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Karuah East Quarry

Noise Management Plan

June 2024



Revision History

Version	Date Reviewed	Author	Status	Amendment Details
1A	September 2015	SLR	Draft for Consultation	Original Noise Management Plan developed to satisfy Schedule 3, Condition 7 of the Project Approval.
1B	October 2015	SLR	Draft for Submission	Updated for initial DPE comments regarding the assessed status of the structures on Lot 11 DP1024564.
1C	October 2015	SLR	Approved	Updated for DPE comments.
2A	May 2018	SLR	Draft for Consultation	Comprehensive review following approval of MOD1 to the Project Approval.
2B	January 2019	SLR	Draft for Consultation	Comprehensive review following approval of MOD2 to the Project Approval.
2C	May 2019	SLR	Approved	Updated for DPE comments.
3A	March 2022	EMM	Draft for Consultation	Comprehensive review following approval of MOD8 and MOD9 to the Project Approval.
3B	April 2022	EMM	Approved	Update for DPIE comments.
4A	February 2024	EMM	Draft for Consultation	Comprehensive review following approval of MOD10 to the Project Approval; and the findings of the 2023 Independent Environmental Audit. Update for new Karuah East Quarry document template.
4B	May 2024	EMM	Draft for Submission	Update for NSW Planning comments.
4C	June 2024	EMM	Draft for Submission	Update for further NSW Planning comments.

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Terms, Definitions and Abbreviations

Abbreviation / Term	Meaning
CCC	Community Consultative Committee
DA	Development Application
dB	Decibel - Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
EPA	NSW Environmental Protection Authority
Ha	Hectare
KEQ	Karuah East Quarry
KEQPL	Karuah East Quarry Pty Limited
km	Kilometre
LA10	The 'A-weighted' noise level which is exceeded 10% of the time. It is approximately equivalent to the average of maximum noise level.
LA90	Commonly referred to as the background noise level. The 'A-weighted' noise level exceeded 90% of the time.
L _{Aeq}	The energy average noise from a source. This is the equivalent continuous 'A-weighted' sound pressure level over a given period. The L _{Aeq,15-minute} descriptor refers to an L _{Aeq} noise level measured over a 15-minute period.
L _{Amin}	The minimum 'A-weighted' noise level received during a measuring interval.
L _{Amax}	The maximum root mean squared 'A-weighted' sound pressure level (or maximum noise level) received during a measuring interval.
NSW Planning	NSW Department of Planning, Housing and Infrastructure
Day period	Monday – Saturday: 7 am to 6 pm, on Sundays and Public Holidays: 8 am to 6 pm.
Evening period	Monday – Saturday: 6 pm to 10 pm, on Sundays and Public Holidays: 6 pm to 10 pm.
Night period	Monday – Saturday: 10 pm to 7 am, on Sundays and Public Holidays: 10 pm to 8 am.
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
NPWS	NSW National Parks and Wildlife Service, now part of Environment, Energy and Science
RFS	NSW Rural Fire Service
tpa	tonnes per annum

1.0 Introduction

EMM Consulting (EMM) have been engaged by Karuah East Quarry Pty Limited (KEQPL) to prepare this Noise Management Plan to satisfy the requirements outlined in Schedule 3, Condition 7 and 7A of the Project Approval (MP09_0175).

1.1 Overview

KEQPL operate the Karuah East Quarry (KEQ), located approximately 5 km northeast of the township of Karuah, in the Mid Coast Local Government Area. KEQ supplies hard rock quarry products to the construction industry, with markets in the Lower and Upper Hunter, Mid Coast, New England and Greater Sydney Regions.

Project Approval (MP09_0175) was granted for the KEQ on 17 June 2014 by the Independent Planning Commission (IPC) (formerly the NSW Planning Assessment Commission) on behalf of the Minister for Planning and Public Spaces (formerly Minister for Planning). Federal Approval (EPBC 2014/7282) was granted for KEQ under the Environment Protection and Biodiversity Conservation Act (EPBC Act 1999) on 20 March 2015.

The KEQ has approval to extract, process, stockpile and transport up to 1.5 million tonnes of andesite material annually until 2034.

1.2 Project Site

The KEQ is located off the Pacific Highway (via Blue Rock Close) and is situated on the following lands:

- Lot 12 and 13 DP 1024564 (the KEQ site); and
- Lot 14 and part Lot 13 DP 1024564 and Lot 5 DP 838128 (biodiversity offset area).

The KEQ is well separated from any substantial residential areas and is located adjacent to the existing Karuah Hard Rock Quarry (KHRQ), approved in June 2005 under DA 265-10-2004. The KHRQ is operated by Hunter Quarries Pty Ltd (a company affiliated with KEQ Pty Ltd) however the Karuah East Quarry and the Karuah Hard Rock Quarry are standalone quarry operations.

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1.3 Summary of Project Approval (MP09_0175)

The key features of the Project Approval include the following key elements:

- The extraction (excluding overburden), processing, stockpiling, and transport of quarry products is limited to 1.5 million tonnes in any calendar year;
- Quarrying operation is permitted on the site until 31 December 2034;
- Establishment and use of quarry plant and associated infrastructure;
- Vegetation removal;
- A total permitted disturbance area of 40.18 ha on Lots 12 and 13 DP 1024564;
- Roadworks to secure access to the site including upgrade and extension of Blue Rock Close, realignment of the Andersite Road and Blue Rock Close intersection and adjust road markings at Branch Lane and Andersite Road intersection;
- Establishment of a biodiversity offset area;
- Conditions apply to manage / mitigate potential impacts associated with a range of environmental conditions including noise, blasting, air quality, soil and water, transport, biodiversity, heritage, emergency and hazards management and waste; and
- Progressive rehabilitation of the subject site.

Quarry Operations

Approved quarrying activities undertaken on the site generally include:

- drilling and blasting of rock material within the quarry pit;
- collection and transportation of blasted material to the crushing & processing area using mobile equipment;
- crushing, processing and screening of quarried material is undertaken using fixed and mobile equipment;
- stockpiling of processed material; and
- stockpiled material is loaded onto trucks and exits the site to market via the weighbridge.

Existing and Approved Site Improvements

Existing and approved site improvements include:

- quarry pit (extraction area);
- crushing plant and processing infrastructure;
- wash plant and workshops;
- stockpiling areas;
- internal haulage roads;
- weighbridge office;
- weighbridge (two weighbridges approved);
- stormwater management infrastructure including three (3) dams;
- parking areas for light and heavy vehicles;
- administration office;
- amenity facilities;
- other minor structures; and
- fencing and access gates.

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1.4 Modifications to Project Approval (MP09_0175)

The Project Approval has been modified five times as summarised by **Table 1**.

