

**PROPOSED PORIRUA DISTRICT PLAN
SUMMARY OF STATEMENT OF EVIDENCE HEARING 4 (NOISE)**

- 1.1 My full name is Catherine Lynda Heppelthwaite. I have prepared a primary statement of evidence dated 21 January 2022 and will briefly summarise key points from that statement.
- 1.2 I have the qualifications and experience outlined in my primary evidence. I reaffirm that I have read and continue to abide by the Code of Conduct for Expert Witnesses (2014).
- 1.3 I have read the Joint Witness Statement (**JWS**) prepared by Dr Chiles, Mr Lloyd and Mr Styles¹ and the supplementary planning evidence provided by Mr Smeaton².
- 1.4 The key unresolved points from my primary statement of evidence are summarised as follows and I have included a revised *Attachment A Proposed Text Changes* from my primary evidence to address an error identified by the JWS³. In particular, I had included *clinics, consulting rooms, operating theatres and nursing stations* twice in NOISE S1 (at (a)(i) and (iii)). The correction is highlighted yellow and deletes the listed items from (a)(i).

Habitable Rooms

- 1.5 I have considered Mr Smeaton's proposal⁴ to include an *Advice Note* to ensure that a wider range of noise sensitive activities are captured by the habitable space definition. I do not generally support inclusion of Advice Notes to explain how rules work as these are, by nature, advisory, rather than mandatory. I prefer plan provisions (particularly rules) to be clear and self-explanatory. I consider my proposed Attachment A structure (which specifically lists the activities and appropriate noise levels to achieve) to be clearer.
- 1.6 Further, with specific reference to libraries, I see no reason for these to be excluded on the basis that they are Council facilities; there is no evidence

¹ Dated 1 February 2022.

² Dated 4 February 2022.

³ Duplication identified in paragraph 18 of the JWS.

⁴ Supplementary Statement of Mr Rory Smeaton, 4 February 2022, paragraphs 158 and 164.

provided that Council would design to achieve specific internal guidelines. In this regard, I continue to support the relief proposed in in Attachment A.

Policy 4

- 1.7 I only propose one minor change to Policy 4, that is to include reference to “health effects” as an effect which ought to be addressed. I note the evidence of Ms Williams⁵ also suggests recognition of health effects and I would be comfortable with her proposed wording. The specific aspects of Ms Williams amendments to Policy 4 I agree with are in blue underline (as per her primary evidence):

Enable new and expanded noise-sensitive activities and places of worship locating adjacent to existing State Highways and the Rail Network that are designed, constructed and maintained to achieve indoor design noise levels and provide for other habitable rooms when they minimise adverse effects on the health and wellbeing of people from noise and the potential for reverse sensitivity effects from noise, having regard to:

50m² Exemption

- 1.8 I have included removal of the 50m² exemption within my revised provisions. Mr Smeaton does not agree; he considers the exemption *allows for some additions which are not likely to increase the reverse sensitivity effects*⁶.
- 1.9 I do not agree with Mr Smeaton. An addition of 50m² is reasonably substantial, for example: bedrooms are generally 12m² to 15m² (so perhaps three new bedrooms) and early childhood education centres require 2.5m² of indoor space per child (floor area for up to 20 children). Both of these outcomes (in addition to a new minor dwelling) would result in an increase in exposure to health risks.
- 1.10 Mr Smeaton also agrees with Ms Williams⁷ who identifies that my proposed changes will capture situations where *alterations and additions are small the scale and nature of effects is likely to remain the same (e.g. the same number of people will be exposed to the same level of noise given that the bulk of the dwelling will remain unchanged)*.

⁵ Evidence of Ms Karen Williams, 21 January 2022, page 72.

⁶ Evidence of Mr Rory Smeaton, 4 February, paragraph 162.

⁷ Rebuttal Evidence of Ms Karen Williams, 28 January 2022, paragraph 3.2.

1.11 I agree with Ms Williams that small changes which do not alter the number of persons exposed (e.g. extending an existing living room in a house) would be captured by my proposed change. The effects of these would be assessed on a case by case basis as provided by the proposed consent framework. I understand this will impose additional regulatory control, however this needs to be balanced with the potential increase in exposure allowed by the 50m² exemption.

1.12 Having considered Mr Smeaton and Ms Williams' supplementary and rebuttal evidence respectively, for the reasons set out in my primary evidence and paragraphs above, I continue to support deletion of the 50m² exemption.

