Before the Hearings Commissioners

Under	the Resource Management Act 1991 (the RMA)
In the matter of	a submission by KiwiRail Holdings Limited (submitter 408 and further submitter 72) and NZ Transport Agency Waka Kotahi (submitter 370 and further submitter 103) on Hearing Stream 5 – Noise and Subdivision
and in the matter of	Wellington City Proposed District Plan

Summary statement of evidence of Catherine Lynda Heppelthwaite for KiwiRail Holdings Limited and NZ Transport Agency Waka Kotahi regarding Hearing Stream 5 – Noise and Subdivision

Dated 7 August 2023

1 INTRODUCTION, QUALIFICATIONS AND EXPERIENCE

- 1.0 My Primary Statement sets out my qualifications, commitment to comply with the Environment Court's Code of Conduct for Expert Witnesses (2023).
- 1.1 My Primary Statement describes Waka Kotahi¹ and KiwiRail's relief² which includes submissions either supporting or seeking amendments to the Noise provisions. I have also filed a rebuttal statement addressing the evidence of Mr Matthew Lindenberg.
- 1.2 I rely on my Primary Statement to address the statutory and higher order planning framework and the details of KiwiRail and Waka Kotahi submissions and further submissions.

2 SCOPE OF STATEMENT

- 2.0 My summary statement today addresses changes where new matters are proposed by Mr Ashby and I do not share the same opinion or wish to update my position from my previous statements. It will cover:
 - a. Mr Ashby's supplementary evidence on NOISE-S4A
 - b. Rail vibration overlay
 - c. Definitions
 - d. NOISE-P6

3 NOISE-S4A

3.0 Paragraphs 39 to 41 of Mr Ashby's supplementary statement sets out reasoning for not supporting my proposed NOISE-S4A³ Transport Noise provision (and consequentially other changes to the Noise chapter seeing to separate transport noise from the High/Moderate Noise Area approach). A key matter of concern for Mr Ashby is that he appears to have concluded (at paragraph 39) that Rule S4A requires a 50m setback for road and rail and, for rail, a noise barrier, in addition to meeting internal noise levels.

¹ Submission 370.228 which seek retention of the provision with amendment.

² Submission 408.111, 408.112 which seek retention of the provision with amendment.

³ Attachment A, Primary Evidence, Cath Heppelthwaite.

- 3.1 On re-reading my primary statement Attachment A, I see the likely reason Mr Ashby has drawn this conclusion. In proposed NOISE-S4A there is a typographical error with an "o" missing from the word "or" after the word 'state highway' in clauses (b), this is compounded by a poorly placed line break for which I apologise noting that Mr Ashby has relied on this for his conclusions.
- 3.2 The intended (correct) structure is that NOISE-S4A(1) provides two separate permitted activity pathways being (a) meeting internal noise levels set out in the Table-S4A or (b) 50m separation/blocking line of site; the two items are not to be complied with cumulatively as Mr Ashby has understood.

NOISE-S4A Transport Network

Indoor road and railway noise 1. Any new building, or alteration to an existing building, that contains an activity sensitive to noise where the building or alteration is: a. designed, constructed and maintained to achieve indoor design noise levels resulting from the road or railway not exceeding the maximum values in in Table-S7; or b. at least 50 metres from the carriageway of any state highway <u>or</u> 50 metres from any railway corridor, and is designed so that a noise barrier entirely blocks line-of-sight from all parts of doors and windows, to the road surface and to all points 3.8 metres above railway tracks. Table S4A [...] (yellow/red are corrections)

4 RAIL VIBRATION

4.0 I support Mr Ashby's proposal to include the Rail Vibration Advisory Overlay within the definition section (rather than the Noise chapter introduction as I proposed) and inclusion of the Overlay on maps.

