteria; and<br>• 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; | Section 3.2<br>Section 5                    |
|                                                                                                                                                                                                                | (c) a description of the measures that to be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;                                                                                                                                                                                                                   | Section 6<br>Section 7                      |

## Environmental Management Strategy

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|                                                                                                                                                                                                                                                                                                            | (d) a program to monitor and report on the:<br>• impacts and environmental performance of the project; and<br>• effectiveness of any management measures (see (c) above);                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Section 7<br>Section 8                                 |
|                                                                                                                                                                                                                                                                                                            | (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Section 4.2<br>Section 9.1                             |
|                                                                                                                                                                                                                                                                                                            | (f) a program to investigate and implement ways to improve the environmental performance of the project over time;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Section 3.2<br>Section 9.4                             |
|                                                                                                                                                                                                                                                                                                            | (g) a protocol for managing and reporting any:<br>• incidents;<br>• complaints;<br>• non-compliances with statutory requirements; and<br>• exceedances of the impact assessment criteria and/or performance criteria;                                                                                                                                                                                                                                                                                                                                                                                                                                     | Section 8.8<br>Section 9.2                             |
|                                                                                                                                                                                                                                                                                                            | (h) a protocol for periodic review of the plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Section 9.4                                            |
| <b>Schedule 5, condition 4<br/>Application of Existing<br/>Management Plans</b>                                                                                                                                                                                                                            | The Proponent must continue to apply existing approved management plans, strategies or monitoring programs that have most recently been approved under this approval, until the approval of a similar plan, strategy or program under this approval.                                                                                                                                                                                                                                                                                                                                                                                                      | Section 3.2<br>Appendix B                              |
| <b>Schedule 5, condition 4a<br/>Revision of Strategies,<br/>Plans &amp; Programs</b><br><br><i>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.</i> | <p>Within 3 months of the submission of an:</p> <p>(a) incident report under condition 9 below;<br/>(b) Annual Review under condition 11 below;<br/>(c) audit report under condition 12 below; and<br/>(d) any modifications to this approval</p> <p>the Proponent must review the strategies, plans and programs required under this approval, to the satisfaction of the Secretary. The proponent must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary.</p> | Section 1.3<br>Section 3.3<br>Table A<br>Section 9.4.1 |
| <b>Schedule 5, condition 5<br/>Updating and Staging of<br/>Strategies, Plans or<br/>Programs</b>                                                                                                                                                                                                           | To ensure that strategies, plans or programs required under this approval are updated on a regular basis, and that they incorporate any appropriate additional measures to improve the environmental performance of the project, the Proponent may at any time submit revised strategies, plans or programs for the approval                                                                                                                                                                                                                                                                                                                              | Section 1.3<br>Section 9.4.1                           |

## Environmental Management Strategy

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|                                                                     | <p>of the Secretary. With the agreement of the Secretary, the Proponent may also submit any strategy, plan or program required by this approval on a staged basis.</p> <p>The Secretary may approve a revised strategy, plan or program required under this approval, or the staged submission of any of these documents, at any time. With the agreement of the Secretary, the Proponent may prepare the revised or staged strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this approval.</p> <p>While any strategy, plan or program may be submitted on a staged basis, the proponent will need to ensure that the operations associated with the project are covered by suitable strategies, plans or programs at all times.</p> <p>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/s of the project to which the strategy, plan or program applies; the relationship of this stage/s to any future stages; and the trigger for updating the strategy, plan or program.</p> |                                                    |
| <b>Schedule 5, condition 6<br/>Adaptive Management</b>              | <p>The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and performance measures in this consent. Any exceedance of these criteria or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&amp;A Act or EP&amp;A Regulation.</p> <p>Where any exceedance of these criteria or performance measures has occurred, the Applicant must, at the earliest opportunity:</p> <ul style="list-style-type: none"> <li>(a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;</li> <li>(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</li> <li>(c) implement reasonable remediation measures as directed by the Planning Secretary.</li> </ul>                                                                                                                                                               | <p>Section 4.2<br/>Section 6.2<br/>Section 9.1</p> |
| <b>Schedule 5, condition 7<br/>Community Consultative Committee</b> | <p>The Proponent must establish and operate a Community Consultative Committee (CCC) for the project to the satisfaction of the Secretary. The CCC must be operated in general accordance with the Department's <i>Community Consultative Committee Guidelines, November 2016</i> (or later version).</p> <p>Notes:</p> <ul style="list-style-type: none"> <li>• The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.</li> <li>• In accordance with the guidelines, the Committee should comprise an independent chair and appropriate representation from the Proponent, Council and the local community.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Section 8.7</p>                                 |
| <b>Schedule 5, condition 8<br/>Incident Notification</b>            | <p>The Proponent must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>Section 9.2<br/>Section 9.3</p>                 |
| <b>Schedule 5, condition 9</b>                                      | <p>Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing via the Major Projects Website and identify the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>Section 9.2</p>                                 |

## Environmental Management Strategy

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| <b>Non-compliance Notification</b>                | development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.                                                                                                                                                        |                                                          |
| <b>Schedule 5, condition 10 Regular Reporting</b> | The Proponent must provide regular reporting 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.                                                                                                                                                                                                                                                   | Section 8.7<br>Section 9.5                               |
| <b>Schedule 5, condition 11 Annual Review</b>     | By the end of March each year, or other timing as may be agreed by the Secretary, the Proponent must submit a review to the Department reviewing the environmental performance of the project to the satisfaction of the Secretary. This review must:<br>(a) describe the project (including any progressive rehabilitation) that was carried out in the previous calendar year, and the project that is proposed to be carried out over the current calendar year;                   | Section 1.3<br>Table A<br>Section 9.4.1<br>Section 9.5.1 |
|                                                   | (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:<br>• relevant statutory requirements, limits or performance measures/criteria;<br>• requirements of any plan or program required under this approval;<br>• monitoring results of previous years; and<br>• relevant predictions in the documents listed in condition 2(a) of Schedule 2; | Section 9.5.1                                            |
|                                                   | (c) evaluate and report on:<br>• the effectiveness of the air quality and noise management systems; and<br>• compliance with the performance measures, criteria and operating conditions in this approval.                                                                                                                                                                                                                                                                            | Section 9.5.1                                            |
|                                                   | (d) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance;                                                                                                                                                                                                                                                                                                                                                | Section 9.5.1                                            |
|                                                   | (e) identify any trends in the monitoring data over the life of the project;                                                                                                                                                                                                                                                                                                                                                                                                          | Section 9.5.1                                            |
|                                                   | (f) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies;                                                                                                                                                                                                                                                                                                                             | Section 9.5.1                                            |
|                                                   | (g) describe what measures will be implemented over the current calendar year to improve the environmental performance of the project.                                                                                                                                                                                                                                                                                                                                                | Section 9.5.1                                            |

## Environmental Management Strategy

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|                                                                     | The Proponent must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 7 of Schedule 5) and any interested person upon request.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Section 9.5.1              |
| <b>Schedule 5, condition 12<br/>Independent Environmental Audit</b> | <p>Within three years of the date of grant of this project approval, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent must commission, commence and pay the full cost of an Independent Environmental Audit of the project. This audit must:</p> <ul style="list-style-type: none"> <li>(a) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;</li> <li>(b) include consultation with the relevant agencies and the CCC;</li> <li>(c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant EPL or necessary water licences for the project (including any assessment, strategy, plan or program required under these approvals);</li> <li>(d) review the adequacy of strategies, plans or programs required under the abovementioned approvals;</li> <li>(e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and</li> <li>(f) be conducted and reported to the satisfaction of the Secretary.</li> </ul> | Section 9.5.2              |
| <b>Schedule 5, condition 13<br/>Independent Environmental Audit</b> | Within 12 weeks of commencing this audit, or as otherwise agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of these recommendations as required. The Proponent must implement these recommendations, to the satisfaction of the Secretary.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Section 9.5.2              |
| <b>Schedule 5, condition 14<br/>Access to Information</b>           | <p>Within 3 months of the determination of Modification 1, until the completion of all works, including rehabilitation and remediation the Proponent must:</p> <ul style="list-style-type: none"> <li>(a) make the following information publicly available on its website: <ul style="list-style-type: none"> <li>• the documents listed in condition 2(a) of Schedule 2;</li> <li>• current statutory approvals for the project;</li> <li>• all approved strategies, plans and programs required under the conditions of this approval;</li> <li>• a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;</li> <li>• a complaints register, updated monthly;</li> <li>• the annual reviews of the project;</li> <li>• any independent environmental audit as described in condition 12 above, and the Proponent's response to the recommendations in any audit; and</li> <li>• any other matter required by the Secretary; and</li> </ul> </li> <li>(b) keep this information up-to-date,</li> </ul>                                                                                                                                              | Section 8.7<br>Section 8.8 |

## Environmental Management Strategy

to the satisfaction of the Secretary.



# Environmental Management Strategy

## APPENDIX B - DPE correspondence



Planning &  
Environment

Planning Services  
Resource Assessments  
Contact: Jack Murphy  
Phone: 8217 2016  
Email: [jack.murphy@planning.nsw.gov.au](mailto:jack.murphy@planning.nsw.gov.au)

Mr Louis Penny  
Senior Town & Environmental Planner  
ERM  
PO Box 1400  
Spring Hill QLD 4000

Email: [Louis.Penny@erm.com](mailto:Louis.Penny@erm.com)

Dear Mr Penny,

### Blakebrook Quarry Modification 1 (07\_0020) Environmental Management Plans

I refer to your emails dated 3 and 24 August 2018, submitting a revised environmental management strategy and revised environmental management plans for the Blakebrook Quarry. The Department has reviewed the following documents and considers they have fulfilled the requirements of their respective conditions:

- Aboriginal Heritage Management Plan dated August 2018 (condition 24, Schedule 3);
- Air Quality Management Plan dated August 2018 (condition 12, Schedule 3);
- Environmental Management Strategy dated August 2018 (condition 1, Schedule 5);
- Traffic Management Plan Dated August 2018 (condition 23, Schedule 3);
- Noise Management Plan dated August 2018 (condition 5, Schedule 3); and
- Blast Management Plan dated August 2018 (condition 9, Schedule 3).

Consequently, the Secretary has approved the above documents. Please ensure finalised copies of these documents are made available on the company's website.

Should you have any enquiries in relation to this matter, please contact Jack Murphy.

Yours sincerely,

A handwritten signature in blue ink that reads 'Howard Reed'.

Howard Reed 28.8.18  
Director  
Resource Assessments  
as nominee of the Secretary

# Environmental Management Strategy



Department of Planning and Environment

Ms Eleisha Went  
Compliance Manager, Commercial Services  
Lismore City Council

Ref: ED22/6741

60 BRUNSWICK STREET  
LISMORE NSW 2480

Via email: [Eleisha.went@lismore.nsw.gov.au](mailto:Eleisha.went@lismore.nsw.gov.au)

Dear Ms Went

## **Blakebrook Quarry - Flood Emergency Request (MP07\_0020) Extension of Time Request**

Thank you for your correspondence to the Department of Planning and Environment (the "Department") dated 3 & 12 March 2022 seeking an extension of time for the submission of reports required under the conditions of consent and additionally, seeking increased limits on hours of operation, production, and vehicle movements for the Blakebrook Quarry (MP07\_0020) to enable Council to repair necessary infrastructure.

The Department acknowledges that the Lismore region and its residents have been significantly impacted by the recent unprecedented flooding and associated impacts to infrastructure. The Department wishes to assist in any way possible to support Council and the community that have been impacted by this tragic event.

### **Reports and Environmental Management Plans**

The Department has considered your request for the extension of time for the submission of the following reports and management plans;

- Annual Environmental Management Review (AEMR); and
- Modification 3 Management Plan revisions (including Site Water Balance)

Accordingly, the Planning Secretary has approved your request for an extension of time until 30 June 2022 for the submission of the Annual Environmental Management Review, and until 30 September 2022 for the submission of revised Management Plans required under Modification 3 (including the Site Water Balance).

### **Increased production limits, hours of operation and vehicle movements**

In relation to your request seeking increased hours of operation, production limits, and vehicle movements, the Department provides assurance that it will not take enforcement action for

# Environmental Management Strategy



Department of Planning and Environment

these exceedances for an initial period of 3 months and will review the Council's circumstances at that time in determining whether this period should be extended.

The Department notes that the Council has committed to the following measures:

- Continue to monitor and record tonnages of quarry products and asphalt leaving the site;
- Continue to monitor and record the number of laden truck movements exiting the site;
- Limit hours of operation wherever possible;
- Record and respond to any complaints; and
- Continue to meet the requirements of management plans and programs.

Additionally, the Department considers that blasting activities at the site should be undertaken within the approved hours unless considered critical for production or for safety reasons (such as a misfire). The Department further requests that the Council conducts engagement with sensitive receivers prior to increasing production, truck movements or conducting operations outside of the approved hours.

Finally, the Department requests that a short monthly summary report be provided during the period of works, outlining the works conducted outside of the limits of consent, whether complaints have been received and the Council's response to such complaints.

Should you wish to discuss the matter further, please contact Mr Phillip Rose, Compliance Officer at the Department on 6670 8657 or [phillip.rose@planning.nsw.gov.au](mailto:phillip.rose@planning.nsw.gov.au)

Yours sincerely

A handwritten signature in black ink, appearing to read "Ben Harrison".

Ben Harrison

Director Compliance

As nominee of the Planning Secretary

16.8.2022

# Environmental Management Strategy

## APPENDIX C- Environmental Policies



### POLICY MANUAL

|                                          |                                                                                     |
|------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Policy title:</b>                     | <b>ATMOSPHERE POLICY</b>                                                            |
| <b>Policy number:</b>                    | <b>5.17.5</b>                                                                       |
| <b>Objective:</b>                        | <b>To manage greenhouse gas emissions, air quality and noise in the Lismore LGA</b> |
| <b>Link to community vision/service:</b> | <b>Water &amp; Waste Cycle, Natural Environment</b>                                 |
| <b>Program Area:</b>                     | <b>Environmental Health</b>                                                         |
| <b>Policy created:</b>                   | <b>Council reviewed:</b>                                                            |
| <b>Last reviewed by staff:</b>           | <b>TRIM Ref: ED10/15916</b>                                                         |

This policy applies to all sections within Council having an impact on and/or regulatory role in managing 'the atmosphere', which includes noise, odour, greenhouse gas and air emissions (e.g. smoke, dust, pollutants). Air quality and noise emissions are an important community and environmental issue within the LGA. There is also increased community concern about the effects of greenhouse gases at a global level. The policy contains 3 objectives. These are:

#### 1. To reduce Greenhouse Gas Emissions

Greenhouse gases are a global issue that are linked closely to climate change. It is widely accepted that increases in greenhouse gas emissions has led to an increase in average global temperatures, and will cause future rises in sea levels. These are likely to have major effects on existing natural habitats and ecosystems. Council's major involvement in reducing greenhouse gas emissions is through the Cities for Climate Protection program, which includes an extensive range of actions.

##### Strategies for implementation

- Implement actions within Council's local action plan from the Cities for Climate Protection program
- Create and improve access to public transport, walking and cycling facilities
- Liaise with Public Transport PAG to develop/initiate/implement promotions and policies to increase public transport, cycling and walking activities.

#### 2. To limit the impact of noise and odour within the LGA

Noise and odour are a significant source of complaints to Council. Complaints usually occur between neighbours in the urban zone, but also regularly occur at the interface between land use zones such as agriculture or industrial areas and residential areas.

