

Our reference: EF14/9902: DOC16/166442
Contact: Michael Heinze 02 6229 7002

Ms Margaret Kirton
Senior Planner Resource Assessments
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001.

25 May 2016

Dear Ms Kirton

Re: Development Application - Proposed Gunlake Quarry Extension Project, Marulan – SSD15_7090

I refer to your email of 1 April 2016, requesting comments from the NSW Environment Protection Authority (EPA) in relation to the development application lodged with the Department of Planning & Environment (DPE) for the proposed Gunlake Quarry Extension Project at Marulan.

The EPA has conducted a review of the Environmental Impact Statement (EIS) for the proposal "*Gunlake Quarry Extension Project – Environmental Impact Statement*", prepared by EMM Consulting Pty Ltd and dated April 2016. The EPA has identified a number of issues in relation to the proposal for the Department of Planning and Environment's consideration. Attachment 1 to this letter outlines the specific details in relation to these issues and the EPA's recommendations are highlighted in italics. In summary, the issues relate to:

- a) Operational noise and blasting;
- b) Road traffic noise; and
- c) Air quality.

Should this extension proposal be approved, the applicant will need to apply to the EPA to vary the existing Environment Protection Licence (No. 13012) for the Gunlake Quarry. Licence conditions relating to noise limits, hours of operation and waste acceptance, would likely require modification.

I trust these comments on this proposal are helpful. Should you or the applicant have any queries or wish to discuss this matter, please contact Michael Heinze on Ph: 6229 7002.

Yours sincerely



JULIAN THOMPSON
Unit Head – South East Region
NSW Environment Protection Authority

ATTACHMENT 1

Receiver locations

The EPA has noted a structure/building located in the north-east corner of Lot 215 DP 750053 (-34.680101, 149.978652) which may be classed as a residence. Neither the “*Gunlake Quarry Extension Project - Noise and Vibration Assessment*” or the “*Gunlake Quarry Air Quality Impact and Greenhouse Gas Assessment*”, identify this structure. ***The EPA suggests that this structure be identified and detail provided as to whether it should or should not be addressed as a potential sensitive receiver in the air or noise assessments.***

The EPA also notes that the extension project also seeks approval for all aspects of the existing operations for Gunlake Quarry under Project Approval MP07-0074. The EPA understands this to mean that all existing conditions of approval for MP07-0074 would continue to apply for the extension project, except where conditions require amendment due to matters raised in the EIS.

Operational Noise

The EPA has conducted a review of the noise and vibration assessment contained within the EIS titled “*Gunlake Quarry Extension Project - Noise and Vibration Assessment*” (the NVA), prepared by EMM Consulting and dated 11 February 2016.

1. Noise limits

Based on the NVA, the EPA recommends that any approval for this proposal includes the existing noise limits for the Gunlake Quarry project (for receivers R2 and R4) but, as the project will involve the expansion of operations further south and west of the current operations, in addition ***any approval should also incorporate noise limits for the following sensitive receivers:***

Receiver	Location	NOISE LIMITS (dBA)			
		Day	Evening	Night	
		L _{eq} (15min)	L _{eq} (15min)	L _{eq} (15min)	L _{max} (15min)
R5	as noted in NVA	35	35	35	45
R6	as noted in NVA	35	35	35	45
R7	as noted in NVA	38	38	38	45
R8	as noted in NVA	37	37	37	45

2. Voluntary Land Acquisition and Mitigation Policy (VLAMP) – staged verification of noise impacts

As a result of the recommendations in the NVA, the receiver at location R4 would be offered voluntary acquisition due to the predicted significant noise impact of the quarry extension project at that location; receiver R7 would be offered voluntary noise mitigation against predicted moderate noise impacts from the extension project. It should be noted that operational noise levels 3 dBA higher than predicted in the NVA would result in receivers R6 and R8 becoming eligible for noise mitigation, and receiver R7 becoming eligible for voluntary acquisition.