Setbacks Rule 5-1.b and Rule 5.2

1.13 I prefer a more simplified two tiered approach to management of noise and vibration effects:

- Tier 1 being a permitted activity standard requiring a design certificate at building consent stage confirming that specified noise/vibration levels will be achieved.
- Tier 2 applies where a design certificate is not provided (standards not met) and a (restricted discretionary activity) consent is then necessary.

1.14 I consider that as long as suitable mitigation (compliance with standards) can be confirmed (by the design certificate) then no consent should be required.

Vibration

1.15 I continue to rely on Dr Chiles' view that vibration is an effect which should be managed and I continue to support inclusion of a vibration provision (S3A in my Attachment A).

Outdoor Noise

1.16 All experts agree⁸ that outdoor noise in living spaces (e.g. patios, decks) is an effect which should be managed and I continue to support inclusion of an outdoor noise provision (S7 in my Attachment A).

Catherine Lynda Heppelthwaite
14 February 2022

⁸ JWS, paragraph 20.

Attachment A: Proposed Changes

Base text is taken from S42A Report, Appendix A, with all changes proposed by Mr Smeaton accepted and footnotes removed.

All changes are in blue text. New text is underlined and proposed deletions in ~~strike through~~. Changes made for Summary Statement yellow highlight

NOISE-P4 Reverse sensitivity from State Highways and Rail Network

Enable noise-sensitive activities and places of worship locating adjacent to existing State Highways and the Rail Network that are designed, constructed and maintained to achieve indoor design noise levels and provide for other habitable rooms when they minimise the potential for health and reverse sensitivity effects from noise, having regard to:

1. The outdoor amenity for occupants of the noise-sensitive activity;
2. The location of the noise-sensitive activity in relation to the State Highway or Rail Network;
3. The ability to appropriately locate the activity within the site;
4. The ability to meet the appropriate levels of acoustic insulation through screening, alternative technologies or materials;
5. The ability to mitigate any effects on buildings from vibration generated by the State Highway or Rail Network;
6. Any topographical or other existing features on the site or surrounding area;
7. Any adverse effects on the State Highway or Rail Network; and
8. The outcome of any consultation with the Waka Kotahi New Zealand Transport Agency or KiwiRail Holdings Limited.

NOISE-R5

Noise and Vibration Sensitive Activities adjacent to State Highways and the North Island Main Trunk railway line

All zones

1. Activity status: **Permitted**
Where:
 - a. The new building, building addition or part of the building for use by a noise sensitive activity or place of worship is within:
 - i. ~~80m~~100m of the outer painted lane marking of a State Highway with a speed limit of greater than 70km/h;
 - ii. 50m of the outer painted lane marking of a State Highway with a speed limit of 70km/h or less; or
 - iii. 100m of the centre of a track that is part of the North Island Main Trunk railway line; and
 - b. The building or part of the building for use by a noise sensitive activity or place of worship is not within:
 - i. ~~40m of the outer painted lane marking of a State Highway with a speed limit greater than 70km/h;~~
 - ii. ~~20m of the outer painted lane marking of a State Highway with a speed limit of 70km/h or less; or~~
 - iii. 30m of the centre of a track that is part of the North Island Main Trunk railway line; and
 - c. Compliance is achieved with:
 - i. NOISE-S1;
 - ii. NOISE-S2; and
 - iii. NOISE-S3;

