

Our reference: DOC16/561733
Contact: Alex Bowlay (02) 9995 5257

Lauren Evans
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via email: lauren.evans@planning.nsw.gov.au

Dear Lauren,

Haerses Road Sand Quarry – Development consent modification application DA165-7-2005 MOD 1

I refer to the Department of Planning and Environment's (DPE's) request received by the EPA on 11 October 2016 seeking comments on the above development consent modification application by 10 November 2016. The application was submitted by Dixon Sand (Penrith) Pty Ltd in relation to its approved sand quarry located at Haerses Road, Maroota.

The applicant holds environment protection licence (EPL) number 12513 authorising land-based extractive activities at the location. The Environment Protection Authority (EPA) has reviewed the environmental assessment (EA) accompanying the modification application and notes the following:

- Groundwater impacts are not anticipated as the applicant intends to continue to undertake extraction in the unsaturated zone, with activities occurring a minimum of two metres above the wet weather groundwater level of the identified groundwater body in the area;
- Surface water impacts are proposed to be mitigated by maintaining the approved water management system and installing additional sediment basins and drains to manage sediment-laden water;
- No contaminated sites or known land or water contamination issues have been identified associated with the proposed expanded quarry area or existing operations at the premises;
- An air quality impact assessment considered incremental and cumulative impacts and predicted no exceedances of particulate matter impact assessment criteria beyond the site boundary;
- The applicant states that there will be no change to the quantities or types of hazardous materials stored and used at the site; fuels and oils will be stored on site in accordance with relevant Australian Standards.

In reviewing the EA the EPA notes that aspects relating to an air quality impact assessment and noise impact assessment require clarification and/or additional information. Attachment A outlines these requirements in detail.

The applicant intends to import up to 100,000 tonnes per annum of Virgin Excavated Natural Material (VENM) and Excavated Natural Material (ENM) as part of the scope of the application. The material is proposed for reprocessing by blending with quarry products prior to sale, and may also be used in quarry rehabilitation activities in the future where there is a shortfall in the availability of overburden or fines on site.

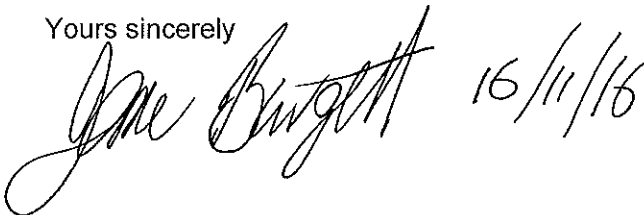
Written correspondence from the applicant dated 24 October 2016 indicated that the source of imported materials will be excavation sites and large scale road and rail projects within the Sydney metropolitan region.

A Resource Recovery Exemption for ENM may apply if the material is, or is intended to be, applied to land as engineering fill or for use in earthworks. For VENM, the applicant must demonstrate that the supplier of the material has certified it as VENM prior to receiving it from off site. All imported materials will require assessment against relevant provisions of the *Protection and Environment Operations Act 1997* and the *Protection of the Environment Operations (Waste) Regulation 2014*.

The applicant will need to apply to the EPA for a licence variation to have Schedule 1 scheduled activities such as *Resource recovery (Recovery of general waste)* and *Waste storage* authorised and added to the existing EPL. A licence variation is also needed to accommodate amendments to licence conditions relevant to other matters outlined in Attachment A, and to update the licence to a contemporary format.

Should you like to discuss this matter further please contact Alex Bowlay on (02) 9995 5257.

Yours sincerely

A handwritten signature in cursive script, appearing to read 'Jane Burgett', followed by the date '16/11/16' written in a similar style.

JANE BURGETT
A/Unit Head – Sydney Industry
Environment Protection Authority

ATTACHMENT A

Air quality impacts

The EPA reviewed the Air Quality Assessment (the Assessment) titled Dixon Sand Haerses Road Quarry Modification – Haerses Road, Maroota, New South Wales (PEL 2016; Appendix 5 of the Environmental Assessment).