##### Strategies for implementation

- Provide up to date and accurate information on noise and odour issues for the Lismore community;
- Monitor number and nature of complaints to Council regarding noise and odour to identify major sources of emissions; and
- Ensure industries adopt best management practices for control of noise and odour
- Investigate better use of planning controls to reduce conflict between varying land uses and practices (Link to Land Policy);



# Environmental Management Strategy

- e) Promote good neighbour behaviour and awareness of existing land uses

### 3. To manage and improve air quality within the LGA

As development continues within the LGA there is likely to be increased pressures placed on air quality. Council's role has traditionally been to record and respond to complaints about air quality. There are also industries in Lismore licenced with the Dept. of Environment & Conservation (DEC) for air emission discharges.

#### Strategies for implementation

- a) Monitor number and nature of complaints to Council regarding air quality to identify major sources of emissions.
- b) Provide up to date and accurate information on air quality issues, focussing on local industry;
- c) Ensure industrial and commercial premises are compliant with legislative requirements through audit programs and other means; and
- d) Encourage partnerships with industry and agriculture for adoption of best management practices for control of emissions.





# Environmental Management Strategy



## POLICY MANUAL

|                                   |                                                                 |
|-----------------------------------|-----------------------------------------------------------------|
| Policy title:                     | BIODIVERSITY – FLORA AND FAUNA POLICY                           |
| Policy number:                    | 5.17.3                                                          |
| Objective:                        | To protect, restore and actively manage native flora and fauna. |
| Link to community vision/service: | Water and Waste Cycle, Natural Environment                      |
| Program Area:                     | Environmental Health                                            |
| Policy created: 12/6/07           | Council reviewed: 12/6/07                                       |
| Last reviewed by staff: 12/6/07   | TRIM Ref: ED10/15914 & ED16/26836                               |

This policy applies to all sections within Council having an impact on native flora and fauna, and contains 3 objectives. These are:

**1. To ensure Council has the information needed to protect and manage native flora and fauna.**

The area encompassing Lismore LGA has the highest level of biodiversity within NSW, and has also been highly modified (e.g. less than 1% of the original Big Scrub Rainforest area remains). There is a strong need to protect what remains, restore degraded areas and actively maintain habitats. Council has a legislative obligation to protect and manage threatened species within the LGA. The large number of local-scale decisions made by Councils have a significant cumulative impact on biodiversity and up-to-date, local-scale information is essential to responsible decision-making. Current information is insufficient to make biodiversity management decisions.

**Strategies for implementation**

- Develop an accurate information base, particularly up to date, local scale flora and fauna mapping, to enable Council to identify, conserve and protect key habitats and corridors
- Include details of tree removal applications as indicators in State of the Environment reports
- Collaborate with relevant scientists/ experts to assess, measure and monitor biodiversity values and changes over time.

**2. To improve the habitat value of remnant and regrowth native vegetation**

Existing vegetation remnants are under constant pressure from sources including: weed invasion, development activities, and poor land management practices. It is also important to manage regrowth native vegetation as it expands, and provides recruitment to, the overall habitat resource.

**Strategies for implementation**

- Reduce the impact of weeds on biodiversity by identifying and eradicating weed hot spots particularly on Council owned or Council managed land
- Ensure the conservation of locally significant habitats and high conservation value areas when assessing Development Applications and strategic land use planning; and
- Establish linkages between existing remnants and regrowth native vegetation.



# Environmental Management Strategy

## 3. To foster and promote protection and restoration activities

It is important that Council play a continuing role in the restoration and long-term protection of native flora and fauna, by its own example and through its ability to seek external funds and form partnerships with the community and landholders.

### Strategies

- a) Ensure Council's own activities are consistent with biodiversity protection and restoration, particularly in relation to key habitats and corridors;
- b) Improve the condition of Council owned reserves by implementing existing Vegetation Management Plans for Council areas;
- c) Engage private landholders and other stakeholders in active management of native vegetation on private land;
- d) Provide support to relevant groups involved in restoration activities;
- e) Assist and support landholders to actively pursue the long-term protection of biodiversity on private land e.g. through conservation covenants or contracts.
- f) Protect and proactively manage koala populations in the LGA.



# Environmental Management Strategy



## POLICY MANUAL

|                                   |                                                                                  |
|-----------------------------------|----------------------------------------------------------------------------------|
| Policy title:                     | HERITAGE POLICY                                                                  |
| Policy number:                    | 5.17.7                                                                           |
| Objective:                        | To maintain and enhance the natural and cultural heritage values of Lismore LGA. |
| Link to community vision/service: | Natural Environment, Economic Development, Quality of Life                       |
| Program Area:                     | Planning                                                                         |
| Policy created:                   | Council reviewed:                                                                |
| Last reviewed by staff:           | TRIM Ref: ED10/15918 & ED16/27205                                                |

This policy applies to all sections within Council having an impact on cultural and natural heritage. Heritage consists of those places and objects that we as a community have inherited from the past and want to hand on to future generations. LCC currently has 109 heritage items listed in Schedule 1 of the LEP, 6 heritage conservation areas, and 45 known aboriginal heritage sites as described by DEC. This policy has 3 objectives. These are:

**1. To improve Council's awareness and management of local Aboriginal heritage**

The management of Aboriginal heritage is a complex issue, as information regarding culturally important landscapes, sites and items is held by a variety of stakeholders and this information is often sensitive. Aboriginal heritage requires consideration in day-to-day Council activities, however it appears that information pathways are not well used or understood.

**Strategies for implementation**

- Develop protocols and establish contacts for consultation with Aboriginal groups.
- Train relevant staff in protocols and relevant information pathways for example the NSW NPWS (DEC) register of Aboriginal sites and artefacts.
- Develop a Wilsons River Aboriginal Cultural Heritage Management Plan in consultation with local Aboriginal community.
- Support the Bundjalung Mapping Project.

**2. To conserve and protect local heritage**

Council's 1994/95 heritage study used a 'windscreen survey' approach to develop an inventory of local, regional and state significant heritage items for the Lismore LGA. The inventory exists in 6 paperback volumes and is difficult to access. Providing information on locally significant heritage in a digital format will increase access for council staff, industry and the community.

**Strategies for implementation**

- Link heritage study information with councils GIS database to increase staff, industry and community access;
- Develop a process for identifying and documenting significant trees and
- Include details of heritage items as indicators in State of the Environment reports.



## Environmental Management Strategy

### **3. To promote and educate the community of the benefits of heritage management**

Lismore has a wealth of heritage values which need to be included in the suite of attractions to the Lismore area, and considered for commercial ventures. The Lismore community itself should be aware of this heritage, and have a capacity to manage it.

#### Strategies for implementation

- a) Improve links between EDU, Tourism and Council to promote Lismore's natural and cultural heritage values, including the heritage trail, heritage week and other commercial ventures.
- b) Develop guidelines for the better management of heritage items, and a contacts list of qualified tradespeople.



# Environmental Management Strategy

- resources;
- c) Support innovation and implementation of sustainable land management practices through partnerships with agencies and industry bodies;
- d) Ensure all development activities, including Council activities, comply with best practices in the management of soil, especially reducing the mobilisation and movement of soil;

## 3. To limit landuse changes that diminish scenic amenity

The Lismore area is renowned for its scenic beauty, which is threatened as the urban area expands into previously rural areas. The steepness of local topography and prevalence of ribbon-style development increases the risk of scenic degradation.

Strategies for implementation

- a) Develop a DCP that addresses protection of rural and scenic amenity.



## **Environmental Management Strategy**

# Environmental Management Strategy



## POLICY MANUAL

|                                   |                                              |
|-----------------------------------|----------------------------------------------|
| Policy title:                     | WASTE POLICY                                 |
| Policy number:                    | 5.17.6                                       |
| Objective:                        | To sustainably manage the solid waste stream |
| Link to community vision/service: | Waste                                        |
| Program Area:                     | Commercial Services                          |
| Policy created:                   | Council reviewed: 7/1/14                     |
| Last reviewed by staff: 7/1/14    | TRIM Ref: ED10/15917 & ED16/33356            |

This policy applies to all sections within Council having an impact on the production, and management of solid waste. The policy has been developed to closely reflect Council's 20 year waste strategy and contains 4 objectives. These are:

### 1. To maximise the recovery of under-utilised resources

Recovering resources through re-use, reprocessing and recycling is a major component of managing waste and minimising disposal to landfill.

Strategies for implementation;

- Maintain and enhance the collection area of commercial organics collection
- Maximise recyclables collection and processing
- Increase recovery of salvageable items from the waste stream

### 2. To manage residual waste effectively

Residual waste is that waste which cannot be diverted from the waste stream through, for example, re-use and recycling, and must be taken to landfill. Northern Rivers Waste aims to minimise the total amount of residual waste, but also ensure that any residual waste delivered to landfill is managed effectively and in accordance with Department of Environment and Conservation (DEC) licence conditions.

Strategies for implementation;

- Ensure an environmentally and financially viable landfill
- Review alternative disposal methods for residual waste
- Continually develop partnerships with commercial and industrial sectors to manage commercial and industrial waste

### 3. To provide efficient and effective collection services

Ensuring adequate services for the collection of rubbish from households, industry and commercial premises is a core responsibility of local government.

Strategies for implementation;

- Regularly review collection service requirements
- Investigate and where financially viable develop new business opportunities.



# Environmental Management Strategy

## 4. To provide leadership on managing the waste cycle

Waste management and recycling services are important community and environmental issues within the LGA. There is community concern about waste generation rates and society consumption patterns generally.

### Strategies

- a) Develop partnerships with commercial and industrial sectors to manage commercial and industrial waste
- b) Maintain an education focus and capability
- c) Engage with the community to encourage waste avoidance, increase recycling rates and reduce contamination in recycling and organics streams.



# Environmental Management Strategy



## POLICY MANUAL

|                                          |                                                                                                      |
|------------------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Policy title:</b>                     | <b>WATER QUALITY AND QUANTITY POLICY</b>                                                             |
| <b>Policy number:</b>                    | <b>5.17.2</b>                                                                                        |
| <b>Objective:</b>                        | <b>To maintain and enhance water quality and quantity in the Richmond River and its tributaries.</b> |
| <b>Link to community vision/service:</b> | <b>Water &amp; Waste Cycle, Natural Environment</b>                                                  |
| <b>Program Area:</b>                     | <b>Environmental Health</b>                                                                          |
| <b>Policy created: 12/06/07</b>          | <b>Council reviewed: 12/06/07</b>                                                                    |
| <b>Last reviewed by staff: 12/06/07</b>  | <b>TRIM Ref: ED10/15913 &amp; ED16/33372</b>                                                         |

This overarching policy applies to all sections within Council having an impact on water quality and stream flows, and contains 3 objectives.

### 1. To protect, restore and actively manage the riparian zone

Riverbanks provide an important buffer between a river's aquatic environments and the floodplain and drier lands of the catchment slopes, ridges and plateaux. Poor riparian condition and high sediment and nutrient loads in the Richmond River Catchment are well documented and the Stressed Rivers Assessment found 13 of 18 classified sub-catchments within the Richmond had a 'high environmental stress' rating (DLWC, 1999). The proportion of 'rainfall as run-off' is also high in this region, increasing the risk of stream channel erosion.

In the urban zone Council can influence riparian management by considering conservation values in Development Assessments and managing Crown and Council-owned land. Council has less influence in rural areas but can form partnerships with relevant stakeholders, and seek external funding for on-ground works.

#### Strategies for implementation

- Protect and restore the riparian zone during new development activities through the use of planning controls;
- Implement best management practices during the maintenance of Crown and Council-owned lands in riparian areas;
- Restore Council-owned riparian lands by implementing existing Vegetation Management Plans;
- Identify high priority riparian zones and restore them through partnerships with community groups, residents and commercial businesses;
- Engage landholders in actively managing the riparian zone with a focus on the Wilsons River in the urban area;
- Encourage improved environmental practices in rural areas through partnerships with landowners, agencies, NRCMA and industry and community groups.



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## 2. To improve stormwater quality

In this context stormwater is defined as concentrated run-off from constructed drainage structures within the urban area. Water quality monitoring in the urban zone indicates that stormwater contributes very high loads of nutrients and pollutants to our waterways. In 1999 Council adopted a Stormwater Management Plan to improve urban stormwater quality. Implementation of this plan has been limited by financial constraints. This policy has been developed to commit to the implementation of Council's Stormwater Management Plan, and other initiatives such as the adoption of Water Sensitive Urban Design principles and Integrated Water Cycle Management to conserve and manage water.

### Strategies for implementation

- a) Maintain and improve the quality of urban stormwater through implementation of actions within Council's existing Stormwater Management Plan;
- b) Develop and implement a Development Control Plan (DCP) for Water Sensitive Urban Design;
- c) Implement Council's Integrated Water Cycle Management Plan (stormwater provisions);
- d) Provide an appropriate allocation of funds from the 'Water and Sewer dividend' to implement these strategies.

## 3. To improve practices in rural areas

There are numerous practices undertaken in rural areas that may result in the pollution or misuse of water, including excessive soil cultivation, ground-cover removal and waste discharge. Council's role in influencing rural practices is usually regulatory, typically triggered by complaints regarding specific pollution incidents. Development Applications are not required for most agricultural activities, except for intensive agriculture, such as dairies and piggeries. Due to Council's limited role there is reliance on State agencies to influence rural practices. Council is responsible, however, for managing gravel roads, which increase sedimentation of waterways.

### Strategies for implementation

- a) Improve rural land management practices affecting water quality and quantity through partnerships with relevant stakeholders, e.g. landholders, industry groups and agencies.
- b) Reduce the movement of sediment from gravel roads into waterways through best practice in road construction and design and strategic installation of water diversion banks and sediment traps plus road sealing where practical and achievable.
- c) Ensure that the provisions within Council's on-site sewage management strategy are implemented and regularly reviewed to conform with best management practice

## 4. To reduce per capita demand for potable water

Reducing the demand for potable (i.e. drinking quality) water has a wide range of environmental, financial and social benefits. These include a reduction in the amount of high quality water that needs to be extracted from our streams and stored, which puts pressure on natural river flows. It can also reduce the amount of wastewater to be treated and encourages 'fit for purpose' water use within the community.

### Strategies for implementation

- a) Council encourage and show leadership in planting low water use and locally appropriate species
- b) Reduce household water usage through partnerships with Rous Water, other Councils and independent initiatives
- c) Council reduce water use during its own operations and within Council buildings
- d) Implement Council's Integrated Water Cycle Management Plan (water supply provisions)
- e) Actively encourage adoption of practices that lead to 'fit for purpose' water use, through planning provisions.





# Environmental Management Strategy

## Quality, Safety and Environment Policy



Northern Rivers Quarry (the Quarry) is a commercial entity of Lismore City Council, producing quarry materials for internal and external customers.

The Quarry is committed to the ongoing achievement of safety, quality and environmental objectives at all levels and has developed systems and procedures to ensure work practices reflect this commitment.

