

SUMMARY OF EVIDENCE OF NIGEL LLOYD - ACOUSTICS

PROPOSED PLAN CHANGE G – AOKAUTERE URBAN GROWTH

A. INTRODUCTION

[1] My full name is Nigel Robert Lloyd. I prepared a s 42A report dated 15 September 2023 (**s 42A Report**) within my expertise on the topic of Acoustics on behalf of the Palmerston North City Council (**Council**) for proposed Plan Change G: Aokautere Urban Growth to the Palmerston North District Plan (**PCG**).

B. UNRESOLVED MATTERS

SO 76 Rifle Rod & Gun Club Manawatu ('RRGC')

[2] The RRGC is situated at 333 Turitea Road and my s 42A report concentrates on defining where rural residential rezoning can be appropriately located to prevent further reverse sensitivity impacts on the RRGC activity. There are already dwellings built closer to the club.

[3] I have twice measured the noise of high-powered rifles being used at the club and have modelled the noise propagation in the plan change area.

[4] In making my assessment I have considered the principles set out in an Environment Court decision (**the Cable Bay case**).¹ That decision confirmed that a sound level of 50 dB L_{AFmax} was a reasonable level at the notional boundary (measured within 20 metres) of the position of any dwelling or approved dwelling site, on any property other than the site.

[5] The modelling I undertook is representative of most of the noisier firearms used at the club and some will be quieter, but there will be some firearms that generate higher noise levels. These include black powder weapons and those associated with police training that regularly occurs at the RRGC.

[6] I modelled noise contours included as Appendix A of my s 42A Report which identifies the 55 dB L_{AFmax} and 50 dB L_{AFmax} contours shown in Structure Plan map 7A.4B.

¹ *Nelson City Council v Harvey* [2011] NZEnvC 48.

- [7] As a result, the Rural-Residential Overlay was recommended through the planning s 42A to be removed from that area within the 55 dB L_{AFmax} , with the effect that no sites would be able to be developed for rural-residential use as they are significantly impacted by the gun club noise.
- [8] The area of land that is exposed to greater than 50 dB L_{AFmax} is calculated to be up to 1.3 km from the RRGC where topography provides a clear line of sight. This extends to existing dwellings on Cyprus Place on the edge of the escarpment looking south.
- [9] Applying the 50 dB L_{Amax} criterion used in the Cable Bay case to prevent any new dwellings within that noise contour would have a 'sterilising' effect on a wide area of land which has otherwise been identified as appropriate for rural-residential living by other disciplines. As there are already a significant number of dwellings constructed closer to the RRGC, and the RRGC is undertaking noise mitigation on their noisier sighting-in range, I consider a reasonably balanced option is to provide for rural-residential subdivision up to a location generally representative of the predicted 55 dB L_{Amax} contour.
- [10] While it is possible for dwellings to be insulated against noise, I consider this would be of limited effectiveness as a mitigation measure for dwellings in this area, where outdoor amenity will be important.
- [11] New dwellings built closer to the RRGC are likely to be constructed facing north (and away) from the club which will naturally provide attenuation to living areas and daytime ventilating windows. This can be reinforced by advice in the District Plan to dwellings inside the 50 dB L_{Amax} contour. The RRGC only operates during the day, so bedrooms (and sleep disturbance) are not an issue.
- [12] I therefore recommend that the RRGC submission be accepted in part and that an intensification of noise sensitive activities be avoided within the 55 dB L_{AFmax} contour shown in Appendix A. This could change in the future if mitigation reduced the RRGC noise below 55 dB L_{AFmax} at which time rural-residential development would be appropriate provided dwellings were oriented to the north (away from the RRGC).
- [13] The contour in Appendix A is representative of firearm noise with suppressors fitted, which I consider is a measure that should be adopted by the club members in any case. The 55 dB L_{AFmax} contour shown in Appendix A will be exceeded by some firearms currently used at the club. The 50 dB L_{Amax} contour could also be included in the District Plan to identify land

that will be exposed to RRGC noise. Appendix B which shows the noise sensitive sites that can be appropriately located on land on or outside of the 55 dB L_{Amax} contour. I am satisfied that Appendix A and Appendix B spatially represent my opinions in my s 42A Report.

[14] I note that the planning recommendations of Ms Copplestone now reinstate the rural-residential overlay over all the land but with the introduction of a non-complying activity rule to manage future subdivision. The contours are included in the structure plan, but the rural-residential boundary is not informed by these, it is reinstated. I am comfortable with this approach as it controls residential development unless RRGC noise is appropriately reduced.

SO 61 Ngawai Farms

[15] Mr Waters of Ngawai Farms objects to my original recommendation that no new residential lots should be located on his land to the immediate north of RRGC and south of the ridgeline. He seeks for any noise impacts to be assessed at the time of a subdivision application. This would maintain the rural-residential zoning on his land.

[16] Appendix A shows noise levels exceeding 60 dB L_{AFmax} on land immediately to the north of RRGC and both my original and more recent measurements confirm that RRGC noise is unreasonably high on this land.

[17] In my s 42A Report I stated that it would not be appropriate to zone this land rural-residential. During prehearing meetings, it was discussed that it is theoretically possible for RRGC noise to be reduced (although significant noise reduction would require expensive and radical treatment to be fully effective). If this was to occur, then I accept that the land could be rezoned rural-residential provided noise sensitive development did not take place until after the noise was remedied. In discussion with Ms Copplestone, I agree that the gateway test for a non-complying activity would adequately provide for these circumstances.

4 December 2023

Nigel Lloyd