Table 1 Summary of Modifications to the Project Approval.

MOD	Approval Date	Summary
1	27/04/2018	MOD 1 approved a nominal expansion to the approved area of disturbance by 2,500 m ² to allow for improved vehicle manoeuvring in proximity of the crushing plant and processing area.
2	19/12/2018	MOD 2 approved a 1.133 Ha increase to the site disturbance area to allow for improved environmental management and improved operational safety (for quarry vehicles).
3 – 7 withdrawn		
8	22/12/2020	MOD 8 approved revised operational acoustic criteria in line with the <i>NSW Noise Policy for Industry 2017</i> . MOD 8 also formalised a number of industry best practice acoustic mitigation measures that have been installed at the quarry. No change to disturbance footprint occurred.
9	02/12/2021	MOD 9 extended the approved operating hours of the KEQ. No change to disturbance footprint occurred.
10	18/05/2023	MOD 10 provides approval to increase the disturbance area of the KEQ by 7.17 Ha (bringing the total disturbance area of the KEQ to 40.18 Ha). The purpose of MOD 10 was to increase the approved disturbance area to establish additional stockpiling areas, facilitate improved surface water management, construct a new administrative building and expand the vehicle manoeuvring and parking at site.

1.5 Purpose

This document has been prepared to provide the Proponent with a consistent approach to the management of noise emissions and sets out the minimum standards and processes to achieve this intended level of management. The Noise Management Plan (NMP) applies only to the KEQ site described in **Section 1.2** and illustrated in **Figure 1**.

1.6 Authorship

In accordance with Schedule 3, Condition 7(a) of the Project Approval, this NMP has been prepared by Lucas Adamson and Katie Teyhan of EMM Consulting Pty Limited (EMM) on behalf of KEQPL, who have been endorsed by the Planning Secretary as suitably qualified and experienced persons (refer **Appendix B**).

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1.7 Agency Consultation for this Management Plan

This NMP has been prepared in accordance with the requirements of the project approval, including the requirement for consultation with the NSW Environment Protection Authority (EPA). This was originally completed in October 2015 (and again in March 2022 as provided in **Appendix A**), with the EPA advising:

The Environment Protection Authority (EPA) encourages the development of such [management] plans to ensure proponents have determined how they will meet their statutory obligations and designated environmental objectives. However, the EPA does not review these documents as our role is to set environmental objectives for environmental management not to be directly involved in the development of strategies to achieve those objectives.

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2.0 Regulatory Requirements

2.1 Requirements of the Project Approval (MP09_0175)

The requirements of the Project Approval are summarised by **Table 2**.

Table 2 Summary of Relevant Conditions of the Project Approval.

No	Requirements	Section																																			
Schedule 3 – Environmental Performance Conditions																																					
Condition 3	<p><u>Operational Noise Criteria</u> Except for the carrying out of construction works, the Applicant must ensure that the operational noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.</p> <p>Table 2: Operational noise criteria dB</p> <table border="1"> <thead> <tr> <th>Noise Assessment Location</th> <th>Morning Shoulder L_{Aeq} (15 min)</th> <th>Morning Shoulder L_{Amax}</th> <th>Day L_{Aeq} (15 min)</th> <th>Evening L_{Aeq} (15 min)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>35</td> <td>52</td> <td>42</td> <td>40</td> </tr> <tr> <td>B</td> <td>35</td> <td>52</td> <td>40</td> <td>40</td> </tr> <tr> <td>G</td> <td>35</td> <td>52</td> <td>43</td> <td>39</td> </tr> <tr> <td>H</td> <td>35</td> <td>52</td> <td>44</td> <td>46</td> </tr> <tr> <td>I</td> <td>35</td> <td>52</td> <td>40</td> <td>37</td> </tr> <tr> <td>All other residences</td> <td>35</td> <td>52</td> <td>40</td> <td>35</td> </tr> </tbody> </table> <p>^a Noise Assessment Locations referred to in Table 2 are shown in Appendix 2.</p> <p>Noise generated by the development must be monitored and measured in accordance with the relevant procedures and modifications (including certain meteorological conditions) of the NPfl.</p>	Noise Assessment Location	Morning Shoulder L_{Aeq} (15 min)	Morning Shoulder L_{Amax}	Day L_{Aeq} (15 min)	Evening L_{Aeq} (15 min)	A	35	52	42	40	B	35	52	40	40	G	35	52	43	39	H	35	52	44	46	I	35	52	40	37	All other residences	35	52	40	35	Whole of document
	Noise Assessment Location	Morning Shoulder L_{Aeq} (15 min)	Morning Shoulder L_{Amax}	Day L_{Aeq} (15 min)	Evening L_{Aeq} (15 min)																																
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	H	35	52	44	46																																
	I	35	52	40	37																																
All other residences	35	52	40	35																																	
Condition 3A	<p>The noise criteria in Table 2 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.</p>	Section 4.3																																			
Condition 4	<p><u>Road Traffic Noise Criteria</u> The Applicant must take all reasonable and feasible measures to ensure that the traffic noise generated by the development does not cause additional exceedances of the criteria in Table 3 at any residence on privately-owned land.</p> <p>Table 3: Road traffic noise criteria</p> <table border="1"> <thead> <tr> <th>Road</th> <th>Criteria (Day^a)</th> </tr> </thead> <tbody> <tr> <td>Pacific Highway</td> <td>60 dB(A) L_{Aeq} (15 hour)</td> </tr> <tr> <td>Local Roads</td> <td>55 dB(A) L_{Aeq} (1 hour)</td> </tr> </tbody> </table> <p>^a Day is the period from 7 am to 10 pm every day in accordance with the EPA's NSW Road Noise Policy (2011).</p>	Road	Criteria (Day ^a)	Pacific Highway	60 dB(A) L_{Aeq} (15 hour)	Local Roads	55 dB(A) L_{Aeq} (1 hour)	Section 4.4																													
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No	Requirements	Section
Condition 6	<p><u>Noise Operating Conditions</u> The Applicant must:</p> <p>a) take all reasonable steps to minimise noise from construction and operational activities, including low frequency noise and other audible characteristics, associated with the development;</p>	Section 3.0
	<p>b) implement reasonable and feasible noise attenuation measures on all plant and equipment that will operate in noise sensitive areas;</p>	Section 3.0
	<p>c) operate a comprehensive noise management system commensurate with the risk of impact;</p>	Whole of document
	<p>d) take all reasonable steps to minimise the noise impacts of the development during noise enhancing meteorological conditions when the noise criteria in this consent do not apply (see NPfI);</p>	Section 3.0
	<p>e) carry out quarterly attended noise monitoring (unless otherwise agreed by the Planning Secretary to determine whether the development is complying with the relevant conditions of this consent; and</p>	Section 5.2
	<p>f) regularly assess the noise monitoring data and modify or stop operations on the site to ensure compliance with the relevant conditions of this consent.</p>	Section 5.0
Condition 7 & 7A	<p><u>Noise Management Plan</u> The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:</p>	Whole of document
	<p>a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;</p>	Section 1.6
	<p>b) be prepared in consultation with the EPA;</p>	Section 1.7
	<p>c) describe the measures to be implemented to ensure:</p> <ul style="list-style-type: none"> i. compliance with the noise criteria and operating conditions in this consent; ii. best practice management is being employed; <p>noise impacts of the development are minimised during noise-enhancing meteorological conditions when the noise criteria in this consent do not apply (see NPfI);</p>	Section 3.0
	<p>d) describe the noise management system in detail; and</p>	Whole of document
	<p>e) include a monitoring program that:</p> <ul style="list-style-type: none"> i. is capable of evaluating the performance of the development; ii. monitors noise at the nearest and/or most affected residences; iii. adequately supports the noise management system; iv. includes a protocol for distinguishing noise emissions of the development from any neighbouring developments; and v. includes a protocol for identifying any noise-related exceedance, incident or noncompliance and for notifying the Department and relevant stakeholders of any such event. <p>The Applicant must implement the plan as approved by the Planning Secretary.</p>	Section 5.0
Condition 17	<p><u>Meteorological Monitoring</u> For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that complies with the requirements of the Approved Methods for Sampling of Air Pollutants in New South Wales guideline.</p>	Section 5.4

