

## ANNUAL REVIEW - CORAKI QUARRY


1 JANUARY 2017 TO 31 DECEMBER 2017

Prepared for:  
Quarry Solutions Pty Ltd

Date: 31 January 2019

File Ref:  
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Table 1 – Annual Review title block

Name of operation	Coraki Quarry Project
Name of operator	Quarry Solutions Pty Ltd
Development consent / project approval #	SSD 7036 Mod 2
Name of holder of development consent / project approval	Quarry Solutions Pty Ltd
Mining Lease #	Lot 401 DP633427, Lots 402 and 403 DP 802985; Lot 408 DP 1166287; Lot A DP397946; Lot A DP389418; Lot 3 DP701197; Lot 2 DP954593; Lot 1 DP954592; Lot 1 DP310756p; Lot 1 DP1165893; and Lot 1 DP1225621
Name of holder of mining lease	Quarry Solutions Pty Ltd
Water licence #	NA
Name of holder of water licence	NA
MOP/RMP start date	NA
MOP/RMP end date	NA
Annual Review start date	1 January 2017
Annual Review end date	31 December 2017
<p>I, Murray Payne, certify that this audit report is a true and accurate record of the compliance status of Coraki Quarry for the period 1<sup>st</sup> January 2017 to 31<sup>st</sup> December 2017 and that I am authorised to make this statement on behalf of Quarry Solutions Pty Ltd.</p> <p><i>Note.</i></p> <p><i>a) The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</i></p> <p><i>b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement – maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents – maximum penalty 2 years imprisonment or \$22,000, or both).</i></p>	
Name of authorised reporting officer	Murray Payne
Title of authorised reporting officer	Quarry Manager
Signature of authorised reporting officer	
Date	31 / 01 / 2019

## Document Control

### Project/ Report Details

<i>Document Title:</i>	Coraki Quarry 2017 Annual Review
<i>Principal Author:</i>	Lahnie Ward
<i>Client:</i>	Quarry Solutions Pty Ltd
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### Document Status

<i>Issue</i>	<i>Description</i>	<i>Date</i>	<i>Author</i>	<i>Reviewer</i>
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1	Amended Coraki Quarry 2017 Annual Review	November 2018	L. Ward	J. Lawler/M Payne
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Attachment 2	Landowner Consent
Attachment 3	March 2017 and September 2017 Noise Compliance Review
Attachment 4	Approval of Management Plans

## Statement of Compliance

This annual review has been conducted to satisfy Schedule 5, Condition 9 of the Development Consent (DC) SSD\_7036, whereby the annual environmental performance of the project is reviewed. The review period for this report is 1st January 2017 to 31 December 2017. A statement of compliance for the project is provided below in Table 2.

Table 2 - Statement of Compliance

Were all conditions of the relevant approval(s) complied with?	
Development Consent (DC) # - SSD 7036 Mod 2	No

Table 3 – Non-Compliances

Relevant Approval	Cond. #	Conditions description	Compliance Status	Comment	Where addressed in annual review
DC # - SSD 7036 Mod 2	Sch. 3, Condition 4	The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 3 at any residence on privately-owned land.	Non-compliant	Measurements undertaken (Sep 29, 2017, 8.45am) at residences R2 and R3 exceeded prescribed limits.	Section 5.3
DC # - SSD 7036 Mod 2	Sch 4, Condition 1	The Applicant must as soon as practicable and no longer than 7 days after obtaining monitoring results showing: (a) an exceedance of any relevant criteria in Schedule 3, the Applicant must notify the affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria; and (b) an exceedance of any relevant air quality criteria in Schedule 3, the Applicant must send a copy of the NSW Health fact sheet entitled <b>"Mine Dust and You"</b> (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).	Non-compliant	Affected landowners were not notified of the above-mentioned exceedance within 7 days.	Section 5.3
DC # - SSD 7036 Mod 2	Sch. 3, Condition 38	The Applicant shall ensure that all liquid tanks and similar storage facilities (other than for water) are protected by appropriate bunding or other containment, in accordance with the relevant Australian Standards.	Non-compliant	Liquids are currently stored in drums or containers appropriate for the item (205l drums) however, these are stored within shipping containers that are not bunded, protected or meet relevant Australian Standards.	Section 5.7

DC # - SSD 7036 Mod 2	Sch. 3, Condition 39	The Applicant 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 Dangerous Goods Code.	Non-compliant	Liquids are currently stored in drums or containers appropriate for the item (205l drums) however, these are stored within shipping containers that are not banded, protected or meet relevant Australian Standards.	Section 5.7
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The risk level has been deemed as low as the non-compliance has the:

- potential for moderate environmental consequences, but is unlikely to occur; or
- potential for low environmental consequences but is likely to occur.

## Department of Planning and Environment Comments

The 2017 Annual Review was submitted in March 2018. Written responses have been received from the Department of Planning and Environment (DP&E) on the 20<sup>th</sup> September 2018 and 17 January 2019 requesting additional information be included into the Annual Review. The comments provided are listed below and the applicable section of this review where the item has been addressed.

Table 4 – Amendments

DP&E Comment	Section
<i>Letter dated 17 January 2019</i>	
<u>Requirement in Annual Return Response letter - dated 30 May 2017</u> <ul style="list-style-type: none"> <li>• A comparison of the EIS predictions with the Report findings as requested in item (g) the previous DPE letter as required by Schedule 5, Condition 9(b) of the consent.</li> </ul>	Section 5.11, Table 11
<u>Schedule 5, Condition 9 (Annual Review) of the approval requires</u> <ul style="list-style-type: none"> <li>• Discussion about the trends in the monitoring data;</li> <li>• Discussion about any differences between predicted and actual impacts.</li> </ul>	Section 5.11, Table 11
<u>Annual Review- 11 Incidents and non-compliances</u> <ul style="list-style-type: none"> <li>• The statement of non-compliance does not include the identified noise non-compliance provided in Table 6 (previously Table 7) of the report.</li> <li>• All future non-compliances that occur during the reporting period should be included in Table 2 (previously Table 3), Table of non-compliances in the Report. Comment should also be provided to confirm where non-compliances have been reported to relevant agencies in accordance with approvals.</li> </ul>	Table 3 does include the identified non-compliance as this was inserted during the first revision.
<u>Annual Review- 12 Activities to be completed in the next reporting period</u> <ul style="list-style-type: none"> <li>• Section 3.2 of the Report identifies maintenance of the earth batters (acoustic). Further details of timeframes of the maintenance activities planned for the acoustic earth batters is required.</li> </ul>	Section 3.2
<u>Schedule 4, Condition 1 (Notification of Landowners) of the approval</u> <ul style="list-style-type: none"> <li>• Landowners affected by exceedances are required to be notified within 7 days. The Department notes that landowners were not notified of the noise exceedance in September 2017. This is a non-compliance. It should also be included in Table 2 (previously Table 3) and addressed in section 11 of the Report.</li> </ul>	Section 5.2 and Table 3.
<u>Schedule 5, Condition 12 (Access to Information) of the approval</u> <ul style="list-style-type: none"> <li>• The Department acknowledges that monthly traffic and production data, and a Complaints Register have been published on the company's website. The Department checked the Quarry Solutions website on the 11 January 2018 and notes that the complaints register has not been updated for the months of November and December 2018. Please ensure that the complaints register is updated monthly as is required by the condition.</li> </ul>	Noted. This requirement will be addressed in the 1 January 2018 – 31 December 2018 Annual Review.

<i>Letter dated 20<sup>th</sup> September 2018</i>	
<u>Previous Annual Return Response letter</u> Quarry Solutions have not compared the EIS predictions as requested in item (g) of the previous DPE response letter as required by Schedule 5, Condition 9(b) of the consent.	Section 5
<u>Schedule 5, Condition 9 (Annual Review) of the approval</u> <ul style="list-style-type: none"> <li>There is no discussion about the trends in the monitoring data as required by Schedule 5, Condition 9(d) of the consent;</li> <li>There is no discussion about any differences between predicted and actual impacts as is required by Schedule 5, Condition 9(e) of the approval;</li> <li>Limited information is provided about what measures will be implemented over the coming calendar year to improve the environmental performance of the development. The Department seeks confirmation of any specific actions that are to be undertaken (if any - if not please state that) in relation to various environmental aspects outlined in the Annual Review Guideline; and</li> <li>Update the distribution record in the document control section of the AR to include the local council as is required by Condition 9 of Schedule 5 of the approval.</li> </ul>	Section 5
<u>Annual Review- 2 Introduction</u> Introduction - The names and contact details of key personnel are required in the introduction of the AR (see section 2 of the AR Guideline);	Section 1.1
<u>Annual Review - 4 Operations Summary</u> <ul style="list-style-type: none"> <li>Operations Summary - Section 3.1.2 states that the weigh bridge will stop recording data if the limit of 30 trucks per hour is reached until the next hour commences. Please confirm how operations are managed once the hourly traffic limit is reached.</li> </ul>	Section 3.1.2
<u>Annual Review-6 Environmental Performance</u> <ul style="list-style-type: none"> <li>Biodiversity - not addressed - Any relevant plan requirements should be discussed.</li> <li>Heritage - not addressed - Any relevant plan requirements should be discussed.</li> </ul>	Section 5.5 and 5.6
<u>Annual Review- 11 Incidents and non-compliances</u> <ul style="list-style-type: none"> <li>The statement of non-compliance does not include the identified noise non-compliance which is addressed in Table 7 of the report. All future non-compliances that occur during the reporting period should be included in Table 3 (Table of non-compliances) in the Annual Return. Comment should also be provided to confirm if non-compliances have been reported to relevant agencies in accordance with approvals.</li> </ul>	Statement of Compliance, Table 3
<u>Annual Review- 12 Activities to be completed in the next reporting period</u> <ul style="list-style-type: none"> <li>This section was not adequately addressed and should include more detail about the activities and a timeline for the implementation of any new measures. Section 5.7 of the report states that Quarry Solutions are investigating options in relation to the liquid storage/dangerous goods which are kept on site and that work is expected to be completed by years end.</li> <li>During the site visit you advised that the fuel tank and dangerous goods would be removed from site as refuelling is done by tankers that come to site each night. Please include detail and a timeframe for removal of the fuel tanks, drums and associated equipment which are not kept in accordance with Schedule 3, condition 38 or 39 of the approval.</li> <li>Section 3.2 of the AR identifies maintenance of the earth batters (acoustic). A timeframe as well as more details of the maintenance activities planned for the acoustic earth batters is also required.</li> </ul>	Section 3.2
<u>Schedule 3, Condition 37 (Waste) of the approval</u> <ul style="list-style-type: none"> <li>Requires a report on waste management and minimisation in the Annual Review. The Department notes that this was not included in the current Annual Review and should be included in future Annual Reviews. This is a non-compliance which should also be included in Table 3 of the Annual Review and addressed in section 11 of the Annual Review.</li> </ul>	Section 5.10.
<u>Schedule 4, Condition 1 (Notification of Landowners) of the approval</u> <ul style="list-style-type: none"> <li>Requires notification of exceedances to affected landowners within 7 days. The Department notes that notifications were not provided to landowners following the identified noise exceedance in September 2017. This is a non-compliance which should also be included in Table 3 of the Annual Review and addressed in section 11 of the Annual Review.</li> </ul>	Statement of Compliance, Table 3

# 1 Introduction

Quarry Solutions Pty Ltd (Quarry Solutions) operate the Coraki Quarry, a hard rock quarry located at Petersons Quarry Road, Coraki, New South Wales. Refer to Drawing No. 1837.DRG.007.

A Development Consent (DC) (number SSD\_7036) and Environment Protection Licence (EPL) No. 3397 has been issued for the Coraki Quarry. It should be noted that the Petersons Quarry is also regulated by EPL No. 3397. This review has been prepared in accordance with the NSW Department of Planning and Environments *Annual Review Guideline Oct 2015* and Schedule 5, Condition 9 of the modified Development Consent for the period of 1<sup>st</sup> January 2017 to 31 December 2017.

Schedule 5, Condition 9 states:

## *Annual Review*

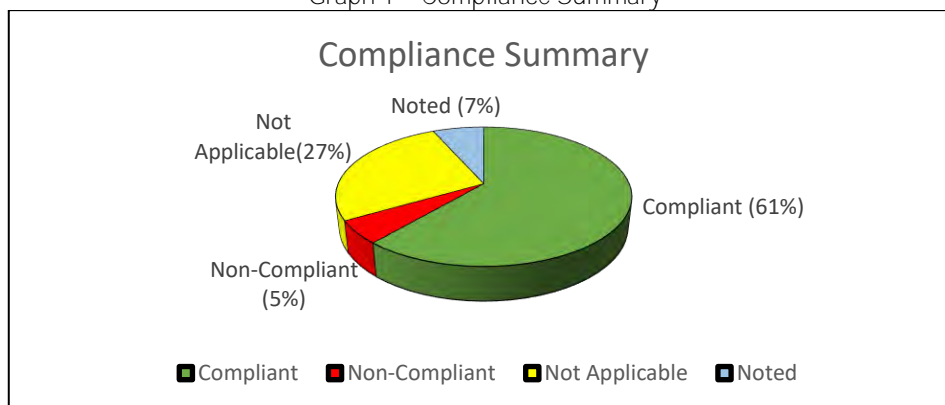
*By the end of March each year, the Applicant shall review the environmental performance of the development to the satisfaction of the Secretary. This review must:*

- (a) describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;*
- (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against the:*
  - relevant statutory requirements, limits or performance measures/criteria;*
  - the monitoring results of previous years; and*
  - the relevant predictions in the documents listed in condition 2 of Schedule 2;*
- (c) identify any noncompliance over the last year, and describe what actions were (or are being) taken to ensure compliance;*
- (d) identify any trends in the monitoring data over the life of the development;*
- (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and*
- (f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.*

On 28<sup>th</sup> February 2018, a site audit was undertaken to determine compliance status with the conditions of approval. The audit was attended by the sites quarry manager, Murray Payne and Lahnne Ward from Groundwork Plus. Refer to Attachment 1 – Audit Checklist.

In total, seventy-seven (75) conditions were assessed during the audit, 46 were compliant, 4 were non-compliant, 20 were not applicable and 5 were noted. The graph below provides a visual interpretation of audit findings.

Graph 1 – Compliance Summary





## 1.1 Key Site Personnel

Murray Payne – Quarry Manager

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E: [murray.payne@quarrysolutions.com.au](mailto:murray.payne@quarrysolutions.com.au)

## 2 Approvals

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The following approvals are those held by Quarry solutions Pty Ltd and are relevant to the operation of the Coraki Quarry.

- Development Consent SSD 7036 as modified by the New South Wales Minister for Planning in October 2016 and June 2017.
- Environmental Protection Licence (EPL) No. 3397. A notice of variation of licence 3397 was issued to Quarry Solutions Pty Ltd 1 May 2017.

## 3 Operations Summary

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Quarrying operations are permitted to extract and or process 1 million tonnes of quarry products in any calendar year. A production summary is provided in Table 5 below. Activities which occurred on site during the reporting period include extraction of material, crushing of material, screening of material and stockpiling of material. In addition to processing works, the crushing and screening plant was established and an internal haul road (up to the tip head) constructed.

Table 5 – Production Summary

Material	Approved Limit	Previous reporting period	This reporting period	Next reporting period
Quarrying products (e.g. rock)	1 million tonnes	151,303.91 t (Oct 2016– Dec 2016)	589,874.68 t	850,000 t

### 3.1 Other Operations

#### 3.1.1 Hours of Operation

Schedule 3 (Noise) of the development consent, outlines the permitted operating hours and extended operating hours. Quarry Solutions have previously obtained written agreements from affected landowners and currently operate under the extended hours which are as follows:

- Monday to Saturday – 6am to 7pm
- Sundays and Public Holidays – no works are permitted

Refer to Attachment 2 – Landowner consent

#### 3.1.2 Transport Rates

Permitted transport rates are outlined in Condition 9 Schedule 2 of the development consent which states up to 273 laden trucks per day are permitted to be dispatched. The weighbridge software currently used, allows up to 30 tucks per hour to be dispatched. If this limit is reached in a given hour, the weighbridge will stop recording data until the next hour commences.

In the event the dispatch limit is at risk of being exceeded, the weighbridge software will shut the system down and the weighbridge operator will then cease operation and movement of trucks, until the next hour comes around. To maintain compliance with the permitted rate of 273 per day, the weighbridge operator regularly checks dispatch volumes during the day to check compliance is being met.

