

**Before an Independent Hearings Panel**

**The Proposed Waikato District Plan (Stage 1)**

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

**IN THE MATTER OF** hearing submissions and further submissions on the Proposed  
Waikato District Plan (Stage 1):

**Topic 25 – Zone Extents**

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**RENUTTAL EVIDENCE OF JON ROBERT STYLES  
ON BEHALF OF HAVELOCK VILLAGE LIMITED**

**(ACOUSTICS)**

**4 MAY 2021**

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## 1. INTRODUCTION

- 1.1 My full name is Jon Robert Styles. I have prepared this statement of rebuttal evidence in relation to the rezoning of land at 5 Yashili Drive, 88 Bluff Road, 242 (in part) and 278 Bluff Road, Pokeno (the **Site**) sought by Havelock Village Ltd (**HVL**)<sup>1</sup>.
- 1.2 My primary statement of evidence provided an explanation of the assumptions and methods used to inform the location and extent of the Pokeno Industry Buffer proposed to manage potential noise effects as a result of the rezoning sought by HVL (my **Primary Statement**).
- 1.3 I have prepared this statement of evidence to respond to a number of issues raised in the Councils' s42A Report prepared by Mr Mead (the **s42A Report**) and the evidence of Mr Hegley for Yashili New Zealand Dairy Co Limited.
- 1.4 This statement has been prepared following conferencing with Mr Hegley in an effort to resolve a number of issues relating to the operation of the buffer mechanism between the Yashili and HVL sites. This evidence records that Mr Hegley and I agree in principle on a number of matters. Conferencing in respect of the location of the 45dB L<sub>Aeq</sub> contour (the Pokeno Industry Buffer) and the 40dB L<sub>Aeq</sub> contour remains ongoing.
- 1.5 This evidence records the detail on matters which Mr Hegley and I agree on in principle and also deals with a number of matters raised in the s42A Report.

## 2. CODE OF CONDUCT

- 2.1 I have read the Environment Court's Code of Conduct for Expert Witnesses, and I agree to comply with it. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

## 3. THE FUNDAMENTALS OF THE CONTROLS

- 3.1 The planning controls related to the Pokeno Industry Buffer and the HVL precinct are detailed in the evidence of Mr Tollemache.
- 3.2 From an acoustics perspective, the planning controls can be summarised as:

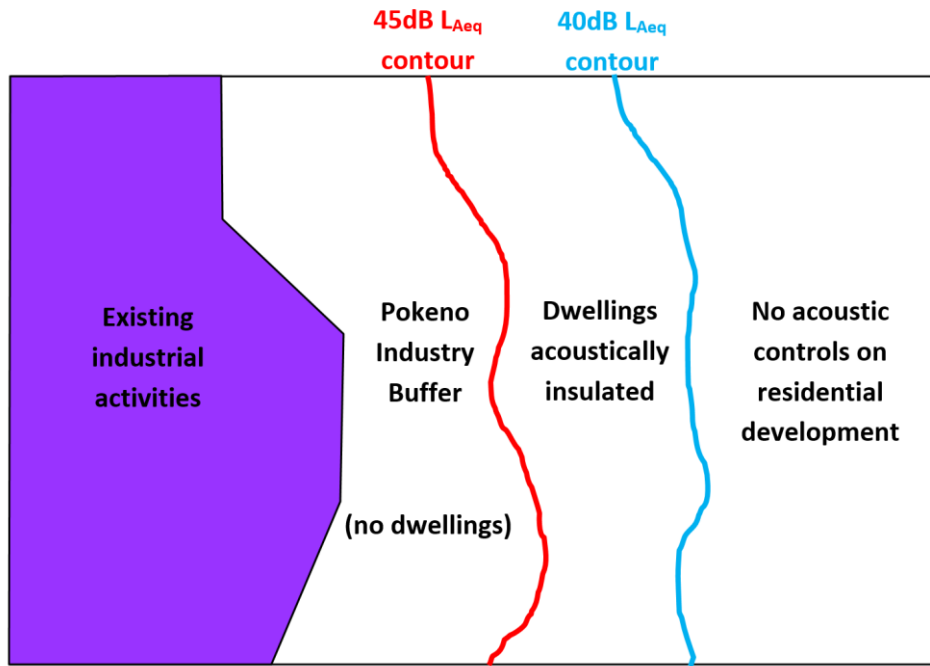
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<sup>1</sup> Submitter 862 and further submitter 1291.

