

**BEFORE A COMMISSIONER APPOINTED BY ASHBURTON DISTRICT
COUNCIL**

UNDER the Resource Management Act 1991 ("RMA")

IN THE MATTER OF An application for a resource consent under section 88
of the RMA by **AK Tech Services Limited** to establish
and operate a building to be primarily used as an
agricultural workshop for rural machinery and
equipment on Acton Road, Rakaia (Application No.
LUC21/0103)

**EVIDENCE OF JON FARREN
ON BEHALF OF AK TECH SERVICES LIMITED**

Date: 27 APRIL 2022

1. QUALIFICATIONS & EXPERTISE

1.1 My name is Jon Farren. I am the Manager and Principal of the Christchurch office of Marshall Day Acoustics (MDA).

1.2 I hold a Bachelor of Engineering with Honours in Electroacoustics from the University of Salford in the United Kingdom. I hold full Membership of the Institute of Acoustics (UK), a requirement of membership being that I am active in the field of professional acoustics and satisfy the Institute's requirements with regard to level of qualifications and experience.

1.3 I have been employed as an Acoustic Consultant for 28 years, approximately 20 of which have been with Marshall Day Acoustics (MDA). I have considerable experience in the areas of planning with regard to noise, the assessment of noise and vibration, and noise control in relation to both environmental noise and building acoustics.

1.4 My role in this proposal to date has been as technical reviewer and supervisor for all noise monitoring, modelling and analysis. I prepared the Noise Assessment (dated 8 April 2022) that accompanied the application.

1.5 While this is not a hearing before the Environment Court, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2014 and that I have complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

2. SUMMARY AND ASSESSMENT

2.1 Rather than repeat the details within my noise assessment, my evidence provides a summary of the key findings and provides further clarification to the matters raised in Mr Law's s42A report dated 21 April 2022.

2.2 Overall, my assessment indicates the proposed workshop can comply with the Ashburton District Plan permitted activity daytime noise limit of 50 dB $L_{Aeq(1hr)}$ at the notional boundary of the nearest dwellings. This includes the submitters' dwelling at 63 Acton Road - Warren and Tracey Mews.

- 2.3 As a result, I consider noise effects will be acceptable in the context of the rural receiving environment and will result in a noise environment consistent with that anticipated by the District Plan.
- 2.4 I consider my assessment to be conservative as I have assumed:
- (a) The noisiest workshop tools, including the impact driver ('rattle gun'), angle grinder and air compressor, will be operating for 50% of the time. In my experience, these tools are unlikely to operate for this duration on a regular basis.
 - (b) My assessment applies a +5 dB penalty to workshop noise emissions to account for any "special audible characteristics" within the noise, as required by NZS 6802¹.
 - (c) All four roller doors to the north of the workshop will be open when noise is being generated inside.
- 2.5 Whilst I understand that the workshop will not generally operate at night, my noise assessment indicates that night-time activity is possible, provided that "extensive use" of powered hand tools is avoided. My reference to powered hand tools relates to battery or mains powered tools that usually generate higher noise levels compared to static workshop machines and include impact drivers and angle grinders. As requested by the s42A report, below I provide further clarity on what "extensive use" is likely to mean in practice.
- 2.6 The variable nature of the tasks carried out in the workshop mean that it is impractical to define a sequence of tool use for the purposes of accurately predicting noise levels. However, as a guide my predictions show that an impact driver being operated for approximately 10 minutes in a one-hour period will comply with the night-time limit of 40 dB $L_{Aeq(1hr)}$.
- 2.7 Because of the variation in workshop tasks, I do not consider it practical to provide a consent condition that imposes a time limit on the use of each tool at night. Instead, I consider it more appropriate to provide an advice note below the proposed noise limits, stating that powered hand tool use should be minimised at night and generally be no longer than 10 minutes in any one-hour period. Given the likely infrequent use at night, I consider this 10 minute time frame will be appropriate in most instances.

¹ New Zealand Standard NZS 6802:2008 *Acoustics - Environmental Noise*
PGR-126565-1-49-V2

- 2.8 I wish to point out that the noise limits I proposed in my assessment contain an error - the daytime and night-time maximum (L_{AFmax}) limits are switched. I note Mr Law has replicated my error in his proposed Condition 3. Mr Law's proposed Condition 3 also omits reference to NZS 6802. For clarity I have provided the corrected proposed condition below:

The consent holder shall ensure that all activities on the site measured in accordance with the provisions of NZS 6801:2008 "Acoustics – Measurement of environmental sound", and assessed in accordance with the provisions of NZS 6802:2008 "Acoustics – Environmental noise", shall not exceed the following noise limits at any point within the notional boundary of a rural dwelling, during the following time frames:

(a) *Daytime 0700 to 2200 hrs 50 dB $L_{Aeq(1hr)}$ and 75 dB L_{AFmax}*

(b) *Night-time 2200 to 0700 hrs 40 dB $L_{Aeq(1hr)}$ and 65 dB L_{AFmax}*

Advice note: As a guide to compliance with the night-time noise limits, powered hand tool use should be minimised and generally be no longer than 10 minutes in any one hour period.

- 2.9 I recommend that Mr Law's proposed Condition 2 is deleted in preference for the advice note describing the limits for powered hand tool use.

3. SUBMISSIONS

- 3.1 In the s42A report, I have reviewed the summary of the submission from Warren and Tracey Mews of 63 Acton Road, who are concerned about the level and character of the noise from the proposed workshop.

- 3.2 My predicted noise levels are based on noise measurements of the Applicant's actual workshop equipment. This gives me confidence in the accuracy of my predictions.

- 3.3 My predictions show that noise levels will be consistent with the permitted activity noise limits for the zone and noise effects will be acceptable in my opinion.