The Assessment was generally prepared in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (Approved Methods). However the EPA has identified some issues with the Assessment, detailed below, which require addressing via the provision of a revised assessment.

1. Unclear if the crushing and screening plant will comply with the Clean Air Regulation

As outlined in Schedule 4 of the Protection of the Environment Operations (Clean Air) Regulation 2010 (the Clean Air Regulation) any crushing, grinding, separating or materials handling activity must comply with a Group 6 solid particles (Total) emission concentration limit of 20 mg/Nm³. The Assessment did not include an estimate of the concentration of solid particle emissions from the crushing and screening operations and whether or not emissions would comply with the Clean Air Regulation limit.

Action: The Assessment must be revised to include the concentration of solid particle emissions from crushing and screening operations and a comparison to the Clean Air Regulation limit of 20 mg/Nm³.

2. Incorrect reporting of cumulative 24 hour average PM_{2.5} and PM₁₀ concentrations

The cumulative PM₁₀ and PM_{2.5} 24 hour averages reported in Tables 7.1-7.4 are incorrect since they are calculated using annual average background concentrations. The Approved Methods outlines the approaches that are to be used to include background concentration in an assessment.

Action: Maximum cumulative 24 hour PM_{2.5} and PM₁₀ concentrations reported in Table 7.1 - 7.4 of the AQIA must be revised using 24 hour background concentrations in accordance with the Approved Methods.

3. Proposed dust management practices are not benchmarked against best practice

Section 128 of the Protection of the Environment Operations Act requires that the occupier of any premises must ensure that all necessary practicable means are used to prevent or minimise air pollution. The proposed control measures listed in Section 6.4 of the Assessment are not benchmarked against best available management practices. Specifically, management practices for crushing, screening and wind erosion are not specified. This is especially important considering there are predicted exceedances, and that emissions from crushing, screening and wind erosion account for approximately 43% of the total particulate emissions.

Action: The Assessment must be revised to benchmark the proposed dust management practices against best available management practices.

4. The Assessment predicts additional exceedances of the EPA's impact assessment criteria. The reactive dust control measures already in place at the site are not considered to be sufficient to prevent additional exceedances. However, additional dust controls were not considered in the Assessment.

The Assessment, assuming worst case conditions, predicted the proposed expansion would have caused 4 exceedances of 24 hour average PM₁₀ concentrations in 2015. This is 3 additional exceedances than was measured in 2015. The Assessment also predicted that the proposed

expansion would have caused 1 additional exceedance of 24 hour average PM_{2.5} concentrations in 2015.

The Assessment concluded that the modelling approach was very conservative, and the likelihood of exceedances occurring is very low, and can be managed by maintaining the stop work condition if background PM₁₀ reaches 42 µg/m³. However, ATASU does not consider that this management practice will be sufficient to prevent additional exceedances. For example, the stop work criterion would not have prevented PM₁₀ exceedances at:

- R10: December 2015;
- R11: September and December 2015; and
- R20: June 2015

On these occasions, there were exceedances in PM₁₀, and yet the background was below the stop-work criterion of 42 µg/m³.

Furthermore, ATASU notes that the most impacted sensitive receptors are to the south (R20) and west (R11) of the site. However, the dust prevention controls specified in Condition M2.4 of the EPL (and relied upon by the Assessment as a dust mitigation measure) will not mitigate dust impacts to these residences.

Action: In accordance with Section 11.2.3 of the Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales, and since the Assessment predicts additional exceedances in ground level PM₁₀ and PM_{2.5} concentrations, the proponent must revise the Assessment to include the application of effective mitigation measures or emission controls.

Noise impacts

The EPA reviewed the EA's assessment of noise impacts. While the assessment is generally considered to be adequate, the EPA provides the following comments.