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No	Requirements	Section				
Schedule 4 – Additional Procedures						
Condition 1	<p><u>Notification of Landowners</u> As soon as practicable and no longer than 7 days after obtaining monitoring results showing an:</p> <p>a) exceedance of any noise, blasting and air quality criteria in Schedule 3, the Applicant must provide the details of the exceedance to any affected landowners and/or tenants; and</p> <p>b) an exceedance of the relevant air quality criteria in Schedule 3, the Applicant 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/or existing tenants of the land.</p>	Section 6.4				
Condition 2	<p><u>Independent Review</u> If a landowner considers the development to be exceeding any noise, blasting or air quality criterion in Schedule 3 of this consent, they may ask the Planning Secretary in writing for an independent review of the impacts of the development on their land.</p>	Section 6.4				
Condition 3	<p>If the Planning Secretary is not satisfied that an independent review is warranted, the Planning Secretary will notify the landowner in writing of that decision, and the reasons for that decision, within 21 days of the request for a review.</p>	Section 6.4				
Condition 4	<p>If the Planning Secretary is satisfied that an independent review is warranted, within 3 months, or as otherwise agreed by the Planning Secretary and the landowner, of the Planning Secretary’s decision, the Applicant must:</p> <p>a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to:</p> <p>i. consult with the landowner to determine their concerns;</p> <p>ii. conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3 of this consent; and</p> <p>iii. if the development is not complying with that criteria, identify measures that could be implemented to ensure compliance with the relevant criteria;</p> <p>b) give the Planning Secretary and landowner a copy of the independent review; and</p> <p>c) comply with any written requests made by the Planning Secretary to implement any findings of the review.</p>	Section 6.4				
Condition 5	<p><u>Mitigation Upon Request</u> Upon receiving a written request for mitigation from the owner of any residence on privately-owned land listed in Table 12, the Applicant must implement additional mitigation measures at or in the vicinity of the residence in consultation with the landowner. These measures must be consistent with the measures outlined in the Voluntary Land Acquisition and Mitigation Policy for State Significant Mining, Petroleum and Extractive Industry Development (NSW Government, 2014). They must also be reasonable and feasible, proportionate to the level of predicted impact and directed towards reducing the noise impacts of the development. The Applicant must also be responsible for the reasonable costs of ongoing maintenance of these additional mitigation measures until the cessation of quarrying operations.</p> <p>Table 12: Land subject to additional mitigation upon request.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Mitigation Basis</th> <th style="text-align: left;">Land ^a</th> </tr> </thead> <tbody> <tr> <td>Noise</td> <td>H</td> </tr> </tbody> </table> <p>^a The location of the land referred to in Table 12 is shown in Appendix 2.</p>	Mitigation Basis	Land ^a	Noise	H	Section 3.4
Mitigation Basis	Land ^a					
Noise	H					

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No	Requirements	Section
Schedule 5 – Environmental Management, Reporting and Auditing		
Condition 2	<p><u>Adaptive management</u></p> <p><i>The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in this consent. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.</i></p> <p><i>Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:</i></p>	Section 5.0
	a) <i>take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;</i>	Section 5.5
	b) <i>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</i>	Section 3.0
	c) <i>implement remediation measures as directed by the Planning Secretary.</i>	Section 3.0
Condition 3	<p><u>Management Plan Requirements</u></p> <p><i>The Applicant must ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include:</i></p>	Whole of document
	a) <i>Detailed baseline data;</i>	Section 4.1
	b) <i>A description of:</i> <ul style="list-style-type: none"> ■ <i>The relevant statutory requirements (including any relevant approval, licence or lease conditions);</i> ■ <i>Any relevant commitments or recommendations identified in the documents listed in condition 2(d) of Schedule 2;</i> ■ <i>Any relevant limits or performance measures/criteria; and</i> ■ <i>The specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</i> 	Sections 2.0 and 4.3
	c) <i>A description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</i>	Section 3.0
	d) <i>A program to monitor and report on the:</i> <ul style="list-style-type: none"> ■ <i>Impacts and environmental performance of the development; and</i> ■ <i>Effectiveness of any management measures (see (c) above);</i> 	Section 5.0
	e) <i>A contingency plan to manage any unpredicted impacts and their consequences;</i>	Section 6.4
	f) <i>A program to investigate and implement ways to improve the environmental performance of the project over time;</i>	Section 3.2
	g) <i>A protocol for managing and reporting any:</i> <ul style="list-style-type: none"> ■ <i>Incidents;</i> ■ <i>Complaints;</i> ■ <i>Non-compliances with statutory requirements; and</i> ■ <i>Exceedances of the impact assessment criteria and/or performance criteria; and</i> 	Section 6.3
	h) <i>A protocol for periodic review of the plan.</i>	Section 6.2