- (a) Separating the industrial activity from future residential activity by the Pokeno Industry Buffer overlay. This is the area between the existing industrial activities and the 45dB  $L_{Aeq}$  noise level contour. The s42A Report refers to this as a 'no build' zone.
- (b) The size of the Pokeno Industry Buffer is determined by calculating the area of land adjacent to the existing industrial activity that could be exposed to noise levels greater than 45dB  $L_{Aeq}$  at night-time.
- (c) The noise emissions from each of the industrial activities takes into account the maximum level of noise that they could reasonably generate under the current planning controls or resource consents for each site. This takes into account foreseeable future expansions.
- (d) The noise emissions from each industrial site are then combined 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.
- (e) No residential development would be permitted between the Pokeno Industry Buffer and the existing industrial sites.
- (f) An acoustic barrier between the Yashili sites and the HVL site at 5 Hitchen Road represents an appropriate mitigation solution for noise received by 5 Yashili Drive.
- (g) Residential development that might be constructed between the 40dB  $L_{Aeq}$  noise level contour and the Pokeno Industry Buffer would be subject to modest acoustic insulation standards to ensure that indoor noise levels are no greater than 25dB  $L_{Aeq}$  indoors. 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.
- (h) 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.

- (i) The daytime noise effects for residential development established between the 40dB  $L_{Aeq}$  noise level contour and the Pokeno Industry Buffer will be reasonable.

3.3 The sketch below illustrates the general concept:



3.4 I understand that these fundamental principles are agreed between Mr Tollemache and myself for HVL, Mr Jones and Mr Hegley for Yashili and the s42A Report.

#### 4. THE S42A REPORT

4.1 The s42A Report accepts the fundamental principles of the Pokeno Industry Buffer controls as set out above.

4.2 The s42A Report does however raise some issues in respect of the Pokeno Industry Buffer that require clarification.

4.3 At paragraph 341, the s42A Report states that:

- (a) It has adopted the Pokeno Industry Buffer (45dB  $L_{Aeq}$  noise level contour) based on the HVL submission. The HVL submission is based on the noise modelling work I have undertaken that is attached to my Primary Statement as Appendix A.

- (b) The location of the Pokeno Industry Buffer may need adjustment in the south-eastern extent due to the proximity to the Hynds site<sup>2</sup>.
- (c) It has adopted the 40dB  $L_{Aeq}$  noise level contour from the evidence of Mr Hegley.
- (d) That acoustic insulation controls be adopted for dwellings established on the land between the Pokeno Industry Buffer and Mr Hegley's 40dB  $L_{Aeq}$  noise level contour.

4.4 Paragraph 322 of the s42A Report also records the suggestion from Yashili that the internal noise level of 25dB  $L_{Aeq}$  is to be achieved inside dwellings between the 45dB  $L_{Aeq}$  and 40dB  $L_{Aeq}$  noise level contours with windows open. In the same paragraph, the s42A Report goes on to record that windows and doors exposed to noise may need to have windows closed and an alternative ventilation system installed.

#### **Location of the noise level contours**

4.5 The s42A Report has adopted noise level contours from different assessments. This has resulted in the widest possible area between the 45dB  $L_{Aeq}$  and 40dB  $L_{Aeq}$  noise level contours. I consider that this is not the most appropriate or efficient method of determining their location.

4.6 I consider it important that the two noise level contours need to be taken from the same assessment and noise modelling processes. This will ensure that the contours have been created using consistent methods and calculation parameters and that they cover only the land that requires the specific planning controls.

4.7 As set out earlier, the appropriate location of the 45dB  $L_{Aeq}$  and 40dB  $L_{Aeq}$  noise level contours remains in discussion between Mr Hegley and myself, but we are continuing to work on resolving this and I will provide an update to the Panel as soon as practicable.

#### **Achieving the internal noise levels with windows open**

4.8 As set out above, at paragraph 322 the s42A Report acknowledges that if windows need to be closed to achieve the internal design noise levels, an alternative means of ventilation may be required.

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<sup>2</sup> See paragraphs 329 of the s42A Report.

- 4.9 However, the suggested policies and rules at paragraphs 344, 347 and 400 of the s42A Report all simply require that the internal design noise levels are achieved with ventilating windows open.
- 4.10 I consider that some changes are required to the suggested policies and rules to ensure that alternative fresh air supplies and mechanical cooling are required in order to achieve the internal design noise levels.
- 4.11 It is well accepted in New Zealand that where windows and doors are required to be closed to achieve compliance with an indoor noise control, an alternative fresh air supply and method of cooling the rooms is required. This ensures that the occupants do not have to choose between having low noise levels in hot, stuffy conditions, or staying cool by opening windows but then letting the external noise in.
- 4.12 It is well accepted that simply leaving this issue to the Building Code is not sufficient.
- 4.13 Agencies such as Kiwirail, Waka Kotahi, Auckland Airport and many others require that rooms subject to such controls are provided with an alternative fresh air supply and cooling methods. Many District Plans around the country also endorse this approach.
- 4.14 I recommend that the same approach is adopted in this case. I have worked with Mr Tollemache to draft the requirements for dwellings that might be constructed between the 45dB  $L_{Aeq}$  and 40dB  $L_{Aeq}$  noise level contours based on my experience with many other District Plan provisions and resource consents where such provisions have been adopted. These provisions are attached to the rebuttal evidence of Mr Tollemache and have been previously circulated to Messrs Hegley and Jones.
- 4.15 In simple terms, these provisions require that where dwellings need to have windows and doors closed to achieve the internal design noise level, they are provided with a mechanical fresh air supply and mechanical cooling.
- 4.16 In practice, this most often involves one or two small trickle fans to provide a constant flow of fresh air, as well as a heatpump (and sometimes more than one for larger houses) to maintain cool temperatures, particularly at night and particularly in bedrooms. The final systems are often designed by a mechanical engineer and would have to meet the temperature and physical controls set out in the proposed rules.