It is noted that the VLAMP states that conditions of any approval should specify “the period during which voluntary land acquisition rights are available”. Given the small margin between “no treatment” (0-2 dB(A) above Project Specific Noise Levels (PSNL’s)) and “voluntary acquisition” (>5 dB(A) above PSNL’s), ***the EPA suggests that the Department of Planning and Environment include as a condition in any approval, a requirement that noise compliance assessments are carried out at specific intervals to validate noise modelling predictions made in the EIS*** (e.g.: Year 5, Year 10, Year 20, Year 30).

Following on from this, ***the EPA also suggests that any approval include a condition that requires the application of mitigation and/or acquisition rights should any future noise compliance***

assessment show requisite exceedences of the PSNL's. The EPA also suggests that affected sensitive receivers should have a right to request an independent assessment of noise levels.

3. Overburden emplacement bund extension

The EPA notes that on page 29 of the NVA, and on page 19 of the EIS, the proponent proposes to extend the overburden emplacement bund to the north and south as quarrying operations progress. **The EPA would expect that this proposal is formalised** either in the Statement of Commitments (page 217 of the EA) or in the Gunlake Quarry Noise and Blast Management Plan (August 2015, or any updated and amended version of this document).

4. Reducing mobile vehicle fleet during evening and night periods

The EPA notes that on page 29 of the NVA the proponent “adopts” a measure, and on page 41 of the NVA and page 164 of the EA the proponent “commits”, to reduce the mobile vehicle fleet during the evening and night periods. These measures would go some way to reduce noise impacts, and **should be formalised** in the Statement of Commitments (page 217 of the EA) and/or approval conditions.

5. Voluntary acquisition rights - Statement of Commitments

With regard to the Statement of Commitments (page 217 of the EA), the EPA notes that the proponent has made the commitment “Voluntary mitigation rights would be offered to R7 in accordance with the VLAMP”. With regard to the voluntary *acquisition* rights afforded to R2 (page 41 of the NVA), **the EPA suggests that a similar commitment should be made by the proponent**, viz. “Voluntary acquisition rights will be offered to R2 in accordance with the VLAMP” or this be reflected in approval conditions.

6. Noise validation studies

Although the NVA predicts that the quarry extension project (ie. increasing the production area) and extension of the operational hours to 24 hour per day primary and secondary crushing will not lead to an increase in noise impacts, the EPA recommends that validation of the predicted noise impacts should be undertaken via noise compliance monitoring as the quarry footprint expands. **The EPA suggests that the existing noise monitoring program should be revised to include all night time quarrying operations, and that post-construction validation of noise impacts should be undertaken at regular intervals as the quarry footprint expands** (see comments in 2. above).

7. Blasting

Whilst the EPA notes that the NVA predicts compliance with airblast overpressure and vibration limits, the EPA would expect that, given the proposed increase in frequency from the current fortnightly blasting to twice weekly under the extension proposal, the existing Quarry Noise and Blast Monitoring Program should be updated to include management and monitoring measures which acknowledge the potential four-fold increase in blast frequency.

Road Traffic Noise

The EIS proposes that all product from the quarry extension project is transported from the expanded Gunlake Quarry along the Brayton Rd and Joaramin/Bypass Rd as is the current practice. This proposal will lead to a significant increase in traffic levels along that haulage route. Other options, such as the transport of product via rail or via an alternative road connection to the Hume Highway have been discounted in the EIS as not economically feasible.

The NVA shows that the impact of increased road traffic along the proposed haulage route due to the proposal is predicted to be compliant with the *NSW Road Noise Policy* as the relative increase criterion of up to 12 decibels is predicted to be met. The effect of the increase in road traffic will be most keenly felt by around 12 residential receivers along Brayton, and Joaramin/Bypass Roads.

According to the 2008 “*Transport Study of Proposed Gunlake Quarry, Brayton Road, Marulan*” (Christopher Hallam and Associates Pty Ltd), the level of use of Brayton Road prior to the commencement of operations was estimated to be an average of 373 vehicles per day. The initial stage of Gunlake Quarry, taking a daily average of 25 truck movements, would see an average of 1.04 truck movements each hour on Brayton Road. This equates to 408 vehicles per day at Stage 1.