The Quarry's documented Integrated Management System (IMS) consists of three integral components:

- Safety Management System as per ISO 45001:2018
- Quality Management System as per ISO 9001:2015
- Environmental Management System as per ISO 14001:2015

In order to provide high quality quarry materials to internal and external customers, the Quarry is committed to:

- The provision of a safe and healthy work environment for all workers including employees, contractors and visitors and promoting a culture where harm to our people through work is unacceptable.
- Consulting between management, workers, visitors and contractors on safety, quality and environmental issues.
- Adopting a risk management approach to minimise risks to workers, contractors and visitors to the site, including monitoring and review of quality and safety controls.
- Adopting a risk management approach to prevent pollution and minimise the effect of Quarry operations on flora, fauna and neighbouring properties, including monitoring and review of environmental controls.
- Providing relevant and practical information, instruction and training to workers, contractors and visitors (as appropriate) whose operations can or may have a significant impact on quality, safety or environmental aspects of operations.
- Ensuring that employees, visitors and contractors comply with all applicable safety, quality and environmental legislation, codes of practice and other standards as relevant to the IMS and interested parties.
- Establishing measurable safety, quality and environmental objectives and targets to ensure continuous improvement and measuring and monitoring impacts through site inspections and audits and conducting improvements where possible.
- Using energy, materials and natural resources efficiently and in a more sustainable manner with the aim of achieving a positive environmental impact.
- The prompt notification of any near misses, incidents or exceedances to the relevant government agencies as per regulatory requirements.
- Investigating all accidents, incidents, exceedances and occurrences with control measures implemented and reviewed to ensure elimination of initial breakdown
- Implementing, maintaining and reviewing the IMS, including allocating all resources and training necessary to achieve this.
- Providing a framework for issues to be addressed and documented.

# Environmental Management Strategy

## Quality, Safety and Environment Policy



### Responsibilities

All company personnel have a responsibility for implementation and continuous improvement of the Quarry's safety, quality and environmental performance.

Lismore City Council (LCC) as the (PCBU) has ultimate responsibility for the implementation of the Quarry's safety system and for reviewing the overall WHS performance. The Manager Commercial Services and Quarry Operations Coordinator have a joint responsibility to exercise 'due diligence' to ensure that the Quarry complies with that duty of obligation. The General Manager has ultimate responsibility for the implementation of Council's WHS systems and for reviewing the overall safety performance of the organization.

All workers have responsibility for:

- Taking reasonable care for their own health and safety.
- Taking reasonable care that their acts or omissions do not adversely affect the health and safety of other persons.
- Following all WHS legislation, Council safety requirements and relevant Codes of Practice.
- Cooperating with management in support of promotion of Health and Safety in the workplace.
- Not undertaking any task without the relevant induction, training or competency.
- Promptly report all hazards, injuries and safety incidents.
- Presenting fit for work in a fit state that does not prevent them carrying out their duties in a safe and responsible manner.

### Communication

The Quarry's commitment to safety, quality and environmental outcomes is communicated through this policy and supporting IMS systems to workers, contractors, visitors and neighbours at:

- Site Induction.
- Daily Toolbox meetings.
- Fortnightly Coordinators meetings.
- Monthly WHS & Environmental meetings.
- Community Consultative Committee (CCC) meetings.
- Displayed in prominent positions within the organisation as is practical.

### Accountability

Accountability for the IMS is to Manager Commercial Services in consultation with the Quarry Operations Coordinator. Responsibilities are delegated to senior personnel throughout the company as documented in the Authorities, Responsibilities and Delegations Procedure.

### Monitoring & Review

This policy shall be reviewed annually by the Quarry Operations Coordinator, in consultation with workers and the IMS Compliance Representative.

Senior management reviews the IMS objectives and targets and sets new objectives and targets at Management Review Meetings.

A handwritten signature in black ink, appearing to read 'Ashley Wing'.

Date & Time: 29 Jul, 2022 07:22:08 AEST

Ashley Wing

Manager – Commercial Services / /

Joel Fraser

Date & Time: 05 Aug, 2022 07:57:08 AEST

Joel Fraser

OHS site representative / /

# Environmental Management Strategy

## APPENDIX D - RISK ASSESSMENT

### 5 RISK ASSESSMENT

#### 5.1 INTRODUCTION

This chapter provides an assessment of the key environmental issues and risks arising from the proposed development and recommends mitigation and management regimes to address these issues. The implications addressed are in accordance with the DGRs issued on 8 March 2007.

#### 5.2 GENERAL ENVIRONMENTAL RISK ANALYSIS

The following qualitative risk analysis was undertaken at the commencement of the assessment process in order to prioritise issues for assessment and assist in formulating the assessment methodologies for the project. A risk analysis is an integral step in the Part 3A process where key issues identified within the preliminary environmental investigations and government and community consultation can be identified for a more focussed assessment process.

The risk analysis is presented in *Table 5.1* and includes the identification of key aspects to be addressed within the EA and the proposed assessment methodologies to complete the assessment. Detailed analysis of each aspect is provided within the following Environmental Interactions section of the EA.

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**Table 5.1** *General Environmental Risk Analysis*

| Aspect              | Sub Topic               | Level of Risk                                                                              | Scope of Works                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Justification                                                                                                                                                                                                                                                                       |
|---------------------|-------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Noise and Vibration | Quarrying at Blakebrook | Medium - A number of rural residences are located in proximity to the quarry.              | The noise assessment will be undertaken based on DECC's Industrial Noise Policy (INP). This will include attended and unattended ambient noise surveys at surrounding residential locations and passive recreational areas, noise modelling and site validation of the modelling results. Noise contours for the surrounding area and project specific limits will then be derived in accordance with the INP and the DECC's Environmental Noise Control Manual. | Lismore City Council will be provided with data to allow management of operational activities to minimise potential noise impacts on the surrounding community. Determination of specific noise limits will allow for maximum flexibility of quarry operations within these limits. |
|                     | Cumulative noise        | N/A - There are no other noise producing industries or activities located near the quarry. | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                              | N/A                                                                                                                                                                                                                                                                                 |
|                     | Blasting                | Medium - A number of rural residences are located in close proximity to the quarry.        | Blasting impacts will be assessed in accordance with the DECC recommended ANZECC criteria. These criteria are used to assess human annoyance, discomfort and potential property impacts from blasting activities.                                                                                                                                                                                                                                                | Assessments will identify quarrying areas that may require additional management of blasting practices to reduce potential blast and vibration impacts.                                                                                                                             |

## Environmental Management Strategy

ENVIRONMENTAL PROTECTION MANAGEMENT AUTHORITY

41

0000041/PTN/A/21FEBRUARY 2009

| Aspect      | Sub Topic                         | Level of Risk                                                                                                               | Scope of Works                                                                                                                                                                                                                                                                                                                                                            | Justification                                                                                                                                                                                           |
|-------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Air Quality | Air quality model and assessment  | Medium - A number of rural residences are located in close proximity to the quarry.                                         | The assessment will be based on the NSW DECC's <i>Guideline on the use of air Quality Models for Modelling Assessments</i> . The assessment will cover a range of operational scenarios including realistic initial production rates and 'worst case' operational scenarios. Modelling of the proposed and cumulative air emissions will be undertaken.                   | Lismore City Council will be provided with data to allow management of operational activities to minimise potential air emission impacts on the surrounding community.                                  |
|             | Cumulative assessment             | N/A - There are no other industries or activities in close proximity to the quarry to cause cumulative air quality impacts. | N/A                                                                                                                                                                                                                                                                                                                                                                       | N/A                                                                                                                                                                                                     |
| Groundwater | Hydrogeological properties        | Medium                                                                                                                      | Assessment of the hydrogeological properties of the fractured rock aquifer will be undertaken. This will include a desktop review of geological and hydrogeological information, determination of groundwater dependent ecosystems, and a site specific field investigation. Water depth and quality will be sampled to interpret groundwater make and interconnectivity. | This level of assessment will provide sufficient information to develop an understanding of groundwater conditions at the site and for determining the impacts of the quarry on the groundwater system. |
|             | Groundwater impact determination. | Medium                                                                                                                      | The anticipated groundwater contribution to the total water budget at the quarry will also be assessed.                                                                                                                                                                                                                                                                   | Initial investigations indicate that no significant impacts are expected to the groundwater system as a result of the proposed quarry expansion.                                                        |



## Environmental Management Strategy

| Aspect        | Sub Topic                                                     | Level of Risk                                                                                | Scope of Works                                                                                                                                                                                                                                                                                                                                                                         | Justification                                                                                                                                                                                                                                                                                                                                      |
|---------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surface water | Water balance                                                 | Low                                                                                          | A desktop assessment will be undertaken to determine meteorological characteristics of the site. Bureau of Meteorology data will be sourced for review.                                                                                                                                                                                                                                | The proposed level of assessment is considered adequate due to the site already being used for quarrying. It is envisaged that a Soil and Water Management Plan (SWMP) will be prepared following approval of the project.                                                                                                                         |
|               | Water quality                                                 | Low                                                                                          | The existing water quality management at the quarry will be reviewed and any necessary changes identified as a result of the quarry expansion.                                                                                                                                                                                                                                         | The proposed level of assessment will provide Lismore City Council with sufficient information to develop a water management plan to reduce potential impacts to water quality as a result of the proposed quarry expansion by identifying and managing potential sources of water pollution. A surface water monitoring program will be designed. |
| Ecology       | Threatened flora and fauna species and ecological communities | Medium - Much of the site is highly disturbed however Koalas have been recorded on the site. | A detailed Ecological Site Assessment will be undertaken by Conacher Environmental Group. This will involve a desktop assessment and literature review of the State and Commonwealth threatened species registers to determine threatened species previously recorded or likely to occur at the site. A field survey will be undertaken targeted towards results from this assessment. | The proposed level of assessment is considered adequate due to the site already being used for quarrying. Management plans will be prepared to manage and protect any threatened species or communities identified.                                                                                                                                |

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| Aspect              | Sub Topic                            | Level of Risk | Scope of Works                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Justification                                                                                                                                                                                                                                               |
|---------------------|--------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aboriginal Heritage | Aboriginal relations                 | High          | Ensure ongoing communications with Aboriginal groups                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Maintain or improve current relationships.                                                                                                                                                                                                                  |
|                     | Aboriginal archaeological assessment | Low           | Assessment will be in accordance with the NSW Department of Environment and Conservation guidelines for Aboriginal heritage surveys (National Parks and Wildlife Service 1997) and the Department of Environment and Climate Change <i>Interim Community Consultation Requirements</i> (DECC, 2004). The assessment will include desktop analysis, consultation and field survey focusing on landforms within the site boundary that are likely to contain Aboriginal heritage sites as based on previous heritage studies in the region. Development of management measures for heritage items within the study area will also be undertaken. | Heritage sites that may be required to be destroyed will be captured. The property has experienced extensive disturbance as a result of quarrying operations and agricultural activities and erosion and is likely to have low archaeological significance. |
| Historical Heritage | European archaeological assessment   | Low           | A review of European heritage lists and archived plans will be undertaken.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The level of assessment reflects the limited evidence for historic sites within the study area and therefore the low potential for subsurface archaeological sites to be present.                                                                           |



## Environmental Management Strategy

| Aspect                        | Sub Topic                                                                                                                                                   | Level of Risk | Scope of Works                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Justification                                                                                                                                                                                                                                |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Traffic and Transport         | Road transport of aggregates                                                                                                                                | High          | An assessment of the proposed road transport network will be undertaken to define the likely level of impact. This will include an assessment of the existing use levels and the maximum limits of Nimbin Road. The capacity of nearby intersections will also be assessed including the intersection of the quarry access and Nimbin Road and the Wilson Street/Nimbin Road intersection. As all additional vehicles will head into Lismore, no assessment of the route heading north towards Nimbin will be undertaken. | Increased production from the Quarry expansion will result in more trucks on Nimbin Road. This level of assessment is necessary to ensure that safe roadways and driving conditions can be maintained and/or implemented for all road users. |
| Visual                        | Visual assessment                                                                                                                                           | Low           | The views towards Blakebrook Quarry will be assessed to determine the likely visual impacts associated with the proposed quarry expansion. A site inspection of the quarry and surrounding area and an examination of aerial photographs and topographic information will be undertaken.                                                                                                                                                                                                                                  | The level of assessment reflects the minimal impacts envisaged due to the quarry being located within the top of a hill and out of view from the surrounding environment.                                                                    |
| Socio-economic considerations | Economic benefits to local and regional communities and government from the project; potential impacts to social values; and social benefits from quarrying | Low           | Documenting of the social and economic values provided by the quarry to the community. The existing amenity value will also be discussed.                                                                                                                                                                                                                                                                                                                                                                                 | Social values of the community typically relate to quality of life and the social amenity of the region. These values necessitate the need for an assessment of potential air quality, noise and visual amenity issues.                      |

## Environmental Management Strategy

| Aspect | Sub Topic                                                 | Level of Risk | Scope of Works                                                                                                                                                                                                                                                                                                                                                                                                             | Justification                                                                                                                                                                      |
|--------|-----------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste  | Identification of waste streams from quarrying activities | Low           | <p>Opportunities for waste recycling and reuse will be identified, as well as methods of disposal for waste streams that cannot be effectively reused.</p> <p>Resource NSW is a state government agency responsible for initiating waste avoidance and resource recovery strategies as a method of ensuring ecological sustainability. These strategies are the basis for the waste analysis and amelioration methods.</p> | The production of numerous types of both liquid and non liquid waste necessitates mitigation measures to be formulated and implemented to minimise wastes generated by the quarry. |

# Environmental Management Strategy

## 5.3 KEY ISSUES

The design and management of the proposed development has evolved in response to environmental, social and economic investigations and the recommended mitigation and management measures included in the supporting technical documents. Further information is contained in the technical reports submitted as *Appendixes B to G* of this environmental assessment report.

In scoping the key issues arising from the proposed development some issues were identified as being reasonably minor in this instance and are addressed in the following Table with no further investigations required.

Table 5.2 Other Issues

| Issue                        | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| European Heritage            | Searches of the local, regional, State and Commonwealth heritage registers has indicated that there are no European heritage items in close proximity to the site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Visual Impacts               | <p>The quarry is located at the top of a hill and cannot be seen from the surrounding area. The proposed development includes increasing the depth of the existing quarry floor and lateral expansion of the quarry, including a new small pit in the south east of the site. The expansion does involve the removal of minimal amounts vegetation however this will not significantly increase the visual impacts of the quarry. It is considered that due to the location of the quarry, minimal vegetation removal and proposed revegetation activities the visual impacts of the proposed development are minor.</p> <p>Photographs taken from the surrounding area are provided in Photographs 1 to 9 below, and Figure 5.1 illustrates the location and direction the photographs were taken. Google Earth imagery is also provided as Figure 5.2 to 5.5 below to demonstrate the visual landscape.</p> |
| Utilities and Infrastructure | The proposed development will not result in any further demands on utilities than already exist at the quarry. The proposed increase in production at the quarry will impact on the road network. This issue has been addressed in detail in the 'Traffic Impact Study' (RoadNet, 2008) provided as Appendix G and summarised in Section 64 below. Google Earth imagery is also provided as Figure 5.2 to 5.5 below to demonstrate the visual landscape.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

# Environmental Management Strategy



Photograph 1

Looking east towards the quarry  
from Keerong Road



Photograph 2

Looking east towards the quarry  
from Keerong Road



Photographs

Blaketbrook Quarry

# Environmental Management Strategy



Photograph 3

Looking south east towards the quarry from Keerong Road



Photograph 4

Looking south east towards the quarry from Keerong Road



Photographs

Blaketbrook Quarry

# Environmental Management Strategy



Photograph 5

Looking south towards the quarry  
from Keemong road



Photograph 6

Looking south towards the quarry  
from Keemong road



Photographs

Blakebrook Quarry



# Environmental Management Strategy



Photograph 7

Looking north, north west towards the quarry from Boerle Creek Road



Photograph 8

Looking north, north west towards the quarry from Boerle Creek Road



## Photographs

Blakelbrook Quarry



# Environmental Management Strategy



Photograph 9

Looking north east towards the quarry from Nimbin Road



Photographs

Blakelbrook Quarry

# Environmental Management Strategy



**Legend**  
 Direction of photograph  
 Quarry Boundary

|             |                        |
|-------------|------------------------|
| Client:     | Lismore City Council   |
| Project:    | Blakelbrook Quarry EAR |
| Drawing No: | 009641_DRAFT           |
| Date:       | 01/05/08               |
| Drawn by:   | TH                     |
| Source:     | Google Earth           |