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No	Requirements	Section
Condition 5	<p><i>Within 3 months of:</i></p> <ul style="list-style-type: none"> <i>a) the submission of an annual review under Condition 4 above;</i> <i>b) the submission of an incident report under Condition 7 below;</i> <i>c) the submission of an audit report under Condition 9 below; or</i> <i>d) any modification to the conditions of this consent, (unless the conditions require otherwise),</i> <p><i>the Applicant must review the strategies, plans, and programs required under this consent, to the satisfaction of the Planning Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Planning Secretary.</i></p> <p><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 development.</i></p>	Sections 6.2 and 6.3
Condition 11	<p><i>The Applicant must:</i></p> <ul style="list-style-type: none"> <i>a) make the following information publicly available on its website:</i> <ul style="list-style-type: none"> ■ <i>the documents referred to in condition 2(d) of Schedule 2 of this consent;</i> ■ <i>any statutory approvals for the development;</i> ■ <i>approved strategies, plans and/ programs;</i> ■ <i>a summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;</i> ■ <i>a complaints register, updated quarterly;</i> ■ <i>minutes of CCC meetings;</i> ■ <i>annual reviews;</i> ■ <i>any independent environmental audit, and the Applicant’s response to the recommendations in any audit; and</i> ■ <i>any other matter required by the Planning Secretary; and</i> <i>b) keep this information up-to-date, to the satisfaction of the Planning Secretary.</i> 	Section 6.1

2.2 Requirements of the Environment Protection Licence (EPL 20611)

The EPA regulates the operations conducted at the KEQ site through an Environment Protection Licence (EPL 20611) issued under the Protection of the Environment Operations Act 1997 (POEO Act).

There are several conditions relating to noise management in the EPL which have been addressed in this NMP. Specific EPL conditions are summarised in **Table 3** together with the relevant sections of the NMP indicating where the requirements have been addressed.

Table 3 *Requirements of the Environment Protection Licence (EPL 20611).*

Condition	Summary of Condition	Section
L4.1	Noise Limits	Section 4.0
L4.2	Noise limit definitions	Section 5.3
L4.3	Meteorological condition exceptions	Section 4.3
L4.4	Determining compliance	Section 5.5
L4.5	Modification factors	Section 4.5
O7.1	Procedural controls for mobile equipment.	Section 3.0
M8.1	Noise monitoring requirements.	Section 5.0
R4.3	Reporting of noise monitoring results.	Section 6.0

3.0 Noise Mitigation and Management Measures

3.1 Design and Operational Controls

KEQPL has implemented and will maintain the following controls to minimise and manage noise generation from KEQ, including:

- The Jaw Crusher has been enclosed with 100 mm thick concrete panels on the North, East, and South sides. Roofing materials to have an acoustic rating of STC28.
- The Cone Crushers have been enclosed on the northern and eastern elevations with materials having an acoustic rating of STC28. Southern and western elevations and roof have been enclosed with Colorbond.
- Generator sets are acoustically treated including complete enclosure of the engine and generator, acoustically treated exhaust systems and cooling systems.
- Noise compliance monitoring is undertaken in accordance with the Project Approval and NMP by a suitably qualified acoustic expert. The monitoring considers the performance of the quarry in relation to the development specific noise (as established in the EMM Revised Noise Impact Assessment dated August 2021) and vibration and blast criteria established in the SLR Noise and Blasting Impact Assessment (dated 2 November 2012).
- Splitting or hammering of Class 1 (700 mm – 1200 mm) and Class 2 (400 mm – 700 mm) rock is not undertaken after 6:00 pm;
- Product is loaded into trucks from as low a height as possible.
- Loading of Class 1 (700 mm – 1200 mm) and Class 2 (400 mm – 700 mm) rock for dispatch during the following hours is undertaken via excavator ‘grabs’ using the hydraulic excavator rock grab attachment rather than a bucket attachment:
 - a) 5:00 am to 7:00 am, Monday to Friday
 - b) 6:00 pm to 9:00 pm, Monday to Friday;
 - c) 9:00 pm to 10:00 pm, Monday to Friday (when operating within 50 calendar days p.a.); and
 - d) 6:00 am to 7:00 am, Saturdays.

The following measures have also been undertaken and will continue to be implemented:

- Noise impacts are, and have been, considered during the quarry planning process;
- A review of mobile plant (loaders, excavators, and trucks) used on the site was undertaken. The review included testing the acoustic performance of a sample of the machines to enable comparison to other similar machines available on the market. The KEQPL loaders and excavators were found to be examples of the best available noise levels for the class of machine.
- Haul trucks were found to perform below the best available in the market however, with engines already enclosed, it was determined that further engineered noise attenuation would not be effective. Hence, investigations were completed with the aim of minimising off-site noise emissions from haul trucks through site design.

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- The following measures have been implemented and have been found to improve off-site noise emissions from haul trucks:
 - a) Inclusion of the dump hopper into the jaw crusher building has resulted in reduction of the intermittent and audible noise generated by engines at high idle as the material slides against the steel body of the truck as it is being unloaded.
 - b) Incorporation of windrows along the internal quarry haul roads. The barrier has the demonstrated effect of reducing noise from gearboxes or transmissions.
 - c) Training of operators to use higher gears and lower engine acceleration where practical. Investigations identified that this measure resulted in reductions of up to 1-3dB.

Other site design considerations that have been, and will continue to be implemented, include:

- a) Installation of the generators on the western side of the fuel tanks (which are adjacent to the cone crusher enclosure). This has increased acoustical shielding of these sources to the residences east of the site.
- b) Openings for the crusher buildings (including the jaw crusher and cone crushers) are located on the western side of the buildings.
- c) Arrangements for stockpiles encourage loading from the western side of the stockpile.
- d) Road access away from the quarry pit and plant is downhill. Speed limits have been implemented to reduce the impact of exhaust noise generated by trucks leaving the site when under load.
- e) Long-term review of the quarry pit design to provide natural barriers to receivers to the east of the quarry earlier in the Quarry life.

3.2 Continuous Improvement & Best Practice Management

KEQ will maintain awareness of new technologies for noise mitigation through participation in relevant industry groups. KEQ will implement noise mitigation measures in line with industry best practice mine noise management where feasible and reasonable and commensurate with the risk of noise impact from site.

3.3 Training

Training is provided to relevant KEQ employees and contractors in relation to the management of noise and obligations relevant to the activities they carry out in respect to the development. To ensure the effective implementation of this NMP, relevant supervisors and staff will be provided training to respond adequately to complaints and other noise related management as required.

Toolbox talks will be conducted to reinforce the importance of noise management and mitigation on an as needs basis. Training also includes site inductions for all relevant employees and contractors working at KEQ. Training records are maintained as per KEQ internal procedures and management systems.

