



**HEGGIES**

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Revision 1

**Noise Monitoring Program  
Ardmore Park Project, Bungonia NSW**

PREPARED FOR

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# Noise Monitoring Program

## Ardmore Park Project, Bungonia NSW

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### DOCUMENT CONTROL

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## 1 INTRODUCTION

The Minister for Planning has conditionally approved the extractive and processing operations at the Ardmore Park Project (APP) site at Bungonia, NSW.

The following report contains the Noise Monitoring Program (NMP) for APP, detailing monitoring locations, methods of monitoring noise and the correct compliance checking procedures for the subsequent reporting in accordance with the Department of Planning (DoP) and the Department of Environment, Climate Change and Water (DECCW) requirements.

## 2 PROJECT NOISE LIMITS

### 2.1 Noise

Conditions 2, 3 and 5, Schedule 3 of the Project Approval states that:

#### **"NOISE**

##### ***Operational Noise Assessment Criteria***

2. The Proponent shall ensure that the noise generated by the project, including the bypass road, does not exceed the noise impact assessment criteria in Table 1 at any residence or on more than 25 per cent of any privately-owned land.

**Table 1: Noise Impact Assessment Criteria**

Noise Assessment Location	$L_{Aeq}(15 \text{ minute})$
Residence 1	35
Residence 2	35
Residence 3	35
Residence 4	35
Residence 5	35
Residence 6	36
Residence 7	35
Residence 9	36
Residence R1	35
Residence R2	35
Residence R3	36
Residence R4	35
Residence V1	38
Residence V2	36

#### **Notes:**

- To interpret the locations referred to Table 1, see the figures in Appendix 3.
- Noise generated by the project is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy.
- The noise limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences/land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.

##### ***Traffic Noise Impact Assessment Criteria***

3. The Proponent shall take all reasonable and feasible measures to ensure that the traffic noise generated by the project (after commencement of quarrying operations) does not exceed the traffic noise impact assessment criteria in Table 2.





**Table 2: Traffic noise criteria dB(A)  $L_{Aeq}$  (1 hour)**

Roads	Day/Evening
Oallen Ford Road Mountain Ash Road Jerrara Road	55

*Note: Traffic noise generated by the project is to be measured in accordance with the relevant procedures in the DECC's Environmental Criteria for Road Traffic Noise.*

#### **Additional Noise Mitigation Measures**

- The Proponent shall construct the western earth mound and acoustic barrier prior to the commencement of any extraction (apart from overburden extraction for the purpose of constructing the mound) or processing activities to the east of the earth mound and acoustic barrier, unless otherwise agreed by the Director-General.

## **2.2 Operating Hours**

The approved hours for construction and operational activities are detailed in Table 3, Condition 4 in Schedule 3 of the Project Approval, and are as follows:

- The Proponent shall comply with the operating hours in Table 3.

**Table 3: Operating hours**

Activity	Day	Time
Construction work	Monday - Friday	7.00am to 6.00pm
	Saturday	8.00am to 1.00pm
	Sunday and Public Holidays	None
Quarrying, processing (including overburden removal) and product transportation	Monday - Friday	7.00am to 6.00pm
	Saturday	7.00am to 1.00pm
	Sunday and Public Holidays	None

**Notes:**

- Maintenance activities may be conducted outside the hours in Table 3 provided that the activities are not audible at any privately-owned residence beyond the boundary of the site.
- This condition does not apply to delivery of material if that delivery is required by police or other authorities for safety reasons, and/or the operation or personnel or equipment are endangered. In such circumstances, notification is to be provided to DECC and the affected residents as soon as possible, or within a reasonable period in the case of emergency

## **2.3 Statement of Commitments**

Further to the Consent Conditions presented in **Sections 2.1 and 2.2** above, Section 7 in Table A and Section 8 in Table B of the Statement of Commitments in Appendix 2 of the Project Approval states, in relation to operational and transport noise respectively, that the Proponent will:

### **7. Noise**

- Construct an acoustic bund wall to the west of the internal road network and around the sand processing area.
- Locate the mobile crushing plant and hard rock processing plant within a cut section of the Project Site, approximately 8m below surface level (to the east).
- Commence extraction from the southern sand resource area at the northern extremity of Stage 1 and move progressively southward toward Stage 2.
- Enclose the hard rock processing plant using Panel-Tech Thermaspan Colorbond panels, leaving openings only for plant conveyors.