**Figure 5.1**

**Photograph Location and Direction Plan**

Environmental Resources Management Australia Pty Ltd  
 PO Box 57111 3rd/46 Gordon Street  
 Port Macquarie NSW 2444  
 Telephone +61 2 6584 7155



# Environmental Management Strategy



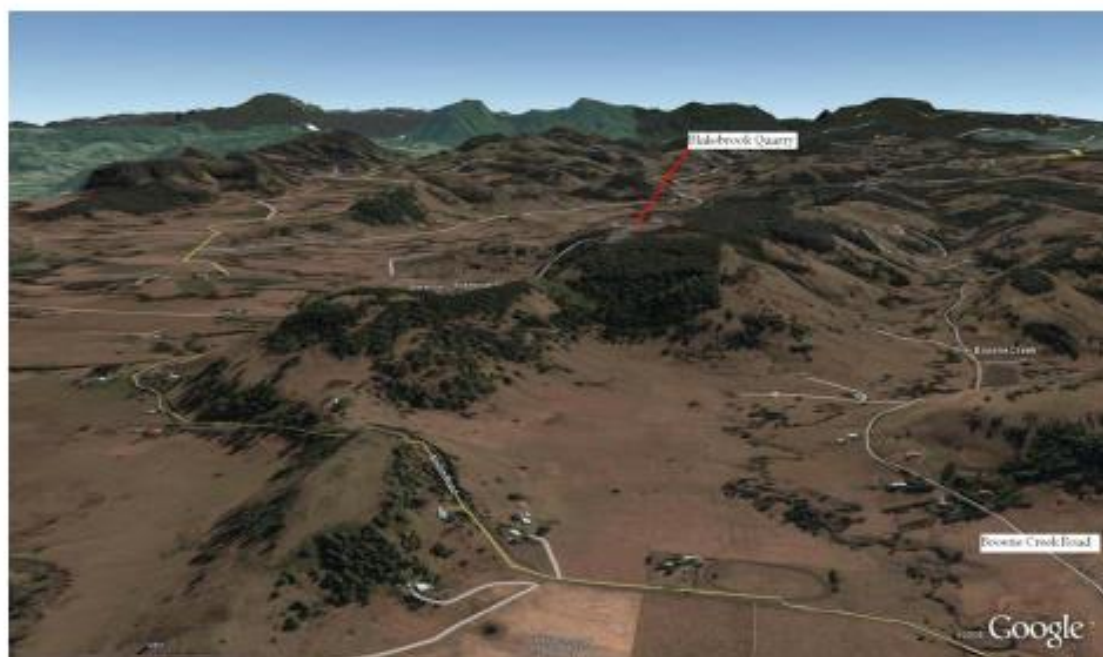
**Figure 5.2** View east toward Blakebrook Quarry (Source: Google Earth 2008)



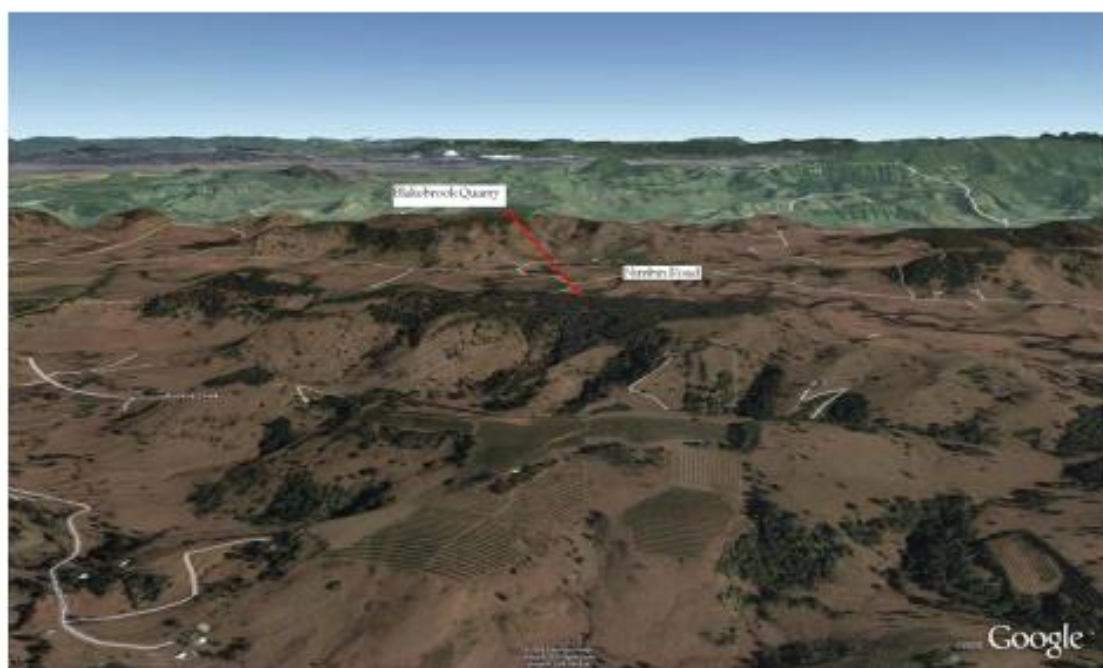
**Figure 5.3** View south toward Blakebrook Quarry and Lismore (Source: Google Earth 2008)



## Environmental Management Strategy



**Figure 5.4** View north toward Blakebrook Quarry (Source: Google Earth 2008)



**Figure 5.5** View West toward Blakebrook Quarry (Source: Google Earth 2008)

# Environmental Management Strategy

## APPENDIX E – MP07\_0020 Conditions of Approval

### Project Approval

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

I approve the project referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:

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

Sam Haddad  
Director-General  
as delegate for the Minister for Planning

Sydney

2009

#### SCHEDULE 1

Application No.:

07\_0020

Proponent:

Lismore City Council

Approval Authority:

Minister for Planning

Land:

Extraction Areas Lot 53 DP1254990  
Asphalt Plant Lot 54 DP1254990  
Access Road Lot 53 DP1254990

Project:

Blakebrook Quarry Project

Red type represents May 2021 Modification

# Environmental Management Strategy

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# Environmental Management Strategy

## DEFINITIONS

|                                  |                                                                                                                                                                                                                                                                                                                         |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aboriginal item or object        | Any item or object that provides evidence of the use of an area by Aboriginal people, as defined under the <i>National Parks and Wildlife Act 1974</i>                                                                                                                                                                  |
| Annual Review                    | The review required by condition 11 of Schedule 5.                                                                                                                                                                                                                                                                      |
| AHD                              | Australian Height Datum                                                                                                                                                                                                                                                                                                 |
| Asphalt plant operations         | The transportation, on site processing and storage of material to produce asphalt paving material                                                                                                                                                                                                                       |
| BCA                              | Building Code of Australia                                                                                                                                                                                                                                                                                              |
| BCD                              | The Biodiversity and Conservation Division within the Department                                                                                                                                                                                                                                                        |
| Biodiversity Offset Strategy     | The conservation and enhancement program as described in the EA (see also Table 5 and Appendix 4).                                                                                                                                                                                                                      |
| CCC                              | Community Consultative Committee                                                                                                                                                                                                                                                                                        |
| Council                          | Lismore City Council                                                                                                                                                                                                                                                                                                    |
| Day                              | The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays                                                                                                                                                                                                                         |
| Department                       | Department of Planning, Industry and Environment                                                                                                                                                                                                                                                                        |
| DPIE Water                       | Water Group within the Department                                                                                                                                                                                                                                                                                       |
| EA                               | Environmental Assessment titled <i>Blakebrook Quarry Expansion, Environmental Assessment Report, Final Report, January 2009</i> , and the Proponent's response to submissions titled <i>Blakebrook Quarry Expansion, Response to Submissions, Final Report, August 2009</i>                                             |
| EA (Mod 1)                       | Environmental Assessment titled <i>Blakebrook Quarry Modification Application August 2017</i>                                                                                                                                                                                                                           |
| 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 POEO Act                                                                                                                                                                                                                                                                       |
| Evening                          | The period from 6pm to 10pm                                                                                                                                                                                                                                                                                             |
| Feasible                         | Feasible relates to engineering considerations and what is practical to build                                                                                                                                                                                                                                           |
| Heritage NSW                     | Heritage Branch of the Department of Premier and Cabinet                                                                                                                                                                                                                                                                |
| Incident                         | An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance                                                                                                                                                                             |
| INP                              | NSW Industrial Noise Policy (NSW EPA, 2000)                                                                                                                                                                                                                                                                             |
| Laden                            | Trucks transporting quarry products from the site and/or trucks transporting topsoil or mulch to the site                                                                                                                                                                                                               |
| Land                             | As defined in the EP&A Act, except where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this approval, where it is defined as 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                                                                                                                                                                                                                   |
| MEG                              | Mining, Exploration and Geoscience within the Department of Regional NSW                                                                                                                                                                                                                                                |
| Minister                         | Minister for Planning, or delegate                                                                                                                                                                                                                                                                                      |
| Mitigation                       | Activities associated with reducing the impacts of the project                                                                                                                                                                                                                                                          |
| MR (Mod 3)                       | Modification Report titled <i>Statement of Environmental Effects</i> dated 24 July 2019, prepared by Mitchel Hanlon Consulting Pty Ltd including the <i>Response to Submissions</i> dated November 2019, and additional information accompanying the <i>Response to Submissions</i>                                     |
| Negligible                       | Small and unimportant, such as to be not worth considering                                                                                                                                                                                                                                                              |
| Night                            | The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays                                                                                                                                                                                                                       |
| Non-compliance                   | An occurrence, set of circumstances or development that is a breach of this consent                                                                                                                                                                                                                                     |
| 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 project as described in the documents listed in condition 2(a) of Schedule 2                                                                                                                                                                                                                                        |
| Proponent                        | Lismore City Council, or its successors in title                                                                                                                                                                                                                                                                        |
| Quarrying operations             | The extraction, processing, stockpiling and transportation of extractive materials carried out on the site and the associated removal of vegetation, topsoil and overburden                                                                                                                                             |
| Quarry products                  | Includes all saleable quarry products, but excludes tailings, other wastes and rehabilitation material                                                                                                                                                                                                                  |
| 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.                                                                                |
| SEPP 44                          | <i>State Environmental Planning Policy No. 44 – Koala Habitat Protection</i>                                                                                                                                                                                                                                            |
| Secretary                        | Planning Secretary under the EP&A Act, or nominee                                                                                                                                                                                                                                                                       |



# Environmental Management Strategy

|      |                                    |
|------|------------------------------------|
| Site | The land referred to in Schedule 1 |
| TNSW | Transport for NSW                  |

# Environmental Management Strategy

## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

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

### TERMS OF APPROVAL

2. The Proponent must carry out the project:
  - (a) generally in accordance with the EA, EA (Mod 1) and MR (Mod 3); and
  - (b) in accordance with the conditions of this approval, Project Layout Plan and the Statement of Commitments.

#### Notes:

- The Project Layout Plan is shown in Appendix 1;
- The Statement of Commitments is reproduced in Appendix 2.

3. If there is any inconsistency between the documents in condition 2(a), 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 must comply with any written requirement/s of the Secretary arising from the Department's assessment of:
  - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval (including any stages of these documents);
  - (b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with this approval;
  - (c) and the implementation of any actions or measures contained in these documents.
5. By 30 June 2010, the Proponent shall surrender development consent DA 95/239 to the relevant consent authority to the satisfaction of the Secretary.
- 5A. Within 12 months of the date of commencement of development under this consent, or other timeframe agreed by the Secretary, the Proponent must surrender development consent DA90/341 to the satisfaction of the Secretary, in accordance with the EP&A Regulation.

### LIMITS ON APPROVAL

6. The Proponent may carry out quarrying operations and Asphalt plant operations on the site until 31 December 2039.  
*Note: Under this approval, the Proponent is required to rehabilitate the site and carry out additional requirements and undertakings to the satisfaction of the Secretary. Consequently, this approval will continue to apply in all respects other than the right to conduct quarrying operations until the rehabilitation of the site and those requirements and undertakings have been carried out to the standard required by the applicable conditions.*
7. The Proponent must not undertake quarrying operations below 55 m AHD in the northern pit or 105 m AHD in the southern pit.  
*Note: Drainage sumps may be constructed below this level with the agreement of the Secretary.*
8. The Proponent must not:
  - (a) transport more than 800,000 tonnes of quarry products from the site per calendar year;
  - (b) transport more than 50,000 tonnes of asphalt from the site per calendar year;
  - (c) dispatch more than 120 laden trucks from the site on any calendar day prior to the completion of intersection upgrade required by Condition 21(f) of Schedule 3 to the satisfaction of TfNSW; and
  - (d) dispatch more than 150 laden trucks from the site on any calendar day following completion of the intersection upgrade required by Condition 21(f) of Schedule 3 to the satisfaction of TfNSW.*Note: Dispatch of laden trucks is also controlled under condition 1 of Schedule 3.*

### STRUCTURAL ADEQUACY

9. The Proponent must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.  
*Notes:*
  - Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for any proposed building works;

# Environmental Management Strategy

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

## DEMOLITION

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

## PROTECTION OF PUBLIC INFRASTRUCTURE

11. Unless the Proponent and the applicable authority agree otherwise the Proponent must:
  - (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.

*Note: This condition does not apply to damage to roads caused as a result of general road usage or otherwise addressed by contributions required by condition 13 of Schedule 2.*

## OPERATION OF PLANT AND EQUIPMENT

12. The Proponent must ensure that all the plant and equipment used at the site, or to monitor the performance of the project is:
  - (a) maintained in a proper and efficient condition; and
  - (b) operated in a proper and efficient manner.

## SECTION 94 CONTRIBUTIONS

13. The Proponent must pay Council an annual financial contribution toward the maintenance of local roads used for haulage of quarry products. The contribution must be determined in accordance with the *Lismore City Council Section 94 Contribution Plan, 2004*, or any subsequent relevant contributions plan adopted by Council.

## PRODUCTION DATA

14. The Proponent must:
  - (a) from the commencement of quarrying operations provide calendar year annual quarry production data to **MEG** using the standard form for that purpose; and
  - (b) include a copy of this data in the Annual Review.

## COMPLIANCE

15. The Proponent must ensure that all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.

## IDENTIFICATION OF BOUNDARIES

16. The Proponent must ensure that the boundaries of the approved limits of extraction are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits.

# Environmental Management Strategy

## SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS

### NOISE

#### Hours of Operation

- The Proponent must comply with the operating hours set out in Table 1.

Table 1: Operating hours

| Activity                                                                                | Permissible Hours                                                                                             |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Quarrying operations, Asphalt plant operations and loading and dispatch of laden trucks | 7 am to 6 pm Monday to Friday                                                                                 |
|                                                                                         | 7 am to 3 pm Saturday                                                                                         |
|                                                                                         | At no time on Sundays or public holidays                                                                      |
| Blasting                                                                                | 10 am to 3 pm Monday to Friday (except public holidays)                                                       |
|                                                                                         | At no time on Sundays or public holidays                                                                      |
| Maintenance                                                                             | May be conducted at any time, provided that these activities are not audible at any privately-owned residence |

- The following activities may be carried out outside the hours specified in condition 1 above:
  - delivery or dispatch of materials as requested by Police or other public authorities; and
  - emergency work to avoid the loss of lives, property or to prevent environmental harm.