5 DEFINITIONS

5.0 Mr Ashby has proposed definitions of **High and Moderate Noise Areas**. If these are to be retained (and I do not support this for transport noise), the HNA definition should be amended to include a 100m setback for rail (based on the evidence of Dr Chiles; the area between 40m and 100m for road is included in the Moderate Noise area so no amendment is required.:

HIGH NOISE AREA means land and habitable rooms of buildings located within:

a. 40m of a State Highway designation;

b. 100m 40m of a Railway designation;

6 NOISE-P6

- 6.0 I consider a number of changes to NOISE-P6 would improve its effectiveness and support of provisions.
 - a. I prefer separating NOISE-P6 into two; the first part of Mr Ashby's Policy 6 refers to managing effects, the (new) second part refers to discouraging activities where reverse sensitivity risks cannot be managed. I consider these are two separate concepts and need be addressed separately.
 - b. With the exception of including the word "compliant", I generally support the last three lines of new text proposed by Mr Ashby (and Ms O'Sullivan) but consider it would be best placed in a new P7. I consider *compliant* could be deleted because to be *authorised,* compliance would need to also be achieved (so inclusion of compliant is unnecessary).

NOISE-P6

Development restrictions on noise sensitive activities

Manage the development of noise sensitive activities within: 1. High Noise Areas and Moderate Noise Areas; and 2. Buildings housing noise sensitive activities in High Noise Areas and Moderate Noise Areas where ventilation and acoustic insulation standards are not met.

NOISE-P7

Reverse sensitivity

New or intensified noise sensitive activities will be discouraged, where the risk of reverse sensitivity effects on authorised compliant emitters of noise, and regionally significant infrastructure, in those areas cannot be appropriately managed.

7 NOISE-R3

7.0 Notwithstanding my strong preference for transport specific provisions, I provide the following comments in regards to NOISE-R3 amendments proposed by Mr Ashby.

Rule 3.1 High Noise Area

7.1 Consent is (still) required for more than one residential unit and all non-residential noise sensitive activities even where acoustic mitigation and ventilation standards are provided (ie. effects are managed for transport noise). As set out in my primary evidence, in my opinion, transport noise effects can be managed by permitted activity standards without the need for a

resource consent application. I acknowledge that other submitters seek a higher level of control for their particular infrastructure; this difference reinforces my view that a 'one-rule-fits-all' approach to noise provisions is not the most efficient outcome; particularly given the spatial extent of the proposed High Noise Area for transport compared with other more spatially confined High Noise Areas (eg. Inner Air Noise Overlay).

Rule 3.2 Moderate Noise Area

7.2 If Mr Ashby's definitions of high and moderate noise areas are adopted, I suggest a consequential change to delete Note 2. Note 2 will become unnecessary as the area described (+40m from State highway with a speed of <70km/hr) is proposed to be excluded by Mr Ashby's Moderate Noise Area definition.</p>

Rule 3.3 Restricted Discretionary and Rule 3.4

7.3 My Primary Evidence (Appendix A) proposes restricted discretionary activities where Standards are not met and no discretionary activities for transport noise. Mr Ashby proposes discretionary activity status, I consider this to be unnecessary as the matters of discretion are well known and higher level of certainty for applicants should be provided.

S4 (2) Acoustic Insulation high noise areas and S5 (2) Acoustic Insulation moderate noise areas

7.4 In my rebuttal, I have set out the position reached by Waka Kotahi, KiwiRail, Kainga Ora and Whangarei District Council on additions (summarised as 5m² internal change every 10 years). While I support Mr Ashby's limitation on bedrooms, I strongly oppose the use of a % as a metric for managing increases in floor area; particularly for non-residential noise sensitive activities which can have larger existing floor areas thus 10% can allow for a more substantive increase.

8 CONCLUSION

8.0 Overall, I continue to support the approach taken by Dr Chiles and myself in regards to having specific noise and vibration controls relating to transport noise and the provisions generally set out in my updated Attachment A with the amendments noted today. The reasons I prefer our approach ahead of Mr Ashby's are set out in Paragraph 9.2 to 9.9 of my primary statement.

