

Attachment B

Topic 040 Lighting, Noise and Vibration – Auckland Council Closing Statement

Proposed Noise and Vibration Track Changes – Chapters C7.3 and H6.2

Dated 21 September 2015

Note:

- Council's proposed changes are shown in ~~striketrough~~ and underline.
- Black text changes record amendments proposed in Primary Evidence (either pre or post mediation)
- Green text changes record amendments proposed and agreed in mediation
- Red text changes record amendments proposed in rebuttal evidence and/or at hearing
- Yellow highlighted text changes record amendments that are considered to be outside scope of submissions.
- Blue text changes record amendments proposed post hearing (e.g. right of reply)
- Turquoise highlighted text record consequential amendments
- Consequential amendments are highlighted in grey. Any additional changes to consequential changes are highlighted in pink.

PART 2 - REGIONAL AND DISTRICT OBJECTIVES AND POLICIES»Chapter C: Auckland-wide objectives and policies»7 General»7.3 Noise and vibration

7.3 Noise and vibration

Background

Noise may cause adverse effects on amenity depending on:

- when and where it occurs
- its duration
- physical characteristics, including the sound pressure level and frequency
- its steadiness
- variations of these properties
- whether special audible characteristics are present.

Within urban areas, the background noise environment is most often dominated by traffic. Generally,

the higher the traffic volumes nearby, the higher the background noise level. In low traffic areas, background noise may occur naturally from waves, high winds, animals or insects. ~~On average, people will tolerate noise levels up to twice as loud (10dB higher) than the background noise level, except where noise levels adversely affect sleep, or are completely out of character with the existing environment.~~

The objectives and policies for noise seek to ~~mitigate~~ **manage** both the adverse effects of noise and vibration on amenity, [human health](#) and reverse sensitivity effects.

Objectives

1. People ~~and including activities sensitive to noise~~ are protected from unreasonable ~~or unnecessary~~ levels of noise.
 2. ~~Activities sensitive to noise are protected from the effects of high levels of noise, and other activities within the same or adjacent zones.~~
 3. The amenity of residential ~~zones areas~~ is protected from unreasonable ~~or unnecessary~~ noise, particularly at night.
 4. ~~The strategic importance of transportation routes and other significant infrastructure is recognised and appropriately protected from the potential reverse sensitivity effects of activities sensitive to noise. Existing and authorised activities and infrastructure, which by their nature produce high levels of noise, are appropriately protected from the reverse sensitivity effects of activities which are sensitive to noise where it is reasonable and practicable to do so.~~
 5. ~~Different levels of noise and vibration are experienced in different zones, with including lower levels in predominantly residential areas and higher levels in predominantly, rural, business, industrial, centres and mixed-use areas.~~
 6. ~~In each zone the noise and vibration allowed is compatible with the activities provided for. Appropriate levels of noise and vibration are provided for within each zone.~~
- [fcp/dp]
7. ~~Activities sensitive to noise are protected from unreasonable or unnecessary noise and vibration from the use and development of neighbouring lakes, rivers and the CMA.~~
- [fcp/dp]
8. ~~The amenity of dwellings in rural areas is protected from unreasonable or unnecessary noise, recognising that farming and other rural based activities may create high levels of noise.~~
 9. ~~Temporary construction, demolition and maintenance activities that cannot meet the permitted activity noise controls are allowed to occur for short periods, while managing limiting adverse effects on any activities sensitive to noise on adjacent sites. Construction activities that cannot meet noise and vibration controls are enabled whilst controlling duration, frequency and timing to manage adverse effects.~~

Policies

1. Set [appropriate](#) noise [and vibration](#) standards to reflect the zone's function and permitted activities, [whilst ensuring that recognising](#) the potential adverse effects noise [and vibration are avoided, remedied or mitigated](#) generation may have on ~~more~~ **sensitive** adjacent zones.

2. Minimise, where ~~practical~~ practicable, noise at its source or on the site from which it is generated to mitigate adverse effects on adjacent sites.
3. ~~Locate~~ Encourage activities to locate in zones where the noise generated is compatible with other activities and, where ~~possible~~ practicable, adjacent zones.
4. Prevent significant noise-generating activities other than roads and rail from establishing in residential zones.
- ~~5. Prevent activities sensitive to noise from establishing in commercial and industrial zones.~~
- ~~6. Require activities sensitive to noise to be appropriately located and/or designed to mitigate or avoid where practicable or otherwise remedy or mitigate any reverse sensitivity noise effects on airfields, high-use roads, regionally significant quarries and rail lines existing or designated infrastructure.~~
- ~~5. Prevent~~ Manage-Avoid activities sensitive to noise ~~from establishing~~ from establishing in industrial zones where adverse effects (including reverse sensitivity effects) arise that cannot be otherwise appropriately remedied or mitigated.
6. Require activities sensitive to noise to be located and/or designed to avoid reverse sensitivity effects on regionally significant mineral extraction activities;
- 6a. Require activities ~~sensitive to noise~~ to be appropriately located and/or designed to ~~mitigate or avoid where practicable or otherwise remedy or mitigate any~~ reverse sensitivity effects on: airfields, high-use roads, regionally significant quarries and rail lines, significant infrastructure
 - i. existing or authorised ~~designated~~ infrastructure; or
 - ii. adjacent Industrial Zones; or
 - iii. existing legally established rural production activities; or
 - iv. major recreational facilities; or
 - ~~v. tertiary facilities; or~~
 - vi. existing legally established commercial activities within centres and mixed use zones; or
 - vii. significant mineral extraction activities