In such circumstances, the Proponent must notify the Secretary and affected residents prior to undertaking the activities, or as soon as is practical thereafter.

- With the prior written agreement of the Secretary, the Proponent may undertake limited campaign asphalt plant operations (within the limits imposed under condition 8 of Schedule 2) outside of the operating hours prescribed in condition 1 of this Schedule, as requested by public authorities.

In such circumstances, the applicant must prepare an Out of Work Hours Work Protocol. This protocol must:

- be prepared in consultation with the EPA and any residents who may be affected by the noise generated by these works; and
- be approved by the Secretary prior to the commencement of any out of hours Asphalt plant operations.

- The Proponent must ensure that the noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land.

Table 2: Noise criteria dB(A)

| Receiver <sup>a</sup>     | Day<br>L <sub>Aeq</sub> (15 minute) |
|---------------------------|-------------------------------------|
| Location 2 and Location 7 | 36                                  |
| All other locations       | 35                                  |

<sup>a</sup> Receiver locations are shown in Appendix 3

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 5 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 exceed the noise criteria, and the Proponent has advised the Department in writing of the terms of this agreement.

#### Operating Conditions

- The Proponent must:
  - implement best practice management to minimise the construction, operational and road transportation noise of the project;

# Environmental Management Strategy

- (b) minimise the noise impacts of the project during meteorological conditions when the noise criteria in this approval do not apply (see Appendix 5);
  - (c) carry out noise monitoring (at least every 3 months or as otherwise agreed with the Secretary) to determine whether the project is complying with the relevant conditions of this approval; and
  - (d) regularly assess noise monitoring data and modify and/or stop operations on site to ensure compliance with the relevant conditions of this approval,
- to the satisfaction of the Secretary.

*Note: Required frequency of noise monitoring may be reduced if approved by the Secretary.*

## Noise Management Plan

5. The Proponent must prepare a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA;
  - (b) be submitted to the Secretary within 3 months of the determination of Modification 1, unless otherwise agreed by the Secretary;
  - (c) describe the measures to be implemented to ensure:
    - compliance with the noise criteria and operating conditions of this approval;
    - best practice management is being employed; and
    - the noise impacts of the project are minimised during meteorological conditions under which the noise criteria in this approval do not apply (see Appendix 5);
  - (d) describe the proposed noise management system; and
  - (e) include a monitoring program to be implemented to measure noise from the project against the noise criteria in Table 2.

The Proponent must implement the Noise Management Plan as approved from time to time by the Secretary.

## BLASTING

### Blasting Impact Assessment Criteria

6. The Proponent must ensure that blasting on site does not cause any exceedance of the criteria in Table 3.

*Table 3: Blasting Criteria*

| Receiver                                 | Airblast overpressure<br>(dB(Lin Peak)) | Ground vibration<br>(mm/s) | Allowable<br>exceedance                                           |
|------------------------------------------|-----------------------------------------|----------------------------|-------------------------------------------------------------------|
| Any residence on<br>privately-owned land | 120                                     | 10                         | 0%                                                                |
|                                          | 115                                     | 5                          | 5% of the total number of<br>blasts over a period of 12<br>months |

However, these criteria do not apply if the Proponent has a written agreement with the relevant owner to exceed the limits in Table 3, and the Proponent has advised the Department in writing of the terms of this agreement.

### Blasting Frequency

7. The Proponent may carry out a maximum of 2 blasts per month, unless an additional blast is required following a blast misfire. This condition does not apply to blasts required to ensure the safety of the quarry or workers on site.

*Note: For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the quarry.*

### Operating Conditions

8. During blasting operations, the Proponent must:
- (a) implement best practice management to:
    - protect the safety of people and livestock;
    - protect public or private infrastructure and property from damage; and
    - minimise the dust and fume emissions;
  - (b) operate a suitable system to enable the local community to get up-to-date information on the proposed blasting schedule on site; and
  - (c) carry out regular monitoring to determine whether the project is complying with the relevant conditions of this approval,
- to the satisfaction of the Secretary.



# Environmental Management Strategy

## Blast Management Plan

9. The Proponent must prepare a Blast Management Plan for the project to the satisfaction of the Secretary. This plan must:
- be submitted to the Secretary for approval within 3 months of the determination of Modification 1, unless otherwise agreed by the Secretary;
  - describe the measures to be implemented to ensure compliance with the blast criteria and operating conditions of this approval;
  - include measures to manage flyrock to ensure the safety of people and livestock and to protect property;
  - include a monitoring program for evaluating and reporting on compliance with the blasting criteria in this approval;
  - include local community notification procedures for the blasting schedule, in particular to nearby residences; and
  - include a protocol for investigating and responding to complaints related to blasting operations.

The Proponent must implement the Blast Management Plan as approved from time to time by the Secretary.

## AIR QUALITY

### Air Quality Impact Assessment Criteria

10. The Proponent must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not cause exceedances of the criteria in Table 4 at any residence on privately-owned land.

Table 4: Air quality criteria

| Pollutant                                      | Averaging Period | Criterion                                                      |
|------------------------------------------------|------------------|----------------------------------------------------------------|
| Particulate matter < 10 µm (PM <sub>10</sub> ) | Annual           | a,d 25 µg/m <sup>3</sup>                                       |
| Particulate matter < 10 µm (PM <sub>10</sub> ) | 24 hour          | b 50 µg/m <sup>3</sup>                                         |
| Total suspended particulates (TSP)             | Annual           | a,d 90 µg/m <sup>3</sup>                                       |
| <sup>c</sup> Deposited dust                    | Annual           | b 2 g/m <sup>2</sup> /month      a,d 4 g/m <sup>2</sup> /month |

**Notes to Table 4:**

a Cumulative impact (ie increase in concentrations due to the project plus background concentrations due to all other sources).

b Incremental impact (ie increase in concentrations due to the project alone, with zero allowable exceedances of the criteria over the life of the project).

c 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.

d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Secretary.

e "Reasonable and feasible avoidance measures" includes, but is not limited to, the operational requirements in conditions 11, 12 and 13 to develop and implement an air quality management system that ensures operational responses to the risks of exceedance of the criteria.

### Operating Conditions

11. The Proponent must:
- implement best practice management to minimise the dust emissions of the project;
  - regularly assess meteorological and air quality monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the air quality criteria in this approval;
  - minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see note d under Table 4);
  - monitor and report on compliance with the relevant air quality conditions in this approval; and
  - minimise the area of surface disturbance and undertake progressive rehabilitation of the site, to the satisfaction of the Secretary.

### Air Quality Management Plan

12. The Proponent must prepare an Air Quality Management Plan for the project to the satisfaction of the Secretary. This plan must:



# Environmental Management Strategy

- (a) be submitted to the Secretary for approval within 3 months of the determination of Modification 1, unless otherwise agreed by the Secretary;
- (b) describe the measures to be implemented to ensure:
  - compliance with the air quality criteria and operating conditions of this approval;
  - best practice management is being employed; and
  - the air quality impacts of the project are minimised during adverse meteorological conditions and extraordinary events;
- (c) describe the proposed air quality management system;
- (d) include an air quality 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; and
  - effectively supports the air quality management system.

The Proponent must implement the approved Air Quality Management Plan as approved from time to time by the Secretary.

## Meteorological Monitoring

13. For the life of the project, the Proponent must 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 and Analysis of Air Pollutants in New South Wales* guideline.

## Greenhouse Gas Emissions

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

## SOIL AND WATER

### Water Supply

15. The Proponent must ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of operations under the approval to match its available water supply, to the satisfaction of the Secretary.

### Water Discharges

16. The Proponent must comply with the discharge limits in any EPL, or with section 120 of the POEO Act.

### Groundwater Assessment

17. The Proponent must undertake a detailed groundwater assessment to the satisfaction of the Secretary. This assessment must be:
- (a) prepared by a suitably qualified expert in consultation with DPIE Water;
  - (b) submitted to the Secretary for approval by 30 December 2018;
  - (c) approved by the Secretary before any extraction below 105 m AHD in the northern pit or below 118.5 m AHD in the southern pit;
  - (d) adequately assess groundwater resources affected by the northern and southern pits, to the proposed full extraction depths of those pits;
  - (e) adequately assess all groundwater impacts associated with proposed extraction;
  - (f) provide data for predicted groundwater pit inflows during and following extraction; and
  - (g) propose management measures to address pit inflows and impacts to groundwater resources.

The Proponent must implement the management measures proposed in the groundwater assessment to the satisfaction of the Secretary.

### Soil and Water Management

18. If groundwater is encountered during quarrying operations in the South Pit under EA (Mod 1), the Proponent must cease quarrying operations until authorised to recommence by the Secretary.
19. The Proponent must prepare a Soil and Water Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified and experienced person/s approved by the Secretary;
  - (b) be prepared in consultation with the EPA and DPIE Water;
  - (c) be submitted to the Secretary for approval within 3 months of the determination of Modification 1, unless otherwise agreed by the Secretary; and
  - (d) include a:

# Environmental Management Strategy

- (i) Site Water Balance that includes:
  - details of:
    - sources and security of water supply;
    - water use and management on site;
    - any off-site water transfers; and
    - reporting procedures; and
  - measures to be implemented to minimise clean water use on site;
- (ii) Surface Water Management Plan, that includes:
  - a program for obtaining detailed baseline data on surface water flows and quality in water bodies that could potentially be affected by the project;
  - a detailed description of the surface water management system on site including the:
    - clean water diversion system;
    - erosion and sediment controls;
    - dirty water management system; and
    - water storages; and
  - a program to monitor and report on:
    - any surface water discharges;
    - the effectiveness of the water management system,
    - the quality of water discharged from the site to the environment;
    - surface water flows and quality in local watercourses;
- (iii) Groundwater Management Plan that includes:
  - a provision that requires the Proponent to obtain appropriate water licence(s) to cover the volume of any unforeseen groundwater inflows into the quarry from the quarry face or floor; and
  - a monitoring program to manage potential impacts, if any, on any alluvium and associated surface water source near the proposed extraction area that includes:
    - identification of a methodology for determining threshold water level criteria;
    - contingency measures in the event of a breach of thresholds; and
    - a program to regularly report on monitoring.

The Proponent must implement the approved Soil and Water Management Plan as approved from time to time by the Secretary.

## TRANSPORT

### Monitoring of Product Transport

20. The Proponent must keep accurate records of all laden truck movements to and from the site (including time of arrival and dispatch) and publish a summary of records on its website every 6 months.

### Road Upgrades

21. The Proponent must undertake the following road upgrade works generally in accordance with the recommendations in the EA, and to the satisfaction of the TfNSW:
- (a) upgrade the intersection of the Quarry Access and Nimbin Road to a 'Type AUR Intersection Treatment', prior to 31 December 2010;
  - (b) upgrade the guard rails on the approaches to Boorie Creek Bridge prior to 31 December 2010;
  - (c) upgrade the Boorie Creek Road and Nimbin Road intersection to a 'Type BAR Right Turn Treatment on the Through Road' prior to 31 December 2010;
  - (d) upgrade the Wilson Street and Nimbin Road intersection to a 'Type CHR Right Turn Bay Treatment' prior to 31 December 2010;
  - (e) re-align Nimbin Road and the Quarry Access intersection to meet the AUSTROADS sight distance requirements for vehicles travelling in both directions through the intersection prior to 31 December 2011; and
  - (f) upgrade the intersection at Nimbin Road and the Quarry Access from the current Type AUR intersection to a Type CHR-S (Shortened Channelised Right Hand Turn) to the satisfaction of TfNSW.

*Note: The road works must be constructed in accordance with the relevant TfNSW or AUSTROADS standards, and signposted and lit in accordance with AS:1742 – Manual of Uniform Traffic Control Devices and AS/NZ 1158:2005 – Lighting for Roads and Public Spaces.*

### Operating Conditions

22. The Proponent must:
- (a) restrict truck movements from the quarry to an average of 50 laden trucks a day until all road upgrades works required by condition 21 (a) – (e) of Schedule 3, are met or unless otherwise approved by the Secretary;

# Environmental Management Strategy

- (b) ensure that all laden trucks entering or exiting the site have their loads covered, with the exception of loads consisting solely of boulders greater than one tonne in weight;
- (c) ensure that all laden trucks exiting the site are cleaned of material that may fall from vehicles, before leaving the site; and
- (d) use its best endeavours to ensure that appropriate signage is displayed on all trucks used to transport product from the project so they can be easily identified by road users.

## Traffic Management Plan

23. The Proponent must prepare a Traffic Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the **TNSW** and Council;
  - (b) be submitted to the Secretary for approval within 3 months of the determination of Modification 1, unless otherwise agreed by the Secretary;
  - (c) describe the processes in place for the control of truck movements entering and exiting the site;
  - (d) include a Drivers' Code of Conduct that details the safe and quiet driving practices that must be used by drivers transporting products to and from the quarry;
  - (e) describe the measures to be put in place to ensure compliance with the Drivers' Code of Conduct; and
  - (f) propose measures to minimise the transmission of dust and tracking of material onto the surface of the public road from vehicles leaving the quarry.

The Proponent must implement the approved Traffic Management Plan as approved from time to time by the Secretary.

## ABORIGINAL HERITAGE

### Aboriginal Heritage Management Plan

24. The Proponent must prepare an Aboriginal Heritage Management Plan for the project to the satisfaction of the Secretary. The plan must:
- (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
  - (b) be prepared in consultation with **Heritage NSW** and the Registered Aboriginal Parties;
  - (c) be submitted to the Secretary for approval within 3 months of the determination of Modification 1, unless otherwise agreed by the Secretary; and
  - (d) include a description of the measures that would be implemented to:
    - protect, monitor and manage known sites of archaeological significance;
    - manage any new Aboriginal objects or relics that are discovered;
    - store Aboriginal heritage items salvaged on site; and
    - ensure ongoing consultation and involvement of the Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage on the site.

The Proponent must implement the approved Aboriginal Heritage Management Plan as approved from time to time by the Secretary.

25. If any item or object of Aboriginal heritage significance is identified on site, the Proponent must ensure that:
- (a) all work in the immediate vicinity of the suspected Aboriginal item or object ceases immediately;
  - (b) a 10 m buffer area around the suspected item or object is cordoned off; and
  - (c) the **Heritage NSW** is contacted immediately.

Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974*.

## BIODIVERSITY AND REHABILITATION

### Biodiversity Offset Strategy

- 25A. The Proponent must:
- (a) implement the Biodiversity Offset Strategy (see Table 5);
  - (b) ensure that adequate resources are dedicated towards the implementation of this strategy;
  - (c) provide appropriate long term security for the offset area; and
  - (d) provide a timetable for the implementation of the offset strategy prior to 30 June 2010, or as otherwise agreed by the Secretary,
- to the satisfaction of the Secretary.

Table 5: Biodiversity Offset Strategy

| Offset Areas | Minimum Size |
|--------------|--------------|
|--------------|--------------|

# Environmental Management Strategy

|                                                                                                    |               |
|----------------------------------------------------------------------------------------------------|---------------|
| On-site offset (Protection Zone in Appendix 4)                                                     | 17.6 hectares |
| Off-site offset (within Lismore local government area, and not already within a conservation area) | 45 hectares   |
| Total                                                                                              | 62.6 hectares |

*Note: Mechanisms to provide appropriate long-term security to the land within the Biodiversity Offset Strategy in accordance with the NSW Biodiversity Offset Policy for Major Projects 2014, include a BioBanking Agreement, Voluntary Conservation Agreement or an alternative mechanism that provides for a similar conservation outcome.*

## Rehabilitation Objectives

26. The Proponent must rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must be generally consistent with the rehabilitation strategy in the EIS and must comply with the objectives in Table 6.