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3.4 Additional at-residence Noise Mitigation Measures

Schedule 3, Condition 5 of the Project Approval provides rights for mitigation measures to one landholder, Receptor H, in accordance with the NSW Voluntary Land Acquisition and Mitigation Policy (VLAMP) (DPIE, 2018). Under the VLAMP, for MOD10 operating conditions, the quarry noise emission at Receptor H is characterised as being a “moderate” noise impact; and therefore, the following mitigation measures may be implemented if considered reasonable and feasible:

- **Marginal impacts:**
Provide mechanical ventilation / comfort condition systems to enable windows to be closed without compromising internal air quality / amenity.

- **Moderate impacts:**
As for marginal impacts but also upgrade façade elements like windows, doors or roof insulation, to further increase the ability of the building façade to reduce noise levels.

Receptor H was approved by MidCoast Council under Development Application (DA 69-2018) on 29 November 2017. Condition 11 of the DA included a requirement to provide upgraded plans and specifications of the then proposed dwelling to reduce noise impacts on the building’s occupants from the adjacent quarry in accordance with *Australian Standard AS/NZS 2017: Acoustics – Recommended design sound levels and reverberation times for building interiors*.

KEQPL understands that upgraded façade elements (openings and insulation) were accordingly implemented at the time of construction of the dwelling and therefore considers the mitigation measures listed for moderate impacts have been implemented.

KEQPL and the landholder have agreed to implement and maintain an air conditioning system prior to the commencement of activities associated with the KEQ MOD10 Project.

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4.0 Noise Limits

4.1 Baseline Data

There are a few features of note regarding the ambient acoustic environment of the KEQ locality. These are the Pacific Highway running east-west to the south of the site, and a relatively variable terrain that affects noise propagation from quarrying operations.

Based on observations whilst on-site and from historic compliance noise monitoring reports, the main contributors to overall ambient noise levels in the site locality are road traffic on the Pacific Highway and natural sounds (e.g. birds and insects). Road traffic noise from the Pacific Highway is a feature to the south and west of the site and is particularly dominant during the morning shoulder (5:00 am to 7:00 am) and evening periods (6:00 pm to 10:00 pm).

Background noise levels of between 38-54 dB are present to the south and west of the site (in the vicinity of the Pacific Highway) while background noise levels between 34 dB and 41 dB are typical to the east of the site (further from the Pacific Highway).

4.2 Noise Sensitive Receivers

A number of noise sensitive receivers, identified as existing, approved dwellings, are located in the area surrounding KEQ. These receivers are summarised in **Table 4** and illustrated in **Figure 1**.

Table 4 *Noise Sensitive Receivers.*

Receiver ID	Property Location (Lot & DP)	Closest Operational Quarry Area	Distance from Nearest Operational Quarry Area (m)
A	Lot 100 DP785172	Go-Line Infrastructure Area	740
B	Lot 3 DP785172	Go-Line Infrastructure Area	810
C	Lot 2 DP785172	KEQ Extraction Pit	1,040
D	Lot 22 DP1024341	KEQ Extraction Pit	1,280
E	Lot 250 DP1092111	KEQ Extraction Pit	1,530
F	Lot 50 DP1036893	KEQ Extraction Pit	1,100
G	Lot 1 DP1032636	Stockpile Area	630
H	Lot 10 DP1032636	Plant and Processing Area	630
I	Lot 11 DP1032636	Stockpile Area	960
J	Lot 13 DP1032636	Stockpile Area	1,920
K	Lot 12 DP1032636	Stockpile Area	1,200

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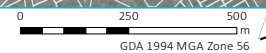
- KEY**
- Disturbance boundary
 - Noise monitoring location
 - Noise assessment location
- Existing environment
- Major road
 - Cadastral boundary
 - NPWS reserve
- INSET KEY**
- Major road
 - State forest

Noise monitoring and assessment locations

Karuah East Quarry
Noise Management Plan
Figure 1



Source: EMM (2024); ADWI (2021); ESRI (2024); DFSI (2017); GA (2011)



4.3 Operational Noise Criteria

Schedule 3, Condition 3 of the Project Approval provides operational noise limits for all noise-sensitive receivers surrounding the site, as summarised by **Table 5**.

Table 5 *Noise Impact Criteria.*

Noise Assessment Location	Morning Shoulder	Morning Shoulder	Day	Evening
	L _{Aeq} (15 min)	L _{Amax}	L _{Aeq} (15 min)	L _{Aeq} (15 min)
A	35	52	42	40
B	35	52	40	40
G	35	52	43	39
H	35	52	44	46
I	35	52	40	37
All other residences	35	52	40	35

Noise generated by the development must be monitored and measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions as well as corrections to account for characteristics of a noise source) of the NPfl (EPA 2017).

The noise limits provided in **Table 5** apply under standard and noise-enhancing meteorological conditions (as defined in the NPfl) determined by monitoring at the relevant weather station. In accordance with Condition L4.3 of the EPL and the Project Approval, the noise limits provided in **Table 5** apply under all meteorological conditions except for the following:

- wind speeds greater than 3 m/s at 10 m above ground level;
- stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or
- stability category G temperature inversion conditions.

In accordance with Fact Sheet D of the NPfl, for ‘very noise enhancing meteorological conditions’ the applicable noise limit is set at 5dB above those provided in **Table 5**.

Noise limits do not apply if KEQ has an agreement with the owner/s of the relevant residence or land to exceed the noise criteria, and KEQ has advised the Department in writing of the terms of this agreement. No agreements have been required or implemented to-date.

4.4 Road Traffic Noise

Schedule 3, Condition 4 of the Project Approval states that all reasonable and feasible measures must be taken to ensure that the traffic generated by KEQ does not cause additional exceedances of the criteria provided in **Table 6** at any residence on privately-owned land.

Table 6 *Road traffic noise criteria.*

Road	Criteria (Day)
Pacific Highway	60 dB L _{Aeq} (15 hour)
Local Roads	55 dB L _{Aeq} (1 hour)

Based on the annual production limit, the following summarises the average daily traffic generation:

- a total of 432 vehicle movements per day (216 despatched loads per day); and
- a maximum hourly traffic flow of 44 vehicle movements (22 despatched loads during that hour).

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KEQ related traffic does not pass directly by any residences between the site entrance and the Pacific Highway. Traffic volume data obtained from the Roads and Maritime Services (RMS) website indicate volumes in the order of 21,410 vehicles per day (approximately 1,590 being heavy vehicles) in 2018. Historical data suggests an annual growth in total traffic of approximately 3% pa. Based on this level of growth, Quarry-related traffic in 2023 would represent less than 2% of daily traffic on the Pacific Highway.

It is unlikely that road traffic noise monitoring would be beneficial or effective given the negligible level of site related traffic on the Pacific Highway. As such, road traffic noise monitoring has not been included as part of the KEQ noise monitoring program.