- 7.5. *Adhere to the nominated hours of operation, ie. no extraction, processing and associated activities would take place before 7:00am or after 6:00pm.*
- 7.6. *Use equipment with lower sound power levels in preference to more noisy equipment.*
- 7.7. *Instruct all truck drivers to avoid the use of engine brakes when approaching the Project Site entrance.*
- 7.8. *Regularly service all equipment used on site to ensure the power sound levels remain at or below the levels specified in the noise assessment for the EA.*
- 7.9. *Grade the internal road network to limit body noise from empty trucks travelling on the Project Site.*
- 7.10. *Establish a noise monitoring program (NMP) to initially validate the predictions arising from the modelling and then record noise levels against the Project noise criteria. The NMP would include a noise monitoring protocol which would include the contingent measures to be followed should non-compliant noise levels be measured.*

#### **8. Noise**

- 8.1. *Prevent product deliveries until construction of the Bungonia By-pass is complete.*
- 8.2. *Restrict product delivery truck movements to 20 per day until the road upgrading works are completed.*
- 8.3. *Adhere to the nominated hours of operation, ie. no vehicles would arrive at the Project Site before 7:00am or leave the Project Site after 6:00pm.*
- 8.4. *Enforce driver adherence to all speed limits.*
- 8.5. *Use only vehicles which employ the most up-to-date noise/emission reducing technology as part of transport fleet.*
- 8.6. *Instruct all truck drivers to avoid the use of engine brakes when approaching the Project Site entrance.*
- 8.7. *Regularly service all trucks to ensure the power sound levels remain at or below the levels specified in the noise assessment for the EA.*
- 8.8. *Ensure noise levels attributable to the construction and operation of the transport route, ie. product transportation, complies with the nominated noise criteria at residences fronting the transport route, within Bungonia village and within audible range of the Bungonia By-pass.*

### **3 NOISE MONITORING PROGRAM**

Condition 6 in Schedule 3 of the Project Approval Consent states that:

#### **Noise Monitoring**

6. *The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This Program must:*
  - (a) *be prepared in consultation with DECCW, and be submitted to the Director-General for approval prior to carrying out any development on site; and*
  - (b) *include details of how the noise performance of the project would be monitored and include a noise monitoring protocol for evaluating compliance with the noise limits in this approval.*

#### **3.1 General Requirements**

The noise measurement procedures employed throughout the monitoring program shall be in accordance with the requirements of AS 1055-1997 "Acoustics - Description and Measurement of Environmental Noise" and the NSW DECCW's Industrial Noise Policy, 2000 (INP).





### 3.2 Operator-Attended Noise Surveys

Operator-attended noise measurements and recordings shall be conducted in order to quantify the intrusive noise emissions from the quarrying, processing and transportation operations as well as the overall level of ambient noise.

The operator shall quantify and characterise the maximum ( $L_{Amax}$ ) and the average ( $L_{Aeq(15minute)}$ ) intrusive noise level from quarrying and processing operations over a 15 minute measurement period. In addition, the operator shall quantify and characterise the overall levels of ambient noise (ie  $L_{Amax}$ ,  $LA1$ ,  $LA10$ ,  $LA50$ ,  $LA90$ ,  $LA99$ ,  $L_{Amin}$ ) over the 15 minute measurement interval.

The operator shall also quantify the  $L_{Aeq}$  traffic noise levels on the public roads accessing the APP site (namely, Oallen Ford Road, Mountain Ash Road and Jerraca Road). These attended measurements shall be conducted over a 1-hour measurement period at the closest residence to each road. The APP related traffic shall also be quantified during the traffic noise surveys on each road.