## 3.2 Next Reporting Period

Activities to be undertaken in the next reporting period will be similar to those from last **year's** annual report and will include the following:

- Quarrying activities such as:
  - drilling and blasting exposed underlying rock to a manageable size or extraction of less competent or fractured rock using mechanical equipment (e.g. hydraulic excavator or bulldozer with ripper attachment);
  - loading won material from the extraction face by front end loader or excavator into off highway trucks for cartage to the crushing and screening plant;
  - processing of the won material by the crushing and screening plant;
  - stockpiling of material in overhead storage bins/silos for either blending to produce roadbase using a pugmill or stockpiled on ground in the stockpile area/hardstand area by either front end load or off highway trucks;
  - loading of products into road trucks using either a front-end loader or directly from the pugmill for transport off site.
- Construction of a proposed Dangerous Goods and Fuel Storage area – due for completion by December 2018. Tasks will include:
  - removal of intermediate bulk containers (IBC) no longer in use;
  - placement of mobile fuel storage tank onto hardstand with bunding;
  - decommissioning and removal of current fuel storage area – proposed completion November 2018.
- Maintenance of vegetated earth batters (acoustic) including weed management. Visual inspections (including after rain events) will be conducted by the Quarry Manager on a fortnightly basis whereby, the condition of the batters will be assessed and where necessary, weed removal, weed spraying, grass trimming and or replanting of areas requiring additional vegetation will be undertaken. Any maintenance works will be recorded in the next reporting period.

Vehicles and equipment typically used on Site include (but are not limited to), mobile crushing, screening and blending plants, drill rigs, excavators, front end loaders, off highway trucks, water trucks, light vehicles and on-road delivery trucks.

## 4 Actions required from previous Annual Review

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Refer to Table 6 – Actions from Previous Annual Review.

Table 6 – Actions from Previous Annual Review

Action from previous Annual Review	Requested by	Action taken by operator	Where discussed in Annual Review
It is recommended that dust monitoring results continue to be reviewed monthly to ensure they are within the limits of the Development Consent. Should elevated dust levels continue to be observed at dust monitoring location PDG3 it is recommended that a dust audit be undertaken to review site practices, identify sources of dust on site and ensure that all reasonable and practicable dust mitigation measures are employed to reduce deposited dust level.	Recommendation from previous years review (Table 5 – Recommendations, section 6.)	Results have been and continue to be monitored monthly. Elevated readings at PDG3 did not occur in the reporting period and therefore a dust audit was not required to be undertaken.	Section 5.4
Airblast overpressure was recorded at the limit of 115 on one (1) occasion at the Monitor 1 location. Blast management practices should be monitored closely to ensure airblast overpressure does not exceed the licensed limit.	Recommendation from previous years review (Table 5 – Recommendations, section 6.)	Quarry Solutions monitored each 2017 blast.	Section 5.2
Schedule 2 Condition 14 – Production data in format as required by.	DP&E	Provided in this review	Section 3
Schedule 3 Condition 7 – A copy of the noise compliance review and the associated supplementary review which was submitted to the Department 26 April 2017 is to be included as an Annexure to the 2017 Annual Review	DP&E	Provided in this review	Section 5.3
Schedule 3 Condition 12 – Commentary to demonstrate compliance with the Total Suspended Particulate and PM10 air quality criteria	DP&E	Provided in this review	Section 5.4
The compliance status of all conditions of consent listed within the approval in tabular format with relevant supporting information	DP&E	Provided in this review	Attachment 1
Schedule 3 Condition 36 – Photographs of the visual bunds from a consistent location until Secretary has confirmed the works are satisfactory	DP&E	Provided in this review	Section 5.6
Schedule 5 Condition 9(a) – Advice on the scale of activities undertaken the year and their context relative to the operational limits – tonnage, truck movements, hours of operation, depth of extraction	DP&E	Provided in this review	Section 3
Schedule 5 Condition 9(b) – A comprehensive review of the monitoring data against the: <ul style="list-style-type: none"> <li>Environmental Assessment predictions</li> <li>Note: Monitoring results in this annual review are to be compared against previous years data</li> </ul>	DP&E	Provided in this review	Section 5

## 5 Environmental Performance

### 5.1 Water Quality

#### 5.1.1 EIS Prediction

A surface water assessment was undertaken during the EIS process to determine potential impacts to Seelems Creek and Richmond River as a result of flow from the site. The assessment considered the following physio-chemical indicators and numerical criteria (trigger values) from the New South Wales Water Quality and River Flow Objectives (OEH 2015), for uncontrolled streams within the Richmond River Catchment. These values were adopted and are reflected in Schedule 3, Condition L2.4 of Environmental Protection Licence (EPL) 3397.

Total Nitrogen (N) (mg/L)	Total P (mg/L)	DO (%sat)		Turbidity (NTU)	pH		Conductivity (ms/cm)
		Lower	Upper		Lower	Upper	
350	25	85	110	6-50	6.5	8.5	125-2200

Water quality testing undertaken on site indicated that the dissolved oxygen (DO), turbidity and pH indicators were not in accordance with the prescribed trigger values stated above and therefore, a recommendation was made for surface water from the quarry to be captured and treated before discharging from the site.

As a result, a surface water management strategy was prepared and outlined a system of dirty water collection drains that convey surface water runoff to respective sedimentation basins. The sedimentation basins were sized in accordance with Managing Urban Stormwater Soils and Construction: Volume 1 (Blue Book) and Volume 2E (Mines & Quarries). The sedimentation basins have been sized to capture the 90 percentile 5 day rainfall event for their respective catchments.

Groundwater assessments were also conducted and determined that it is unlikely the site will encounter or impact groundwater. Surface water monitoring in accordance with the anticipated requirements of the EPL, will indicate any potential for impact through changes to water quality results.

#### 5.1.2 Actual

A Water Management Plan (WMP) has been prepared to satisfy the requirements of Schedule 3, Conditions 21 of the Development Consent. The WMP provides information required to demonstrate that activities conducted at the quarry will be in accordance with the relevant conditions of Development Consent and EPL 3397.

Quarry Solutions have advised the site has not released any water since the use commenced under the Development Consent. Quarry Solutions have also advised that groundwater has not been intersected during the extraction activities to date. Therefore, environmental performance and comparison of EIS predictions against actuals cannot be undertaken during this reporting period.

### 5.2 Noise

#### 5.2.1 EIS Prediction

As part of the Environmental Impact Statement (EIS) for the now approved Coraki quarry, a noise assessment (including noise modelling at sensitive receptors) of the potential noise impacts that may occur was conducted. The relevant noise criteria for the assessment of noise impacts was taken from the NSW Industrial Noise Policy which are established by means of a **comparison between a 'Rating Background Level ("RBL") plus 5 dB(A)' 'Intrusiveness Criterion' and 'Amenity Criteria'** levels, with the lower level being adopted as the basis for deriving project specific noise levels.

Noise datalogger measurements determined that RBLs measured at Noise Datalogger Locations 1 and 2 were 30 dB(A) for the 7am to 6pm period. For the early morning 6am to 7am and early evening 6pm to 7pm periods the minimum RBL of 30 dB(A) was adopted for assessment of intrusive noise criteria in accordance with the NSW Industrial Noise Policy. This is consistent with the 7am to 6pm RBL.

On this basis, the relevant 'Intrusiveness Criterion' level for assessment of noise from the proposed quarrying activities to be  $L_{Aeq}$  35 dB(A). This criterion was adopted during the EIS approval process and is reflected in Schedule 3, Condition 4, Table 3 of the Development Consent.

Table 3: Noise criteria dB(A)

Receiver	Day dB(A) ( $L_{Aeq}(15 \text{ min})$ )	Evening dB(A) ( $L_{Aeq}(15 \text{ min})$ )	Night dB(A) ( $L_{Aeq}(15 \text{ min})$ )
All privately-owned residences	35	35	35

Note: Receiver locations are shown on the figure in Appendix 3.

## 5.2.2 Actuals

Since the commencement of activities, noise monitoring has been undertaken on a quarterly basis with results for the reporting period shown in Table 7 below. Results have been consistent with those determined and predicted during assessments undertaken for the EIS.

During the reporting period, 1 non-compliance occurred on 29 September 2017 which was reported to the department via email submitted by the Quarry Manager. Residents impacted by the exceedance were spoken with and advised of the action taken, however, this was not within the required timeframe of 7 days as stipulated in Schedule 4, Condition 1. Refer to Drawing No. 1837.DRG.091A Environmental Monitoring Locations.

As requested by the Department in letter dated 18 January 2017, a noise compliance review was undertaken on the 29 March 2017 and a compliance report submitted to the Department (via email) on the 26 April 2017. Refer to Attachment 3 – March 2017 Noise Compliance Review.

In addition to the quarterly compliance reviews that are conducted and submitted to the Department, the sites noise management plan was approved by the Department on 6 March 2018.

It must be noted, that no noise complaints (made by residents) were received directly by the site during the reporting period.

Table 7 – Noise Monitoring Results

Monitoring Event	Compliance Status	Action Taken
29 March 2017	Compliant	N/A
28 June 2017	Compliant	N/A
29 September 2017	Compliant at residences R1, R4, R6, R7  Non-Compliant at residences R2, R3 for attended noise monitoring undertaken on Sep 29, 2017, prior to 9.00am.	Noise consultant and Quarry Manager conducted inspection of mobile powerscreen plant located on the quarry floor and shut the plant down at 8.25am.  Further noise measurements undertaken between 10:15am and 10:40am were compliant with prescribed noise limits.  Refer to Attachment 3 - September 2017 Noise Compliance Review.
19 December 2017	Compliant	N/A

### 5.2.3 Monitoring Trends

Since the commencement of noise monitoring in December 2016, one non-compliance has occurred and actions taken to rectify are outlined in Table 7 above. As per the requirements of Condition 7 of the Development Consent, a noise commencement review was undertaken on 2 December 2016. Condition 7 of the Development Consent states:

*The Applicant must commission a Noise Compliance Review for the development within 3 months of commencement of operations or as otherwise agreed with the Secretary. The review must be undertaken to the satisfaction of the Secretary and:*

- a) *be undertaken by a suitably qualified and experienced acoustic engineer during a period when the quarry is operating;*
- b) *assess whether the development is complying with the noise limits in this consent;*
- c) *include the details of the plant and equipment operating at the time of the review;*
- d) *identify any additional measures to be implemented to ensure compliance; and*
- e) *provide details of any complaints received in relation to noise generated by the development and the action taken in response to those complaints.*

The Noise Compliance Review stated that Quarry noise was assessed to be compliant with the noise limit specified in Condition 4 of the Development Consent Schedule. As stated in Table 7 above, 1 non-compliance was encountered during the reporting period.

## 5.3 Blasting

### 5.3.1 EIS Prediction

An assessment of potential vibration impacts was undertaken during the EIS process to identify recommended blast parameters which should be implemented to control vibration within approved and acceptable levels. The closest properties were identified and the distance measured from the proposed extraction limit boundary to the closest residential property.

The assessment concluded, that blasting activities would not introduce any significant risks or impacts to surrounding properties and that blasting is expected to comply with the anticipated licence requirements and ANZECC guidelines which state, that in relation to airblast overpressure, 100% of blasts must be less than 120 dBL and 95% of the blasts must be less than 115 dBL, which reflects the requirements of AS2187.2-2006. With respect to ground vibration, the maximum level is to be 10mm/s and 95% of blast must be less than 5mm/s.

**Table 4: Blasting criteria**

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

The recommendations made in the EIS have been adopted and are reflected in Schedule 3, Condition 8, Table 4 of the Development Consent.

### 5.3.2 Actual

Quarry Solutions have engaged the services of a drill and blast contractor to undertake blasting activities on their behalf. The table below outlines the results from blasts that were undertaken in the reporting period. Blasting results have complied with the criteria outlined in Schedule 3, Condition 8, Table 4.

Table 8 – 2017 Blasting Results

Date	Monitor 1		Monitor 2		Monitor 3	
	Airblast overpressure	Ground vibration	Airblast overpressure	Ground vibration	Airblast overpressure	Ground vibration
3/01/17	107	1.055	<88	0.622		
25/01/17	No trigger		No trigger			
13/02/17	112	0.933	108	0.803		
7/03/17	109.9	3.167	103.5	2.331	112.6	0.852
26/04/17	111.8	1.27	113.1	0.76	112.6	0.76
6/06/17	<88	1.198	112.4	0.867	No trigger	
7/07/17	101.3	0.675	No trigger		No trigger	
7/07/17 (toe blast)	101.3	0.675	No trigger		No trigger	
21/07/17	114	1.35	112.8	1.049	106.5	0.914
14/09/17	No trigger		No trigger			
31/10/17	97.16	1.071	104.9	0.95		
28/11/17	110.7	3.799				
30/11/17	101.9	1.988				

A blast management plan was approved by the Department of Planning and Environment on 24 January 2018 for the site. Refer to Drawing No. 1837.DRG.092R1 which forms part of the approved Blast Management Plan.

### 5.3.3 Monitoring Trends

Summary of monitoring conducted from March 2015 to November 2017 is provided below. Results show that no exceedances have occurred since the commencement of blasting activities.

Table 9 – 2017 Blasting Results

Item Measured	No. of times measured during the year	Min. value	Max. value	100 percentile value	100 percentile limit	95 percentile value	95 percentile limit
2015 Airblast Pressure	4	109.9	114.8	114.8	<120	114.575	<115
2016 Airblast Pressure	8	NT	115	111.4	<120	114.8	<115
2017 Airblast Pressure	8	NT	113.5	113.5	<120	112.8	<115
2015 Ground Vibration	4	0.524	3.947	3.947	<10	3.69725	<5
2016 Ground Vibration	8	NT	4.016	2.599	<10	3.89	<5
2017 Ground Vibration	8	NT	3.184	3.184	<10	2.898	<5

NT – not triggered. 105dB has been assumed for NT

## 5.4 Air Quality

### 5.4.1 EIS Prediction

Air quality assessments and emission predictions were conducted during the EIS process. To enable assessment of dust concentrations and deposition rates from the proposed quarrying operations, detailed dispersion modelling was conducted using the CALMET / CALPUFF modelling system. The model-predicted dust concentrations and deposition rates were added to ambient concentrations (presented in the EIS) to assess the cumulative dust exposure at surrounding receptors. The modelling and assessment conducted for the EIS outlined performance targets (provided below) and determined that compliance with these targets could be achieved:

- dust deposition of 4 g/m<sup>2</sup>-month (130 mg/m<sup>2</sup>-day), when monitored in accordance with Australian Standard AS 3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulates – Deposited matter – Gravimetric method; and
- an aerodynamic diameter of less than 10 µm (PM<sub>10</sub>) suspended in the atmosphere of 50 µg/m<sup>3</sup> over a 24-hour averaging time when monitored in accordance with Australian Standard AS 3580.9.6 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM<sub>10</sub> high volume sampler with size selective inlet – Gravimetric method.

The performance targets were adopted and are reflected in Schedule 3, Condition 12, Table 5 of the Development Consent.

**Table 5: Air quality criteria**

<b>Pollutant</b>	<b>Averaging Period</b>	<b>Criterion</b>	
Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	a,d 30 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>	
c Deposited dust	Annual	b 2 g/m <sup>2</sup> /month	a,d 4 g/m <sup>2</sup> /month

Notes for Table 5:

a. Cumulative impact (i.e. increase in concentrations due to the development plus background concentrations due to all other sources).

b. Incremental impact (i.e. incremental increase in concentrations due to the development with zero allowable exceedances of the criteria over the life of the development).

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 to by the Secretary.

e. "Reasonable and feasible avoidance and mitigation measures" includes, but is not limited to, the operational requirements in conditions 14 and 15 to develop and implement an air quality management system that ensures operational responses to the risks of exceedance of the criteria.

### 5.4.2 Actuals

During the reporting period, dust deposition monitoring was undertaken monthly at four (4) locations. Refer to Drawing No. 1837.DRG.091A Environmental Monitoring Locations. The annual dust deposition monitoring results for the reporting period are provided in Table 10.