[rcp/dp]

7. Limit the level of Manage Control noise and vibration from ~~quarrying-mineral extraction activities, construction, maintenance and demolition activities~~ to protect existing and legally established activities ~~sensitive to noise on adjacent sites~~ from unreasonable ~~or unnecessary~~ levels of noise and vibration.

Noise arising from lakes, rivers and the CMA

[rcp/dp]

8. Require activities ~~sensitive to noise~~ to be insulated, or ~~otherwise insulated and/or otherwise~~ protected, from unreasonable man-made noise and vibration emitted from the use and development of neighbouring lakes, rivers or the CMA.

Noise arising from or affecting rural zones

9. ~~Manage-Avoid, remedy or mitigate~~ the adverse effects of noise in the rural environment, ~~while recognising having regard to~~ the working nature of this environment ~~and enabling appropriate rural activities.~~

Temporary Construction, demolition and maintenance activities

- ~~10. Control Manage the potential adverse effects of noise and vibration from construction, maintenance and demolition activities, recognising the sensitivity of the receiving environment, the duration of the activity and the practicability of complying with noise limits.~~
10. Avoid remedy or mitigate the adverse effects of noise and vibration from construction, maintenance and demolition activities whilst having regard to:
- The sensitivity of the receiving environment; and
 - The proposed duration and hours of operation of the activity; and
 - The practicability of complying with permitted noise controls.
11. ~~Manage temporary activities through controls on the number, duration, and timing of temporary activities in order to protect activities sensitive to noise on adjacent sites from unreasonable or unnecessary noise.~~
12. ~~Manage the effects of outdoor events that use electronically amplified entertainment through controls on the noise levels, start/finish times, duration and frequency of the events.~~

Events and activities

11. ~~Utilise site/activity specific controls to provide for manage noise effects from sporting and recreational events and activities~~
11. Recognise that ~~sporting and recreational events and~~ activities occurring in the sport and active recreation zones ~~and the major recreation facility zone~~ may generate high ~~significant~~ levels of noise ~~and ensure that adverse effects are avoided, remedied or mitigated having regard to the sensitivity of the receiving environment.~~ ~~and needs to be appropriately managed~~

6.2 Noise and vibration

1. Land use controls

1.1 General

1. Except where more specific requirements apply noise levels arising from activities must be measured and assessed in accordance with the New Zealand Standard ~~on the NZS 6801:2008~~ Measurement of environmental sound (~~NZS 6801:2008~~) and the New Zealand Standard ~~on~~ ~~NZS 6802:2008~~ Acoustics - environmental noise (~~NZS 6802:2008~~). The application of an adjustment for noise containing special audible characteristics (Appendix B4 of NZS 6802:2008) may apply to the A weighted level for any measurement but an adjustment must not be applied to any level measured in the 63Hz and 125Hz octave bands. ~~The consideration of special audible characteristics (appendix B4 of NZS 6802:2008) must not apply to measured levels at 63 and 125Hz if levels limits are specified for these frequencies, but must apply to all other octave frequencies.~~

1a The noise from any construction work activity shall be measured and assessed in accordance with the requirements of NZS6803:1999 *Acoustics – Construction Noise*. Construction work is defined in NZS6803:1999 *Acoustics – Construction Noise*.

~~2. Sleeping Areas. For the purposes of the land use controls in this section 'sleeping areas' means areas that are specifically designed and constructed within activities sensitive to noise facilities that provide for sleep but are not residential bedrooms. These areas include rooms such as hospital wards, sleeping areas in care centres and studio apartments.~~

Comment [CS1]: Moved to definitions

3. Emergency Sirens. The noise limits of the Plan do not apply to emergency service sirens and callout sirens during emergency situations.

4. Where there is more than one noise control applying to any activity, the most stringent noise limit shall apply. Where more than one rule applies that requires insulation of a noise sensitive space from an external noise source, the controls shall be applied cumulatively.

5. Where rules are provided for specific activities, the zone interface controls and the zone controls do not apply to that activity.