Table 6: Rehabilitation Objectives

| Feature                                       | Objective                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| All areas of the site affected by the project | <ul style="list-style-type: none"> <li>Safe</li> <li>Hydraulically and geotechnically stable</li> <li>Non-polluting</li> <li>Fit for the intended post-mining land use(s)</li> <li>Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land</li> </ul> |
| Surface Infrastructure                        | <ul style="list-style-type: none"> <li>Decommissioned and removed, unless otherwise agreed by the Secretary</li> </ul>                                                                                                                                                                                                                                           |
| Quarry benches and pit floor                  | <ul style="list-style-type: none"> <li>Landscaped and vegetated using native tree and understorey species</li> </ul>                                                                                                                                                                                                                                             |
| Final Void                                    | <ul style="list-style-type: none"> <li>Minimise the size, depth and slope of the batters of the final void</li> <li>Minimise the drainage catchment of the final void</li> </ul>                                                                                                                                                                                 |

## Progressive Rehabilitation

27. The Proponent must rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.

*Note: It is accepted that parts of the site that are progressively rehabilitated may be subject to future re-disturbance.*

## Biodiversity and Rehabilitation Management Plan

28. The Proponent must prepare a Biodiversity and Rehabilitation Management Plan for the project to the satisfaction of the Secretary. This plan must:
- be prepared by a suitably qualified expert;
  - be prepared in consultation with BCD and Council;
  - be submitted to the Secretary for approval within 3 months of the determination of Modification 1, unless otherwise agreed by the Secretary;
  - provide details of the conceptual final landform and associated land uses for the site;
  - describe how the implementation of the Biodiversity Offset Strategy will be integrated with the overall rehabilitation of the site;
  - include a Koala Management Plan prepared in accordance with SEPP 44;
  - include detailed performance and completion criteria for evaluating the performance of the Biodiversity Offset Strategy and rehabilitation of the site (including progressive rehabilitation), including triggers for any necessary remedial action;
  - describe the short, medium and long term measures to be implemented to:
    - manage remnant vegetation and habitat on site, including within the Biodiversity Offset Strategy area; and
    - ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this approval;
  - include a detailed description of the measures described in paragraph (h) to be implemented over the next 3 years (to be updated for each 3 year period following initial approval of the plan) including the procedures to be implemented for:
    - 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 offset area or site rehabilitation;



# Environmental Management Strategy

- restoring and enhancing the quality of native vegetation and fauna habitat in the biodiversity offset and rehabilitation areas through assisted natural regeneration, targeted vegetation establishment and the introduction of fauna habitat features;
  - protecting vegetation and fauna habitat outside the approved disturbance area on-site, including core Koala habitat;
  - minimising the impacts on native fauna, including undertaking pre-clearance surveys;
  - establishing vegetation screening to minimise the visual impacts of the site on surrounding receivers;
  - ensuring minimal environmental consequences for threatened species, populations and habitats;
  - collecting and propagating seed;
  - controlling weeds and feral pests;
  - controlling erosion; and
  - managing bushfire risk;
- (j) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;
- (k) identify the potential risks to the successful implementation of the Biodiversity Offset Strategy, and include a description of the contingency measures to be implemented to mitigate these risks; and
- (l) include details of who is responsible for monitoring, reviewing, and implementing the plan.

The Proponent must implement the Biodiversity and Rehabilitation Management Plan as approved from time to time by the Secretary.

## Biodiversity and Rehabilitation Bond

29. Within 6 months of the approval of the Biodiversity and Rehabilitation Management Plan, the Proponent must lodge a Biodiversity and Rehabilitation Bond with the Department to ensure that the Biodiversity Offset Strategy and rehabilitation of the site are implemented in accordance with the performance and completion criteria set out in the plan and the relevant conditions of this approval. The sum of the bond must be determined by:
- (a) calculating the full cost of implementing the Biodiversity Offset Strategy;
  - (b) calculating the cost of rehabilitating all 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:

- *Alternative funding arrangements for long term management of the Biodiversity Offset Strategy, such as provision of capital and management funding as agreed by BCD as part of a BioBanking Agreement, or transfer to conservation reserve estate can be used to reduce the liability of the Biodiversity and Rehabilitation Bond.*
- *If capital and other expenditure required by the Biodiversity and Rehabilitation Management Plan is largely complete, the Secretary may waive the requirement for lodgement of a bond in respect of the remaining expenditure.*
- *If the Biodiversity Offset Strategy and/or rehabilitation of the site area are completed (or partially completed) to the satisfaction of the Secretary, then the Secretary will release the bond (or relevant part of 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.*

30. Within 3 months of each Independent Environmental Audit (see condition 12 of Schedule 5), the Proponent must review, and if necessary revise, the sum of the Biodiversity and Rehabilitation Bond to the satisfaction of the Secretary. This review must consider the:
- (a) effects of inflation;
  - (b) likely cost of implementing the Biodiversity Offset Strategy and rehabilitating all disturbed areas of the site (taking into account the likely surface disturbance over the next 3 years of the project); and
  - (c) performance of the implementation of the Biodiversity Offset Strategy and rehabilitation of the site to date.

## VISUAL

31. The Proponent must implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the project to the satisfaction of the Secretary.

## WASTE

32. The Proponent must:
- (a) manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Council;

# Environmental Management Strategy

- (b) minimise the waste generated by the project;
- (c) ensure that the waste generated by the project is appropriately stored, handled, and disposed of; and
- (d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.

33. Except as expressly permitted in an EPL, the Proponent must not receive waste at the site for storage, treatment, processing, reprocessing or disposal.

## LIQUID STORAGE

34. The Proponent must ensure that all tanks and similar storage facilities (other than for water) are protected by appropriate bunding or other containment, in accordance with the relevant Australian Standards.

## DANGEROUS GOODS

35. The Proponent must ensure that the storage, handling, and transport of dangerous goods is done in accordance with the relevant Australian Standards, particularly AS1940 and AS1586, and the *Dangerous Goods Code*.

## BUSHFIRE

36. The Proponent must:
- (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 to the extent practicable if there is a fire in the vicinity of the site.



# Environmental Management Strategy

## SCHEDULE 4 ADDITIONAL PROCEDURES

### NOTIFICATION OF LANDOWNERS

1. As soon as practicable, and no longer than 7 days, after obtaining monitoring results showing:
  - (a) an exceedance of any criteria in Schedule 3, the Proponent must notify the affected landowners in writing of the exceedance, and provide regular monitoring results, at least every 3 months, to each affected landowner until the project is again complying with the relevant criteria; and
  - (b) an exceedance of any air quality criteria in Schedule 3, the Proponent must 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 current tenants of the land (including the tenants of land which is not privately-owned).

### INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the project to be exceeding the relevant criteria in Schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land.

If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision, the Proponent must:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
  - consult with the landowner to determine his/her 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 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; and
- (c) comply with any written requests made by the Secretary to implement any findings of the review.

### PROPERTY INSPECTIONS

3. Prior to 30 June 2010, the Proponent must advise all owners of privately-owned land within 2 kilometres of proposed blasting activities, and any other landowner nominated by the Secretary, that they are entitled to a property inspection to establish the baseline condition of the property.
4. If the Proponent receives a written request for a property inspection from any such landowner, the Proponent must:
  - (a) commission a suitably qualified person, whose appointment has been approved by Secretary, to inspect and report on the condition of any building or structure on the land, and recommend measures to mitigate any potential blasting impacts; and
  - (b) give the landowner a copy of this property inspection report.

*Note: It is preferable for the property inspection to be carried out prior to the commencement of blasting activities on the site, and the Proponent should facilitate this occurring wherever possible.*

### PROPERTY INVESTIGATIONS

5. If any owner of privately-owned land within 2 kilometres of proposed blasting activities, or any other landowner nominated by the Secretary, claims that his/her property, including vibration-sensitive infrastructure such as water supply or underground irrigation mains, has been damaged as a result of blasting at the project, the Proponent shall within 3 months of receiving this request:
  - (a) commission a suitably qualified person whose appointment has been approved by the Secretary to investigate the claim and prepare a property investigation report; and
  - (b) give the landowner a copy of the report.

If this independent investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damage to the satisfaction of the Secretary.

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

# Environmental Management Strategy

## SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

### ENVIRONMENTAL MANAGEMENT

#### Environmental Management Strategy

1. The Proponent must prepare an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:
  - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Proponent;
  - (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 to be implemented to:
    - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
    - receive, record, handle and respond to complaints;
    - resolve any disputes that may arise during the course of the project;
    - respond to any non-compliance;
    - respond to emergencies; and
  - (a) include:
    - copies of any strategies, plans and programs approved under the conditions of this approval; and
    - a clear plan depicting all the monitoring to be carried out under the conditions of this approval.

The Proponent must implement any Environmental Management Strategy as approved from time to time by the Secretary.

#### Evidence of Consultation

2. Where consultation with any State or local agency is required by the conditions of this approval, the Proponent must:
  - (a) consult with the relevant agency prior to submitting the required document to the Secretary for approval;
  - (b) submit evidence of this consultation as part of the relevant document;
  - (c) describe how matters raised by the agency have been addressed and any matters not resolved; and
  - (d) include details of any outstanding issues raised by the agency and an explanation of disagreement between any agency and the Proponent.

#### Management Plan Requirements

3. The Proponent must 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 to 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 and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
  - (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

# Environmental Management Strategy

- (h) a protocol for periodic review of the plan.

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

## Application of Existing Management Plans

4. The Proponent must continue to apply existing approved management plans, strategies or monitoring programs that have most recently been approved under this approval, until the approval of a similar plan, strategy or program under this approval.

## Revision of Strategies, Plans & Programs

- 4A. Within 3 months of the submission of an:

- (a) incident report under condition 9 below;
- (b) Annual Review under condition 11 below;
- (c) audit report under condition 12 below; and
- (d) any modifications to this approval

the Proponent must review the strategies, plans and programs required under this approval, to the satisfaction of the Secretary. The proponent must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 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.*

## Updating and Staging of Strategies, Plans or Programs

5. To ensure that strategies, plans or programs required under this approval are updated on a regular basis, and that they incorporate any appropriate additional measures to improve the environmental performance of the project, the Proponent may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Proponent may also submit any strategy, plan or program required by this approval on a staged basis.

The Secretary may approve a revised strategy, plan or program required under this approval, or the staged submission of any of these documents, at any time. With the agreement of the Secretary, the Proponent may prepare the revised or staged strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this approval.

While any strategy, plan or program may be submitted on a staged basis, the proponent will need to ensure that the operations associated with the project are covered by suitable strategies, plans or programs at all times.

If the submission of any strategy, plan or program is to be staged; then the relevant strategy, plan or program must clearly describe the specific stage/s of the project to which the strategy, plan or program applies; the relationship of this stage/s to any future stages; and the trigger for updating the strategy, plan or program.

## Adaptive Management

6. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and performance measures in this consent. Any exceedance of these criteria 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 or performance measures has occurred, the Applicant must, at the earliest opportunity:

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

# Environmental Management Strategy

## COMMUNITY CONSULTATIVE COMMITTEE

7. The Proponent must establish and operate a Community Consultative Committee (CCC) for the project to the satisfaction of the Secretary. The CCC must be operated in general accordance with the Department's *Community Consultative Committee Guidelines, November 2016* (or later version).

### Notes:

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

## REPORTING AND AUDITING

### Incident Notification

8. The Proponent must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.

### Non-Compliance Notification

9. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

### Regular Reporting

10. The Proponent must provide regular reporting 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.

### Annual Review

11. By the end of March each year, or other timing as may be agreed by the Secretary, the Proponent must submit a review to the Department reviewing the environmental performance of the project to the satisfaction of the Secretary. This review must:
- (a) describe the project (including any progressive rehabilitation) that was carried out in the previous calendar year, and the project that is proposed to be carried out over the current calendar year; 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;
    - requirements of any plan or program required under this approval;
    - monitoring results of previous years; and
    - relevant predictions in the documents listed in condition 2(a) of Schedule 2;
  - (c) evaluate and report on:
    - the effectiveness of the air quality and noise management systems; and
    - compliance with the performance measures, criteria and operating conditions in this approval.
  - (d) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance;
  - (e) identify any trends in the monitoring data over the life of the project;
  - (f) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies;
  - (g) describe what measures will be implemented over the current calendar year to improve the environmental performance of the project.

The Proponent must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 7 of Schedule 5) and any interested person upon request.

## INDEPENDENT ENVIRONMENTAL AUDIT

12. Within three years of the date of grant of this project approval, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent must commission, commence and pay the full cost of an Independent Environmental Audit of the project. This audit must:



# Environmental Management Strategy

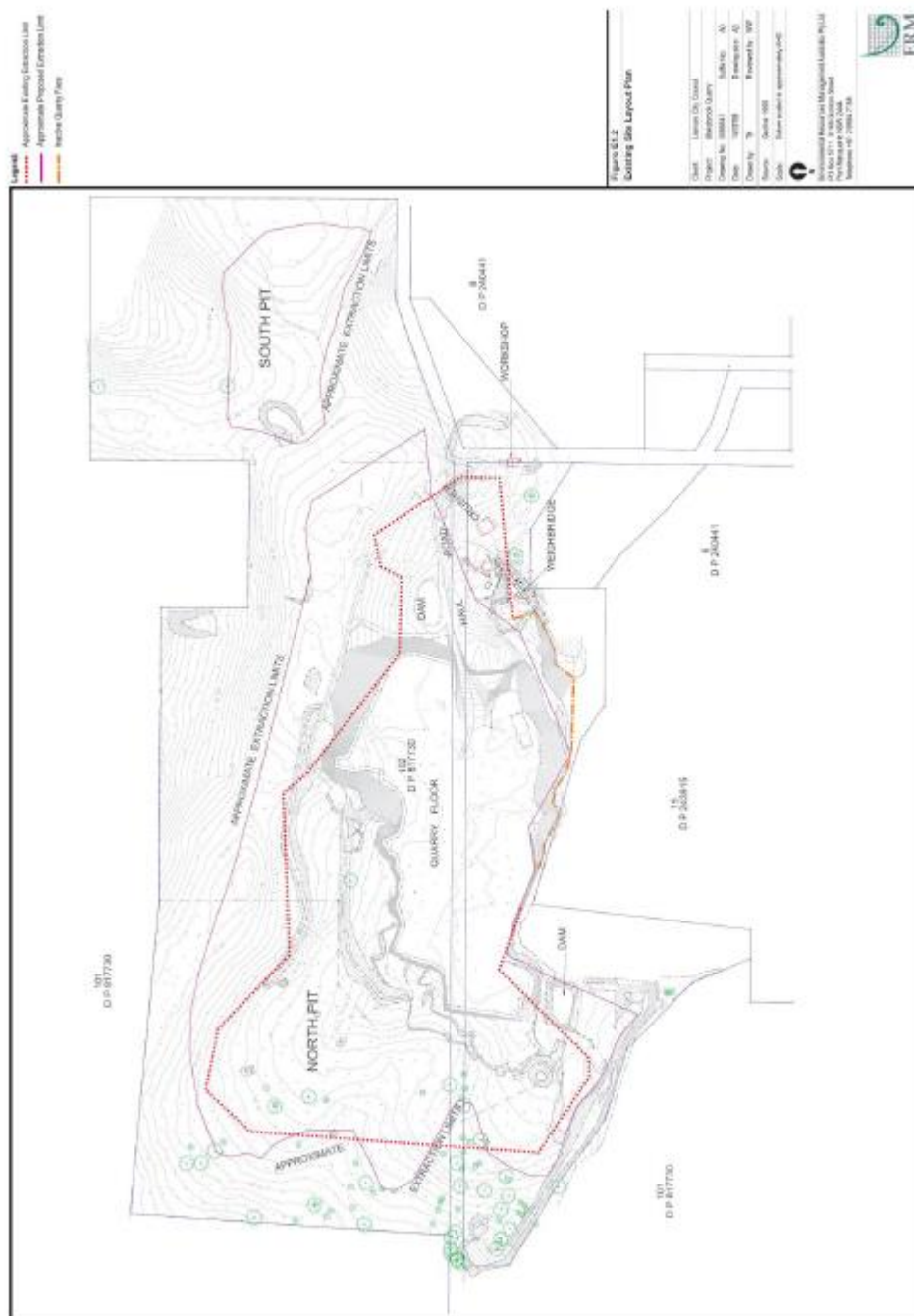
- (a) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
  - (b) include consultation with the relevant agencies and the CCC;
  - (c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant EPL or necessary water licences for the project (including any assessment, strategy, plan or program required under these approvals);
  - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals;
  - (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and
  - (f) be conducted and reported to the satisfaction of the Secretary.
13. Within 12 weeks of commencing this audit, or as otherwise agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of these recommendations as required. The Proponent must implement these recommendations, to the satisfaction of the Secretary.