Table 10 – Annual Dust Deposition Monitoring Results

Analyte	16 Dec – 6 Jan	6 Jan – 8 Feb	8 Feb – 9 Mar	9 Mar – 7 Apr	7 Apr – 11 May	11 May – 5 June	5 June – 11 Jul	11 Jul – 8 Aug	8 Aug – 8 Sep	8 Sep – 9 Oct	9 Oct – 8 Nov	8 Nov – 7 Dec	7 Dec – 8 Jan 2018
PDG1													
Ash Content	0.6	8	0.9	0.5	0.3	0.2	0.2	0.4	2.5	1	1.2	0.6	1
Combustible Matter	0.5	0.5	0.2	0.6	0.4	0.1	0.05	0.1	2.8	0.2	0.2	0.4	0.1
Total Insoluble Matter	1.1	8.5	1.1	1.1	0.7	0.3	0.2	0.5	5.3	1.2	1.4	1	1.1
PDG2 (background)													
Ash Content	0.5	0.6	2	0.4	0.4	0.2	1.1	0.8	0.7	0.5	1.6	0.4	0.5
Combustible Matter	0.2	1.3	2.3	0.5	0.3	0.1	1.4	1.5	0.4	0.1	0.3	0.6	0.6
Total Insoluble Matter	0.7	1.9	4.3	0.9	0.7	0.3	2.5	2.3	1.1	0.6	1.9	1	1.1
PDG3													
Ash Content	2.7	1.5	1.1	0.5	0.8	0.7	3.3	0.9	1.1	1.2	0.7	1.1	0.8
Combustible Matter	0.9	0.5	0.2	0.6	0.3	0.7	1.2	0.7	0.2	0.9	1.3	1.4	0.7
Total Insoluble Matter	3.6	2	1.3	1.1	0.5	1.4	4.5	1.6	1.3	2.1	2	2.5	1.5
PDG4 (background)													
Ash Content	0.5	2	0.9	ND	ND	ND	ND	1.2	1.7	0.6	0.4	0.5	0.3
Combustible Matter	0.5	0.6	0.4	ND	ND	ND	ND	0.3	2.7	0.05	0.2	0.6	0.4
Total Insoluble Matter	1	2.6	1.3	ND	ND	ND	ND	1.5	4.4	0.6	0.6	1.1	0.7

Units of measure - g/m2/month

### 5.4.3 Monitoring Trends

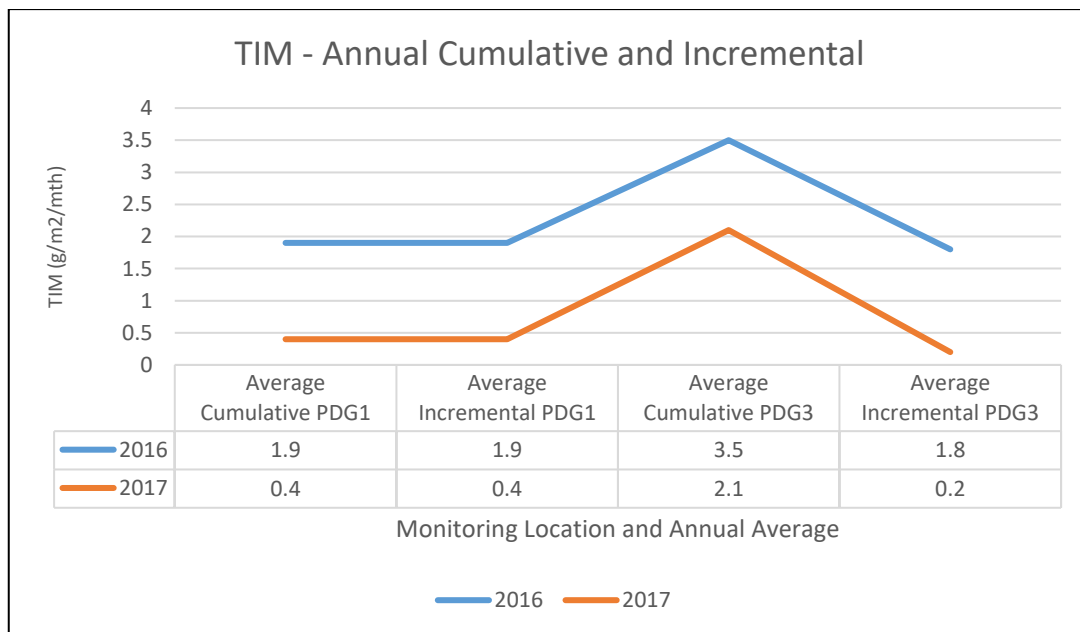
The following is a summary of Total Insoluble Matter (TIM) for monitoring undertaken in 2016 and 2017.

Table 11 –Annual Dust Deposition Summary (Total Insoluble Matter)

Monitoring Location Point	No. of times measured during the year	Min. value	Max. value	Average value (cumulative)	Average value (incremental)	Average limit (cumulative)	Average limit (incremental)
PDG1 2016	3	1.2	2.6	1.9	0.4	4	2
PDG1 2017	12	0.2	8.5	1.9	0.4	4	2
PDG2 2016 (background)	3	0.9	2	1.5	-	4	2
PDG2 2017 (background)	12	0.3	4.3	1.5	-	4	2
PDG3 2016	3	1	5.6	3.5	2.1	4	2
PDG3 2017	12	0.5	4.5	1.8	0.2	4	2
PDG4 2016 (background)	3	0.9	1.9	1.4	-	4	2
PDG4 2017 (background)	8	0.6	4.4	1.6	-	4	2

TIM - total particulates not soluble in waste

Graph 2 – TIM Annual Average Value (cumulative and incremental) 2016 & 2017



Annual average values were compliant with performance targets as per condition Schedule 3, Condition 12, Table 5 of the Development Consent.

## 5.5 Biodiversity

### 5.5.1 EIS Prediction

A preliminary assessment of ecological values through desktop analysis and field survey of the of the quarry area, was conducted during the EIS process. The assessment concluded that the area was unlikely to hold any notable value for flora or fauna species of significance. Recommendations for minimising the impact on ecological values provided in section 7.4.8 of the EIS, were adopted and are reflected in Schedule 3, Condition 33 of the Development Consent.

### 5.5.2 Actual

No clearing and or rehabilitation works have not been undertaken during the reporting period. As per the requirements of Schedule 3, Condition 33 of the Development Consent, a Biodiversity and Rehabilitation Management Plan has been prepared and submitted to the DP&E on 26 February 2018. Approval of this plan was given on 6 March 2018.

## 5.6 Cultural Heritage

### 5.6.1 EIS Prediction

Assessments conducted as part of the EIS process determined the site to be of low archaeological sensitivity and significance. During the assessment, no objects of aboriginal heritage was found however,

As per the requirements of condition Schedule 3, Condition 29 of the Development Consent, an Aboriginal Cultural Heritage Management Plan (ACHMP) must be prepared and implemented. The ACHMP was submitted to the Department on 22 November 2017 and approved on 24 January 2018.

### 5.6.2 Actual

During the reporting period, no objects of Aboriginal Cultural Heritage were found. As per the requirements of condition Schedule 3, Condition 29 of the Development Consent, an Aboriginal Cultural Heritage Management Plan (ACHMP) has been prepared and implemented. The ACHMP was submitted to the DP&E on 22 November 2017 and approved on 24 January 2018.

## 5.7 Management Plans

The following documents have been submitted to the Department of Planning and Environment for review and approval: Submitted on 22 November 2017 and approved on 24 January 2018.

- Environmental Management Strategy (condition 1 of Schedule 5);
- Air Quality Management Plan (condition 15 of Schedule 3);
- Transport Management Plan (condition 27 of Schedule 3);
- Blast Management Plan (condition 11 of Schedule 3); and
- Aboriginal Cultural Heritage Management Plan (condition 29 of Schedule 3);

Submitted on 26 February 2018 and approved on 6 March 2018.

- Biodiversity and Rehabilitation Management Plan (condition 33 of Schedule 3);
- Noise Management Plan (condition 6 of Schedule 3); and
- Water Management Plan (condition 21 of Schedule 3).

Refer to Attachment 4 – Approval of Management Plans.

## 5.8 Visual Impacts

### 5.8.1 EIS Prediction

An assessment of views from 6 representative locations around the site was undertaken as part of the EIS process, to determine the potential impact the quarry may have on visual amenity. The quarry is located in a predominately rural setting.

The rural landscape has been largely cleared of vegetation. The surrounding rural land utilised primarily for cattle grazing is considered to provide vistas of moderate scenic quality. The Petersons Quarry has been in operation since 1916 and is part of the landscape.

### 5.8.2 Actual

Schedule 3, Condition 36 of the Development Consent, requires the installation and maintenance of vegetated acoustic bunds specified in Appendix 5 of the Development Consent. Photographs of the acoustic bunds are provided below and were taken during the site audit on the 28 February 2018. The bunds are compliant with the requirements of Appendix 5.

Photograph 1 – Screen 2 area



Photograph 2 – Screen 2 area



Photograph 3 – Screen 3 area



Photograph 4 – Screen 1/4 area



Photograph 4 – Screen 4/6 area



## 5.9 Hazardous Goods and Storage

### 5.9.1 EIS Prediction

An assessment of hazardous goods (including its transportation) on the project site was conducted as part of the EIS process. The criteria for hazardous material storage quantities outlined in Table 3 of the SEPP 33 guideline (Department of Planning 2011a) was reviewed to determine which management strategies need to be implemented.

The review concluded that the quarry site is not considered potentially hazardous.

### 5.9.2 Actual

Liquids are currently stored in drums or containers appropriate for the item (205l drums) however, these are stored within shipping containers that are not bunded, protected or meet relevant Australian Standards. The above-ground fuel tank that is on site is no longer in use; however, this tank has not been decommissioned and therefore, still has the capacity to hold fuels. Quarry Solutions are currently investigation options to rectify the above matter by installing a specifically designed fuel storage area, that complies with relevant Australian Standards. This work is expected to be completed by years end.

## 5.10 Waste Management

### 5.10.1 EIS Prediction

No predications for waste were provided in the EIS. It was determined that wastes generated by the quarry are unlikely to have a significant detrimental impact on the environment.

### 5.10.2 Actual

Schedule 3, Condition 37 of the Development Consent states:

*The Applicant 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;*
- b) *minimise the waste generated by the development;*
- c) *ensure that the waste generated by the development 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.*

Waste streams and management of them is as follows:

- General waste – office bins, paper, food scraps, food wrappings, bottles, cans etc. These are placed in waste receptacles and serviced by Richmond Valley Council waste collection service.
- Sewage – toilets, grey water. A septic tank is used for the management of sewage waste and is collected by a licensed contractor (Ballina Pumping) as required.
- Scrap metal – is stored in skip bins and collected by a licensed contractor (Ballina Pumping) and recycled where possible.
- Waste oil – is stored in 1000l pods and collected by a licensed contractor (Summer Land Waste).

It must be noted that minimal waste is generated on site and no waste is generated from extraction activities. Waste management strategies will be reviewed during the Annual Review process in February each year.

## 5.11 Environmental Performance Summary

As per the requirements of the Departments annual review guideline, a summary of Environmental performance during the reporting period is provided in Table 11 below.

Attachment 1 outlines the compliance status of each of the conditions of approval applicable to the Development Consent.

Table 12 – Environmental Performance Summary

Aspect	Development consent (DC) /EIS prediction	Performance during the reporting period (2017)	Trend/key management implications	Management measures taken during reporting period (2017)
Water	DC – condition 19, 20, 21  EIS – section 7.8.4, 7.9	Water was not released during the reporting period.  Groundwater was not intersected during the reporting period.	N/A	N/A
Noise	DC – Schedule 3, condition 4. Appendix 4.  EIS – 7.5.11	Overall, the site was compliant. A single exceedance of the prescribed noise limit occurred on 29 <sup>th</sup> September for a brief period of time and was actioned immediately.  No complaints were received by the Site during the reporting period.	Monitoring data has demonstrated no impact to nearby residents during this reporting period and or last reporting period.	Quarterly noise monitoring was undertaken.  With respect to the noise exceedance, the source of noise was identified as the mobile powerscreen and operation ceased immediately. Additional monitoring was undertaken and powerscreen repositioned so noise being emitted was compliant with prescribed limits.
Blasting	DC – Schedule 3, condition 8, 9, 10, 11.  EIS section 7.7.1	Compliant. On average, 1 blast is conducted per month. No complaints have been received during the reporting period.	Blasting activities did not result in any significant risks or impacts to nearby residents during this reporting period and or last reporting period.	<ul style="list-style-type: none"> <li>• Implementation of Blast Management Plan</li> <li>• Pre-start meetings held and on a blast day, safety procedures and firing procedures are detailed.</li> </ul>
Air Quality	DC – Schedule 3, condition 12, 13, 15, 16. Appendix 5.  EIS – 7.6.7	Monthly dust monitoring was undertaken and in general, the Site was compliant with prescribed requirements during the reporting period. An exceedance has occurred during the reporting period whereby strong winds were a contributing factor.	Annual performance targets are as follows: Cumulative impact: 4.0 g/m2/month (annual average) Incremental impact: 2.0 g/m2/month (annual average)  The site's incremental and cumulative mean has risen at varying times since the last reporting period. Increases have been minor and impacts to nearby residents would be negligible.	<ul style="list-style-type: none"> <li>• Monthly dust monitoring was undertaken;</li> <li>• Maintenance of vegetated acoustic bunds;</li> <li>• Monitoring of on-site weather station;</li> <li>• Increase usage of water cart during windy conditions;</li> <li>• Dust suppression (polo citrus) used on crushing plant;</li> <li>• Entry and exit road has been sealed.</li> </ul>

Biodiversity	DC – Schedule 3, condition 31, 32, 33 EIS – 7.4.8	No clearing of vegetation or commencement of rehabilitation works was undertaken during the reporting period.	Nil as no rehabilitation works were undertaken during this reporting period and or last reporting period.	Remnant vegetation areas have been fenced and or demarcated for protection.
Cultural Heritage	DC - Schedule 3, condition 29, 30 EIS – section 7.2.4	No objects of Aboriginal Cultural Heritage were found during the reporting period.	Nil as no objects of Aboriginal Cultural Heritage were found during the reporting period.	Management strategies area included in site induction so site personnel are trained in these matters.
Visual Impacts	DC – Schedule 3, condition 36. Appendix 5.  EIS – section 7.10	Compliant. A vegetated acoustic bund has been installed in line with Appendix 5 of the DC.	Nil. Bunds are well vegetated and established.	<ul style="list-style-type: none"> <li>• Regular visual inspections</li> <li>• Weeding as required</li> <li>• Watering of vegetation as required.</li> </ul>
Hazardous Goods and Storage	DC – Schedule 3, condition 38, 39.  EIS – section 7.14	Not compliant. Liquids are currently stored in drums or containers appropriate for the item (205l drums, mobile tank) however, these are not stored in accordance with relevant Australian Standards.	Storage of fuel has not resulted in any significant risks or impacts to the environment.	<ul style="list-style-type: none"> <li>• Removal of empty fuel storage containers</li> <li>• Provision of spill kits near fuel areas</li> <li>• Pumping of water in bunded areas by licensed contractor.</li> </ul>

## 6 Rehabilitation

No rehabilitation works were undertaken on site during the reporting period, as activities are still being conducted in extractive areas.

Table 13 – Rehabilitation Status

Quarry Area Type	Previous Reporting Period (actual)	This Reporting Period (actual)	Next Reporting Period (forecast)
	Year X-1(ha)	Year X (ha)	Year X +1(ha)
A. Total Quarry footprint	32.3ha	32.3ha	32.3ha
B. Total active disturbance	32.3ha	32.3ha	32.3ha
C. Land being prepared for rehabilitation	Nil	Nil	Nil
D. Land under active rehabilitation	Nil	Nil	Nil
E. Completed rehabilitation	Nil	Nil	Nil

## 7 Community

Quarry Solutions contribute \$5000 per quarter to community organisations, groups or individuals in the Coraki and District with grants of \$100 to \$5000 available. Some projects completed in the reporting period is as follows:

- Computer upgrades for the Coraki Historical society
- Refurbishment of the community Opportunity Shop
- Coraki and District Art Show - major sponsor & prize presented by Quarry Solutions,
- Coraki Christmas pageant; and
- Number of local school initiatives and sporting programs.

In addition to the above initiatives, Quarry Solutions employ local residents and engage local business for catering / venue hire for any meeting or social gatherings.

### 7.1 Complaints

No complaints have been received by the quarry in the reporting period.

