

BEFORE AN INDEPENDENT HEARINGS PANEL

THE PROPOSED WAIKATO DISTRICT PLAN

IN THE MATTER OF the Resource Management Act 1991 (**RMA**)

IN THE MATTER OF hearing submissions and further submissions on
Variation 3 Enabling Housing Intensification to the
Proposed Waikato District Plan

**EVIDENCE OF JON ROBERTS STYLES
ON BEHALF OF HAVELOCK VILLAGE LIMITED [Submitter 105]
FOR SUBSTANTIVE HEARING**

ACOUSTICS

4 July 2023

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1. EXECUTIVE SUMMARY

- 1.1 My full name is Jon Robert Styles. I am an acoustic consultant and director and principal of Styles Group Acoustics and Vibration Consultants.
- 1.2 I am providing acoustic evidence in relation to the submission by Havelock Village Ltd (**HVL**) in relation to its land at 5 Yashili Drive 88 Bluff Road, 242 (in part) and 278 Bluff Road, Pokeno (the **Site**).
- 1.3 The PWDP provisions including the Pokeno Industry Buffer were designed to ensure that the future residential activity established on the Site will be far enough away and adequately acoustically treated to ensure that the noise levels will be reasonable for residential activity and reverse sensitivity effects on the industrial activities will be avoided.
- 1.4 The computer noise modelling that I carried out in the PWDP process to inform the Pokeno Industry Buffer was based on two-storey (8m) dwellings between the Pokeno Industry Buffer and the 40dB L_{Aeq} contour.
- 1.5 Based on further modelling I have undertaken for three-storey houses, I consider that the houses between the Pokeno Industry Buffer and the 40dB L_{Aeq} contour should be limited to two-storeys. This will ensure that the noise levels and effects will be consistent with what has been modelled for the development of the Pokeno Industry Buffer and provided for in the PWDP.
- 1.6 I consider that the height of buildings on land located beyond the 40dB L_{Aeq} noise contour does not need to be limited to manage effects on people and reverse sensitivity concerns.
- 1.7 The Section 42A Report¹ agrees with the outcome I have reached in this evidence. I support the plan provisions included within Mr Tollemache's evidence.

¹ Section 42A Report: Report on submissions and further submissions, Variation 3 to the Proposed Waikato District Plan, Enabling Housing Supply, Version 2, dated 15 June 2023 (uploaded on 19 June 2023).

2. INTRODUCTION

- 2.1 My full name is Jon Robert Styles. I am an acoustic consultant and director and principal of Styles Group Acoustics and Vibration Consultants. I lead a team of eight consultants specialising in the measurement, prediction and assessment of environmental and underwater noise, building acoustics and vibration working across New Zealand and internationally.
- 2.2 I am providing evidence in relation to the submission and further submission by HVL. In this evidence I comment on acoustic matters.
- 2.3 I have approximately 22 years of experience in the industry. For the first four years I was the Environmental Health Specialist – Noise at the Auckland City Council, and for the latter 18 years I have been the Director and Principal of Styles Group Acoustics and Vibration Consultants. I lead a team of 8 consultants working across New Zealand and internationally. I have a Bachelor of Applied Science (EH) majoring in Environmental Health.
- 2.4 I am the past-President of the Acoustical Society of New Zealand. I have completed two consecutive two-year terms as the President from 2016 to 2021. I have been on the Council of the Society for approximately 15 years. Styles Group is a member firm of the Association of Australasian Acoustical Consultants (**AAAC**) and I am on the Executive team of the AAAC. My role on the Executive is to oversee the development of guidelines for acoustical consultants to follow in their day-to-day work and to participate in the governance of the AAAC generally.
- 2.5 Most recently I have advised Gore District, Kaipara District, Napier City Council, Taupō District Council and Whangarei District through District Plan review processes. I assisted the Auckland Council through the development of the Auckland Unitary Plan and continue to provide advice to Auckland Council on both Council initiated and private plan change requests. I have also assisted many private clients through plan change and review processes, most recently in New Plymouth, Selwyn, Central Hawkes Bay, Wellington, Queenstown, Central Otago, Auckland and Palmerston North.

2.6 I have provided acoustic advice to HVL since 2018. During this time, I have predicted and assessed the exposure of the Site to noise from the Pokeno Business Park to inform the design and master planning process for the proposed rezoning. This work has included the development of a computer noise model to understand the exposure of the Site to industrial noise effects from existing industrial activities in the Pokeno Business Park. The noise modelling has informed the location of the proposed Pokeno Industry Buffer Overlay, and the proposed controls applying to the establishment of noise sensitive activities in HVL's submission to the Proposed Waikato District Plan (**PWDP**). I prepared and presented evidence at the PWDP hearing in May 2021.