## ACCESS TO INFORMATION

14. Within 3 months of the determination of Modification 1, until the completion of all works, including rehabilitation and remediation the Proponent must:
- (a) make the following information publicly available on its website:
    - the documents listed in condition 2(a) of Schedule 2;
    - current statutory approvals for the project;
    - all approved strategies, plans and programs required under the conditions of this approval;
    - a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;
    - a complaints register, updated monthly;
    - the annual reviews of the project;
    - any independent environmental audit as described in condition 12 above, 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.

## APPENDIX 1

### PROJECT LAYOUT PLAN





# Environmental Management Strategy

## APPENDIX 2

### STATEMENT OF COMMITMENTS

| Item Number | Item                 | Commitment                                                                                                                                                                                                                                                                                                                                                                                                            | Responsibility                             | Timing                                         |
|-------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------|
| 1.1         | Scope of Development |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                            |                                                |
| 1.1         |                      | The development will be carried out as outlined in the documentation and plans listed below, except where amended by other items of this Statement of Commitments. <ul style="list-style-type: none"> <li>Environmental Assessments (EA), prepared by ERM, 2009 and supporting reports; and</li> <li>Quarry Plans (refer Figures 2.3 to 2.5 of the EA (ERM, 2009))</li> </ul>                                         | Lismore City Council and/or its successors | Ongoing.                                       |
| 2           | Roads                |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                            |                                                |
| 2.1         |                      | The proponent shall provide the following roadworks with associated stormwater drainage structure that have been designed and constructed in accordance with Council's Development, Design and Construction Manual (as amended). The proponent shall be responsible for any costs, including maintenance, for a period of six months from the date of approval of completion of the work. Required roadworks include: | Lismore City Council                       | Prior to the operation of the expanded quarry. |
| 2.1.1       |                      | Construction of a type CHR intersection layout at the junction of the quarry access and Nimbin Road in accordance with AUSTROADS Pt 5 "Intersections at Grade" giving particular attention to sight distance. The access road will remain sealed from at least 50m back from Nimbin Road to prevent fouling of the road surface, as per existing conditions.                                                          | Lismore City Council                       | Prior to the operation of the expanded quarry. |
| 2.1.2       |                      | Construction of a type CHR intersection layout at the junction of Nimbin Road and Wilson Street in accordance with AUSTROADS Pt 5 "Intersections at Grade".                                                                                                                                                                                                                                                           | Lismore City Council                       | Prior to the operation of the expanded quarry. |
| 2.1.3       |                      | Construction of a 1m wide gravel shoulder and repair existing pavement of Nimbin Road for a length of 200 metres at a location 2.8 kilometres north of the intersection of Nimbin Road and Wilson Street as recommended within Appendix G, Traffic Impact Study, of the Environmental Assessment.                                                                                                                     | Lismore City Council                       | Prior to the operation of the expanded quarry. |
| 2.1.4       |                      | Installation of a guard rail in accordance with the relevant standard at Boorie Creek Bridge approaches as recommended within Appendix G, Traffic Impact Study, of the Environmental Assessment.                                                                                                                                                                                                                      | Lismore City Council                       | Prior to the operation of the expanded quarry. |
| 2.1.5       |                      | Works identified in Tables 1 and 2 of Appendix G, Traffic Impact Study, of the Environmental Assessment that have not been individually detailed within conditions of consents.                                                                                                                                                                                                                                       | Lismore City Council                       | Prior to the operation of the expanded quarry. |

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**Prior to the operation of the expanded quarry** the applicant shall obtain a certificate of completion for the above works from Council. Prior to obtaining this certificate a practicing qualified surveyor or engineer shall submit to Council for approval, a "works-as-executed" set of plans, completed asset record forms and construction certification. The certification shall certify that all roads, drainage and civil works required by this development consent and the approved design plans have been completed in accordance with Council's Development and Construction Manual (as amended).

|       |                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |                                                   |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------|
| 2.2   | The proponent shall provide the following roadworks with associated stormwater drainage structures that have been designed and constructed in accordance with the Council's Development, Design and Construction Manual (as amended). The proponent shall be responsible for any costs, including maintenance, for a period of six months from the date of approval of completion of the work. Required roadworks include: |                      |                                                   |
| 2.2.1 | Construction of a type BAR intersection layout at the junction of Nimbin Road and Boorie Creek Road in accordance with AUSTRROADS Pt 5 "Intersections at Grade".                                                                                                                                                                                                                                                           | Lismore City Council | Once production rates reach 350,000 tonnes/annum. |

**Prior to exceeding an annual extraction rate of 350,000 tonnes in any one year** the applicant shall obtain a certificate of completion for the above works from Council. Prior to obtaining this certificate a practicing qualified surveyor or engineer shall submit to Council for approval, a "works-as-executed" set of plans, completed asset record forms and construction certification. This certification shall certify that all roads, drainage and civil works required by this development consent and the approved design plans have been completed in accordance with Council's Development and Construction Manual (as amended).

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                                                                                |
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| 2.3 | Prior to the operation of the expanded quarry a review of the Road Safety Audit contained within Tables 1 and 2 of Appendix G, Traffic Impact Study, of the Environmental Assessment shall be undertaken. All required works identified within the review that are not individually detailed within conditions of consents shall be completed prior to operation of the expanded quarry.                                                                                                                                                                    | Lismore City Council | Prior to the operation of the expanded quarry.                                 |
| 2.4 | Prior to the operation of the expanded quarry hinged "Truck Entering" warning signage, W5-22 signs, shall be erected at suitable locations, approximately 200 metres either side of the access, upon Nimbin Road advising of the traffic hazard. Signs shall be displayed during hours of haulage operations only.                                                                                                                                                                                                                                          | Lismore City Council | Prior to the operation of the expanded quarry.                                 |
| 2.5 | <b>Prior to the commencement of works required by the above conditions</b> the applicant shall obtain approval under section 138 of the Roads Act for the works upon the public road. For this approval full design plans of the proposed engineering works required upon the public road shall be submitted to and approved by Council. Plans shall include details of works required to satisfy condition(s) RD1. Such plans shall be accompanied with the fee, as adopted at the time of the relevant payment as indicated in Councils Fees and Charges. | Lismore City Council | Prior to the commencement of works required by the above conditions.           |
| 2.6 | <b>Prior to the issue of the section 138 approval for works upon the public road</b> the proponent shall have approved by Council a plan of management for the construction of all civil works outside the real property boundaries of the proposed development. The plan shall table scheduling of works so as to be completed in the shortest possible time with minimal impact on the general community. Such plan shall include a Traffic Control Plan prepared by an RTA                                                                               | Lismore City Council | Prior to the issue of the section 138 approval for works upon the public road. |

# Environmental Management Strategy

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|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------|
|      | accredited person. All works shall comply with the Occupational Health and Safety Act.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                                                                |
| 2.7  | The plan of management for the operation of the quarry shall incorporate a code of practice for trucking operations associated with the development. This code shall include a requirement for the use of CB radios for communication with buses and garbage trucks within all haulage vehicles as recommended within Appendix G, Traffic Impact Study, of the Environmental Assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Lismore City Council | Prior to the issue of the section 138 approval for works upon the public road. |
| 2.8  | The development shall provide adequate on site parking for all vehicles, plant and equipment associated with the development.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Lismore City Council | Prior to the operation of the expanded quarry.                                 |
| 2.9  | The proposed access shall be sealed for the first 50 metre length from Nimbin Road. Driveways, access aisles and parking areas shall be provided with a suitable pavement, constructed and maintained in accordance with Council's Development, Design and Construction Manual (as amended)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Lismore City Council | Prior to the operation of the expanded quarry.                                 |
| 2.10 | All loading and unloading shall take place within the property boundaries, as will the parking of construction and private vehicles associated with the development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Lismore City Council | Ongoing.                                                                       |
| 2.11 | Vehicles using any off street loading/unloading and/or parking area must enter and leave in a forward direction in accordance with Councils Development Control Plan No.1, Part A, Chapter 7 – Off Street Parking Requirements. All driveways and turning areas shall be kept clear of obstructions that prevent compliance with this condition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Lismore City Council | Ongoing.                                                                       |
| 2.12 | The proponent shall provide MEG, on or before January 31, April 30, July 31 and October 31 in each year, with extraction figures detailing quantities of all material removed from the site for the previous quarter of operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Lismore City Council | Ongoing.                                                                       |
| 2.13 | Annual payment of contributions levied under Section 94 of the Environmental Planning and Assessment Act and Lismore City Council S94 Contributions Plan 2004 (as amended) are required. Such levies shall contribute towards the provision of public services and/or amenities identified. Such levies shall be calculated utilising dispatched tonnages with consideration to the below:<br><br><u>Quarry Operations</u><br><br>The rates and amounts applying at the date of this notice for the approved extraction rate of 600,000 tonnes, totalling \$560,628 annually, have been calculated as set out below for your information.<br><br>Levies set out below shall be increased in accordance with the percentage increase as notified by the Consumer Price Index (Sydney) annually. Levies shall be paid within 30 days of the Council issuing an assessment for the preceding year. | Lismore City Council | Ongoing.                                                                       |

## Environmental Management Strategy

The contributions set out in the schedule are exclusive of any GST (if any) and where the provision of any services or the construction of any infrastructure or any other thing with those contributions occurs, then in addition to the amount specified above the Applicant will pay to the Council the GST (as defined below) which is payable by the Council in respect of the provision of such services or the construction of any infrastructure or any other thing.

GST means any tax levy charge or impost under the authority of any GST law (as defined by the GST Act) and includes GST within the meaning of the GST Act.

The GST Act means A New Tax System (Goods and Services Tax) Act 1999 or any amending or succeeding legislation.

The levy shall be calculated in accordance with Councils adopted section 94 plan as at this date and be based on the following information:

- Road construction cost of \$396,000 per kilometre indexed for CPI annually from December 2003)
- Average haulage distance of 15 kilometres
- For use in calculations a conversion factor 1.7 from m<sup>3</sup> to tonnes has been adopted
- The first 5,000m<sup>3</sup> (8,500 tonnes) per annum shall be exempt from levies.

Levy calculation for yearly extraction will be:  
 $(\$396,000/6.74 \times 10^6) \times 15\text{km} \times (\text{Annual tonnage extracted} - 8,500) \times 1.025 \times \text{CPI}$

$$= (396,000/6.74 \times 10^6) \times 15\text{km} \times (600,000 - 8,500) \times 1.025 \times 1.126$$

$$= \$560,628$$

### Asphalt Operations

The levy shall be calculated in accordance with Councils adopted section 94 plan

e.g. 10 cents for each tonne of bituminous mix produced, and road transported from the site. This levy will be increased annually in accordance with Consumer Price Index as calculated by the

# Environmental Management Strategy

|                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                        |                      |                                                |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------|--|
| Australian Bureau of Statistics. The levy shall apply from the date of this consent and shall be paid in monthly instalments based on tonnage measured on the applicant's weighbridge.<br>This condition does not in any way prevent the Council from increasing the abovementioned levy at any time if this were so agreed with the operator. |                                                                                                                                                                                                                                                                                                                                                        |                      |                                                |  |
| 2.14                                                                                                                                                                                                                                                                                                                                           | A Traffic Noise Management Strategy (TNMS) be developed by the proponent to ensure that feasible and reasonable noise management strategies for vehicle movements associated with the facility are identified and applied, that include but are not necessarily limited to the following:                                                              | Lismore City Council | Prior to the operation of the expanded quarry. |  |
| 2.14.1                                                                                                                                                                                                                                                                                                                                         | Driver training to ensure that noisy practices such as the use of compression engine brakes are not unnecessarily used near sensitive receivers;                                                                                                                                                                                                       |                      |                                                |  |
| 2.14.2                                                                                                                                                                                                                                                                                                                                         | Best noise practice in the selection and maintenance of fleet vehicles;                                                                                                                                                                                                                                                                                |                      |                                                |  |
| 2.14.3                                                                                                                                                                                                                                                                                                                                         | Movement scheduling where practicable to reduce impacts during sensitive times of the day;                                                                                                                                                                                                                                                             |                      |                                                |  |
| 2.14.4                                                                                                                                                                                                                                                                                                                                         | Communication and management strategies for non licensee/proponent owned and operated vehicles to ensure the provision of the TNMS are implemented;                                                                                                                                                                                                    |                      |                                                |  |
| 2.14.5                                                                                                                                                                                                                                                                                                                                         | A system of audited management practices that identified non conformance, initiates and monitors corrective and preventative action (including disciplinary action for breaches of noise minimisation procedures) and assesses the implementation and improvement of the TNMS;                                                                         |                      |                                                |  |
| 2.14.6                                                                                                                                                                                                                                                                                                                                         | Specific procedures to minimise impacts to identified sensitive receivers;                                                                                                                                                                                                                                                                             |                      |                                                |  |
| 2.14.7                                                                                                                                                                                                                                                                                                                                         | Clauses in conditions of employment, or in contracts, of drivers that require adherence to noise minimisation procedures and facilitate effective implementation of the disciplinary actions for breaches of the procedures.                                                                                                                           |                      |                                                |  |
| 3                                                                                                                                                                                                                                                                                                                                              | Ecological Considerations                                                                                                                                                                                                                                                                                                                              |                      |                                                |  |
| 3.1                                                                                                                                                                                                                                                                                                                                            | The vegetation on the site will be cleared and managed in accordance with the approved Management Plans.                                                                                                                                                                                                                                               | Lismore City Council | Ongoing.                                       |  |
| 3.2                                                                                                                                                                                                                                                                                                                                            | The Koala Plan of Management prepared by Conacher Travers (2006) (refer to Appendix f) will be implemented including: <ul style="list-style-type: none"><li>Habitat protection works;</li><li>Habitat restoration works;</li><li>Traffic management controls;</li><li>Dog/Feral Animal Management measures; and</li><li>Bushfire Management.</li></ul> | Lismore City Council | Ongoing                                        |  |
| 3.3                                                                                                                                                                                                                                                                                                                                            | Lismore City Council will provide at least 45 hectares of mature, vegetated land to be retained to offset the 10.2 hectares to be lost as a result of the proposed development. The offset will be provided at a rate of approximately 4:1. The 45 hectares will be the same vegetation type as that to be removed (Tall Open                          | Lismore City Council | Prior to the removal of existing vegetation.   |  |



# Environmental Management Strategy

Forest) or a type of higher ecological significance (such as Lowland Rainforest EEC or Koala Habitat) and may be located at a single site or numerous sites that Council own in the LGA, which are suitable to be set aside for ecological preservation. Lismore City Council will undertake ecological assessments of any land proposed to be identified as a vegetation offset site and develop an offset strategy for submission to the *Secretary* and *BCD* for approval, taking into consideration *BCD's* document *Principles for the Use of Biodiversity Offsets in NSW* (*Office of Environment and Heritage, 2014*).