## 8 Actions for next reporting period

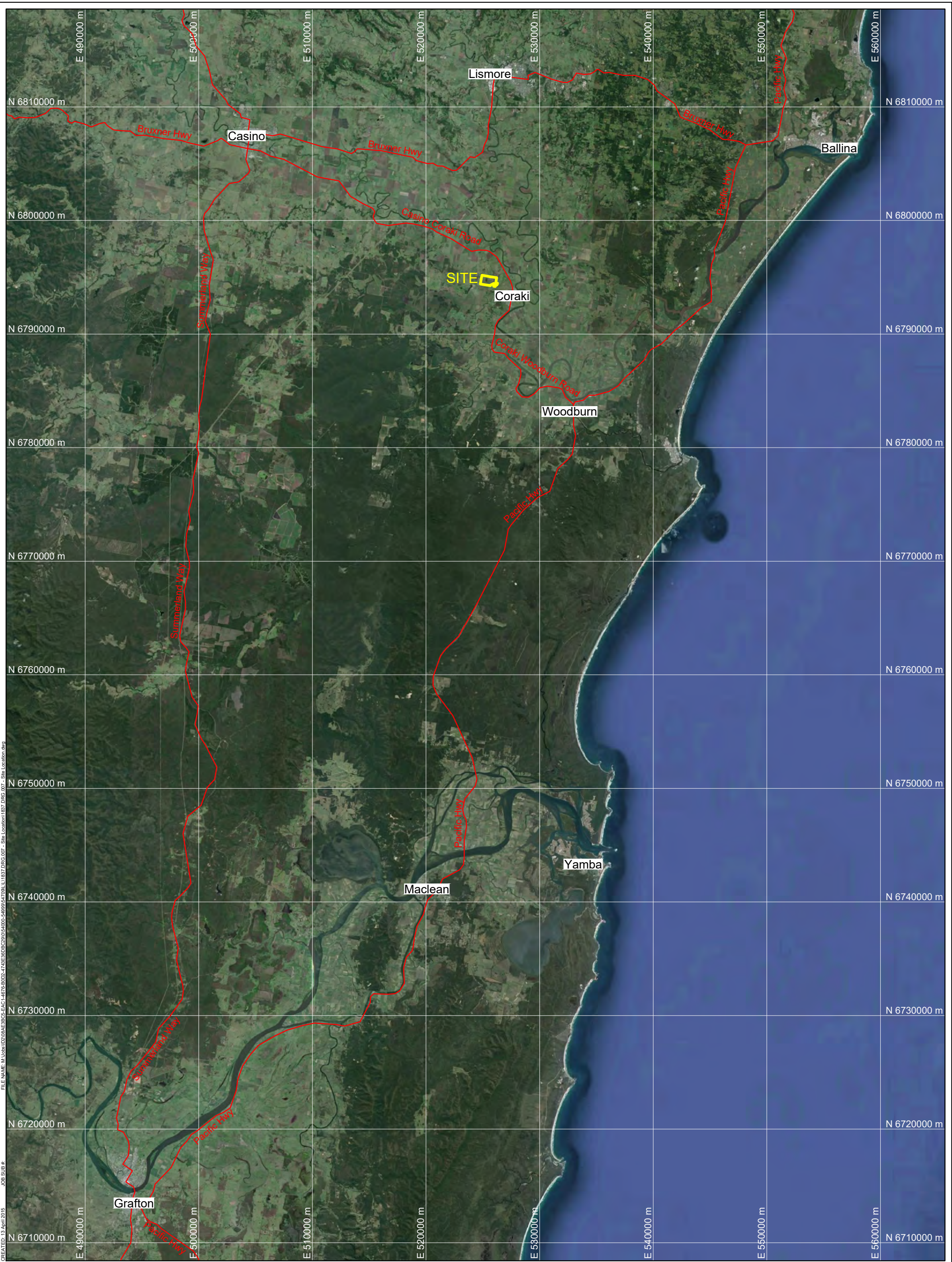
Proposed actions to be undertaken in the 2018 reporting period include the following:

- Placement of mobile tank on hardstand and within a bunded area;
- Decommissioning of current fuel storage area;
- Removal of obsolete intermediate bulk containers (IBC);
- Installation of foam dust suppression system to main plant;
- Installation of additional pump sprays in primary tip hopper;
- Upgrade of water cart to increase capacity.



**drawings**





REV	DESCRIPTION	DATE	BY
1	Revised site boundary	07/09/15	LT
<b>Data Sources:</b> Photography: Google, Image date: 2013-04-10 Topography: Cadastral: Ecosystem: Other:			
THESE DESIGNS AND PLANS ARE COPYRIGHT AND ARE NOT TO BE USED OR REPRODUCED WHOLLY OR IN PART OR TO BE USED ON ANY PROJECT WITHOUT THE WRITTEN PERMISSION OF GROUNDWORK PLUS. ABN: 80 829 145 906			

- Legend:**
- Site Boundary
  - Major Road



PROJECT:	Coraki Quarry
CLIENT:	Quarry Solutions Pty Ltd

TITLE:	Site Location Plan
SCALE:	1:300,000
DATE:	7 September 2015
PRINTED:	10 September 2015
DRAWN:	LT
CHECKED:	JL
DATUM:	HORIZONTAL / VERTICAL / ZONE
MGA /	/ 56
DRAWING NUMBER:	1837.DRG.007
REVISION:	1





FILE NAME: E:\Users\180011837\QUARSKL Coraki Quarry\Drawings\1837.DRG.092.R1 - Blast Area & Exclusion Zone.dwg  
CREATED: 9 November 2017  
JOB SUB #

REV	DESCRIPTION	DATE	BY
1	Exclusion Zone Amended	09-11-17	JS
Data Sources:			
Photography: UAV Survey 2016-05-05; Google. Image date: 2014-12-18			
Topography: UAV Survey 2016-05-05			
Cadastral:			
Ecosystem:			
Other:			
THESE DESIGNS AND PLANS ARE COPYRIGHT AND ARE NOT TO BE USED OR REPRODUCED WHOLLY OR IN PART OR TO BE USED ON ANY PROJECT WITHOUT THE WRITTEN PERMISSION OF GROUNDWORK PLUS. ABN: 80 629 145 906			

- Legend:
- Site Boundary
  - Cadastral Boundary
  - Exclusion Zone
  - Current Active Blast Area
  - Blast Guard Location



PROJECT:	Coraki Quarry
CLIENT:	Quarry Solutions Pty Ltd

TITLE:	Figure 2 - Blast Area & Exclusion Zones			
GROUNDWORK plus		SCALE: 1:8,000	0 160	DRAWING NUMBER: 1837.DRG.092
PH: +61 7 3871 0411 WWW.GROUNDWORK.COM.AU		DATE: 9 November 2017	DRAWN: JS	REVISION: 1
PRINTED: 9 November 2017		CHECKED: JL	DATUM: HORIZONTAL / VERTICAL / ZONE MGA / AHD / 56	







**attachments**

# Attachment 1

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Audit Checklist

## Coraki Audit – February 2018

Condition Number	Development Consent Conditions	Status C/NC/NA	Comments - evidence details
Obligation to minimise harm			
1	In addition to meeting the specific performance criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.	C	<p>Sighted Environmental Management Strategy and associated management plans.</p> <p>Quarry Manager (Murray Payne) conducts daily visual inspections of site to assess, dust, sediment on roads leaving site. This is not documented its verbal.</p> <p>Pre-start do traffic management and production requirements. Environmental after rain event re- erosion and runoff. Verbal pre-starts not documented.</p> <p>Site induction – daily pre-start sign on and site induction undertaken for contractors and new employees. Sighted daily pre-start sheet.</p>
Terms of Consent			
2	The Applicant must carry out the development: (a) generally in accordance with the EIS, SEE (MOD 1) and SEE (MOD 2); and (b) in accordance with the Statement of Commitments and conditions of this consent.	C	Sighted Environmental Management Strategy and associated management plans used to implement conditions of the development consent. In addition to these plans, sighted inspection checklists used to measure compliance.
3	If there is any inconsistency between the above documents, the most recent document must prevail to the extent of the inconsistency. However, the conditions of this consent must prevail to the extent of any inconsistency.	Noted	
4	<b>The Applicant must comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:</b> (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent; (b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with this consent; or (c) the implementation of any actions or measures contained in these documents.	Noted	Example of implementation is letter dated 30 / 5 / 17 annual review letter
Lapsing of Consent			
5	If the development has not been physically commenced within 5 years of the date of this consent, then this development consent must lapse.	NA	Site is operational

Limits on Consent			
6	The Applicant may carry out quarrying operations for the development until 30 June 2023.	Noted	
7	The Applicant must not extract materials outside of the Extraction Area, or stockpile materials outside of the Stockpile Area and Temporary Stockpile Area, as shown in Appendix 2; nor extract materials below 18 metres AHD.	C	<p>Markers are set up around the permitted extraction areas so the quarry manager and site personnel know not to extract beyond these. Sighted markers.</p> <p>Levels of the floor are measured (rover device is used on a regular basis i.e.- before blasts, production checks when in the area.</p> <p>Physically took a reading in the current production area, 18.1m.</p>
8	The Applicant must not extract or process more than 1 million tonnes of quarry products in any calendar year.	C	<b>Sighted report produced via the 'iweigh data system'. Total extraction limit is well below the 1 million tonnes...data shown</b> was for both extraction at Coraki and Petersons which was approx. 860,000 tonnes.
Notification of emergencies, incidents and exceptions			
9	The Applicant must not dispatch from the development more than 31 laden trucks per hour or more than: (a) 231 laden trucks per day (Monday to Friday); and (b) 105 laden trucks per day (Saturday), unless operating in accordance with condition 2 of Schedule 3, in which case the Applicant may dispatch up to 273 laden trucks per day (Monday to Saturday).	C	<b>The weighbridge has a cut off at 30 trucks per hour...once this is</b> triggered no weighing can occur until the next hour has started. The system shuts off and <b>doesn't permit any entries. Spoke with</b> Elle who is the weigh bridge operator.
Structural Adequacy			
10	The Applicant 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.	C	<b>Demountable' have been installed near the existing</b> weighbridge and site office. Sighted copies of certificates <b>provided by the supplier of the demountable' confirming that the</b> buildings complied with the relevant Australian Standard and held a temporary structure building approval.
Demolition			
11	The Applicant 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.	NA	No demolition works have been undertaken.
Protection of Public Infrastructure			
12	Unless the Applicant and the applicable authority agree otherwise, the Applicant must: (c) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and (d) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development. Note: This condition does not apply to any damage to roads caused as a result of general road usage or otherwise	Noted	



	addressed by contributions required of condition 17 of this consent.		
Operation of Plant and Equipment			
13	The Applicant must ensure that all the plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	C	Daily pre-start inspections on all machines (sighted daily plant checklist 12-B1-02)  Asset management team who manage the scheduling of all maintenance and servicing. Sighted monthly assets sheets used for servicing.
Production Data			
14	The Applicant must: (a) provide annual quarry production data to DRG using the standard form for that purpose; and (b) include a copy of this data in the Annual Review (see condition 9 of Schedule 5).	Noted	Production data will be included in the annual review report.
Identification of Approved Extraction Limits			
15	By 30 November 2017, or one month prior to commencement of extraction from Lot 1 DP1225621, whichever is earlier, unless otherwise agreed by the Secretary, the Applicant must: (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction; and (b) submit a survey plan of these boundaries with applicable GPS coordinates to the Secretary.	C	Sighted survey plans prepared by Kennedy Surveying dated 26 Sep 2017 and email submission to the Department date 9 October 2017.
16	While quarrying operations are being carried out, the Applicant must ensure that these boundaries are clearly marked at all times in a manner that allows operating staff to clearly identify the approved limits of extraction.	C	Sighted markers around extraction pit area and survey plan Kennedy surveying DWG 16104A Rev 2 dated 27 Sep 16.
Contributions to Council			
17	The Applicant must pay to Council a contribution of \$1.12 per tonne of quarry products transported from the development for the maintenance of the local road network. The contribution must be paid quarterly and indexed in line with the provisions of the Richmond Valley Council Section 94 Heavy Haulage Plan 2013 or any subsequent relevant contributions plan adopted by Council. Note: If the parties are unable to agree on any aspect of the maintenance contributions, either party may refer the matter to the Secretary for resolution.	C	Sighted spreadsheet outlining payments made to Richmond Valley Council.
Crown Roads			
18	The Applicant must obtain approval for the closure of the Crown road on the eastern boundary of Lot 401 DP 633427 prior to undertaking the development within the area of the road.	C	Road closure was completed in March 2017. Sighted email notification to the department that this had occurred.
Compliance			
19	The Applicant must ensure that all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent relevant to their respective activities.	C	Site office has a displayed poster summarising the operating conditions. All site personnel are advised to familiarise themselves with these. Sighted site induction Q 09-B1-01 Site Induction and Quarry Driver Induction Q 09-B1-09

## Schedule 3 – Environmental Performance Conditions

### Noise

1	<p>The Applicant must comply with the operating hours set out in Table 1.</p> <p><i>Table 1: Operating Hours</i></p> <table><tr><th>Activity</th><th>Permissible Hours</th></tr><tr><td>Quarrying operations including truck loading and dispatch</td><td>7 am to 6 pm Monday to Friday; 8 am to 1 pm Saturday; and At no time on Sundays or public holidays.</td></tr><tr><td>Blasting</td><td>9 am to 3 pm Monday to Friday; and At no time on Saturdays, Sundays or public holidays.</td></tr><tr><td>Maintenance activities</td><td>May be conducted at any time, provided that these activities are not audible at any privately-owned residence.</td></tr></table>	Activity	Permissible Hours	Quarrying operations including truck loading and dispatch	7 am to 6 pm Monday to Friday; 8 am to 1 pm Saturday; and At no time on Sundays or public holidays.	Blasting	9 am to 3 pm Monday to Friday; and At no time on Saturdays, Sundays or public holidays.	Maintenance activities	May be conducted at any time, provided that these activities are not audible at any privately-owned residence.	NA	Following table 2
Activity	Permissible Hours										
Quarrying operations including truck loading and dispatch	7 am to 6 pm Monday to Friday; 8 am to 1 pm Saturday; and At no time on Sundays or public holidays.										
Blasting	9 am to 3 pm Monday to Friday; and At no time on Saturdays, Sundays or public holidays.										
Maintenance activities	May be conducted at any time, provided that these activities are not audible at any privately-owned residence.										
2	<p>The Applicant may operate under the extended operating hours set out in Table 2 only after obtaining written agreements with landowners R1 to R9 (as shown on the plan in Appendix 3), and after advising the EPA and the Secretary in writing of the terms of these agreements.</p> <p><i>Table 2: Extended Operating Hours</i></p> <table><tr><th>Activity</th><th>Permissible Hours</th></tr><tr><td>Quarrying operations including truck loading and dispatch</td><td>6 am to 7 pm Monday to Friday; 6 am to 7 pm Saturday; and At no time on Sundays or public holidays.</td></tr><tr><td>Maintenance activities</td><td>May be conducted at any time.</td></tr></table>	Activity	Permissible Hours	Quarrying operations including truck loading and dispatch	6 am to 7 pm Monday to Friday; 6 am to 7 pm Saturday; and At no time on Sundays or public holidays.	Maintenance activities	May be conducted at any time.	C	Sighted signed consents from landowners.		
Activity	Permissible Hours										
Quarrying operations including truck loading and dispatch	6 am to 7 pm Monday to Friday; 6 am to 7 pm Saturday; and At no time on Sundays or public holidays.										
Maintenance activities	May be conducted at any time.										
3	<p>The following activities may be carried out on the site at any time:</p> <p>(a) delivery or dispatch of materials as requested by Police or other authorities; and</p> <p>(b) emergency work to avoid the loss of lives, property and/or to prevent environmental harm.</p> <p>In such circumstances, the Applicant must notify the Secretary and affected residents prior to undertaking the activities, or as soon as is practical thereafter.</p>	NA	None of these activities have occurred during the reporting period.								