Cath Heppelthwaite 7 August 2023

Attachment A: Proposed Changes

- Base text is taken from Appendix A Mr Ashby's primary statement except where amended in yellow/red where the base text is taken from Mr Ashby's supplementary statement recommendations. In both instances, all changes recommended by Mr Ashby have been accepted.
- All changes are in red text. New text is <u>underlined</u> and proposed deletions in strike through.
- Relief headings include whether the amendment sought is for KiwiRail, Waka Kotahi or both.
- Blue text indicates chapter/plan section to which the amendments relate.
- Summary Statement Amendments in blue with yellow highlight.

District Plan Maps (KiwiRail)

Insert mapping overlay which identifies a 100m buffer on each side of the railway designation boundary called "Rail Vibration Alert Overlay".

Definitions

HIGH NOISE AREA means land and habitable rooms of buildings located within: a. 40m of a State Highway designation; b. 100m 40m of a Railway designation;

Noise Chapter

Introduction (KiwiRail)

Effective management of noise and vibration is a key aspect of achieving good environmental outcomes throughout the City.

Noise is well recognised [...]

The provisions of this chapter [...]

The objectives, policies, rules [...]

A Rail Vibration Alert Overlay has been applied which identifies the vibration-sensitive area within 100 metres each side of the railway designation boundary as properties within this area may experience rail vibration effects. No specific district plan provisions apply in relation to vibration controls as a result of this Rail Vibration Alert Area. The Rail Vibration Alert Overlay is to advise property owners of the potential vibration effects but leaves with the site owner to determine an appropriate response.

Other than where expressly provided for [...]

NOISE-P4 (KiwiRail and Waka Kotahi) Protection of noise sensitive activities by acoustic <u>and vibration</u> treatment of buildings and provision of alternative ventilation

Require sound insulation <u>and vibration isolation</u> and / or mechanical ventilation for buildings housing new noise sensitive activities within: [...] Manage the development of noise sensitive activities within:

1. High Noise Areas and Moderate Noise Areas; and

2. Buildings housing noise sensitive activities in High Noise Areas and Moderate Noise Areas where ventilation and acoustic insulation standards are not met.

NOISE-P7 Reverse sensitivity

New or intensified noise sensitive activities will be discouraged, where the risk of reverse sensitivity effects on authorised sensitive emitters of noise, and regionally significant infrastructure, in those areas cannot be appropriately managed.

NOISE-R3	Noise sensitive activity in a new building, or in alterations / additions to an existing building
As specified in Rule	 Activity status: Permitted Where: Compliance with NOISE-S4 (High Noise Areas) and NOISE-S6 (Ventilation) is achieved for one residential unit on a site within:
	Note: Distances from a state highway or railway corridor shall be measured from the closest habitable room to the closest point of a state highway or railway designation.
<u>As specified in</u> <u>Rule</u>	 1A. Activity status: Permitted Where: a. Compliance with NOISE-S4A (Internal Noise Levels) and NOISE-S6 (Ventilation) are achieved for any noise sensitive activity on a site within: i. 40m of a State Highway; ii. The area between 40m and 100m of a State Highway with a posted speed limit or maximum variable speed limit greater than >70 km/hour; or iii. 100m of a Railway corridor; and b. Compliance with NOISE-S4B (Vibration) is achieved for any noise sensitive activity on a site within: i. 20m of a State Highway; ii. 60m of a Railway corridor Note: Distances from a State Highway or railway corridor shall be measured from the closest habitable room to the closest point of a State Highway or railway designation.
As specified in Rule	 2. Activity status: Permitted Where: a. Compliance with NOISE-S5 (Moderate Noise Areas) and NOISE-S6 (Ventilation) is achieved for up to three residential units on a site within: i. The area between 40m and 100m of a State Highway with a posted speed limit greater than >70 km/hour; ii. The area between 40m and 100m of a Railway corridor; iii. City Centre Zone; iv. Mixed Use Zone; v. Commercial zone; vi. Neighbourhood Centre Zone; vii. Local Centre Zone; viii. Metropolitan Centre Zone;