1.2 Noise arising from activities within zones

Residential zones

1. ~~Except where other more specific controls apply, the $L_{Aeq(15\text{-min})}$~~ The noise (rating) level and maximum noise level (L_{AFmax}) arising from any activity in the residential zones measured ~~at or~~ within the boundary of an adjacent property site in the residential zones must not exceed the following ~~levels~~ limits.

Table 1

Monday to Saturday 7am-10pm	50dB $L_{Aeq(15\text{-min})}$
Sunday 9am-6pm	
All other times	40dB $L_{Aeq(15\text{-min})}$ 70/75dB L_{AFmax}

2. These limits levels may be exceeded by intermittent noise associated with normal household activities, such as lawn mowing or home handyman work, during the daytime hours specified above for reasonable periods.

Rural and future urban zones

3. The noise (rating) level from any activity in a Mixed Rural, Rural Production, Rural Coastal or Future Urban zone measured within the notional boundary of any building containing an activity sensitive to noise on any adjacent site in any rural or residential zone must not exceed the following limits

Comment [A2]: The 'between-zone' aspect of this rule has been replicated in the following section 1.3 Noise arising from activities between zones.

Table 2

<u>Monday to Saturday 7am-10pm</u>	<u>55dB L_{Aeq}</u>
<u>Sunday 9am-6pm</u>	
<u>All other times</u>	<u>45dB L_{Aeq}</u> <u>75dB L_{AFmax}</u>

4. The noise (rating) level from any activity in a Rural Conservation or Countryside Living zone measured within the notional boundary of any building containing an activity sensitive to noise on any adjacent site in any rural or residential zone must not exceed the following levels limits

Comment [A3]: The 'between-zone' aspect of this rule has been replicated in the following section 1.3 Noise arising from activities between zones.

Table 3

<u>Monday to Saturday</u> <u>7am-10pm</u>	<u>50 dB L_{Aeq}</u>
<u>Sunday 9am-6pm</u>	

All other times	40 dB L_{Aeq}
	75dB L_{AFmax}

5. Rules 3 and 4 ~~5 and 5A (a) and (b)~~ above does not apply to
- animal noise on farms unless they are confined within a building or enclosure on a permanent or semi-permanent basis
 - the use of mobile agricultural horticultural or forestry vehicles or machinery, or other mobile or portable agricultural, horticultural or forestry equipment. Note: the operator of such vehicles or machinery is required by the RMA to adopt the best practicable option to ensure that noise emissions do not exceed a reasonable level, which will depend on the time they are used, how loud they are, how long it is used for and how often it is used near rural dwellings.
 - ~~The use of post-harvest facilities including vehicle access ways and milking sheds, existing and operative as at 30 September 2013~~ set back at least 100m from a notional boundary.

Bird scaring devices in rural zones

6. bird scaring or bird repelling devices must not operate:
- between the hours of sunset and sunrise
 - at a frequency of more than six times in any 60-minute period (~~with no more than up to three shots in rapid succession~~)
 - ~~so that where the noise level measured at within the notional boundary on any other site of any adjacent dwelling building containing an activity sensitive to noise does not exceeds 85dB L_{Zpeak} .~~
- b. this rule does not apply to bird scaring devices that generate a noise level less than ~~L_{Zpeak}~~ 70dB L_{Zpeak} measured at the notional boundary of any building containing an activity sensitive to noise on another site
- c. ~~this rule does not apply at a boundary if the owner of the affected property agrees and notifies the council of the agreement in writing.~~

Industrial, General Business and Business Park and Marina zones

7. The $L_{Aeq(15min)}$ noise (rating) level and maximum noise level (L_{AFmax}) arising from an activity in the Industrial, General Business and Business Park and Marina zones measured ~~at or~~ within the boundary of any other ~~site property~~ in those zones must not exceed the following ~~levels~~ limits.

Table 4

	<u>Business Park & Marina zone</u>	<u>General Business and Light Industry Zones</u>	<u>Heavy Industry</u>
<u>All times</u>	<u>60dB</u> $L_{Aeq(15min)}$	<u>65dB</u> $L_{Aeq(15min)}$	<u>70dB</u> $L_{Aeq(15min)}$

Centres and Mixed Use zones

8. The $L_{Aeq(15min)}$ noise (rating) level and maximum noise level (L_{AFmax}) arising from any activity in the centres or mixed use zones measured or assessed as the incident level on at the façade of any building on any other property site in the centres or mixed use zones must not exceed the applicable following levels-limits in Table 5 or 5a.