	<p>iv. NOISE-S3A; and v. NOISE-S7</p>
<p>Residential Zones</p>	<p>2. Activity status: Controlled</p> <p>Where:</p> <p>a. Compliance is not achieved with NOISE-R5-1.b.iii</p> <p>Matters of control are limited to:</p> <p>1. The matters in NOISE-P4.</p> <p>Notification:</p> <ul style="list-style-type: none"> • An application under this rule is precluded from being publicly notified in accordance with section 95A of the RMA. • When deciding whether any person is affected in relation to this rule for the purpose of section 95E of the RMA, the Council will give specific consideration to any adverse effects on Waka Kotahi New Zealand Transport Agency and KiwiRail Holdings Limited.
<p>Rural Zones</p> <p>Commercial and Mixed Use Zones</p> <p>General Industrial Zone</p> <p>Open Space and Recreation Zones</p> <p>Special Purpose Zones</p>	<p>3. Activity status: Restricted discretionary</p> <p>Where: a. Compliance is not achieved with NOISE-R5-1.b.iii;</p> <p>Matters of discretion are restricted to:</p> <p>1. The matters in NOISE-P4.</p> <p>Notification:</p> <ul style="list-style-type: none"> • An application under this rule is precluded from being publicly notified in accordance with section 95A of the RMA. • When deciding whether any person is affected in relation to this rule for the purpose of section 95E of the RMA, the Council will give specific consideration to any adverse effects on Waka Kotahi New Zealand Transport Agency and KiwiRail Holdings Limited.
<p>All zones</p>	<p>4. Activity status: Restricted discretionary</p> <p>Where:</p> <p>a. Compliance is not achieved with NOISE-S1, NOISE-S2, or NOISE-S3, NOISE-S3A or NOISE-S7.</p> <p>Matters of discretion are restricted to:</p> <p>1. The matters of discretion of any infringed standard.</p> <p>Notification:</p> <ul style="list-style-type: none"> • An application under this rule is precluded from being publicly notified in accordance with section 95A of the RMA. • When deciding whether any person is affected in relation to this rule for the purpose of section 95E of the RMA, the Council will give specific consideration to any adverse effects on Waka Kotahi New Zealand Transport Agency and KiwiRail Holdings Limited.

Note: The term D2m,nT,w + Ctr is the description for noise insulation at the façade. This is the weighted level difference between the outside noise (measured at 2m) and the inside noise, normalised to a reference reverberation time and adjusted for road traffic noise characteristics.

NOISE-S1	New noise-sensitive activities and places of worship near State Highways – Indoor design noise level	
All zones	<p>1. Any: <u>habitable room in</u></p> <p>a. New buildings used for a noise-sensitive activity or place of worship;</p> <p>b. Additions <u>exceeding 50m²</u> to existing buildings used for a noise-sensitive activity or place of worship; or</p> <p>c. An existing building where its use is changed to be for a noise-sensitive activity or place of worship;</p> <p>Must be designed, constructed and maintained:</p> <p>a. To achieve indoor design noise levels of:</p> <ul style="list-style-type: none"> i. <u>for habitable room(s), libraries, sleeping areas, spaces for overnight medical care, wards, clinics, consulting rooms, operating theatres, nurses' stations: 40dB LAeq(24h);</u> ii. <u>for places of worship and marae: 35dB LAeq(24h);</u> iii. <u>for libraries, clinics, consulting rooms, operating theatres, nurses' stations: 45dB LAeq(24h); or</u> <p><u>For habitable room(s): 40dB LAeq(24h);</u> <u>ii. For places of worship and marae: 35dB LAeq(24h); or</u></p> <p>b. In accordance with the construction schedule set out in SCHED12 - Building Standards for Indoor Noise Reduction where the new habitable room is located in a residential unit of single storey framed construction.</p>	<p>Matters of discretion are restricted to:</p> <ul style="list-style-type: none"> <u>1. The distance of the noise-sensitive activity from the State Highway or Rail Network;</u> <u>2. The effects of any noncompliance;</u> <u>3. The ability to meet the appropriate levels of insulation through screening, alternative technologies or materials;</u> <u>4. Any topographical or other existing features on the site or surrounding area;</u> <u>5. The reverse sensitivity effects on the State Highway or Rail Network; and</u> <ul style="list-style-type: none"> <u>1. Location of the building and outdoor living space;</u> <u>2. The effects of the non-compliance on the health and amenity of occupants; and</u> <u>3 6. The outcome of any consultation with Waka Kotahi NZ Transport Agency (in relation to activities near a State Highway) or KiwiRail Holdings Limited (in relation to activities near the Rail Network).</u>