	 ix. Waterfront Zone; x. Outer Port Noise Overlay; and xi. Outer Air Noise Overlay. Note: Distances from a state highway or railway corridor shall be measured from the closest habitable room to the closest point of a state highway or railway designation. Unless otherwise restricted by zone or overlay based rules, there is no limit on the number units per site on land-further than 40m from a State Highway that has a posted speed limit equal to or less than 70 km/hour.
All Zones	 3. Activity status: Restricted Discretionary Where: a. Compliance with the requirements of NOISE-S4 and NOISE-S6 is achieved for two residential units on a site listed by NOISER3.1; or d. Compliance with the requirements of NOISE-S5 and NOISE-S6 is achieved for four or more residential units on a site listed by NOISE-R3.2Four or more residential units are proposed on a site within the Outer Air Noise Overlay; or. e. Any other noise sensitive activity is proposed on a site within land subject to NOISE-R3.2 and the requirements of NOISE-S5 and NOISE-S6 are achieved. Matters of discretion are: The matters of assessment in NOISE-S4, and NOISE-S5 and NOISE-S6; and The extent and effect of non-compliance with any relevant standard as specified in the associated assessment criteria for the infringed standard. Wellington International Airport Limited will be considered an affected party for applications within the Inner Air Noise Overlay.
<u>As specified in</u> <u>Rule</u>	 <u>3A. Activity status: Restricted Discretionary</u> <u>Where:</u> <u>a. Compliance with the requirements of NOISE-S4A, NOISE-S4B, or NOISE-S6 are</u> <u>not achieved on within 100m of a State Highway or railway corridor.</u> <u>Matters of discretion are:</u> <u>1. The matters of assessment in NOISE-S4A, NOISE-S4B, and NOISE-S6; and</u> <u>2. The extent and effect of non-compliance with any relevant standard as specified in</u> <u>the associated assessment criteria for the infringed standard.</u> <u>Note: Distances from a State Highway or railway corridor shall be measured from the</u> <u>closest habitable room to the closest point of a State Highway or railway designation.</u>

NOISE-S4	Acoustic Insulation – high noise areas	
Within 40m of a State Highway Within 40m of a Railway Corridor General Industrial Zone Courtenay Place Noise Area Inner Air Noise Overlay	1. Any habitable room in a building used by a noise sensitive activity in a new building or alteration or addition to an existing building, must be designed, constructed, and maintained to achieve a minimum external to internal noise reduction for habitable rooms of not less than 35 dB Dtr,2m,nT,w + Ctr. []	Assessment criteria where the standard is infringed: []

<u>NOISE-</u> <u>S4A</u>	Transport Netw	ork Noise			
	Indoor road and railway noise 1. Any new building, or alteration to an existing building, that contai ns an activity sensitive to noise where the building or alteration is: a. designed, constructed and maintained to achieve indoor desig n noise levels resulting from the road or railway not exceeding the maximum values in in Table-S7; or			Assessment criteria where the standard is infringed: <u>1. Whether the</u> activity sensitive to noise could be located further from	
	r, 50 metres f noise barrier e	netres from the carria rom any railway corrie ntirely blocks line-of-s to the road surface ar	dor, and is designing the design of the desi	gned so that a rts of doors	<u>the railway network</u> <u>or State Highway.</u> <u>2. The extent to</u> <u>which the noise</u> <u>criteria are</u> achieved and the
	Building type	Occupancy / activity	<u>Maximum</u> road noise level LA _{eq} (24h)	<u>Maximum</u> railway noise level LAeq(1h)	effects of any noncompliance 3. The character of, and degree of,
	Residential	Sleeping spaces All other habitable rooms	<u>40dB</u> <u>40dB</u>	<u>35 dB</u> 40 dB	amenity provided by the existing environment and proposed activity.
	<u>Education</u>	Lecture rooms / theatres, music studios, assembly halls Teaching areas, conference rooms, drama studios, sleeping areas	<u>35 dB</u> <u>40 dB</u>	<u>35 dB</u> <u>40 dB</u>	<u>4. The reverse</u> <u>sensitivity effects</u> <u>on the rail network</u> <u>or State Highway,</u> <u>and the extent to</u> <u>which mitigation</u> <u>measures can</u> <u>enable their</u>
	Health Clinics	Library Overnight medical care, wards	<u>45 dB</u> <u>40 dB</u>	<u>45 dB</u> <u>40 dB</u>	ongoing operation, maintenance and upgrade.
		Consulting rooms, theatres, nurses' stations	<u>45 dB</u>	<u>45 dB</u>	5. Special topographical, building features which will mitigate
	<u>Cultural</u>	<u>Places of</u> worship, marae	<u>35 dB</u>	<u>35 dB</u>	impacts; 6. The outcome of
	Design report with Waka Kotahi 2. A report is submitted to the council demonstrating compliance wi with Waka Kotahi th clause (1) above prior to the construction or alteration of any building containing an activity sensitive to noise. In the design report: to the State Highway) or Highway) or			NZ Transport Agency (for proposals adjacent to the State Highway) or	
		ise is assumed to be om the track, and mu			KiwiRail (for proposals adjacent