### Noise Impact Assessment Criteria

4	<p>The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 3 at any residence on privately-owned land.</p> <p><b>Table 3: Noise criteria dB(A)</b></p> <table> <tr> <th>Receiver</th><th>Day dB(A) (L<sub>Aeq</sub>(15 min))</th><th>Evening dB(A) (L<sub>Aeq</sub>(15 min))</th><th>Night dB(A) (L<sub>Aeq</sub>(15 min))</th></tr> <tr> <td>All privately-owned residences</td><td>35</td><td>35</td><td>35</td></tr> </table> <p><i>Note: Receiver locations are shown on the figure in Appendix 3.</i></p>	Receiver	Day dB(A) (L <sub>Aeq</sub> (15 min))	Evening dB(A) (L <sub>Aeq</sub> (15 min))	Night dB(A) (L <sub>Aeq</sub> (15 min))	All privately-owned residences	35	35	35	NC	Sighted noise monitoring reports
Receiver	Day dB(A) (L <sub>Aeq</sub> (15 min))	Evening dB(A) (L <sub>Aeq</sub> (15 min))	Night dB(A) (L <sub>Aeq</sub> (15 min))								
All privately-owned residences	35	35	35								

	<p>Noise generated by the development is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy. Appendix 4 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.</p> <p>However, the noise criteria in Table 3 do not apply if the Applicant has an agreement with the relevant landowner to exceed the noise criteria, and the Applicant has advised the EPA and the Secretary in writing of the terms of this agreement.</p>		
Operating Conditions			
5	<p>The Applicant must:</p> <p>(a) implement best practice management to minimise the operational and road transportation noise of the development;</p> <p>(b) minimise the noise impacts of the development during meteorological conditions when the noise criteria in this consent do not apply (see Appendix 4);</p> <p>(c) after the commencement of quarrying operations at the development, carry out noise monitoring (at least every 3 months, or as otherwise agreed with the Secretary) to determine whether the development is complying with the relevant conditions of this consent; and</p> <p>(d) regularly assess noise monitoring data and modify and/or stop operations associated with the development to ensure compliance with the relevant conditions of this consent, to the satisfaction of the Secretary.</p>	C	<p>Sighted Environmental Management Strategy dated Nov 2017 and Appendix B noise management plan</p> <p>Sighted Dec 2017 Noise Compliance Monitoring conducted by MWA.</p> <p>Sighted quarterly noise monitoring reports (March, June, September and December 2017).</p>
Noise Management Plan			
6	<p>The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with EPA;</p> <p>(b) be submitted to the Secretary within 6 months of the date of this consent, or prior to the commencement of operations, whichever is earlier, unless otherwise agreed by the Secretary;</p> <p>(c) describe the measures that would be implemented to ensure:</p> <ul style="list-style-type: none"> <li>compliance with the noise criteria in this consent;</li> <li>best practice management is being employed to minimise operational noise from the development; and</li> <li>the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 4);</li> </ul> <p>(d) describe the proposed noise management system, including the establishment of acoustic bunds (as shown on the plan in Appendix 5) and other noise controls; and</p> <p>(e) include a monitoring program to be implemented to measure noise from the development against the noise criteria in Tables 3, and which evaluates and reports on the effectiveness of the noise management system of the development.</p> <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary.</p>	C	<p>Sighted the Noise Management Plan.</p> <p>The NMP was submitted to the Department of Planning and Environment on 26 February 2018 and approved on 6 March 2018.</p>
Noise Compliance Review			

7	<p>The Applicant must commission a Noise Compliance Review for the development within 3 months of commencement of operations or as otherwise agreed with the Secretary. The review must be undertaken to the satisfaction of the Secretary and:</p> <p>(a) be undertaken by a suitably qualified and experienced acoustic engineer during a period when the quarry is operating;</p> <p>(b) assess whether the development is complying with the noise limits in this consent;</p> <p>(c) include the details of the plant and equipment operating at the time of the review;</p> <p>(d) identify any additional measures to be implemented to ensure compliance; and</p> <p>(e) provide details of any complaints received in relation to noise generated by the development and the action taken in response to those complaints.</p> <p>Within one month of receiving the Noise Compliance Review report, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the report to the Secretary, with a response to any recommendations contained in the report.</p>	C	<p>Sighted Dec 2017 Noise Compliance Monitoring conducted by MWA.</p> <p>MWA conducted noise compliance review.</p>
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## Blasting Criteria

8	<p>The Applicant must ensure that blasting associated with the development does not cause any exceedance of the criteria in Table 4.</p> <p><i>Table 4: Blasting criteria</i></p> <table border="1"> <thead> <tr> <th>Receiver</th><th>Airblast overpressure (dB(Lin Peak))</th><th>Ground vibration (mm/s)</th><th>Allowable exceedance</th></tr> </thead> <tbody> <tr> <td rowspan="2">Any residence on privately-owned land</td><td>120</td><td>10</td><td>0%</td></tr> <tr> <td>115</td><td>5</td><td>5% of the total number of blasts over a period of 12 months</td></tr> </tbody> </table> <p>However, these criteria do not apply if the Applicant has a written agreement with the relevant owner to exceed the limits in Table 4, and the Applicant has advised the Department in writing of the terms of this agreement.</p>	Receiver	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance	Any residence on privately-owned land	120	10	0%	115	5	5% of the total number of blasts over a period of 12 months	C	<p>Sighted blast report dated 28 Aug 2017 monitoring results were under blasting criteria in table 4.</p> <p>No complaints have been received regarding noise or blasting activities during the reporting period.</p>
Receiver	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance											
Any residence on privately-owned land	120	10	0%											
	115	5	5% of the total number of blasts over a period of 12 months											

## Blasting Frequency

9	<p>The Applicant may carry out a maximum of 2 blasts per calendar month, unless with the prior approval of the Secretary or unless an additional blast is required following a blast misfire. This condition does not apply to blasts required to ensure the safety of workers on site or other persons.</p> <p>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.</p>	C	<p>Normally conducting 1 per month.</p> <p>Sighted Blasting reports dated May, June, Aug, Nov 2017 for blast conducted on site.</p>
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## Operating Conditions

10	<p>During blasting operations, the Applicant must:</p> <p>(a) implement best practice management to:</p> <ul style="list-style-type: none"> <li>protect the safety of people and livestock in the areas surrounding blasting operations;</li> <li>protect public or private infrastructure/property in the surrounding area from damage from blasting operations;</li> <li>minimise the dust and fume emissions of blasting;</li> </ul>	C	<p>Pre-start meeting to discuss safety requirements before a blast, a list of local residents are sent a text message notifying them that a blast is going to be undertaken.</p>
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	<p>(b) operate a suitable system to enable the local community to get up-to-date information on the proposed blasting schedule for the development;</p> <p>(c) obtain agreement with any private land owner affected by blast exclusion zones that are required to manage flyrock; and</p> <p>(d) carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent, to the satisfaction of the Secretary.</p>		<p>Sighted the Coraki Firing procedure that is followed for each event. A risk assessment is conducted with drillers sighted (blast risk assessment doc no:0472 Ron Southon Pty Ltd)</p> <p>Sighted Inspection checklist 06-B1-05 Workshop site safety and environmental checklist. This is currently under review.</p> <p>Sighted Blasting Management Plan.</p> <p>Sighted Blasting reports dated 28 Aug 2017 for blast conducted on site.</p>
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## Blast Management Plan

11	<p>The Applicant must prepare a Blast Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <p>(a) be submitted to the Secretary for approval within 6 months of the date of this consent, or prior to the commencement of blasting, whichever is earlier, unless otherwise agreed by the Secretary;</p> <p>(b) describe the measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this consent;</p> <p>(c) include measures to manage flyrock;</p> <p>(d) include a monitoring program for evaluating and reporting on compliance with the blasting criteria in this consent;</p> <p>(e) include community notification procedures for the blasting schedule; and</p> <p>(f) include a protocol for investigating and responding to complaints.</p> <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary.</p>	C	<p>The BMP was submitted to the Department of Planning and Environment on 22 November 2017 and approved on 24 January 2018.</p>
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## Air Quality Impact Assessment Criteria

12

The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 5 at any residence on privately-owned land.

*Table 5: Air quality criteria*

<i><b>Pollutant</b></i>	<i><b>Averaging Period</b></i>	<i><b>Criterion</b></i>	
Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	a,d 30 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 for Table 5:

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

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

C

Undertake dust monitoring and samples are collected on a monthly basis. Sighted dust monitoring report for monitoring period October 2017.

	<p>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.</p> <p>d. Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, or any other activity agreed to by the Secretary.</p> <p><b>e. "Reasonable and feasible avoidance and mitigation measures" includes, but is not limited to, the operational requirements in conditions 14 and 15 to develop and implement an air quality management system that ensures operational responses to the risks of exceedance of the criteria.</b></p>		
Quarry-owned Land			
13	<p>The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 5 at any occupied residence on quarry-owned land (including land owned by another quarry owner) unless:</p> <p>(a) the tenant has been notified of any health risks associated with such exceedances in accordance with the notification requirements under Schedule 4 of this consent; and</p> <p>(b) the tenant of any land owned by the Applicant can terminate their tenancy agreement without penalty at any time, subject to giving reasonable notice; to the satisfaction of the Secretary.</p>	NA	There are no residences on quarry-owned land (including land owned by another quarry owner)
Operating Conditions			
14	<p>The Applicant must:</p> <p>(a) implement best practice management to minimise the dust emissions of the development;</p> <p>(b) regularly assess meteorological and air quality monitoring data and relocate, modify and/or stop operations associated with the development to ensure compliance with the air quality criteria in this consent;</p> <p>(c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see notes under Table 5);</p> <p>(d) monitor and report on compliance with the relevant air quality conditions in this consent; and</p> <p>(e) minimise the area of surface disturbance and undertake progressive rehabilitation of lands associated with the development, to the satisfaction of the Secretary.</p>	C	<ul style="list-style-type: none"> <li>Water trucks are used on site and usage is increased in windy conditions</li> <li>Polo citrus is a dust suppressant used on the crushing plant, earth bunds used for stormwater management and noise attenuation.</li> <li>Sealed entry and exit road to quarry</li> <li>Enclosed screens and transfer points</li> <li>Conduct visual inspections</li> <li>Conduct monthly inspection checklist</li> </ul>
Air Quality Management Plan			
15	<p>The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <p>(a) be submitted to the Secretary for approval within 6 months of the date of this consent, or prior to the commencement of operations, whichever is earlier, unless otherwise agreed by the Secretary;</p> <p>(b) describe the measures that would be implemented to ensure:</p> <ul style="list-style-type: none"> <li>compliance with the relevant conditions of this consent;</li> <li>best practice management is being employed; and</li> <li>the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;</li> </ul> <p>(c) describe the proposed air quality management system; and</p> <p>(d) include an air quality monitoring program that:</p> <ul style="list-style-type: none"> <li>is capable of evaluating the performance of the development;</li> </ul>	C	<p>Sighted the AQMP.</p> <p>The AQMP was submitted to the Department of Planning and Environment on 22 November 2017 and approved on 24 January 2018.</p>

	<ul style="list-style-type: none"> <li>includes a protocol for determining any exceedances of the relevant conditions of consent;</li> <li>effectively supports the air quality management system; and</li> <li>evaluates and reports on the adequacy of the air quality management system.</li> </ul> <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary.</p>		
Meteorological Monitoring			
16	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 in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline.	C	Weather station in place, data captured and uploaded onto weatherlink.
Greenhouse Gas Emissions			
17	The Applicant must implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the development.	C	<ul style="list-style-type: none"> <li>Emission control system are fitted to all of the loaders</li> <li>Maintenance of equipment and vehicles.</li> <li>Regularly updating vehicles and equipment and where practicable purchasing environmentally friendly machinery</li> <li>Fleet management system – Quarry Manager received an alert if a vehicle or plant is left idling.</li> </ul>
Soil and Water			
Water Supply			
18	The Applicant must ensure that it has sufficient water for all stages of the development and, if necessary, adjust the scale of operations under the consent to match its available water supply, to the satisfaction of the Secretary.	C	On site dams where water is used from. Water stored in 250,000l tank used for blending of quarry products and dust suppression.
Water Discharges			
19	The Applicant must comply with the discharge limits in any relevant EPL, or with section 120 of the POEO Act.	NA	No discharged of water has occurred on site.
Groundwater			
20	In the event that groundwater in excess of negligible quantities is intersected during extraction activities, the Applicant must undertake a hydrogeological investigation, in consultation with DPI - Water, to the satisfaction of the Secretary. The investigation must report on groundwater sources, levels, yield and quality; identify any risks to groundwater users or groundwater dependent ecosystems and propose recommended management measures. The Applicant must implement reasonable and feasible management measures recommended by the hydrogeological investigation, to the satisfaction of the Secretary.	NA	Noted. Groundwater has not been intersected during extraction activities.
Water Management Plan			
21	The Applicant must prepare a Water Management Plan for the development 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 DPI - Water;	C	<p>Sighted the Water Management Plan.</p> <p>The WMP was submitted to the Department of Planning and Environment on 26 February 2018 and approved on 6 March 2018.</p>



	<p>(c) be submitted to the Secretary for approval within 6 months of the date of this consent, or prior to the commencement of operations, whichever is earlier, unless otherwise agreed by the Secretary;</p> <p>(d) include a:</p> <p>(i) Site Water Balance that includes details of:</p> <ul style="list-style-type: none"> <li>the volume of water deficit and/or surplus for dry, average and wet years, considering all planned water management infrastructure;</li> <li>sources and security of water supply, including on-site water storages;</li> <li>water use and management on site;</li> <li>any off-site water transfers or discharges including discharge volumes and frequency;</li> <li>reporting procedures; and</li> <li>measures that would be implemented to minimise clean water use on site; and</li> </ul> <p>(ii) Surface Water Management Plan, that includes:</p> <ul style="list-style-type: none"> <li>detailed baseline data on surface water flows and quality in water bodies that could potentially be affected by the development;</li> <li>a detailed description of the surface water management system on site including the: <ul style="list-style-type: none"> <li>clean water diversion system;</li> <li>erosion and sediment controls;</li> <li>dirty water management system; and</li> <li>water storages;</li> </ul> </li> <li>provision of a 40 metre buffer zone between watercourses and quarrying operations; and</li> <li>a program to monitor and report on: <ul style="list-style-type: none"> <li>any surface water discharges;</li> <li>the effectiveness of the water management system; and</li> <li>surface water flows and quality in local watercourses.</li> </ul> </li> </ul> <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary.</p>		
Transport			
Transport Routes			
22	<p>All laden trucks travelling from the development to the Pacific Highway must travel via Petersons Quarry Road, Lagoon Road, Casino – Coraki Road, Queen Elizabeth Drive and Coraki - Woodburn Road. Trucks returning to the site from the Pacific Highway must return via the same route and enter the development via Seelems Road or Petersons Quarry Road.</p> <p>This condition does not apply:</p> <p>(a) when road closures on the above route are in place;</p> <p>(b) when delivering to sites not involving travel on the Pacific Highway, such as within the local area or sites to the northwest or north of the quarry (eg Casino or Lismore); and</p> <p>(c) in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.</p>	C	All trucks are fitted with GPS trackers and advised of the routes to take during site induction.
Road Upgrade			
23	The Applicant must cause the following road upgrade works to be undertaken to the satisfaction of the Council or the RMS (whichever is the relevant roads authority):	NA	Seelems road is yet to be upgraded as it is not being utilised.



	(a) prior to trucks returning to the site utilising Seelems Road, provision of a minimum 6 metre sealed carriageway on Seelems Road from Petersons Quarry Road to a point approximately 200 metres west of the entrance to the industrial facility at 30 Seelems Road; and (b) prior to commencing despatch of laden trucks from the development, asphaltic concrete/hot mix sealing of the intersections of Petersons Quarry Road and Lagoon Road; Lagoon Road and Casino – Coraki Road; and Woodburn – Coraki Road and the Pacific Highway.		Sealing of intersections was completed in September 2016 and was captured in last years annual report.
24	Prior to commencing the road upgrade works required under condition 23, the Applicant must: (a) notify Council and/or the RMS (whichever is the relevant roads authority) in writing of any existing damage to the sections of road and the intersections listed in condition 23; and (b) lodge a defects liability bond with Council based on 10% of the quantity-surveyed cost of the upgrade works for roads for which the Council is the relevant roads authority.	NA	Works were completed in September 2016 and was captured in last years annual report.
Monitoring of Product Transport			
25	The Applicant must, by the use of a weighbridge, make, and retain for at least 12 months, records of the time of arrival, time of dispatch, weight of load and vehicle identification for each laden truck dispatched from the development. These records must be made available to the Department on request and a summary included in the Annual Review.	C	Spoke with weighbridge operator Elle and sighted system 'iweigh' which has all of this information.
Operating Conditions			
26	The Applicant must: (a) ensure that all laden trucks entering or exiting the site have their loads covered; and (b) ensure that all laden trucks exiting the site are cleaned of materials that may fall on the road, before leaving the site. (c) use its best endeavours to ensure that appropriate signage is displayed on all trucks used to transport product from the development so they can be easily identified by road users.	C	Loader drivers – automatic tarps are used.  Site induction  Weigh bridge operator  Truck tarping stations installed for drivers to inspect loads.
Transport Management Plan			
27	The Applicant must prepare a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with RMS and Council and submitted to the Secretary for approval within 6 months of the date of this consent, or prior to the commencement of despatch of laden trucks from the development, whichever is earlier, unless otherwise agreed by the Secretary; (b) provide a clear description of the transport routes; (c) describe the processes in place for the control of truck movements; (d) describe the measures to be implemented to minimise noise from transport operations; (e) detail the procedures for receiving and addressing complaints from the community concerning traffic issues associated with heavy vehicles arriving at or leaving the development; (f) describe the driver induction and training processes; (g) include a <b>Drivers' Code of Conduct that details the safe and quiet driving practices that must be used by drivers</b> transporting products to and from the quarry, particularly having regard to school bus routes, intersections or sections of road where there is potential for close interactions between passing trucks, and the location of residential properties and associated private access roads; and (h) <b>describe the measures that would be put in place to ensure compliance with the Drivers' Code of Conduct.</b>	C	Sighted the traffic management plan (TMP).  The TMP was submitted to the Department of Planning and Environment on 22 November 2017 and approved on 24 January 2018.