The traffic noise surveys shall be conducted during the annual operational noise survey period.

### 3.3 Operational Noise Monitoring Locations and Intervals

To check compliance, operational noise measurements shall be carried out at the two closest monitoring locations identified in Table 1, Schedule 3 of the Project Approval, namely Residences 6 and 9 (refer to Appendix 3 of the Project Approval attached). Noise measurements will be conducted annually after all components of the project are operating.

To check compliance of the traffic noise, measurements shall be carried out at the two closest monitoring locations to the Bungonia Bypass Road identified in Table 1, Schedule 3 of the Project Approval, namely Residences V1 and V2 (refer to Appendix 3, Figure 6.5 of the Project Approval attached).

If non-compliance is identified it will be addressed appropriately. This may require unattended continuous noise logging in order to quantify the overall ambient noise levels resulting from quarrying and processing operations as well as from other environmental noise sources.

Noise monitoring may be discontinued if compliance with the nominated criteria is demonstrated at the nominated monitoring locations on three (3) consecutive noise surveys. If, however, following the discontinuation of monitoring complaints related to noise are received from any former monitoring location (or locations surrounding this), monitoring at this location will recommence.

## 4 INSTRUMENTATION AND MEASUREMENT PARAMETERS

### 4.1 Operator-Attended Surveys

All acoustic instrumentation employed throughout the monitoring program shall be designed to comply with the requirements of AS 1259.2-1990, "Sound Level Meters" and carry current NATA or manufacturer calibration certificates.

All instrumentation shall be programmed to record continuously statistical noise level indices in 15 minute intervals which may include the  $L_{Amax}$ ,  $LA1$ ,  $LA5$ ,  $LA10$ ,  $LA50$ ,  $LA90$ ,  $LA99$ ,  $L_{Amin}$  and the  $L_{Aeq}$ .

Instrument calibration will be checked before and after each measurement survey, with the variation in calibrated levels not to exceed  $\pm 0.5$  dBA.



## 4.2 Weather Monitoring Instrumentation

All noise measurements will be accompanied by both qualitative description (including cloud cover) and quantitative measurements of prevailing local weather conditions throughout the survey period.

Meteorological measurements will be guided by the requirements of AS 2923-1987 "*Ambient Air-Guide for Measurements of Horizontal Wind for Air Quality Applications*". An automatic weather station will be programmed to continuously record the meteorological parameters as shown in Table 1.

Table 1 Meteorological Measurement Parameters

Measured Parameter	Unit	Sample Interval
Mean wind speed	km/hr (or m/s)	15 minute
Mean wind direction	Degrees	15 minute
Sigma-theta	-	15 minute
Aggregate rainfall	mm	15 minute
Mean air temperature	°C	15 minute
Mean relative humidity	%RH	15 minute

## 4.3 Plant and Equipment Observations and Log

During the attended noise measurements, the operator will record any significant quarry generated noise sources (ie haul trucks, dozer, etc) and collect information regarding the operating equipment and machinery. In addition, the operator will obtain copies of the relevant fixed plant and mobile quarrying equipment operating shift logs.

# 5 DOCUMENTING, REPORTING AND CORRECTIVE ACTION

## 5.1 Operator-Attended Noise Surveys

The measured contributed noise emissions from quarrying, processing and transporting operations shall be evaluated and assessed with the noise emission criteria presented in Table 1, Schedule 3 of the Project Approval.

## 5.2 Incident Reporting

Project reporting requirements are defined in Conditions 3 and 4, Schedule 5 of the Project Approval.

## 5.3 Excessive Noise Emissions and Corrective Action

Condition 1, Schedule 4 of the Project Approval details procedures to follow should a situation occur where monitored project impacts are greater than the relevant impact assessment criteria.

Condition 2, Schedule 4 of the Project Approval defines a procedure where the owner of private lands considers that the project impacts are greater than the relevant impact assessment criteria.





### APPENDIX 3 NOISE ASSESSMENT LOCATIONS