The provision of nest and roost boxes will only be a short term measure, that is, provided as a measure for the protection and conservation of fauna during felling of hollow-bearing trees.

## 4 Aboriginal Heritage

|     |                                                                                                                                                            |                      |          |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|
| 4.1 | All site employees/ contractors will undergo site induction training that includes stop work procedures if archaeological sites are discovered.            | Lismore City Council | Ongoing. |
| 4.2 | Information regarding heritage requirements will be made available on site for employees/contractors.                                                      | Lismore City Council | Ongoing. |
| 4.3 | If an Aboriginal item is found all work will cease and the police, relevant Aboriginal community groups and a suitably qualified archaeologist contracted. | Lismore City Council | Ongoing. |

## 5 Noise

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |                                                |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------|
| 5.1 | The quarry will operate in accordance with the Conditions of Approval (Condition 1 of Schedule 3).                                                                                                                                                                                                                                                                                                                                                                                      | Lismore City Council | Ongoing.                                       |
| 5.2 | Speed limits within the quarry site will be restricted to 40km/h and compression braking limited.                                                                                                                                                                                                                                                                                                                                                                                       | Lismore City Council | Ongoing.                                       |
| 5.3 | 4 metre earth bunds will be constructed to the north east and south west of the new southern quarry pit and a 5 metre earth bund will be constructed to the south of the existing Jaw Crusher as illustrated in Figures C.2 and C.3 in Annex C of the revised Noise Assessment (ERM, 2009) provided as Annex B to the report. During the short construction period for these bunds, the noise limits will be relaxed. Nearby residents will be notified when this work will take place. | Lismore City Council | Prior to the operation of the expanded quarry. |
| 5.4 | Attended noise monitoring and plant equipment audits will be undertaken.                                                                                                                                                                                                                                                                                                                                                                                                                | Lismore City Council | Annually.                                      |
| 5.5 | Plant will be relocated to greater pit depths as the floor of the quarry gets deeper.                                                                                                                                                                                                                                                                                                                                                                                                   | Lismore City Council | Ongoing.                                       |
| 5.6 | Noise Management Plan – the licensee must develop a Noise Management Plan for the quarry which must incorporate but not be limited to, the following: <ul style="list-style-type: none"> <li>noise compliance;</li> <li>noise limits;</li> </ul>                                                                                                                                                                                                                                        | Lismore City Council | Prior to the operation of the expanded quarry. |



# Environmental Management Strategy

|      |                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |                                                         |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------|
|      | <ul style="list-style-type: none"> <li>• blasting noise; and</li> <li>• road traffic noise.</li> </ul>                                                                                                                                                                                                                                                                                                               |                      |                                                         |
| 5.7  | A noise compliance assessment (including airblast overpressure and ground vibration from blasting) shall be submitted to the EPA within three (3) months of commencement of expanded operations at the premises. The assessment shall be prepared by a suitable qualified and experienced acoustical consultant and shall assess compliance with noise and blasting limits presented in conditions 5.8 and 6.1 – 6.4 | Lismore City Council | Within 3 months of commencement of expanded operations. |
| 5.8  | Noise from the premises must not exceed the limits presented in condition 3 of Schedule 3.                                                                                                                                                                                                                                                                                                                           | Lismore City Council | Ongoing.                                                |
| 5.9  | Noise from Blakebrook Quarry is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary, to determine compliance with the noise level limits in Condition 5.8 unless otherwise stated.                                                                                 | Lismore City Council | Ongoing.                                                |
| 5.10 | Where it can be demonstrated that direct measurement of noise from the Blakebrook Quarry is impractical, the EPA may accept alternative means of determining compliance. See Chapter 11 of the <i>NSW Industrial Noise Policy</i> . The modification factors presented in Section 4 of the <i>NSW Industrial Noise Policy</i> shall also be applied to the measured noise levels where applicable.                   | Lismore City Council | Ongoing.                                                |
| 5.11 | The noise emission limits identified in Condition 5.8 apply under meteorological conditions of wind speed up to 3 metres per second at 10 metres above ground level.                                                                                                                                                                                                                                                 | Lismore City Council | Ongoing.                                                |
| 6    | <b>Blasting Limits</b>                                                                                                                                                                                                                                                                                                                                                                                               |                      |                                                         |
| 6.1  | The overpressure level from blasting operations at the Blakebrook Quarry must not exceed 115dB (Lin Peak) for more than 5 per cent of the total blasts over each reporting period of 12 months. Error margins associated with any monitoring equipment used to measure this area are not to be taken into account in determining whether or not the limit has been exceeded                                          | Lismore City Council | Ongoing.                                                |
| 6.2  | The overpressure level from blasting operations at the Blakebrook Quarry must not exceed 120dB (Lin Peak) at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded                                                                                                                        | Lismore City Council | Ongoing.                                                |
| 6.3  | Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec for more than 5 per cent of the total number of blasts over each reporting period of 12 months. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded                                  | Lismore City Council | Ongoing.                                                |
| 6.4  | Blasting operations at the premises may only take place between 9.00am-5.00pm Monday to Friday. (Where compelling safety reasons exist, the Authority may permit a blast to occur outside the abovementioned hours. Prior                                                                                                                                                                                            | Lismore City Council | Ongoing.                                                |

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written (or facsimile) notification of any such blast must be made to the Authority.

To determine compliance with Conditions 6.1-6.4:

- a) airblast overpressure and ground vibration levels must be measured and electronically recorded at the closest and potentially most exposed receiver location in L6.1 to the blast activity for all blasts carried out in or on the premises; and
- b) Instrumentation used to measure the airblast overpressure and ground vibration levels must meet the requirements of Australian Standard AS 2187.2-2006.

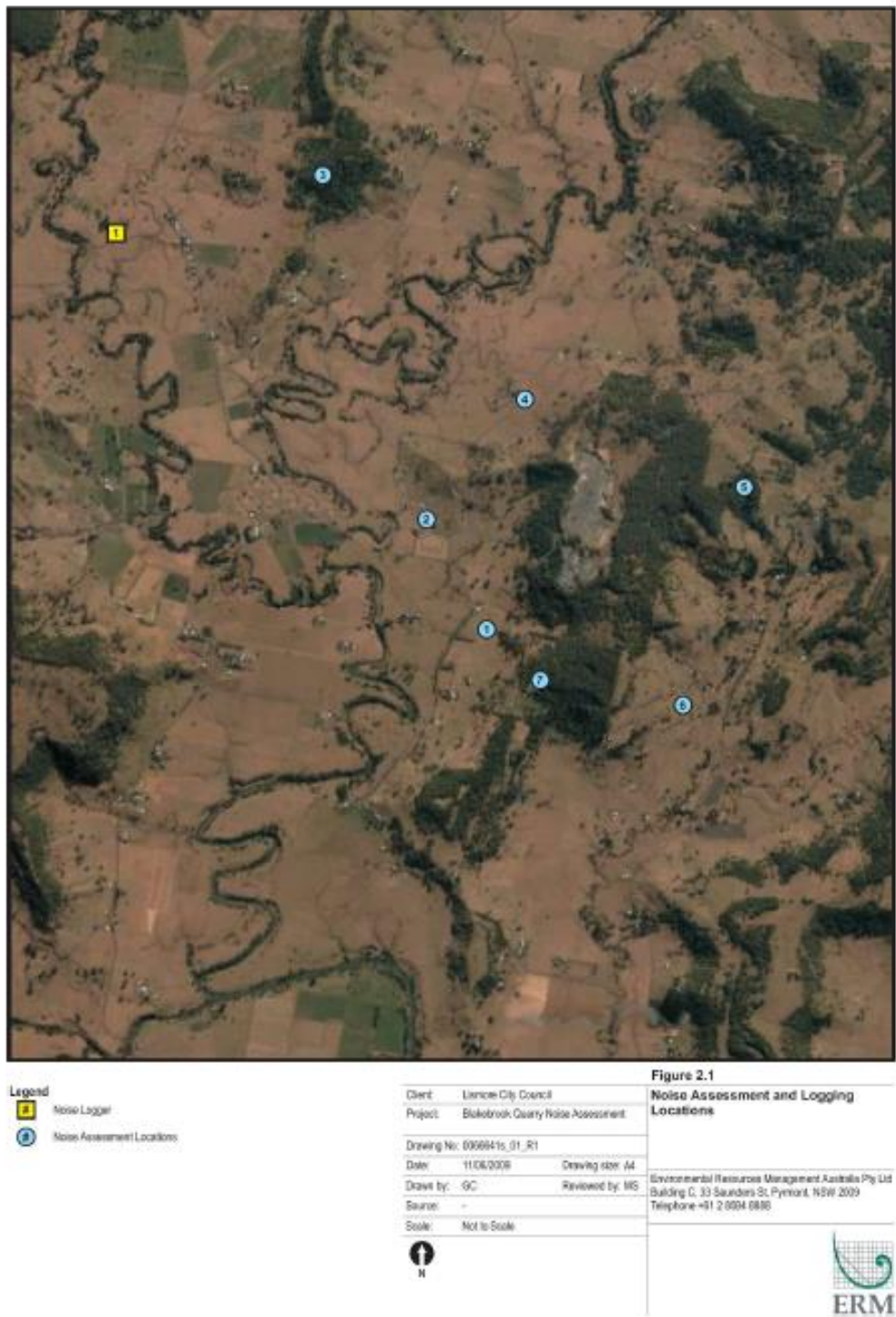
|            |                                                                                                                                                                                                                                                                                                                                                                                  |                      |                                                                                                            |  |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------|--|
| <b>7</b>   | <b>Air Quality</b>                                                                                                                                                                                                                                                                                                                                                               |                      |                                                                                                            |  |
| <b>7.1</b> | All unsealed haul routes on the site will be watered at a rate of 2 L/m <sup>2</sup> /minute as required.                                                                                                                                                                                                                                                                        | Lismore City Council | Ongoing.                                                                                                   |  |
| <b>7.2</b> | Water sprays will be used on all mobile crushing, stockpiles and screening equipment to minimise airborne particulate matter.                                                                                                                                                                                                                                                    | Lismore City Council | Ongoing.                                                                                                   |  |
| <b>7.3</b> | All road trucks must have tarpaulin covers in place prior to leaving the weighbridge                                                                                                                                                                                                                                                                                             | Lismore City Council | Ongoing.                                                                                                   |  |
| <b>7.4</b> | A dust deposition gauge network will be developed to ensure compliance with cumulative dust deposition criteria.                                                                                                                                                                                                                                                                 | Lismore City Council | At or before production rates at the quarry reach 337,500 tonnes/annum.                                    |  |
| <b>7.5</b> | Stockpiles are to be seeded to minimize the potential for fugitive dust                                                                                                                                                                                                                                                                                                          | Lismore City Council | Ongoing.                                                                                                   |  |
| <b>8</b>   | <b>Groundwater Management</b>                                                                                                                                                                                                                                                                                                                                                    |                      |                                                                                                            |  |
| <b>8.1</b> | A detailed groundwater assessment will be undertaken prior to the commencement of vertical extraction. This will involve the installation of nested ground water monitoring wells. The wells will be installed to at least two depths at a minimum of three separate locations around the perimeter of the quarry in order to intercept identified distinct water bearing zones. | Lismore City Council | Following approval of the quarry expansion and prior to the commencement of vertical extraction            |  |
| <b>8.2</b> | A quarterly groundwater monitoring program will be undertaken as detailed in Section 8.4.1 of the EA (ERM, 2009) and will involve analysis by a NATA Laboratory.                                                                                                                                                                                                                 | Lismore City Council | Quarterly following approval of the quarry expansion and prior to the commencement of vertical extraction. |  |
| <b>8.3</b> | Should it be determined that environmental flows from springs are being reduced by extraction activities, investigation will commence on supplementing flows using water collected in the quarry pit. Water collected in the quarry will have to meet water quality criteria before it is discharged, with discharge to be licensed under the <a href="#">EPA</a> .              | Lismore City Council | Ongoing.                                                                                                   |  |

# Environmental Management Strategy

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|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------|
| 9    | Surface Water Management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |                                                                                  |
| 9.1  | Clean run-off from the surround small sub-catchments will be diverted away from the quarry pits to existing ephemeral water courses. Water collected within the pits will be stored in in-pit dams and used for processing and dust suppression purposes. <i>Discharge of quarry water from the site will occur via approved surface water discharge locations only.</i>                                                                                                                                                                                                  | Lismore City Council | Ongoing.                                                                         |
| 10   | Quarry Rehabilitation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                      |                                                                                  |
| 10.1 | A progressive rehabilitation approach will be undertaken to make safe the site and to rehabilitate the site and benches to tie into the surrounding woodland. All on-site infrastructure will be removed.                                                                                                                                                                                                                                                                                                                                                                 | Lismore City Council | Ongoing and on completion of quarrying.                                          |
| 10.2 | Lismore City Council will commit to the ongoing allocation of funds for the progressive rehabilitation of the Quarry in the determination of its annual operational budget. The allocation of funds will be tied to demand and the output of the Quarry, with the allocation to be in the order of \$30 000 to \$50 000. The allocated money will be accumulated pending the availability of areas to be rehabilitated. The budget allocation may also be increased over the lifetime of the quarry to reflect inflationary changes and rehabilitation need as necessary. | Lismore City Council | Ongoing and on completion of quarrying.                                          |
| 10.3 | A suitably qualified and experienced professional will be engaged to carry out on-going maintenance and monitoring. This will involve activities such as bushland rehabilitation, weed removal and nest box erection.                                                                                                                                                                                                                                                                                                                                                     | Lismore City Council | Upon commencement of rehabilitation activities and upon completion of quarrying. |
| 10.4 | The success of the rehabilitation program will be monitored in accordance with the <i>Mine Rehabilitation Handbook</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Lismore City Council | Upon commencement of rehabilitation activities and upon completion of quarrying. |

# Environmental Management Strategy

## APPENDIX 3 RECEIVER LOCATION PLAN







# Environmental Management Strategy

## APPENDIX 5 NOISE COMPLIANCE ASSESSMENT

### Applicable Meteorological Conditions

1. The noise criteria in Table 2 are to apply under all meteorological conditions except the following:
  - (a) wind speeds greater than 3 m/s at 10 m above ground level; or
  - (b) temperature inversion conditions between 1.5°C and 3°C/100 m and wind speed greater than 2 m/s at 10 m above ground level; or
  - (c) temperature inversion conditions greater than 3°C/100 m.

### Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station required under condition 13 of Schedule 3.

### Compliance Monitoring

3. A noise compliance assessment must be undertaken within two months of commencing mining operations under EA (Mod 1). The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and must assess compliance with the noise criteria in Table 2. A report must be provided to the Secretary and EPA within 1 month of the assessment.
4. Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:
  - (a) monitoring locations for the collection of representative noise data;
  - (b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
  - (c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
  - (d) the use of an appropriate modifying factor for low frequency noise to be applied during compliance testing. *This should be undertaken in accordance with Fact Sheet C of the NSW Noise Policy for Industry (EPA, 2017).*