ate of 3dB per doubling of distance up to 40 metres and 6 dB pe r doubling of distance beyond 40 metres; and	to the rail designation).
b. road noise is based on measured or predicted noise levels pl us 3 dB.	

NOISE-S4B	<u>Vibration</u>	
Within 20m of a State Highway Within 60m of a Railway Corridor	1. Any habitable room in a building used by a noise sensitive activity in a new building or alteration or addition to an existing building, must be designed, constructed, and maintained to achieve:	Assessment criteria where the standard is infringed: <u>1. Whether the activity</u> sensitive to noise could be located further from the State Highway or railway network.
	(a) is designed, constructed and maintained to achieve rail or road vibration levels not exceeding 0.3 mm/s vw,95 or	2. The extent to which the vibration criteria are achieved and the effects of any noncompliance.
	(b) is a single-storey framed residential building with:	3. The character of, and degree of, amenity provided by the existing environment and
	i. a constant level floor slab on a full-surface vibration isolation bearing with natural frequency not exceeding 10 Hz, installed in accordance with the supplier's instructions and recommendations; and	<u>proposed activity.</u> <u>4. The reverse sensitivity</u> <u>effects on the road or rail</u> <u>network, and the extent to</u> <u>which mitigation measures can</u> <u>enable their ongoing operation,</u> <u>maintenance and upgrade.</u>
	<u>ii. vibration isolation</u> separating the sides of the floor slab from the ground; and	5. Special topographical, building features or ground conditions which will mitigate vibration impacts;
	iii. no rigid connections between the building and the ground.	6. The outcome of any consultation with Waka Kotahi NZ Transport Agency (for proposals adjacent to the State
	(c)The requirements of (a) or (b) above do not apply where a design certificate signed by a suitably qualified engineer confirming that vibration received at the site does not exceed 0.3 mm/s vw,95.	Highway) and KiwiRail (for rail). 7. Human health effects on occupants and their ability to achieve an acceptable level of amenity as a result of the exceedance.

NOISE-S5	Acoustic Insulation – moderate noise areas	
City Centre Zone Mixed Use Zone Commercial Zone General Industrial Zone Neighbourhood Centre Zone Local Centre Zone Metropolitan Centre Zone Waterfront Zone The area between 40m and 100m of a railway corridor The area between 40m and 100m of a State Highway with a posted speed limit >70 km/hour Outer Port Noise Overlay	 1. Any habitable room in a building used by a noise sensitive activity in a new building or alteration or addition to an existing building, must be designed, constructed, and maintained to achieve a minimum external to internal noise reduction for habitable rooms of not less than 30 dB Dtr,2m,nT,w + Ctr. [] 	Assessment criteria where the standard is infringed: 1. Background noise levels and any special character of noise from any existing activities, the nature and character of any changes to the sound received at any receiving site and the degree to which such sounds are compatible with the surrounding activities; []