Expert Witness Code of Conduct

2.7 Although this is a Council hearing, I confirm I have read the Code of Conduct for Expert Witnesses, contained in the Environment Court Consolidated Practice Note (2023) and I agree to comply with it. I can confirm that the issues addressed in this statement are within my area of expertise and that in preparing my evidence I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

3. SCOPE OF EVIDENCE

3.1 My evidence addresses these matters:

- (a) A brief summary of my previous advice and assessments of expected noise levels on to the Site.
- (b) Planning mechanisms included within the PWDP to manage the interface between industrial zones and sensitive land uses at Havelock.
- (c) Additional planning mechanisms to manage that interface if Medium Density Residential Standards or the Waikato District Council equivalent (Medium Density Residential Zone 2) is applied to the Site.

3.2 My evidence should be read in conjunction with that of Mr Tollemache.

4. PREVIOUS ADVICE AND ASSESSMENTS

4.1 The previous advice I have provided to HVL (and related to this evidence) was to establish the Pokeno Industry Buffer and the noise controls and reverse sensitivity provisions relating to the Site. These have been adopted in the Decisions version of the PWDP.

4.2 In summary, my work involved the technical acoustic modelling and assessments on the following matters:

- (a) Determining the degree of separation required between the industrial activity and future residential activity. This is the area between the existing industrial activities that could be exposed to noise levels greater than 45dB L_{Aeq} at night-time. The 45dB L_{Aeq} contour extends across parts of the Site.
- (b) Modelling the noise emissions from each of the industrial activities taking into account the maximum level of noise that they could reasonably generate under the planning controls or resource consents for each site that were in place prior to the PWDP provisions. This takes into account foreseeable future expansions.
- (c) Combine the noise emissions from each industrial site into one cumulative noise model to determine the location of the various noise level contours. The 45dB L_{Aeq} contour is the location of the outer extent of the Pokeno Industry Buffer.
- (d) No residential development would be permitted between the Pokeno Industry Buffer and the existing industrial sites.
- (e) An acoustic barrier between the Yashili sites and the HVL site at 5 Hitchen Road represents an available mitigation solution for noise received by 5 Hitchen Road.
- (f) Require modest acoustic insulation standards for the residential development that might be constructed between the 40dB L_{Aeq} noise level contour and the Pokeno Industry Buffer. This will ensure that indoor noise levels are no greater than 25dB L_{Aeq} . This requires an outside-to-inside noise level reduction of no

more than 20dB. This is achievable by nearly any modern home provided only that windows and doors are kept closed.

- (g) The modest acoustic insulation standards will require windows and doors to be closed to achieve the indoor design noise levels. This means that mechanical fresh air supply and mechanical cooling will be required in those dwellings to allow occupants to close doors and windows without over heating or running short of fresh air.
- (h) The daytime noise effects for residential development established between the 40dB L_{Aeq} noise level contour and the Pokeno Industry Buffer will be reasonable.

4.3 These controls will ensure that the future residential activity established on the Site will be far enough away and adequately acoustically treated to ensure that the noise levels will be reasonable for residential activity and reverse sensitivity effects on industrial activities will be avoided.

5. HAVELOCK SITE

5.1 Mr Tollemache's evidence outlines HVL's involvement in the hearing process for Variation 3 (**V3**). I understand that HVL developed a proposal that implements the Medium Density Residential Zone 2 (**MDRZ2**) on the Site and identifies potential qualifying matters following guidance from the Hearing Panel that the urban fringe did not meet the necessary statutory tests for a qualifying matter.

5.2 HVL's proposal for V3 includes the following aspects which manage potential incompatibility between sensitive land uses and industrial land:

- (a) Retention of the spatial extent of Pokeno Industry Buffer and restrictions on sensitive land uses within the buffer, as contained in the PWDP;
- (b) Restrictions on the height of buildings within the 40 dB L_{Aeq} noise contour.