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5.0 Noise Monitoring Program

5.1 Overview and General Requirements

KEQ implements a noise monitoring program which consists of attended noise monitoring designed to meet the requirements of both the Project Approval and EPL. In consideration of the Modification 10 approval (to MP 09_0175), amendments to the noise monitoring program have been incorporated into this NMP.

Noise monitoring is undertaken in accordance with the following relevant standards and guidelines:

- NSW Environment Protection Authority 2017, Noise Policy for Industry (NPfi) (EPA 2017);
- AS/NZS IEC 61672.1-2019 Electroacoustics - Sound level meters, Part 1: Specifications;
- Australian Standard AS 1055-2018 Acoustics - Description and measurement of environmental noise; and,
- NSW Environment Protection Authority 2022, Approved methods for the measurement and analysis of environmental noise in NSW (Approved methods) (EPA 2022).

5.2 Attended Noise Monitoring Methodology

The attended noise monitoring program is used to assess compliance against the noise limits described in **Section 4.0**. Each operator attended noise survey shall be a minimum duration of 15 minutes during the morning shoulder, daytime, and evening periods during typical operating conditions. All noise measurements shall be accompanied by both qualitative description (including cloud cover) and quantitative measurements of prevailing local weather conditions throughout the survey period. The operator shall obtain information regarding the relevant fixed plant and mobile equipment operating logs to be included in the noise monitoring report.

During each survey, the maximum (L_{Amax}), the energy equivalent (L_{Aeq}) and background (L_{A90}) noise levels from ambient noise sources and KEQ operations shall be quantified and characterised. Digital audio recordings will be conducted to allow for additional post analysis of KEQ contributed noise levels and to assist in source identification, as required.

For each 15-minute attended noise monitoring period, the following information is recorded:

- name of monitoring personnel;
- monitoring location;
- dates and times that monitoring began and ended at each location;
- height of the microphone above the ground and, if relevant, distances to building facades or property boundaries;
- quantitative meteorological data such as temperature, wind speed (including the measurement height above ground), wind direction and humidity;
- qualitative meteorological information such as cloud cover, fog, and rainfall;
- instrument type and calibration details before and after the monitoring period;
- the L_{Aeq} (15 minute) noise level for the 15-minute period;
- statistical noise level descriptors over the 15-minute interval: L_{Amin}, L_{A90}, L_{A10}, L_{A1} and L_{Amax};

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- LA1, (1 minute) or L_{Amax} noise levels from site during the morning shoulder period only (to allow comparison with the relevant criteria);
- notes identifying the noise sources that contribute to the maximum noise levels and the overall noise environment for periods of time when a specific noise source is audible;
- an estimate of the noise contribution from operation of KEQ and from other identifiable noise sources including, but not limited to, neighbouring quarries (this is done by the operator matching audible sounds with the response of the analyses and/or via post-analysis of noise data);
- measurement of C-weighted and A-weighted noise levels to assess the potential for low frequency noise impacts in accordance with the NPfI (EPA 2017);
- measurements in one-third octave bands from 10 Hz to 12 kHz inclusive (or a broader range of bands) for the 15-minute interval to assess if any of the noise sources exhibit tonal characteristics or low frequency noise that may require application of modifying factors;
- data suitable for assessing the relative contribution of quarry-generated noise to the overall noise being measured by using a low-pass (i.e. consideration of frequencies up to and including 630 Hz); and
- recommendations or comments where considered appropriate.

Attended noise monitoring is scheduled considering:

- the occurrence of regular operations at KEQ rather than during scheduled down-time or maintenance; and
- forecast appropriate meteorological conditions.

5.3 Noise Monitoring Locations and Frequency

Consistent with Schedule 3, Condition 6(e) of the Project Approval, attended monitoring is conducted once per calendar quarter (during the morning shoulder, daytime, and evening periods) to demonstrate compliance with noise limits as presented in **Section 4.0**. Quarterly attended noise monitoring locations are listed in **Table 7** and illustrated by **Figure 1**.

Quarterly attended monitoring locations are representative of the nearest private receivers based on the results of the NIA (EMM Consulting, August 2021) and in accordance with Section 2.6 of the NPfI (EPA 2017). Five attended monitoring locations have been adopted to represent the potentially most-affected privately-owned residences consistent with the requirements of Schedule 3, Condition 3 of the Project Approval. The relevant operational noise limits at each monitoring location have been determined based on modelled quarry noise emission levels and the relevant noise limit (as per Table 2 of the Project Approval) at the nearest residences.

If compliance is determined at the monitoring locations, then compliance is inferred at all other locations.

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Table 7 Noise Monitoring Locations.

Receiver ID	Monitoring Location			Direction from Quarry Site
	Description	Easting (MGA)	Northing (MGA)	
A	Mill Hill Close (East)	406623	6388704	South
B	Mill Hill Close (West)	406405	6388859	South
F	The Branch Lane	405639	6389782	West
G	Halloran Road (South)	408154	6389526	East
H	Halloran Road (North)	407795	6389868	East

Meteorological data is sourced from the KEQ on-site weather station to determine which noise limits are applicable. Stability categories relevant to each noise monitoring period are determined using the sigma-theta (ST) method as per Fact Sheet D of the NPfl (EPA 2017).

5.4 Meteorological Monitoring

In accordance with Schedule 3, Condition 17 of the Project Approval a meteorological station has been installed and situated in compliance with Approved Methods for Sampling of Air Pollutants in New South Wales guidelines. The weather station is programmed to continuously record the meteorological parameters as summarised by **Table 8**.

Table 8 Meteorological Monitoring Parameters.

Measured parameter	Unit	Sample Interval
Mean wind speed	m/s	15 minutes
Mean wind direction	Degrees	15 minutes
Aggregate rainfall	mm	15 minutes
Mean air temperature	C°	15 minutes

This data can be accessed via a website to view to the latest hour or to download previously recorded data. Previously recorded data is validated and can be downloaded in intervals of 15 minutes.

KEQ implements both proactive and reactive noise control strategies informed by meteorological monitoring systems. Proactive noise management involves the discussion and planning of activities in advance of potentially adverse conditions. Reactive measures will involve, where necessary, modifying site activities to minimise noise impact. Meteorological data is monitored to determine noise enhancing meteorological conditions and, if necessary, quarrying operations are modified to reduce potential impacts at the nearest noise sensitive receivers under noise enhancing meteorological conditions.

5.5 Determining Compliance

The contributed noise emissions from KEQ shall be evaluated and assessed against the noise levels provided in **Table 5** and **6**. In order to determine noise generated from the Quarry only, the following methods are used:

- direct measurement of ambient noise levels;
- operator estimated LAeq(15minute) contribution;
- analysis of operator attended noise monitoring results;
- calculation from near-field measurements;

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- post analysis of audio recordings;
- measurement at a representative location; and/or
- a combination of the above.