According to the 2016 NVA, there will be an average of 440 truck movements per day (page 4), which would see an average of 18.3 truck movements per hour on Brayton Road. This converts to 1 truck every 3.27 minutes and, based on Gunlake's original 2008 study, would see more than a doubling of traffic movements along Brayton Road compared to the pre-quarry road conditions.

It is noted that, with the exception of the Holcim owned Johniefelds Quarry on Brayton Road (which is a relatively small scale regional quarry), the three other major extractive industries in the Marulan region all transport the majority of their quarried products by rail. Both Boral's Peppertree Quarry and Marulan South Limestone Mine transport the bulk of their product via a privately owned and operated rail spur line, and Holcim's Lynwood Quarry was required to build a rail spur-line into its premises in order to facilitate the transport of quarried product via rail. The EPA understands Holcim was also required to fund and build the Hume Highway overpass at South Marulan to facilitate the safe transport of some quarried product by road. The EPA also understands Boral has also spent considerable time and funds on ensuring that neighbours to its operations are not unfairly impacted by noise. Boral has acquired neighbouring properties when noise impacts have been unacceptable.

Given the scale of this proposal (which is comparable to Holcim's and Boral's Marulan operations in terms of volumes proposed to be extracted), the projected lifespan of the quarry (30 plus years), and the rapid increase in the volume of traffic on Brayton Road, of which more than half could be attributed to Gunlake Quarry, the EPA believes it would be reasonable for the proponent to be required by DPE to invest in a product transport option that has less potential impact on the private residences along Brayton Road. An alternative may be that the proponent enters into agreements with the affected residents along Brayton Road and Joaramin/Bypass Road (eg. via Chapter 8 of the *NSW Industrial Noise Policy*) to offer noise mitigation or voluntary acquisition through a process similar to the VLAMP.

Air Quality

The EPA has conducted a review of the air quality assessment contained within the EA, titled "*Gunlake Quarry Air Quality Impact and Greenhouse Gas Assessment*" (the AQA), prepared by Ramboll Environ Australia Pty Ltd and dated February 2016.

It is noted that the AQA predicts that receptors 1, 2, 3 and 6 will receive the highest dust (particulate matter) impacts from the proposal, albeit below applicable limits. It is also noted that receptors 1 and 3 are owned by Gunlake and that receptor 2 will be offered voluntary acquisition rights under the VLAMP due to unacceptable noise impacts. The EPA understands that monitoring of particulate matter (PM₁₀) has been undertaken at receptor 1 since December 2014 and data obtained from this monitoring point was used in the AQA. In light of the above, it appears that the installation of air quality monitoring equipment at receptor 6 would provide useful data on the impacts of the proposal on private residences most likely to be impacted by its operations.

The EPA believes that negotiations for the installation of a high volume air sampler (HVAS) should be commenced immediately following any approval of the project approval and that once installed, it is maintained for the life of the project.

The EPA also reiterates its recommendation from the Modification 2 proposal for Gunlake Quarry, ***that the DPE consider requiring the placement of an additional HVAS at Receptor 4 which is located generally to the west of the Gunlake Quarry*** and (in westerly winds) would provide a good indication of ambient air quality upwind of the Quarry, allowing the contribution of the quarry to particulate matter generation to be more accurately estimated.

Dust suppression

The EPA has conducted a review of the surface water assessment contained within the EA, titled "*Gunlake Quarry Extension Project Surface Water Assessment*" (the SWA), prepared by Royal HaskoningDHV and dated February 2016. The SWA predicts that with the expansion of the quarry operations as proposed in the extension proposal, the volume of water required for annual dust suppression is expected to reach 100 to 110 megalitres. The EPA notes that the SWA predicts that water shortages could occur up to year 10 of

the extension proposal, but that water shortages should decrease after that timeframe. It is also noted that during water surplus conditions (most likely after Year 10), there may be a need for controlled release from on-site dams. There are currently no licensed discharge points on Environment Protection Licence 13012 for the premises, therefore the proponent would either need to apply to the EPA to vary the licence, or provide details of how non-polluted water discharges would be managed. ***The EPA recommends that if the quarry extension is approved, a revised Soil and Water Management Plan for the site is required to address these issues and to detail the site dust management practices and demonstrate that sufficient water is accessible to ensure adequate dust suppression.***