NOISE-S6	Ventilation requirements	
All zones	1. The minimum external to internal noise reduction levels in NOISE-S4 and NOISE-S5 must be achieved at the same time as the ventilation requirementsof the New Zealand Building Code.Minimum ventilation standards are set out below for habitable rooms classified into one of two possible categories as follows:a. Habitable rooms with openable windows sufficient in area to meet the ventilation requirements of the New Zealand Building Code; andb. All other habitable rooms requiring to be acoustically insulated under NOISE-S4 and NOISE-S5 2.2. Where habitable rooms are provided with windows	Assessment criteria where the standard is infringed: 1. The ability to achieve acceptable indoor ventilation and acoustic amenity; 2. Any mitigation of the proposed ventilation noise, in accordance with a best practicable option approach; 3. The ability to mitigate adverse effects through the imposition of conditions; 4. In relation to a heritage building or a contributing building within a heritage area, the extent to which it is practicable to achieve ventilation to the required standard without detracting from identified heritage values 5. The outcome of any consultation with Waka Kotahi
	openable to the outside environment sufficient in area	NZ Transport Agency (for proposals adjacent to the State

b. []	to meet the ventilation requirements of the New Zealand Building Code, and where these windows must remain closed to achieve compliance with NOISE-S4 and NOISE-S5 acoustic insulation standards, the room shall meet the following minimum requirements; a. The room is to be provided with a mechanical ventilation system with air flow rates adjustable by the occupant in increments up to a high air flow	 Highway) or KiwiRail (for proposals adjacent to the rail designation). 7. Extent of the exceedance. 8. Human health effects on occupants and their ability to achieve an acceptable level of amenity as a result of the exceedance. 9. Reverse sensitivity effects to existing noise generating activities
	with a mechanical ventilation system with air flow rates adjustable by the occupant in increments up to a high air flow setting of at least <u>six</u> three air changes per hour; and	existing noise generating

Subdivision Chapter

SUB-O1 Efficient pattern of development

Subdivision achieves an efficient development pattern that:

1. Maintains or enhances Wellington's compact urban form;

2. Is compatible with the nature, scale and intensity anticipated for the underlying zone and local context;

3. Enables appropriate future development and use of resulting land or buildings; and

4. Is supported by development infrastructure and additional infrastructure for existing and anticipated future activities.;and

5. Avoids development that is incompatible with regionally significant infrastructure.

SUB-P4 Integration and layout of subdivision and development

Provide for the efficient integration and layout of subdivision and associated development by:

1. Encouraging joint applications for subdivision and land use;

2. Enabling subdivision around development that has already been lawfully established; and

3. Ensuring standalone subdivision proposals provide allotments that can be feasibly developed and are fit for the future intended purpose.

4. Manage adverse effects of activities through setbacks and design controls to achieve appropriate protection of infrastructure.

SUB-R29A	Subdivision within 100m of a State Highway or rail designation boundary
All zones	1. Activity status: Restricted discretionary
	Where the subdivision is within: i. 40m of a State Highway; ii. The area between 40m and 100m of a State Highway with a posted speed limit or maximum variable speed limit greater than >70 km/hour; or iii. 100m of a Railway corridor.
	Matters of discretion are:
	 the extent that subdivision design removes or reduces the need for mitigation on a site-by-site basis for noise sensitive activities; examples

include provision of mitigation on a subdivision wide basis (e.g. noise bund or wall) and placement of less noise sensitive activities adjacent to the transport corridor.2. Whether building platform or development should be restricted on parts of
the site.3. Any special topographical features or ground conditions which may mitigate effects of the operation of the State Highway or rail on the proposed land
 uses. 4. <u>The outcome of consultation with Waka Kotahi (for State Highways) or KiwiRail (for rail).</u>