**The area to the south-east (paragraph 322 of s42A Report)**

- 4.17 At paragraph 329, the s42A Report sets out that the Pokeno Industry Buffer may have to move further away from the Hynds site (than is shown in the HVL submission) due to

the future houses in that area having direct line of sight into the Hynds site and because they are “relatively close”.

- 4.18 The closest parts of the Hynds site and the area to be rezoned as Heavy Industry Zone are approximately 400m away from the closest house sites just inside the HVL Site.
- 4.19 The possible noise emissions from the piece of land sought to be rezoned Heavy Industry is constrained significantly by its location and proximity to a number of existing noise sensitive activities. These are detailed in the evidence of Mr Fitzgerald for Hynds Pipe Systems Limited and the Hynds Foundation.
- 4.20 I have undertaken further computer noise modelling of the Hynds site and I have included the effects of the additional piece of land zoned Heavy Industry to the east of the Hynds site as addressed at paragraph 311 of the s42A Report.
- 4.21 The existing constraints serve to limit the noise that may be generated in the direction of the HVL land to the extent that noise from the land rezoned Heavy Industry will have no appreciable effect on the location of the 45dB  $L_{Aeq}$  or 40dB  $L_{Aeq}$  noise level contours on the HVL site.
- 4.22 I do not see any acoustical reason to shift the Pokeno Industry Buffer as suggested at paragraph 329 of the s42A Report.

## **5. THE LOCATION OF THE 45dB $L_{Aeq}$ AND 40dB $L_{Aeq}$ NOISE LEVEL CONTOURS**

- 5.1 As outlined above, Mr Hegley and I have been working together in an attempt to agree on the location of the two important noise level contours (45dB  $L_{Aeq}$  and 40dB  $L_{Aeq}$ ).
- 5.2 This work has included additional noise modelling work to determine the location, height and requirements for the barrier / buildings on the land between the Yashili sites and the HVL site at 5 Hitchen Road.
- 5.3 We are continuing our discussions to determine whether we can agree on the location of these contours and I will provide an update to the Panel as soon as practicable.

## **6. SUMMARY**

- 6.1 A number of acoustical matters have been progressed and agreed between the experts working for Yashili and HVL. The agreements that have been reached also address a number of matters raised in the s42A Report.
- 6.2 In summary, and in relation to acoustic issues, it is agreed that:

- (a) The Pokeno Industry Buffer and related acoustic controls are acceptable as a general proposition to manage potential reverse sensitivity issues
- (b) The 45dB  $L_{Aeq}$  noise level contour will represent the extent of the Pokeno Industry Buffer
- (c) An acoustic barrier between the Yashili sites and the HVL land at 5 Yashili Drive represents an appropriate mitigation solution for noise received by 5 Yashili Drive. Mr Tollemache includes a draft of one option for this rule that has been discussed with Messrs Hegley and Jones. Mr Hegley and I are discussing an alternative to this that will achieve the same outcome in terms of effects
- (d) Dwellings to be constructed between the Pokeno Industry Buffer and the 40dB  $L_{Aeq}$  noise level contour should be acoustically insulated to a modest degree to achieve a noise level of 25dB  $L_{Aeq}$  indoors. This requires an outside-to-inside noise level reduction of no more than 20dB
- (e) An alternative fresh air supply and mechanical cooling will be required for dwellings where doors and windows have to be closed to achieve the indoor design noise levels
- (f) Dwellings located beyond the 40dB  $L_{Aeq}$  noise level contour are not subject to any acoustic controls
- (g) The location of all noise contours needs to allow for the existing industrial activities to continue, and to allow for reasonable expansion in the future

6.3 The only acoustical matter that remains to be resolved is the final location of the 45dB  $L_{Aeq}$  noise level contour representing the Pokeno Industry Buffer, and the 40dB  $L_{Aeq}$  noise level contour as they both traverse the HVL Site.



6.4 Mr Hegley and I are continuing our discussions to determine whether we can agree on the location of these contours. We are also considering an alternative to the rule drafted by Mr Tollemache to the acoustic barrier opposite the Yashili site that will achieve the same outcome.

**Jon Styles**

4 May 2021