If attended noise monitoring identifies that relevant noise limits have been exceeded, the person conducting the attended noise monitoring is required to follow the following noise exceedance protocol:

1. The noise consultant contacts the Environment & Development Manager with the result.
2. The Environment & Development Manager and Quarry Manager undertake a review current KEQ operations to identify the relevant equipment/operations contributing to the measured exceedance (with input from the noise consultant).
3. The Environment & Development Manager and Quarry Manager will modify KEQ operations to comply with the conditions of consent. Operational changes are to be made as soon as practicable (target time within 120 minutes) of receiving notification from noise consultant.
4. Environment & Development Manager is responsible for conveying KEQ operational changes back to the noise consultant.
5. The noise consultant re-monitors and contacts the Environment & Development Manager with the result.

Regardless of the outcome of the noise re-monitoring (i.e. monitoring undertaken after the initial exceedance was determined) all non-compliances recorded during the monitoring will be reported within seven days of becoming aware of the non-compliance in accordance with Schedule 5, Condition 7A of the Project Approval.

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6.0 Monitoring and Reporting

6.1 Public Reporting

Schedule 5, Condition 11 of the Project Approval requires all significant documents to be published to the Hunter Quarries website, including this Management Plan.

Schedule 5, Condition 8 of the Project Approval requires all monitoring results and other environmental performance data to be made publicly available on the Hunter Quarries website (www.hunterquarries.com.au/reporting/). This information is currently produced on a monthly basis through monthly Environmental Monitoring Reports (EMR's).

Schedule 5, Condition 4 of the Project Approval outlines the requirement for annual reporting through the Annual Review reporting process.

Condition R4.3 of EPL 20611, requires the submission of the quarterly noise monitoring reports to the EPA within 30 days of completion of each round of noise monitoring. This noise assessment must be prepared by. The noise monitoring reports must be prepared by a suitably qualified and experienced acoustical consultant and the results of noise monitoring are attached to the EMR's for each relevant reporting period.

6.2 Periodic Management Plan Reviews

The NMP will be reviewed and revised / updated in accordance with Schedule 5, Condition 5 of the Project Approval within 3-months of any of the following:

- The submission of an annual review;
- The submission of an incident report;
- The submission of an audit report; and
- Any Modification to the Project Approval.

A review of the NMP will also take place if monitoring records indicate that it is warranted or in the event of any significant change to operations at KEQ.

The KEQ management team will discuss and review the status of all management plans on an annual basis, but unless required all site environmental management plans will be reviewed and updated every three years.

Other government agencies will be consulted as part of EIS Modifications.

6.3 Complaints Handling and Incident Response

Complaints Handling

All complaints received regarding noise from the Project will be acknowledged within 24 hours by appropriate personnel and investigated as soon as reasonably practicable. The complainant will be kept updated at key milestones of the investigation and will be notified of the outcome once available.

KEQ will operate a telephone complaints line for the purposes receiving complaints from members of the public in relation to activities conducted at the premises as outlined in the KEQ Environmental Management Strategy (EMS).

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KEQ will keep a record of any complaints made to the quarry in relation to the Project site for at least four years after the complaint was made. Additionally, the record will be available to any authorised officer of the EPA who wishes to view them.

Records will include:

- date and time of complaint;
- method by which the complaint was made;
- personal details of the complainant (if provided);
- nature of the complaint;
- weather conditions corresponding to the time of the complaint;
- action taken by the quarry and any follow up actions; and
- if no action was taken, the reason why no action was taken.

For further details on complaint management refer to the KEQ EMS. Additionally, Condition M5 of the EPL outlines the process for recording pollution complaints.

Non-Compliance and Incident Response

Schedule 5, Condition 7 of the Project Approval requires:

The Applicant 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.

Schedule 5, Condition 7A of the Project Approval requires:

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.

Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

It should be noted that an exceedance of the noise limits is typically classified as a non-compliance rather than an incident.

Where a significant pollution incident occurs which causes an impact or material harm, reference will be made to the KEQ Pollution Incident Response Management Plan (PIRMP).

6.4 Independent Review

In accordance with Schedule 4, Condition 2 of the Project Approval, if a landowner considers that KEQ is exceeding any relevant noise limits they may ask the Planning Secretary in writing for an independent review of the impacts on their residence or land.

If the Planning Secretary is not satisfied that an independent review is warranted, the Planning Secretary will notify the landowner in writing of that decision, and the reasons for it, within 21 days of the request for a review.

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If the Planning Secretary is satisfied that an independent review is warranted, within 3 months of the Planning Secretary's decision, or other timeframe agreed by the Planning Secretary, Karuah East must:

- commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to:
 - consult with the landowner to determine their concerns;
 - conduct monitoring to determine whether the development is complying with the relevant noise limits; and
 - if the development is not complying with the relevant noise limits, identify measures that could be implemented to ensure compliance with the relevant noise limits; and
- give the Planning Secretary and landowner a copy of the independent review; and
- comply with any written requests made by the Planning Secretary to implement any findings of the review.

6.5 Notification of Landowners

In accordance with Schedule 4, Condition 1 of the Project Approval, as soon as practicable and no longer than 7 days after obtaining monitoring results showing an exceedance of any noise criteria in Schedule 3, the Applicant must provide the details of the exceedance to any affected landowners and/or tenants.

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7.0 Community Consultation and Improvement

7.1 Community Consultative Committee

In accordance with Schedule 5, Condition 6 of the Project Approval, KEQ has established and operates a Community Consultative Committee (CCC). The CCC is operated in general accordance with the Community Consultative Committee Guideline, State Significant Projects, June 2023 (NSW Planning).

The CCC is an advisory committee to facilitate communication, consultation and information sharing between the KEQ and the local community. Further details of the CCC are provided in the EMS and on KEQ's website (www.hunterquarries.com.au).

7.2 Performance Monitoring

Compliance of this NMP with the Project Approval, EPL 20611 and any other relevant agency requirements will be measured according to the following performance indicators:

- Compliance with relevant noise criteria at monitoring locations.
- Compliance with Australian Standards as required.
- The frequency and nature of complaints reported to the quarry in relation to noise emissions.
- Contractor and employee awareness of the company's Environmental Policy and this NMP.
- Compliance with this NMP, as indicated by statutory reporting.

7.3 Continual Improvement

Through the effective application of best practice principles to on-site activities including, where cost-effective and practicable, the adoption of best practice technologies and noise control measures, the KEQ will continue to improve environmental performance with progress to be monitored against the performance indicators outlined in **Section 7.2**.