	The Applicant must implement the approved management plan as approved from time to time by the Secretary.		
Independent Traffic Audit			
28	<p>Within 6 months of commencement of transport operations, and every three years thereafter, unless the Secretary directs otherwise, the Applicant must commission a suitably qualified person, whose appointment has been approved by the Secretary, to conduct an independent traffic audit of the development. This audit must:</p> <ul style="list-style-type: none"> <li>(a) have the site verification component of the audit undertaken without prior notice to the Applicant;</li> <li>(b) assess the impact of the development on the performance of the road network;</li> <li>(c) investigate any incidents involving heavy vehicles associated with the development, including reviewing any community complaints;</li> <li>(d) assess the effectiveness of the Drivers Code of Conduct; and</li> <li>(e) recommend any necessary measures to reduce or mitigate any adverse (or potentially adverse) impacts.</li> </ul> <p>Within one month of receiving the audit report, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, with a response to any of the recommendations contained in the audit report, to the satisfaction of the Secretary.</p>	C	<p>Audit conducted by TTM on 22 March 2017 and report submitted to the Department on 12 April 2017. A revised audit report was prepared (dated 24 July 2017) and re-submitted to the Department for approval.</p> <p>Sighted Independent Traffic Audit Report and letter from the Department dated 7 July 2017.</p>
Aboriginal Heritage			
Aboriginal Cultural Heritage Management Plan			
29	<p>The Applicant must prepare an Aboriginal Cultural Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> <li>(a) be prepared in consultation with OEH and the Aboriginal community, and be submitted to the Secretary for approval prior to the commencement of operations; and</li> <li>(b) include: <ul style="list-style-type: none"> <li>• a detailed description of the measures that would be implemented to protect Aboriginal sites outside the quarry disturbance area including the two Indigenous Heritage Non-disturbance Zones (shown in Appendix 2);</li> <li>• a description of the measures that would be implemented if any new Aboriginal objects or skeletal remains are discovered during quarrying operations; and</li> <li>• protocol for the ongoing consultation and involvement of the Aboriginal community in the conservation and management of Aboriginal cultural heritage on the site.</li> </ul> </li> </ul> <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary.</p>	C	<p>Sighted the Aboriginal Cultural Heritage Management Plan (ACHMP).</p> <p>The ACHMP was submitted to the Department of Planning and Environment on 22 November 2017 and approved on 24 January 2018.</p>
30	<p>If any item or object of Aboriginal heritage significance is identified on land associated with the development, the Applicant must ensure that:</p> <ul style="list-style-type: none"> <li>(a) all work in the immediate vicinity of the Aboriginal item or object ceases immediately;</li> <li>(b) a 10 m buffer area around the item or object is cordoned off with high visibility flagging tape, or the like; and</li> <li>(c) the OEH is contacted immediately.</li> </ul> <p>Work in the 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.</p>	NA	<p>No objects of Aboriginal heritage significance were found during the reporting period.</p>
Biodiversity and Rehabilitation			
31	<p>The Applicant must rehabilitate the lands associated with the development 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.</p>	C	<p>Sighted the Biodiversity and Rehabilitation Management Plan.</p> <p>No rehab works have been undertaken in the reporting period.</p>

Table 6: Rehabilitation objectives											
	<table><tr><th>Feature</th><th>Objective</th></tr><tr><td>Lands associated with the development (as a whole)</td><td><ul style="list-style-type: none"><li>Safe, stable and non-polluting</li><li>Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and designed to minimise the visual impacts of the development when viewed from surrounding land</li></ul></td></tr><tr><td>Surface Infrastructure</td><td><ul style="list-style-type: none"><li>Decommissioned and removed, unless required for the ongoing operation of Petersons Quarry or as agreed with the Secretary</li></ul></td></tr><tr><td>Quarry Benches and Pit Floor</td><td><ul style="list-style-type: none"><li>Revegetated using a combination of pasture species and native vegetation corridors, which link other remnant vegetation on site</li></ul></td></tr></table>	Feature	Objective	Lands associated with the development (as a whole)	<ul style="list-style-type: none"><li>Safe, stable and non-polluting</li><li>Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and designed to minimise the visual impacts of the development when viewed from surrounding land</li></ul>	Surface Infrastructure	<ul style="list-style-type: none"><li>Decommissioned and removed, unless required for the ongoing operation of Petersons Quarry or as agreed with the Secretary</li></ul>	Quarry Benches and Pit Floor	<ul style="list-style-type: none"><li>Revegetated using a combination of pasture species and native vegetation corridors, which link other remnant vegetation on site</li></ul>		
Feature	Objective										
Lands associated with the development (as a whole)	<ul style="list-style-type: none"><li>Safe, stable and non-polluting</li><li>Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and designed to minimise the visual impacts of the development when viewed from surrounding land</li></ul>										
Surface Infrastructure	<ul style="list-style-type: none"><li>Decommissioned and removed, unless required for the ongoing operation of Petersons Quarry or as agreed with the Secretary</li></ul>										
Quarry Benches and Pit Floor	<ul style="list-style-type: none"><li>Revegetated using a combination of pasture species and native vegetation corridors, which link other remnant vegetation on site</li></ul>										
Progressive Rehabilitation											
32	<p>The Applicant must rehabilitate the lands associated with the development 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.</p> <p>Note: It is accepted that parts of the lands associated with the development that are progressively rehabilitated may be subject to further disturbance in future.</p>		No new areas of extraction or disturbance have occurred in the reporting period. Earth bunds have been maintained in the reporting period.								
Biodiversity and Rehabilitation Management Plan											
33	<p>The Applicant must prepare a Biodiversity and Rehabilitation Management Plan for the site to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with OEH, and be submitted to the Secretary for approval within 6 months of the date of this consent, or prior to the commencement of operations, whichever is earlier, unless the Secretary agrees otherwise;</p> <p>(b) provide details of the conceptual final landform and associated land uses for the site;</p> <p>(c) describe how the management of biodiversity would be integrated with the overall rehabilitation of the site;</p> <p>(d) include detailed performance and completion criteria for evaluating the performance of the biodiversity management measures and rehabilitation of the site, including triggers for any necessary remedial action;</p> <p>(e) describe the short, medium and long-term measures that would be implemented to:</p> <ul style="list-style-type: none"><li>protect and enhance the remnant vegetation and habitat on the site, including the measures to protect the Macadamia tetraphylla, endangered ecological communities and threatened species on site;</li><li>rehabilitate the Macadamia tetraphylla buffer area, Hoop Pine Dry Rainforest community, and</li><li>the Seelems Creek rehabilitation area as shown in Appendix 6;</li><li>ensure compliance with the rehabilitation objectives, and the progressive rehabilitation obligations in this consent;</li></ul> <p>(f) include a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;</p> <p>(g) identify the potential risks to the successful implementation of the plan and include a description of the contingency measures that would be implemented to mitigate these risks; and</p>	C	<p>Sighted the Biodiversity and Rehabilitation Management Plan.</p> <p>The BRMP was submitted to the Department of Planning and Environment on 26 February 2018 and approved on 6 March 2018.</p>								

	(h) include details of who would be responsible for monitoring, reviewing, and implementing the plan.  The Applicant must implement the approved management plan as approved from time to time by the Secretary.		
Conservation and Rehabilitation Bond			
34	Within 6 months of the approval of the Biodiversity and Rehabilitation Management Plan, the Applicant must lodge a Conservation and Rehabilitation Bond with the Department to ensure that the management of biodiversity and the rehabilitation of the lands associated with the development are implemented in accordance with the performance and completion criteria set out in the Biodiversity and Rehabilitation Management Plan. The sum of the bond must be determined by: (a) calculating the cost of rehabilitating the lands associated with the development taking into account the likely surface disturbance over the next 3 years of quarrying operations; and (b) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs, to the satisfaction of the Secretary.	NA	At time of audit, approval of the Biodiversity and Rehabilitation Management Plan had not yet been given by the Department.
35	Within 3 months of each Independent Environmental Audit (see condition 10 of Schedule 5), the Applicant must review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the Secretary. This review must consider the: (a) effects of inflation; (b) likely cost of rehabilitating the site (taking into account the likely surface disturbance over the next 3 years of the development); and (c) performance of the implementation of the rehabilitation of the site to date.	NA	An Independent Environmental Audit is not due till April 2018.
Visual Impacts			
36	The Applicant must implement all reasonable and feasible measures to minimise the visual impacts of the development, including establishing the vegetated acoustic bunds shown in Appendix 5, to the satisfaction of the Secretary.	C	Sighted vegetated acoustic bunds and these are compliant with Appendix 5.
Waste			
37	The Applicant 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; (b) minimise the waste generated by the development; (c) ensure that the waste generated by the development 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.	C	<ul style="list-style-type: none"> <li>General waste bins serviced by Richmond Valley Council (normal kerbside bins, including recycling)</li> <li>Septic tank for toilets</li> <li>Skip bins and scrap metal are collected by Ballina Pumping</li> <li>Demountable grey water and toilets are stored in tank and pumped out by licensed contractor Ballina Pumping.</li> <li>Waste oil stored in 1000l pods and collected by Summer Land Waste.</li> <li>Used tyres are stored on site and reused for weighing down tarps on stockpiles.</li> </ul>
Liquid Storage			
38	The Applicant shall ensure that all liquid tanks and similar storage facilities (other than for water) are protected by appropriate bunding or other containment, in accordance with the relevant Australian Standards.	NC	Liquids are currently stored in drums or containers appropriate for the item however, these are stored within shipping containers

			<p>that are not bunded, protected or meet relevant Australian Standards.</p> <p>Current liquid storage capacity on site</p> <ul style="list-style-type: none"> <li>• 1000l storage pod waste oil</li> <li>• 4 x 1000l storage pods for new oil</li> <li>• 500l tank diesel trailer mounted refuelling station (not covered, not in use and has not been decommissioned)</li> </ul> <p>Refuelling of plant and equipment is conducted at night after operations have ceased.</p>
Dangerous Goods			
39	The Applicant 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 Dangerous Goods Code.	NC	As above.
40	The Applicant must undertake a transport safety study to the satisfaction of the Secretary and in accordance with Hazardous Industry Planning Advisory Paper No 11: Route Selection (HIPAP11) prior to transporting hazardous materials above the threshold contained in State Environmental Planning Policy 33 Hazardous and Offensive Development.	NA	Not transporting hazardous materials
Bushfire			
41	The Applicant must: (a) ensure that the development is suitably equipped to respond to any fires on site; and (b) assist the NSW Rural Fire Service and emergency services as much as possible if there is a fire in the vicinity of the site.	C	<p>Water truck available – 40,000L</p> <p>Fire Extinguishers in each mobile plant</p> <p>Maintain vegetation – slashing of veg on access and transport road edges on site.</p>
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 relevant criteria in Schedule 3, the Applicant must notify the affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria; and (b) an exceedance of any relevant air quality criteria in Schedule 3, the Applicant must send a copy of the NSW <b>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).</b>	NC	<p>Noise exceedance occurred during monitoring event. This was notified to the Department of Planning and Environment dated 4 Dec 2017. Affected landowners were not notified within 7 days of becoming aware of the exceedance.</p> <p>No complaints were received from local residents as a result of this exceedance.</p>
Independent Review			

2	If an owner of privately-owned land considers the development 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 development on his/her land.	NA	No requests have been made
3	<p><b>If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision</b> the Applicant 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 development is complying with the relevant criteria in Schedule 3; and</li> <li>if the development is not complying with these criteria then identify measures that could be implemented to ensure compliance with the relevant criteria;</li> </ul> <p>b) give the Secretary and landowner a copy of the independent review; and</p> <p>c) comply with any written requests made by the Secretary to implement any findings of the review.</p>	NA	
4	<p>If the independent review determines that the development is complying with the relevant impact assessment criteria in Schedule 3, then the Applicant may discontinue the independent review with the approval of the Secretary. If the independent review determines that the development is not complying with the relevant impact assessment criteria in Schedule 3, then the Applicant must:</p> <p>(a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the development complies with the relevant criteria, and conduct further monitoring to determine whether these measures ensure compliance; or</p> <p>(b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria; to the satisfaction of the Secretary.</p> <p>If the further monitoring referred to under paragraph (a) above determines that the development is complying with the relevant impact assessment criteria, then the Applicant may discontinue the independent review with the approval of the Secretary.</p>	NA	

## Schedule 5 – Environmental Management, Reporting and Auditing

### Environmental Management Strategy

1	<p>If the Secretary requires; the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:</p> <p>(a) be submitted to the Secretary for approval within 6 months of the date of this consent or prior to the commencement of operations, whichever is earlier;</p> <p>(b) be prepared in consultation with Council;</p> <p>(c) provide the strategic framework for the environmental management of the development;</p> <p>(d) identify the statutory approvals that apply to the development;</p> <p>(e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;</p> <p>(f) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>keep the local community and relevant agencies informed about the operation and environmental performance of the development;</li> <li>receive, record, handle and respond to complaints;</li> <li>resolve any disputes that may arise during the course of the development;</li> </ul>	C	An Environmental Management Strategy has been prepared and approved by the Department.
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	<ul style="list-style-type: none"> <li>respond to any non-compliance;</li> <li>respond to emergencies; and</li> </ul> <p>(g) include:</p> <ul style="list-style-type: none"> <li>copies of any strategies, plans and programs approved under the conditions of this consent; and</li> <li>a clear plan depicting all the monitoring to be carried out under the conditions of this consent.</li> </ul> <p>The Applicant must implement the approved management strategy as approved from time to time by the Secretary.</p>		
Evidence of Consultation			
1A	<p>Where consultation with any public authority is required by the conditions of this consent, the Applicant must:</p> <p>(a) consult with the relevant public authority prior to submitting the required document to the Secretary for approval;</p> <p>(b) submit evidence of this consultation as part of the relevant document;</p> <p>(c) describe how matters raised by the authority have been addressed and any matters not resolved; and</p> <p>(d) include details of any outstanding issues raised by the authority and an explanation of disagreement between any public authority and the Applicant.</p>	C	<p>Sighted correspondence with the Department regarding review and amendments to the EMS and associated environmental management plans.</p> <p>The Department has now approved the EMS and all applicable environmental management plans which are available on the companies website.</p>
Management Plan Requirements			
2	<p>The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:</p> <p>(a) detailed baseline data;</p> <p>(b) a description of:</p> <ul style="list-style-type: none"> <li>the relevant statutory requirements (including any relevant approval, licence or lease conditions);</li> <li>any relevant limits or performance measures/criteria; and</li> <li>the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</li> </ul> <p>(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</p> <p>(d) a program to monitor and report on the:</p> <ul style="list-style-type: none"> <li>impacts and environmental performance of the development; and</li> <li>effectiveness of any management measures (see (c) above);</li> </ul> <p>(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;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the development over time;</p> <p>(g) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> <li>incidents;</li> <li>complaints;</li> <li>non-compliances with statutory requirements; and</li> <li>exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul> <p>(h) a protocol for periodic review of the plan.</p>	C	
Revision of strategies, plans and programs			



3	<p>Within 3 months of the submission of an:</p> <ul style="list-style-type: none"> <li>(a) incident report under condition 7 below;</li> <li>(b) annual review under condition 9 below;</li> <li>(c) audit report under condition 10 below; and</li> <li>(d) any modifications to this consent,</li> </ul> <p>the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.</p>	C	All management plans have only recently been approved by the Department as outlined in items above.
Updating and staging of strategies, plans and programs			
4	<p>To ensure that strategies, plans and programs required under this consent are updated on a regular basis, and that they incorporate any appropriate additional measures to improve the environmental performance of the development,</p> <p>the Applicant may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis.</p> <p>With the agreement of the Secretary, the Applicant may prepare a revision of or a stage of a strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this consent.</p>	C	All management plans have only recently been approved by the Department as outlined in items above.
Adaptive Management			
5	<p>The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&amp;A Act or EP&amp;A Regulation.</p> <p>Where any exceedance of these criteria and/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 reoccur;</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 remediation measures as directed by the Secretary;</li> </ul> <p>to the satisfaction of the Secretary.</p>	C	Monthly monitoring is undertaken and results assessed to determine compliance.
Community Consultative Committee			
6	<p>If directed by the Secretary, the Applicant must establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. Any such CCC must be operated in general accordance with</p> <p><b>the Department's Community</b> Consultative Committee Guidelines for State Significant Projects, November 2016 (or its latest version).</p>	NA	No request has been made
Reporting			
Incident Reporting			



7	The Applicant must immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	NA	No incidents occurred during the reporting period.
Regular Reporting			
8	The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.	C	<p><b>Sighted on company's website</b>  <a href="http://www.quarrysolutions.com.au/quarry/">http://www.quarrysolutions.com.au/quarry/</a></p> <p>Monitoring data was observed on company website  <a href="http://www.emonitoring.com.au/peterson-quarry.php">http://www.emonitoring.com.au/peterson-quarry.php</a></p>
Annual Review			
9	<p>By the end of March each year, or other timing as may be agreed by the Secretary, the Applicant must review the environmental performance of the development to the satisfaction of the Secretary. This review must:</p> <p>(a) describe the development (including any rehabilitation) that was carried out in the previous reporting period, and the development that is proposed to be carried out over the current calendar year;</p> <p>(b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against the:</p> <ul style="list-style-type: none"> <li>• relevant statutory requirements, limits or performance measures/criteria;</li> <li>• requirements of any plan or program required under this consent;</li> <li>• the monitoring results of previous years; and</li> <li>• the relevant predictions in the documents listed in condition 2(a) of Schedule 2;</li> </ul> <p>(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) identify any trends in the monitoring data over the life of the development;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.</p>	C	Annual review has been conducted and submitted prior to 31 March 2018.
Independent Environmental Audit			
10	<p>Within two years of the date of this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <p>(a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;</p> <p>(b) include consultation with the relevant agencies;</p> <p>(c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL or necessary water licences for the development (including any assessment, strategy, plan or program required under these approvals);</p> <p>(d) review the adequacy of strategies, plans or programs required under the abovementioned approvals;</p> <p>(e) recommend appropriate measures or actions to improve the environmental performance of the development,</p>	NA	Audit is not due till April 2018.