In view of the low risk nature of the project with respect to noise, and the minor 1-2 dB increase in noise levels at some receivers only during the early extractive activities associated with the Modification (when noise sources are at their most exposed locations), the EPA recommends that the existing licence noise limits in EPL 12513 be retained. The EPA expects that overall noise emissions at the premises in later stages of extraction will decrease to meet existing licence limits as noise sources are increasingly shielded by the surrounding topography.

Other licence conditions relating to noise in the EPL should be updated to reflect current licensing practice, as outlined in the recommended amendments to limit conditions included in this section. The EPA recommends that the EPL be updated with receiver's Lot and DP numbers for clarity.

The EPA further notes:

1. Table 6.14 of the EA shows a level of 41 dBA at receiver R1 during Cell 4 Early Extraction. This is possibly a typographical error and is 4 dB above the 37 dBA criterion at this receiver. This value should be checked and amended if necessary, or otherwise explained in the accompanying text.
2. Table 6.14 of the EA shows a level of 40 dBA at receiver R6 during Cell 4 bund construction. This is 5 dB above the 35 dBA operational noise criterion at this receiver. In view of the fact that this activity is being carried out to create a noise mitigation bund for future operations, the EPA considers this exceedance to be acceptable, provided that the noise mitigation and management measures outlined in Section 6.5.4.4 and 6.5.7 are implemented. The EPA recommends that noise limits not apply to bund construction activities, provided they are carried out only during the standard construction hours in the *NSW Interim Construction Noise Guidelines*, and construction be

completed as soon as practicable, and within no more than 6 months of construction commencement.

The EPA recommends that relevant noise limit conditions within EPL 12513 be updated as follows:

Noise Limits

L6.1 Noise generated at the premises must not exceed the noise limits in the Table below.

Location	NOISE LIMITS dB(A)		
	Day <i>L_{Aeq} (15 minute)</i>	Morning Shoulder <i>L_{Aeq} (15 minute)</i>	Morning Shoulder <i>L_{A1} (1 minute)</i>
Lot 10 DP 835992, Lot 2 DP 230742	37	37	45
Lot 1 DP 230742	38	38	45
Any other residential receiver not subject to a negotiated agreement	35	35	45

L6.2 For the purpose of condition L6.1;

- Day is defined as the period from 7am to 6pm Monday to Saturday.
- Morning Shoulder is defined as the period 6am to 7am Monday to Saturday.

L6.3 The noise limits set out in condition L6.1 apply under all meteorological conditions except for the following:

- a) Wind speeds greater than 3 metres/second at 10 metres above ground level.
- b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- c) Stability category G temperature inversion conditions.

L6.4 For the purposes of condition L6.3:

[LOCATION OF METEOROLOGICAL STATION TO BE NEGOTIATED WITH PROPONENT]

- a) Data recorded by a meteorological station installed on site must be used to determine meteorological conditions; and
- b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.

L6.5 To determine compliance:

- a) with the *L_{eq}(15 minute)* noise limits in condition L6.1, the noise measurement equipment must be located:
 - approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
 - within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable
 - within approximately 50 metres of the boundary of a National Park or a Nature Reserve.
- b) with the *L_{A1}(1 minute)* noise limits in condition L6.1, the noise measurement equipment must be located within 1 metre of a dwelling façade.
- c) with the noise limits in condition L6.1, the noise measurement equipment must be located:

- at the most affected point at a location where there is no dwelling at the location; or
- at the most affected point within an area at a location prescribed by conditions L6.5(a) or L6.5(b).

L6.6 A non-compliance of condition L6.1 will still occur where noise generated from the premises in excess of the appropriate limit is measured:

- at a location other than an area prescribed by conditions L6.5(a) and L6.5(b); and/or
- at a point other than the most affected point at a location.

L6.7 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

Additions to Definition of Terms of the licence

- NSW Industrial Noise Policy - the document entitled "New South Wales Industrial Noise Policy published by the Environment Protection Authority in January 2000."
- Noise – 'sound pressure levels' for the purposes of conditions L6.1 to L6.7.