	2. A design certificate from a suitably qualified and experienced professional must be provided to Council prior to building consent and the construction or alteration of any noise-sensitive activity or place of worship demonstrating that the standards in NOISE-S1-1 will be achieved.	
NOISE-S2 [...]	[...]	[...]
NOISE-S3	New noise-sensitive activities and places of worship near a State Highway or North Island Main Trunk railway line – Mechanical ventilation	
All zones	<p>1. Where windows of a habitable room must be closed to meet the requirements for NOISE-S1.1 or NOISE-S2.1, the building must be designed, constructed and maintained with a mechanical ventilation system that achieves the following for habitable rooms other than teaching spaces:</p> <p>a. Provides mechanical ventilation to satisfy clause G4 of the New Zealand Building Code (Schedule 1 of the Building Regulations 1992);</p> <p>b. is adjustable by the occupant to control the ventilation rate in increments up to a high air flow setting that provides at least 6 air changes per hour Achieves a minimum of 7.5 litres per second per person; and</p> <p>c. provides relief for equivalent volumes of spill air; and</p> <p>d. provides cooling and heating that is controllable by the occupant and can maintain the inside temperature between 18°C and 25°C.</p> <p>e.-e. Does not generate more than 35 dB LAeq(30s) when</p>	<p>Matters of discretion are restricted to:</p> <p>1. The location of the building and outdoor living space; distance of the noise-sensitive activity from the State Highway or Rail Network;</p> <p>2. The effects of any noncompliance on the health and amenity of occupants;</p> <p>3. The ability to meet the appropriate levels of insulation through screening, alternative technologies or materials;</p> <p>4. Any topographical or other existing features on the site or surrounding area;</p> <p>5. The reverse sensitivity effects on the State Highway or Rail Network; and</p> <p>3.-6. The outcome of any consultation with Waka Kotahi NZ Transport Agency (in relation to activities near a State Highway) or KiwiRail Holdings Limited (in relation to activities near the Rail Network).</p>

	<p>measured 1m away from any grille or diffuser.</p> <p>2. A design certificate from a suitably qualified and experienced professional must be provided to Council prior to building consent and the construction or alteration of any noise-sensitive activity or place of worship demonstrating that the standards in NOISE-S3-1 will be achieved.</p>	
NOISE-S3A	New noise-sensitive activities and places of worship near a State Highway – Vibration	
All zones	<p>1. Any activity described in NOISE-S1 which is within 20m of the outer painted lane marking of a State Highway and is:</p> <p>a. A new buildings used for a noise-sensitive activity or place of worship; or</p> <p>b. Additions to existing buildings used for a noise-sensitive activity or place of worship; or</p> <p>c. An existing building where its use is changed to be for a noise-sensitive activity or place of worship;</p> <p>Must be designed constructed and maintained to achieve road vibration levels not exceeding 0.3mm/s $v_{w,95}$.</p> <p>2. A design certificate from a suitably qualified and experienced professional must be provided to Council prior to building consent and the construction or alteration of any noise sensitive activity or place of worship demonstrating that the standards in NOISE-S3A will be achieved.</p>	<p>Matters of discretion are restricted to:</p> <p>1. The effects of any noncompliance on the health and amenity of occupants;</p> <p>2. The outcome of any consultation with Waka Kotahi NZ Transport Agency (in relation to activities near a State Highway)</p> <p>3. Special topographical, building features or ground conditions which will mitigate vibration impacts.</p>
NOISE-S4	[...]	[...]
NOISE-S5	[...]	[...]
NOISE-S6	[...]	[...]

<u>NOISE-S7</u>	<u>New outdoor living spaces associated with noise-sensitive activities and places of worship near a State Highway</u>	
	<p><u>1. Where:</u></p> <p><u>a. an outdoor living or outdoor activity space required by another rule in the Plan is within</u></p> <p><u>i. 100m of the outer painted lane marking of a State Highway with a speed limit of greater than 70km/h;</u></p> <p><u>ii. 50m of the outer painted lane marking of a State Highway with a speed limit of 70km/h or less</u></p> <p><u>and;</u></p> <p><u>b. the outdoor space is required for a noise sensitive activity, the required outdoor living space is to be designed and maintained to achieve 57 dB LAeq(24h) where the design road noise is based on measured or predicted external noise level plus 3 dB..</u></p> <p><u>2. A design certificate from a suitably qualified and experienced professional must be provided to Council prior to building consent and the construction or alteration of any building to which the outdoor living space relates demonstrating that the standards in NOISE-S7-1 will be achieved.</u></p>	<p><u>Matters of discretion are restricted to:</u></p> <p><u>1. Whether the location of buildings or the outdoor space minimises effects</u></p> <p><u>2. Alternative mitigation which manages the effects of the non-compliance on the health and amenity of occupants;</u></p> <p><u>3. The reverse sensitivity effects on the State Highway</u></p> <p><u>4. The outcome of any consultation with Waka Kotahi NZ Transport Agency (in relation to activities near a State Highway); and</u></p> <p><u>5. Special topographical, building features which will mitigate effects.</u></p>