	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.		
11	Within 12 weeks of commencing this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report, including a timetable for the implementation of any measures proposed to address the recommendations in the report.	NA	Audit is not due till April 2018.
Access to Information			
12	<p>Within 6 months of the date of this consent, until the completion of all works, including rehabilitation and remediation, the Applicant must:</p> <p>(a) make the following information publicly available on its website:</p> <ul style="list-style-type: none"> <li>the documents listed in condition 2(a) of Schedule 2;</li> <li>current statutory approvals for the development;</li> <li>all approved strategies, plans and programs required under the conditions of this consent;</li> <li>a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;</li> <li>a complaints register, updated monthly;</li> <li>the annual reviews of the development;</li> <li><b>any independent environmental audit, and the Applicant's response to the recommendations</b> in any audit;</li> <li>minutes of any CCC meetings;</li> <li>any other matter required by the Secretary; and</li> </ul> <p>(b) keep this information up-to-date; to the satisfaction of the Secretary.</p>		<p>Sighted on company's website</p> <p><a href="http://www.quarrysolutions.com.au/quarry/">http://www.quarrysolutions.com.au/quarry/</a></p>

# Attachment 2

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Landowner Consent

## LANDOWNER CONSENT

As owner(s) of 1905 Casino-Coraki Road, Coraki NSW 2471, described as Lot 1 DP788976, I/we hold no objections to the Petersons Quarry and future Coraki Quarry operating from 6am to 7pm Monday - Saturday.

TERRY JAMES CHARTERS (  )

Signed on the 28TH day of JANUARY 2016

MARY PATRICIA CHARTERS (  )

Signed on the 28TH day of JANUARY 2016

Would you like to be notified before each blast?

☐ Yes

☒ No

If yes please confirm your preferred notification method below:

☐ Phone

☐ Email

☐ Door knock

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## LANDOWNER CONSENT

As owner(s) of **65 Spring Hill Road, Coraki NSW 2471, described as Lot 32 DP755631**, I/we hold no objections to the Petersons Quarry and future Coraki Quarry operating from 6am to 7pm Monday - Saturday.

RICK JOHN GRAINGER (  )

Signed on the 28TH day of JANUARY 2016

..... (.....)

Signed on the ..... day of ..... 2016

Would you like to be notified before each blast?

☐ Yes

☒ No

If yes please confirm your preferred notification method below:

☐ Phone

☐ Email

☐ Door knock

## LANDOWNER CONSENT

As owner(s) of **140 Newmans Road, Coraki NSW 2471, described as Lot 401 DP633427**, I/we hold no objections to the Petersons Quarry and future Coraki Quarry operating from 6am to 7pm Monday - Saturday.

VAROLI PTY LTD ..... (OWEN MCGARRY) (SECRETARY)

Signed on the 28TH ..... day of JANUARY 2016

M. D. McGeary ..... (OWEN MCGARRY) (SECRETARY)

Signed on the ..... day of ..... 2016

Would you like to be notified before each blast?

☒ Yes

☐ No

If yes please confirm your preferred notification method below:

☒ Phone

☐ Email

☐ Door knock

## LANDOWNER CONSENT

As owner(s) of **325 Lagoon Road, West Coraki NSW 2471, described as Lot 11 DP6339**, I/we hold no objections to the Petersons Quarry and future Coraki Quarry operating from 6am to 7pm Monday - Saturday.

WENDY WAGNER ..... ( W. Wagner )

Signed on the 28TH ..... day of JANUARY 2016

..... ( \_\_\_\_\_ )

Signed on the ..... day of ..... 2016

Would you like to be notified before each blast?

☐ Yes

☒ No

If yes please confirm your preferred notification method below:

☐ Phone


☐ Email

☐ Door knock

## LANDOWNER CONSENT

As owner(s) of **75 Spring Hill Road, Coraki NSW 2471, described as Lot 1 DP702544**, I/we hold no objections to the Petersons Quarry and future Coraki Quarry operating from 6am to 7pm Monday - Saturday.

DARREL JOHN OLIVE ..... ( D J Olive )

Signed on the 30TH ..... day of NOVEMBER 2015 

CHESNE ELLEN OLIVE ..... ( Chesne Olive )

Signed on the 30 TH ..... day of NOVEMBER 2015 

Would you like to be notified before each blast?

☒ Yes

☐ No

If yes please confirm your preferred notification method below:

☒ Phone

0428 832361

☐ Email

☐ Door knock



## LANDOWNER CONSENT

As owner(s) of **50 Spring Hill Road, Coraki NSW 2471**, described as **Lot 197 DP75631**, I/we hold no objections to the Petersons Quarry and future Coraki Quarry operating from 6am to 7pm Monday - Saturday.

DARREL JOHN OLIVE ..... ( DJ Olive )

Signed on the 30TH ..... day of NOVEMBER 2015

CHESNE ELLEN OLIVE ..... ( Chesne Olive )

Signed on the 30TH ..... day of NOVEMBER 2015

Would you like to be notified before each blast?

☒ Yes

☐ No

If yes please confirm your preferred notification method below:

☒ Phone

0428 832361

☐ Email

☐ Door knock

## LANDOWNER CONSENT

As owner(s) of **285 Lagoon Road, West Coraki NSW 2471, described as Lot 3 DP1137313**, I/we hold no objections to the Petersons Quarry and future Coraki Quarry operating from 6am to 7pm Monday - Saturday.

JARED ~~AMANDA~~ FOSTER (  )

Signed on the 28TH day of JANUARY 2016

AMANDA FOSTER (  )

Signed on the 28TH day of JANUARY 2016

Would you like to be notified before each blast?

☐ Yes

☒ No

If yes please confirm your preferred notification method below:

☐ Phone

☐ Email

☐ Door knock

## LANDOWNER CONSENT

As owner(s) of **95 Spring Hill Road, Coraki NSW 2471, described as Lot 12 DP714770**, I/we hold no objections to the Petersons Quarry and future Coraki Quarry operating from 6am to 7pm Monday - Saturday.

WILLIAM McMILLAN ..... ( [Signature] )

Signed on the 29TH ..... day of JANUARY 2016

HELEN McMILLAN ..... ( [Signature] )

Signed on the 29TH ..... day of JANUARY 2016

Would you like to be notified before each blast?

☐ Yes

☒ No

If yes please confirm your preferred notification method below:

☐ Phone

☐ Email

☐ Door knock

## LANDOWNER CONSENT

As owner(s) of **200 Lagoon Road, Coraki NSW 2471, described as Lot 12 DP6339**, I/we hold no objections to the Petersons Quarry and future Coraki Quarry operating from 6am to 7pm Monday - Saturday.

.....Watt P.O.A...... ( WATT )

Signed on the <sup>10th</sup> ~~wednesday~~..... day of wednesday 2016

..... ( \_\_\_\_\_ )

Signed on the ..... day of ..... 2016

Would you like to be notified before each blast?

☐ Yes

☒ No

If yes please confirm your preferred notification method below:

☐ Phone

☐ Email

☐ Door knock

## LANDOWNER CONSENT

As owner(s) of 140 Newmans Road, Coraki NSW 2471, described as Lot 401 DP633427, I/we hold no objections to the operation of the Petersons Quarry and future Coraki Quarry exceeding the noise emission criterion by up to 5dB(A). I/We also hold no objections to the delayed construction of Seelems Road and entry and exit for trucks being via Petersons Quarry Road.

*M. F. McGeary* ..... (Marie Frances McGeary)

Signed on the ..... 5<sup>th</sup> ..... day of Sept 2016

*William Owen McGeary* ..... (William Owen McGeary)

Signed on the ..... 5<sup>th</sup> ..... day of Sept 2016

---



## LANDOWNER CONSENT

As owner(s) of 1905 Casino-Coraki Road, Coraki NSW 2471, described as Lot 1 DP788976, I/we hold no objections to the operation of the Petersons Quarry and future Coraki Quarry exceeding the noise emission criterion by up to 5dB(A). I/We also hold no objections to the delayed construction of Seelems Road and entry and exit for trucks being via Petersons Quarry Road.

TERRY JAMES CHARTERS (  )

Signed on the 2 day of SEPT 2016

..... ( )

Signed on the ..... day of ..... 2016

---

## LANDOWNER CONSENT

As owner(s) of 95 Spring Hill Road, Coraki NSW 2471, described as Lot 12 DP714770, I/we hold no objections to the operation of the Petersons Quarry and future Coraki Quarry exceeding the noise emission criterion by up to 5dB(A). I/We also hold no objections to the delayed construction of Seelems Road and entry and exit for trucks being via Petersons Quarry Road.

WILLIAM McMILLAN ( LMH )

Signed on the 2<sup>ND</sup> day of SEP 2016

..... ( )

Signed on the ..... day of ..... 2016

---

## LANDOWNER CONSENT

As owner(s) of 200 Lagoon Road, Coraki NSW 2471, described as Lot 12 DP6339, I/we hold no objections to the operation of the Petersons Quarry and future Coraki Quarry exceeding the noise emission criterion by up to 5dB(A). I/We also hold no objections to the delayed construction of Seelems Road and entry and exit for trucks being via Petersons Quarry Road.

<sup>Watt</sup>  
SANDRA GODLEY ..... ( Watt )

Signed on the 3<sup>RD</sup> ..... day of SEPTEMBER ~~2016~~ 2016

..... ( )

Signed on the ..... day of ..... 2016

---



## LANDOWNER CONSENT

As owner(s) of **75 Spring Hill Road, Coraki NSW 2471, described as Lot 1 DP702544**, I/we hold no objections to the operation of the Petersons Quarry and future Coraki Quarry exceeding the noise emission criterion by up to 5dB(A). I/We also hold no objections to the delayed construction of Seelems Road and entry and exit for trucks being via Petersons Quarry Road.

.....DARREL OLIVE..... ( Df Olive )

Signed on the .....14..... day of SEP..... 2016

..... ( )

Signed on the ..... day of ..... 2016

---

# Attachment 3

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March and September 2017 Noise Compliance Review



Ref: L14717/BH/15-041

13 April 2017

Quarry Solutions Pty Ltd  
c/- Groundwork Plus  
6 Mayneview Street  
MILTON QLD 4064

**Attention: Mr Jim Lawler**

Dear Jim

**Re: March 2017 Noise Compliance Monitoring – Coraki Quarry, Coraki**

MWA Environmental conducted noise compliance monitoring for the Coraki Quarry in March 2017 in accordance with Condition 5(c) of the Development Consent Schedule 3.

Quarry Solutions Pty Ltd has advised that no noise complaints have been received in relation to the Coraki Quarry between the previous December 2016 noise monitoring and the March 2017 noise monitoring events.

Noise monitoring was undertaken between 7:30am and 1:30pm on 29 March 2017.

Weather conditions during the monitoring were fine with early fog but no rainfall and wind speeds of less than 3 metres per second, predominantly from westerly directions.

There was no notable insect noise influence during the noise monitoring period however, for certain locations/measurements, extraneous noise influences included:

- Bird calls – able to be relatively well filtered out through post-processing using audio recordings for most measurements
- Distant frog noise from water covered floodplain – evident as background noise during several measurements – unable to be filtered out
- Distant but clearly audible cow calls at R6 from cattle gathered to pens at front gate for transport – unable to be filtered out
- Public road traffic noise - well filtered out through on-site data exclusion

Coraki Quarry operations during the noise monitoring period were as follows:

- Crushing and screening
- Loading dump trucks by excavator and haulage from pit to plant
- Stockpile management
- Loading and dispatch of product (road) trucks – consistent and frequent trucks throughout the monitoring period
- No rock drill or rock pick operating

Noise monitoring was undertaken over minimum 15 minute periods at free-field locations within 30 metres of the following six (6) residential dwellings nearest to the Coraki Quarry (refer **Figure 1**):

- R1
- R2
- R3
- R4
- R6
- R7

Attended noise monitoring was undertaken using a Bruel & Kjaer Type 2250 frequency analysing sound level meter with current NATA calibration. The sound level meter was calibrated to a reference signal of 94 dB at 1kHz prior to the monitoring and displayed no variance post-monitoring.

Condition 4 of the Development Consent Schedule 3 prescribes a 35 dB(A)  $L_{Aeq,15min}$  noise limit for privately owned residences unless formal written agreements are in place with landowners.

As allowed for by Development Consent Schedule 3 Condition 4 and EPL Condition L4.2, formal written agreements are in place with the following landowners to the effect that the land owners do not hold objections to the operation of the Coraki Quarry exceeding the noise emission criterion by up to 5 dB(A):

- R1: 200 Lagoon Road, Coraki
- R2: 95 Spring Hill Road, Coraki
- R3: 75 Spring Hill Road, Coraki
- R6: 1905 Casino-Coraki Road, Coraki
- R7: 140 Newmans Road, Coraki

A summary of the 29 March 2017 compliance noise monitoring is provided in **Attachment 1**.

**The Coraki Quarry was assessed to be compliant with the Development Consent and Environment Protection Licence No. 3397 noise limits during the 29 March 2017 noise monitoring period.**

Further noise compliance monitoring is required by 30 June 2017 in accordance with Condition 5(c) of the Development Consent Schedule 3.

If you require any clarification or additional information please contact the undersigned.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ben Hyde', with a stylized flourish at the end.