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8.0 Roles and Responsibilities

It is the responsibility of Quarry Manager for the implementation of the NMP. **Table 9** outlines the responsible positions and accountable tasks.

Table 9 *Roles & Responsibilities.*

Position	Responsibility
Quarry Manager	<ul style="list-style-type: none"> Provide sufficient resources for the effective implementation of this NMP. Ensure noise controls/attenuation measures are inspected and maintained for effective noise management.
Environment & Development Manager (or suitable delegate)	<ul style="list-style-type: none"> Identify potential noise impacts and implement actions to mitigate the identified risks; Coordinate and conduct training to ensure all relevant personnel are aware of noise management practices and mitigation measures; Coordinate incident investigation processes including associated reporting requirements in accordance with regulatory requirements and incident reporting procedures; Coordinate the implementation of corrective actions and evaluate their effectiveness; Ensure all internal and external reporting requirements are met; Coordinate, advise and assist with the implementation of noise monitoring in accordance with the NMP; Maintain procedures to ensure potential noise impacts are identified; Coordinate monitoring surveys and develop proactive strategies to minimise noise impacts; Maintain monitoring equipment in accordance with the requirements of the Project Approval and this plan; Complete noise monitoring reports and make these reports available on the Hunter Quarries website as per the requirements of the Project Approval; Investigate and document findings from noise complaints; Provide input regarding the effectiveness of noise mitigation measures; and Complete reporting requirements for the Annual Review associated with this plan.
Quarry Supervisors	<ul style="list-style-type: none"> Ensure personnel undertake the relevant noise management training; Ensure that personnel and contractors carry out work in accordance with this NMP; and Provide input regarding the effectiveness of noise mitigation measures.
Quarry Operators	<ul style="list-style-type: none"> Comply with requirements of this NMP.

9.0 References

- ADW Johnson 2021, S4.55(1A) Modification Report Proposed Modification to Extend Hours of Operation Project Approval 09_0175.
- Australian Standard AS 1055-2018 Acoustics - Description and measurement of environmental noise.
- Australian Standard AS IEC 61672.1-2004 Electroacoustics - Sound level meters – Specifications.
- Department of Environment and Conservation 2007, Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC 2007).
- EMM Consulting 2021, Karuah East Quarry Mod 9 Noise Impact Assessment.
- EMM Consulting 2022, Karuah East Quarry Mod 10 Noise Impact Assessment.
- NSW Environment Protection Authority 2017, Noise Policy for Industry (NPfI) (EPA 2017).
- NSW Environment Protection Authority 2022, Approved methods for the measurement and analysis of environmental noise in NSW (Approved methods) (EPA 2022).
- Submissions Report, Karuah East Quarry. Modifications 10. Proposed increase to Approved Disturbance Area (ADW Johnson 2022).

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Appendix A: Agency Consultation (EPA)

From: Karen Marler [mailto:Karen.Marler@epa.nsw.gov.au]
Sent: Wednesday, 14 October 2015 12:53 PM
To: Blake Almond
Cc: Peter Jamieson; Jocelyn Karsten; EPA RSD Hunter Region Mailbox; Christopher Jones
Subject: RE: Karuah East Quarry Project - Management Plans [EPA]

Hi Blake, the EPA does not approve management plans. In response to requests regarding consultation on management plans we provide the following standard response..

The Environment Protection Authority (EPA) encourages the development of such plans to ensure that proponents have determined how they will meet their statutory obligations and designated environmental objectives. However, the EPA does not review these documents as our role is to set environmental objectives for environmental management, not to be directly involved in the development of strategies to achieve those objectives.

Regards

K

Karen Marler

Head Regional Operations Unit - Hunter | **NSW Environment Protection Authority** |

☎: (02) 49086803 | Mobile ☎: 0409 606 368 | 📠: (02) 49086810 | ✉: karen.marler@epa.nsw.gov.au

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Our ref: DOC22/196401-2

The Department of Planning, Industry and Environment
Via the Major Projects Portal

16 March 2022

Request for review and consultation on Karuah East Quarry Noise Management Plan

Dear Sir/Madam

Reference is made to your email dated 14th March 2022, to the NSW Environment Protection Authority ("EPA") in relation to the consultation of the 'Karuah East Quarry Project - Noise Management Plan (MP09_0175-PA-15)'.

The EPA encourages the development of such plans to ensure that proponents have met their statutory obligations and designated environmental objectives. However, EPA does not review these documents as our role is to set environmental objectives for environmental/conservation management, not to be directly involved in the development of strategies to achieve those objectives.

The EPA has not reviewed this report and accordingly offers no comments in relation to it.

If you require any further information regarding this matter please contact Marshall Sing on (02) 4908 6827.

Yours sincerely

Natasha Ryan
Unit Head, Regulatory Operations

Appendix B: Correspondence with NSW Planning

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Mr Joel Fleming
Environment & Development Manager
Hunter Quarries
PO Box 23
Karuah, NSW 2324

23/02/2022

Dear Mr Fleming

**Karuah East Quarry Project (MP 09_0175)
Suitably Qualified Persons Endorsement Request**

I refer to your request (MP 09_0175-PA-13) for the Secretary's endorsement of suitably qualified persons to prepare the Noise Management Plan for the Karuah East Quarry Project (MP 09_0175).

The Department has reviewed the nominations and information you have provided and is satisfied that these persons are suitably qualified and experienced. Consequently, I can advise that the Secretary approves the appointment of Lucas Adamson and Katie Teyhan to prepare the Noise Management Plan.

If you wish to discuss the matter further, please contact James McDonough on (02) 9585 6313.

Yours sincerely

A handwritten signature in black ink that reads 'Jessie Evans'.

Jessie Evans
Director, Resource Assessments
Resource Assessments

As nominee of the Secretary

Our ref: MP09_0175-PA-35

Scott Ellerton
Environment and Development Manager
Karuah East Quarry Pty Limited
PO Box 23
Karuah, NSW, 2324

11 July 2024

Subject: Noise management Plan

Dear Mr Ellerton

I refer to the Noise Management Plan submitted in accordance with condition 7, Schedule 3 of the consent for the Karuah East Quarry Project (MP07_0175). I also acknowledge your response to the Department's review comments and request for additional information.

The Department has carefully reviewed the document and is satisfied that it meets the requirements of the relevant conditions in consent (MP07_0175). Accordingly, as nominee of the Planning Secretary, I approve the Noise Management Plan (version 4C, June 2024).

You are reminded that if there are any inconsistencies between the Plan and the conditions of approval, the conditions prevail. Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Kristina Robinson on 02 9860 1543 or at Kristina.Robinson@dpie.nsw.gov.au.

Yours sincerely



Jessie Evans
Director
Energy and Resource Assessments

As nominee of the Planning Secretary