5.3 I comment on the effectiveness and appropriateness of each of these matters below.

- 5.4 I consider that the Pokeno Industry Buffer provides appropriate separation between the Heavy Industry Zone and residential areas, and I consider that it does not need to be increased in response to implementing MDRZ2.
- 5.5 The Havelock Precinct - Acoustic Barrier on 5 Hitchen Road will continue to manage noise levels on the 5 Hitchen Land.
- 5.6 However, it is important to note that the computer noise modelling I had undertaken to inform the development of the Pokeno Industry Buffer was based on residential development that was two storeys high. I modelled the contours at a height of 4.5m above ground. This is consistent with an assessment position that would be approximately 1.5m above the floor level at the second storey of a two-storey dwelling. This is the correct assessment position for any noise assessment conducted in accordance with NZS6802:2008 (as required by the PWDP).
- 5.7 I have modelled the noise contours at a height of 7.5m above the ground to represent the spatial extent of the 45dB L_{Aeq} noise contour at 1.5m above the floor level of a three-storey dwelling.
- 5.8 The contour is consistent in shape and position across much of the Site except for some areas where it shifts further away from the industrial activity. In some localised cases the three-storey 45dB contour shifts around 50-60m further into the Site than the two-storey 45dB L_{Aeq} contour. This is due to the increased height of the three-storey houses receiving less screening than at two storeys high.
- 5.9 For this reason, I consider that the houses between the Pokeno Industry Buffer and the 40dB L_{Aeq} contour should be limited to two-storeys (8m in height). This will ensure that the noise levels and effects will be consistent with what has been modelled for the development of the Pokeno Industry Buffer.
- 5.10 I consider that the height of buildings on land located beyond the 40dB L_{Aeq} noise contour does not need to be limited to manage effects on people and reverse sensitivity concerns.
- 5.11 I understand that one of the proposed landscape rules will limit the height of residential buildings to one storey within 50m of the edge of

the Pokeno Industry Zone. This limit on height should result in the buildings being exposed to noise levels slightly lower than those represented by the modelled contours and the Pokeno Industry Buffer. I consider that this means the approach to buildings within 50m of the edge of the Pokeno Industry Buffer is slightly conservative where houses are limited to one-storey.

5.12 I consider that these controls will adequately manage the potential incompatibility between residential and industrial activities and potentially avoid reverse sensitivity effects.

6. RESPONSE TO SECTION 42A REPORT AND COUNCIL EXPERTS

6.1 The Section 42A Report states at paragraphs 6.11 and 6.12:

“611. While this evidence is yet to be provided, I support:

- *The inclusion of the 40 dB LAeq noise contour and associated reduction in building height to 8m; and*
- *The inclusion of a 50m setback from the Pookeno industry buffer and associated reduction in building height to 5m.*

612. I support the provisions on the basis that they form part of a suite of provisions that seek to manage development outcomes within the Havelock Precinct, including the management of reverse sensitivity. It is also consistent with the IHP’s decision to rezone part of the area to GRZ subject to controls to address reverse sensitivity effects.”

6.2 The agreement stated in the first bullet point of paragraph 6.11 accords with the assessment and conclusions I have reached and that are set out in this evidence.

6.3 I understand that the reason given in the second bullet point of paragraph 6.11 is derived from landscape design considerations – not acoustics.

6.4 I have reviewed the proposed provisions attached to the Section 42A Report as Appendix 2. I note that there does not appear to be any provision that would deliver the height limitation that the Section 42A Report supports as in the first bullet point above.

6.5 I support an additional provision to address this. It would need to limit the building height to 8m between the Pokeno Industry Buffer and the 40dB L_{Aeq} contour. Mr Tollemache has drafted a standard to deliver this outcome. His suggested provisions are attached to his evidence.

7. CONCLUSION

7.1 The PWDP provisions including the Pokeno Industry Buffer were designed to ensure that the future residential activity established on the Site will be far enough away and adequately acoustically treated to ensure that the noise levels will be reasonable for residential activity and reverse sensitivity effects on industrial activities will be avoided.

7.2 The computer noise modelling that I carried out in the PWDP process to inform the Pokeno Industry Buffer was based on two-storey (8m) dwellings in the Site between the Pokeno Industry Buffer and the 40dB L_{Aeq} contour.

7.3 I have run a revised computer noise model that is based on three-storey dwellings (11m) between the Pokeno Industry Buffer (which is at the 45dB L_{Aeq} contour) and the 40dB L_{Aeq} contour. The three-storey 45dB L_{Aeq} contour is consistent with the two-storey 45dB L_{Aeq} contour in terms of shape and position across much of the Site except for some areas where it shifts further away from the industrial activity. In some localised cases the three-storey 45dB L_{Aeq} contour shifts around 50-60m further into the Site than the two-storey 45dB L_{Aeq} contour.

7.4 For this reason, I consider that the houses between the Pokeno Industry Buffer and the 40dB L_{Aeq} contour should be limited to two-storeys (8m). This will ensure that the noise levels and effects will be consistent with what has been modelled for the development of the Pokeno Industry Buffer and provided for in the PWDP.

7.5 I consider that the height of buildings on land located beyond the 40dB L_{Aeq} noise contour does not need to be limited to manage effects on people and reverse sensitivity concerns.

7.6 The Section 42A Report agrees with the outcome I have reached in this evidence. However, the Section 42A Report does not contain any rule

or standard to deliver this outcome. Mr Tollemache has included a new standard in his evidence. I support his additions.

Jon Styles

4 July 2023