Ben Hyde  
Environmental Engineer

## FIGURES





**LEGEND**  
SITE BOUNDARY  
R9 SURROUNDING RESIDENCES (R1-R9)

**DRAWING REFERENCE**  
GROUNDWATER PLUS SITE LOCATION PLAN  
1837.DRG.002, 13/04/15.

CLIENT  
**QUARRY SOLUTIONS PTY LTD**

PROJECT  
**CORAKI  
NOISE COMPLIANCE  
ASSESSMENT  
CORAKI QUARRY**  
Petersons Quarry Rd Coraki NSW

TITLE  
**AERIAL PHOTOGRAPH  
SHOWING SURROUNDING  
RESIDENCES**

JOB	CORAKI	<b>FIGURE 1</b>
JOB NO.	15-041	
DATE	16/12/16	
SCALE	1:20,000 (A4)	
REV.		<b>15-041-1</b>

Max Winders & Associates Pty Ltd t/as MWA Environmental  
Level 15, 241 Adelaide St, Brisbane. GPO BOX 3137, Brisbane Qld 4001  
P 07 3002 5500 F 07 3002 5588 E mail@mwaenviro.com.au  
W www.mwaenviro.com.au  
ABN 94 010 833 084

# **ATTACHMENT 1**

*Summary of Compliance Noise Monitoring*



MONITORING LOCATION	TIME	WIND	OVERALL MEASURED Leq INCLUDING EXTRANEIOUS UNABLE TO BE FILTERED- dB(A)	ASSESSED QUARRY COMPONENT NOISE Leq - dB(A)	ASSESSMENT BASIS	NOISE LIMIT LAeq dB(A)	COMPLIANCE STATUS	MONITORING NOTES
R1	850	0.9m/s WSW	35.1	<35	Quarry generally inaudible, <1min of observed audible tip and truck noise, still significant bird noise influence despite filtering	40	Compliant	Quarry generally inaudible, around 31-32dBA when fewer birds, processing plant possible just audible and occasional tip at tiphead. Some birds (filtered to extent feasible).
	1130	0.9m/s NNW => 1.8m/s NW => 1.3m/s WSW	35.5	<35.5	Measured with some extraneous	40	Compliant	Processing plant audible and occasional truck and tiphead audible. Processing plant <35dBA. Minimal bird noise (filtered to extent possible).
R2	925	Calm	40.9	38.0	Calculation based upon observed audible times and levels for trucks, excavator and tip head. Reasonable based upon overall measurement and bird noise influence.	40	Compliant	Quarry audible - processing plant, tiphead and trucks. Bird noise (filtered to extent feasible but still significant influence).
	1205	1.3m/s NW => 2.2m/s NE => 0.9m/s ENE	38.4	<38.4	Measured with some extraneous	40	Compliant	Processing plant audible at 35-36dBA and occasional truck, excavator sorting and tiphead noise. Distant birds only.
R3	945	0.9m/s WNW	40.5	38.5	Calculation based upon observed audible times and levels for trucks, processing plant and tip head. Reasonable based upon overall measurement and bird noise influence.	40	Compliant	Quarry audible - processing plant, tiphead and occasional trucks. Processing plant <37dBA when less extraneous noise. Bird noise (filtered to extent feasible but still significant influence), frog noise and Lagoon Rd traffic noise.
	1225	2.2m/s WSW	37.7	<37.7	Measured with some extraneous	40	Compliant	Processing plant audible at <35dBA without birds etc., occasional excavator sorting and tiphead noise. Lagoon Rd truck noise. Some bird noise (filtered to extent possible)
R4	730	0.9m/s WNW	37.2	Inaudible	Inaudible	35	Compliant	Quarry inaudible. Some bird noise (filtered to extent possible), frog noise from floodplain to SW, trucks and traffic on Lagoon Rd and Casino-Coraki Rd.
	1010	0.9m/s W	37.5	Generally Inaudible, <35	Quarry generally inaudible, <10sec of observed audible tip noise, still significant bird and road traffic noise	35	Compliant	Quarry inaudible aside from occasional tiphead noise. Bird noise (filtered to extent possible), plane noise excluded. Measurement ceased when power tools commenced at R3.
	1245	2.7m/s NW => 2.2m/s NNW	33.9	<33.9	Measured with some extraneous	35	Compliant	Quarry generally inaudible aside from occasional truck engine just audible (low 30s dBA). Lagoon Rd and Casino-Coraki Rd traffic, some birds.
R6	750	0.4m/s WNW	Bird noise too significant to filter out given quarry generally inaudible	Generally Inaudible, <40	Quarry generally inaudible and significantly below 40dBA	40	Compliant	Tip head and occasional dump truck engine only audible quarry noise (less than 30 seconds over 15 minute measurement period). Bird noise significant, frog noise from floodplain to N as constant background
	1035	0.9m/s W	40.2	Generally Inaudible, <35	Quarry generally inaudible, <5sec of observed audible tip noise, still significant bird, frog and cow noise	40	Compliant	Quarry inaudible aside from occasional tiphead noise. Cattle herded to pens calling loudly in distance, frogs at floodplain to N.
	1310	0.9m/s SSE => 2.2m/s NNW	Traffic, cow and bird noise too significant to filter out given quarry inaudible	Inaudible	Inaudible	40	Compliant	Quarry inaudible. Casino-Coraki Rd traffic, cows at pens calling in distance.
R7	820	0.4m/s W	37.7	<35	Quarry generally inaudible and significantly below 37.7dBA which includes bird noise unable to be filtered out	40	Compliant	Quarry generally inaudible aside from occasional truck engine just audible due to tone. Bird noise significant, Casino-Coraki Rd traffic.
	1055	1.3m/s NW => 0.9m/s NNE	34.5	<33	Quarry generally inaudible, <30sec of observed audible tip and excavator noise, still significant bird, cow and traffic noise	40	Compliant	Quarry inaudible aside from occasional tiphead noise and excavator bucket scrape. Leq <33dBA when less bird and traffic noise. Cows and birds, Casino-Coraki Rd traffic



Ref: L39117/BH/15-041

4 December 2017

Quarry Solutions Pty Ltd  
c/- Groundwork Plus  
6 Mayneview Street  
MILTON QLD 4064

**Attention: Mr Jim Lawler**

Dear Jim

**Re: September 2017 Noise Compliance Monitoring – Coraki Quarry, Coraki**

MWA Environmental conducted noise compliance monitoring for the Coraki Quarry in September 2017 in accordance with Condition 5(c) of the Development Consent Schedule 3.

Quarry Solutions Pty Ltd has advised that no noise complaints have been received in relation to the Coraki Quarry between the previous June 2017 noise monitoring and the September 2017 noise monitoring events.

Noise monitoring was undertaken between 7:00am and 12:00pm on 29 September 2017. Wind speeds increased to above the 3 metres per second threshold for valid compliance monitoring after 12:00pm and no further measurements were obtained.

Weather conditions during the monitoring were fine with wind speeds generally 1.8 to 2.7 metres per second during the monitoring period. Wind directions were generally from the west and southwest during the 7:00am to 10:30am period and from easterly directions between 10:30am and 12:00pm.

For certain locations/measurements, extraneous noise influences included:

- Insect noise (predominantly bees) at residence R1 (refer **Figure 1**), albeit overall levels remained compliant with the noise limit
- Bird calls –able to be reasonably well filtered out through post-processing using audio recordings and did not affect compliance assessment outcomes for any measurements
- Public road traffic noise - filtered out through on-site data exclusion where practical however background noise from Casino-Coraki Road north of Lagoon Road was relatively consistent and dominating during some measurements under easterly wind conditions but did not affect compliance assessment outcomes for any measurements

Coraki Quarry operations during the noise monitoring period were as follows:

- Main crushing and screening plant
- 'Powerscreen' mobile plant – operating 7:00am to 8:35am
- Loading dump trucks by excavator and haulage from pit to plant
- Stockpile management
- Loading and dispatch of product (road) trucks – consistent and frequent trucks throughout the monitoring period
- Rock drill

Noise monitoring was undertaken over minimum 10 minute periods at free-field locations within 30 metres of the following five (5) residential dwellings nearest to the Coraki Quarry (refer **Figure 1**):

- R1
- R2
- R3
- R6
- R7

Observations were also made throughout the day within 30 metres of residence R4 but the quarry noise was inaudible on each occasion so no measurements were taken.

Attended noise monitoring was undertaken using a Bruel & Kjaer Type 2250 frequency analysing sound level meter with current NATA calibration. The sound level meter was calibrated to a reference signal of 94 dB at 1kHz prior to the monitoring and displayed no variance post-monitoring.

Condition 4 of the Development Consent Schedule 3 prescribes a 35 dB(A)  $L_{Aeq,15min}$  noise limit for privately owned residences unless formal written agreements are in place with landowners.

As allowed for by Development Consent Schedule 3 Condition 4 and EPL Condition L4.2, formal written agreements are in place with the following landowners to the effect that the land owners do not hold objections to the operation of the Coraki Quarry exceeding the noise emission criterion by up to 5 dB(A):

- R1: 200 Lagoon Road, Coraki
- R2: 95 Spring Hill Road, Coraki
- R3: 75 Spring Hill Road, Coraki
- R6: 1905 Casino-Coraki Road, Coraki
- R7: 140 Newmans Road, Coraki

A summary of the 29 September 2017 compliance noise monitoring is provided in **Attachment 1**.

The Coraki Quarry was assessed to be compliant with the Development Consent and Environment Protection Licence No. 3397 noise limits during the 29 September 2017 noise monitoring period at residences R1, R6 and R7 for all measurements.

For residences R2 and R3 non-compliance was assessed for measurements undertaken prior to 9:00am. The dominant noise influence was crushing and screening plant noise that was observed to be predominantly steady-state 'screening' type noise with periodic 'surging' of noise levels likely related to fill levels of feed bins/screen decks etc. The screening noise was noted to be significantly louder than had been measured and observed at residences R2 and R3 during previous quarterly noise monitoring events.

MWA Environmental inspected the quarry with the Quarry Manager between 7:45am and 8:15am. Based upon inspection of the quarry floor area it appeared that a mobile 'Powerscreen' plant located towards the eastern corner of the quarry floor was the dominant noise source, although the main crushing and screening plant emitted noise of similar character.

A further noise measurement was undertaken at 8:25am for residence R2 with the 'Powerscreen' plant shut down. The dominant noise remained crushing and screening plant noise but the overall assessed quarry noise level was 4 to 5 dB(A) lower than with the 'Powerscreen' operating at 7:00am. The overall noise level at location R2 remained non-compliant with the noise limit with the 'Powerscreen' plant shut down for the 8:25am measurement.

A further noise measurement was undertaken at 8:45am for residence R3 with the 'Powerscreen' plant shut down but compliance assessment was not valid because wind speeds were above 3.1 metres per second.

Further noise measurements undertaken at residences R2 and R3 between 10:15am and 10:40am were compliant with the Development Consent and Environment Protection Licence No. 3397 noise limits.

**On this basis, the compliance status for the Coraki Quarry in respect of the Development Consent and Environment Protection Licence No. 3397 noise limits was assessed as follows on 29 September 2017:**

- **Compliant during the noise monitoring period at R1, R4, R6 and R7 for all measurements during valid meteorological conditions.**
- **Compliant for one of three measurements at R2, with crushing and screening plant noise being the dominant noise influence during the non-compliant measurements.**
- **Compliant for one of two measurements during valid meteorological conditions at R2, with crushing and screening plant noise being the dominant noise influence during the non-compliant measurement.**

Further noise compliance monitoring is required by 31 December 2017 in accordance with Condition 5(c) of the Development Consent Schedule 3.

If you require any clarification or additional information please contact the undersigned.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ben Hyde', with a stylized, cursive script.

Ben Hyde  
Environmental Engineer

## FIGURES





**LEGEND**  
SITE BOUNDARY  
R9 SURROUNDING RESIDENCES (R1-R9)

**DRAWING REFERENCE**  
GROUNDWATER PLUS SITE LOCATION PLAN  
1837.DRG.002, 13/04/15.

CLIENT  
QUARRY SOLUTIONS PTY LTD

PROJECT  
**CORAKI  
NOISE COMPLIANCE  
ASSESSMENT**  
CORAKI QUARRY  
Petersons Quarry Rd Coraki NSW

TITLE  
AERIAL PHOTOGRAPH  
SHOWING SURROUNDING  
RESIDENCES

JOB	CORAKI	<b>FIGURE 1</b>
JOB NO.	15-041	
DATE	16/12/16	DRAWING NUMBER
SCALE	1:20,000 (A4)	<b>15-041-1</b>
REV.		

Max Winders & Associates Pty Ltd t/as MWA Environmental  
Level 15, 241 Adelaide St, Brisbane. GPO BOX 3137, Brisbane Qld 4001  
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W www.mwaenviro.com.au  
ABN 94 010 833 084

# **ATTACHMENT 1**

*Summary of Compliance Noise Monitoring*



MONITORING LOCATION	TIME	WIND	OVERALL MEASURED Leq INCLUDING EXTRANEOUS UNABLE TO BE FILTERED- dB(A)	ASSESSED QUARRY NOISE Leq - dB(A)	OPERATIONS	NOISE LIMIT LAeq dB(A)	COMPLIANCE STATUS	MONITORING NOTES
R2	700	2.2m/s S	54.4	50.6	Crushing plant, rock drill, load and haul, product sales	40	Non-Compliant by 10dBA	Louder than usual steady-state plant (screening) noise, birds, occasional dump truck and road truck audible, but within plant overall noise
R3	715	2+m/s W	50.8	46.8	Crushing plant, rock drill, load and haul, product sales	40	Non-Compliant by 7dBA	Plant (screening) steady-state noise, plant seemed to get quieter at 731 (part way through measurement)
Inspected quarry and identified Powerscreen operating at SE corner of Petersens pit as a dominant noise source, weather station adjustment as signal had been lost								
R2	825	1.8m/s WSW=>2.7m/s SW	49.5	46.0	Crushing plant, rock drill, load and haul, product sales	40	Non-Compliant by 6dBA	Powerscreen on initially >50dBA (excluded), Powerscreen shut off at 835 plant <45dBA when no birds
R3	845	3.1m/s WSW	49.9	45.8	Crushing plant, rock drill, load and haul, product sales	40	Invalid wind conditions	Plant noise, Powerscreen not running
R6	902	3.6m/s W=>2.7m/s WSW	37.7	<37	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Plant audible but quiet <40dBA approx. 36dBA with <3m/s wind, wind / tress noise and birds, early period >3m/s wind excluded
R1	920	2.2m/s WSW	36	<36	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Lot of birds and bees, some wind/tree noise (minor), plant not audible, tonal alarm / beep just audible, occasional trucks and FEL audible, quarry <40dBA
R7	945	1.8m/s SSE=>3.6m/s SSE	34.4	<34	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Casino-Coraki Rd traffic noise, quarry inaudible aside from occasional tip, some dog barking, quarry <low 30s when less wind/dog/bird noise, later period >3m/s wind excluded
R2	1015	3.1m/s SSW=>1.3m/s E=>2.2m/s E	37.8	<38	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Plant audible <40dBA approx. 37 dBA, lots of birds, traffic, occasional dump truck <40dBA, initial period >3m/s wind excluded
R4	1025	Inaudible				35	Compliant	Inaudible
R3	1030	2.2m/s E=>2.2m/s SE	37.9	<38	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Plant <37dBA when less wind/traffic, drill just audible maybe, birds, Lagoon Rd traffic excluded as far as practical
R1	1045	3.1m/s SE=>1.8m/s ESE	37.2	<37	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Bees, some birds, plant just audible, tonal alarms audible at times, insects at times, quarry <40dBA, estimate mid 30s or lower
R6	1100	2.7m/s ENE	38.7	Inaudible, <35	Crushing plant, rock drill, load and haul, product sales	40	Compliant	Casino-Coraki Rd traffic noise too consistent in easterly wind to exclude, quarry inaudible, some wind/tree noise
R7	1125	3.1m/s ESE=>4.5m/s NNE	Invalid Wind Conditions			40	Invalid wind conditions	Wind/tree noise, Casino-Coraki Rd traffic noise, plant just audible in higher winds but >3m/s - too windy

# Attachment 4

---

Approval of Management Plans



**Planning Services**

**Resource Assessments**

Name: Colin Phillips

Phone: 9274 6483

Email: [colin.phillips@planning.nsw.gov.au](mailto:colin.phillips@planning.nsw.gov.au)

Jim Lawler  
Project Director  
Groundwork Plus  
PO Box 1779  
MILTON QLD 4064

Dear Mr Lawler

**Coraki Quarry (SSD 7036)  
Approval of Management Plans**

I refer to your submission by emails, dated 26 February 2018, of management plans required under Coraki Quarry's development consent.

The Department considers the submitted revised management plans to be satisfactory. Accordingly, the Secretary has approved Coraki Quarry's:

- Biodiversity and Rehabilitation Management Plan (condition 33 of Schedule 3);
- Noise Management Plan (condition 6 of Schedule 3);
- Water Management Plan (condition 21 of Schedule 3),

Should you have any enquiries in relation to this matter, please contact Colin Phillips.

Yours sincerely

Howard Reed

**Director**

**Resource Assessments**

As nominee of the Secretary

6-3-18



**Planning Services  
Resource Assessments**

Name: Colin Phillips

Phone: 9274 6483

Email: [colin.phillips@planning.nsw.gov.au](mailto:colin.phillips@planning.nsw.gov.au)

Jim Lawler  
Project Director  
Groundwork Plus  
PO Box 1779  
MILTON QLD 4064

Dear Mr Lawler

**Coraki Quarry (SSD 7036)  
Approval of Management Plans**

I refer to your submission by emails, dated 22 November 2017, of management plans required under Coraki Quarry's development consent.

The Department considers the submitted revised management plans to be satisfactory. Accordingly, the Secretary has approved Coraki Quarry's:

- Environmental Management Strategy (condition 1 of Schedule 5);
- Air Quality Management Plan (condition 15 of Schedule 3);
- Transport Management Plan (condition 27 of Schedule 3),
- Blast Management Plan (condition 11 of Schedule 3); and
- Aboriginal Cultural Heritage Management Plan (condition 29 of Schedule 3).

Should you have any enquiries in relation to this matter, please contact Colin Phillips.

Yours sincerely

Howard Reed  
**Director**

**Resource Assessments**

As nominee of the Secretary

24.1.18