

17 March 2025

Selwyn District Council
c/o Jacobs
2/47 Hereford Street
Christchurch 8013

Attention: Tim Hegarty

Dear Tim

RC245428 AND RC245428 - 50 BEALEY ROAD. KIRWEE – NOISE PEER REVIEW

Selwyn District Council has requested that Marshall Day Acoustics peer review the noise assessment provided in support of the expansion of Screenworks' existing Aylesbury quarry.

Our review is based on the following documents:

1. *Application for Resource Consent and Assessment of Environmental Effects (AEE)* – Bligh Planning and Engagement Limited – 6 June 2024
2. *Assessment of Environmental Noise Effects* – Acoustic Engineering Services (AES) – 16 May 2024
3. RFI response– Acoustic Engineering Services (AES) – 7 August 2024
4. Submissions received mentioning noise

We've focused on aspects of the AES report relevant to our review, rather than providing a line-by-line analysis. If consent is granted, we've outlined proposed conditions for consideration.

Our review references the noise provisions of the Partially Operative Selwyn District Plan (POSDP) Appeals Version which we understand has legal effect.

Summary

In summary, we consider that the AES noise report and RFI response appropriately assesses the potential noise effects of the proposal.

We agree that the proposed daytime and night-time noise limits of 55 and 45 dB L_{Aeq} respectively are appropriate and will result in reasonable noise effects for the closest dwellings along Bealey Road.

Our earlier assessment highlighted a potential adverse noise effect at 158 Bealey Road but we understand that written approval has now been received from the owners of this property.

The application looks to extend the excavation area and the hours of operation

We have reviewed the application and understand that the following alterations from the existing consent are being sought:

- remove quarry walls, batters, bunds, and existing landscaping to allow Screenworks to work from the existing quarry into the expansion stages
- process material from the expansion area within the existing quarry
- amend the frequency with which processing can occur
- commence works at 0700 rather than 0730 hrs, to align with the POSDP daytime hours for noise
- permit two transporters to leave the site between 0600 and 0700hrs

There are several other proposed changes, but these are not expected to have a significant bearing on noise emissions.

The existing noise environment

The AES report shows noise levels at dwellings on Bealey Road close to the proposed activity. Most houses near Bealey Road (Nos. 23, 25, 137 and 153) experience noise from passing traffic. The report includes noise levels measured next to the road at No. 137's property boundary. Considering the distance between the road and houses, we expect noise levels to be in the high 40s to mid-50s dB L_{Aeq} at the dwellings during the core daytime hours, typically 0700 to 1800 hrs.

In contrast, 158 Bealey Road is located approximately 400 metres from the road and traffic noise is much less prominent. AES's existing measured daytime noise levels were measured as 38 dB L_{Aeq} next to the dwelling.

Screenworks are applying to have two transporters depart the site between 0630 and 0700 hrs which is considered night-time in the District Plan. AES's early morning measurements between 0630 and 0715 hours confirm elevated traffic noise levels similar to those measured during the day at the closest dwellings to the site access where transporters will leave. In this context, AES's predicted transporter noise level of 45 dB L_{Aeq} at the nearest dwelling will be reasonable.

Predicted sound levels are reasonable

AES has calculated noise levels based on manufacturer data or measurements. The resulting sound power levels for the equipment are plausible.

The AES RFI response includes a summary table of calculated daytime noise levels at the notional boundaries of surrounding properties, with and without a 100 m operational setback. They have also provided noise contour plots with a 100 m setback.

If affected party approvals are obtained from adjacent properties, the Applicant intends to extract gravel within the 100 m setback. If this happens, predicted noise levels will exceed 55 dB L_{Aeq} for several properties during Stages 3 and 4.

AES has provided conservative noise level predictions with several noise sources operating simultaneously. In practice noise levels will likely be lower. For example, predictions assume both a front-end loader and excavator at the working face of the gravel pit. However, AES note that in practice, only one is likely to be in operation at any one time. Additionally, AES has assumed an excavator noise level of 115 dB L_{WA} , which is conservative; noise levels could feasibly be 5 dB quieter. Due to these conservative estimates, we anticipate the applicant will be able to comply with our proposed limit of 50 dB L_{Aeq} at 158 Bealey Road during Stages 3, 4 and 5 of the activity. The crusher may need additional noise mitigation through increased setback distances or localised screening.

AES state in the RFI response that a second crushing plant may operate simultaneously for up to 10 days per year. Before its operation, AES recommends a condition of consent requiring the crusher's noise emissions to be assessed and we have included this in the list of proposed conditions discussed below.

Submissions

We have read the submissions from residents at 23, 137 and 153 Bealey Road, and 1062 Railway Road. The submitters raise several common issues primarily relating to the increased occurrence of crushing activity and proximity of proposed quarrying operations.

We note several of the submitters' dwellings are predicted to experience varying noise levels for each stage of mining activity. However, with an appropriate setback, AES predict that noise levels will be 55 dB L_{Aeq} or less at all properties. 55 dB L_{Aeq} is the District Plan permitted activity noise limit and represents the noise environment that can be reasonably anticipated in the area.

Currently, submitters' dwellings experience an existing noise environment of high 40s to mid-50s dB L_{Aeq} during core daytime hours. While the proposed activities will be audible to varying degrees depending on the proximity of the quarry noise source to each dwelling during each stage, they are predicted to remain below

the permitted activity noise limit. The conservatism in AES calculations indicate that noise levels may be even lower.

Submitters are also concerned about noise from increased traffic but we understand that no additional truck movements are proposed except for two additional transporter movements prior to 0700. Based on AES's measurements showing an elevated existing noise environment at this time, we consider additional transporter noise will be reasonable.

We generally agree with submitters that operational hours should be limited and have proposed a condition excluding operation on Saturday afternoons, Sundays and public holidays.

We recommend additional noise conditions

Should Council decide to grant consent, we recommend that the key assumptions in the AES assessment be translated into conditions of consent. We have provided suggested text and have included our proposed noise limit for 158 Bealey Road.

1. Operational hours shall be 0700 to 1800 hrs, Monday to Friday and 0700 to 1300 hrs on Saturday. No works will occur on Sundays or public holidays.
2. Only two transporters are permitted to leave the site between 0600 and 0700 hrs. No heavy vehicles shall enter the site prior to 0700 hrs.
3. The consent holder shall ensure that all activities on the site are measured in accordance with *NZS6801:2008 Acoustics - Measurement of environmental sound*, and assessed in accordance with the provisions of *NZS6802:2008 Acoustics - Environmental noise*, shall not exceed the following noise limits at any point within the notional boundary of any residential site, during the following timeframes:

Location	Daytime 07:00 to 20:00	Night-time 20:00 to 07:00
At the notional boundary of all existing rural dwellings	55 dB LAeq	45 dB LAeq 70 dB L _{Amax}

4. Prior to the operation of a second crushing plant on the site, a noise assessment shall be submitted to Council confirming that it can operate and comply with the consented noise limits.

Please contact us with any queries.

Yours faithfully

MARSHALL DAY ACOUSTICS LIMITED



Jon Farren
Principal