Table 5

	<u>-Zone which noise affects</u>			
	<u>Local Centre and Neighbourhood Centre zones</u>		<u>Town Centre and Mixed Use zones</u>	<u>City Centre, Metropolitan Centre,</u>
<u>7am-10pm</u>	<u>60dB</u> $L_{Aeq(15min)}$ <u>65dB at 63Hz</u> $L_{eq(15min)}$ <u>60dB at 125 Hz</u> $L_{eq(15min)}$	<u>7am-11pm</u>	<u>65dB</u> L_{Aeq}	<u>65 dB</u> $L_{Aeq(15min)}$ <u>70dB at 63Hz</u> $L_{eq(15min)}$ <u>65dB at 125Hz</u> $L_{eq(15min)}$
<u>10pm-7am</u>	<u>50dB</u> $L_{Aeq(15min)}$ <u>60dB at 63 Hz</u> $L_{eq(15min)}$ <u>55dB at 125 Hz</u> $L_{eq(15min)}$ <u>75dB</u> L_{AFmax}	<u>11pm-7am</u>	<u>55dB</u> L_{Aeq} <u>65dB at 63 Hz</u> L_{eq} <u>60dB at 125 Hz</u> L_{eq} <u>75dB</u> L_{AFmax}	<u>55-60dB</u> $L_{Aeq(15min)}$ <u>65dB at 63 Hz</u> $L_{eq(15min)}$ <u>60dB at 125 Hz</u> $L_{eq(15min)}$ <u>75dB</u> L_{AFmax}

Table 5a

	<u>Town Centre and Mixed Use zones</u>	<u>City Centre, Metropolitan Centre</u>
<u>7am -11pm</u>	<u>65dB</u> L_{Aeq}	<u>65 dB</u> L_{Aeq}

11pm – 7am	55dB L _{Aeq} 65dB at 63 Hz L _{eq} 60dB at 125 Hz L _{eq} 75dB L _{AFmax}	60dB L _{Aeq} 65dB at 63 Hz L _{Aeq} 60dB at 125 Hz L _{Aeq} 75dB L _{AFmax}
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- a. ~~A facade correction must be applied to these levels. The 63Hz and 125Hz octave band limits shall not apply to fixed mechanical plant.~~

~~8a. In situations where common building elements such as floors and walls are shared by connect two different occupiers units under different ownership in centres and mixed use zones, the noise (rating) level arising from any activity measured in any adjacent occupied room unit under a different ownership occupancy must not exceed the following levels limits.~~

Table 6

Occupancy Unit affected	Time	Centres and mixed use zones Noise Limit
In all occupancies units except those containing activities sensitive to noise -at all times	At all times	50dB L_{Aeq(15 min)} 60dB at 63 Hz L_{eq(15 min)} 55dB at 125 Hz L_{eq(15 min)}
In bedrooms and sleeping areas within occupancies units containing activities sensitive to noise -at all times	Between 10pm and 7am in Local Centre and Neighbourhood Centre Zones and between 11pm and 7am in City Centre, Metropolitan Centre, Town Centre and Mixed Use zones	35dB L_{Aeq(15 min)} 45dB at 63 Hz L_{eq(15 min)}; 40dB at 125 Hz L_{eq(15 min)}; in bedrooms and sleeping areas between 10pm and 7am in Local Centre and Neighbourhood Centre Zones and between 11pm and 7am in City Centre, Metropolitan Centre, Town Centre and Mixed Use zones;

	Between 7am and 10pm	40 dB L_{Aeq} in bedrooms and sleeping areas between 7am and 10pm 45-40 dB L_{Aeq(15 min)} 55dB at 63 Hz L_{eq(15 min)} 50dB at 125 Hz L_{eq(15 min)} 65dB L_{A,max} in other habitable noise sensitive spaces or classrooms at all other times
Other noise sensitive spaces	At all other times	40 dB L_{Aeq} In other habitable noise sensitive spaces or classrooms at all other times
Note: A noise rating level. Adjustments for noise containing Special Audible Characteristics will only apply to A weighted levels limits		

- b. ~~For the purpose of this rule unit a noise sensitive space means any habitable indoor space within an activity sensitive to noise excluding, office or building. It does not include any bathroom, water closet, laundry, pantry, walk-in wardrobe, corridor, hallway, lobby, stairwell, clothes drying area, kitchens not part of a dwelling, garage or other space of a specialised nature occupied neither frequently nor for extended periods.~~
- c. ~~For the purpose of this rule, Unit means a defined part of a building under different ownership, including apartments and separate leased areas within a building.~~
- d. ~~The 63Hz and 125Hz octave band limits shall not apply to fixed mechanical plant.~~

Comment [CS4]: Moved to definitions

9. Any bedroom, sleeping area, class room or habitable room accommodating an ~~Noise sensitive spaces within activities sensitive to noise~~ must be designed and/or insulated so that the internal noise levels do not exceed the following ~~levels~~ limits:

Table 7

<u>Unit affected</u>	<u>Time</u>	<u>Limit</u>
Bedrooms and sleeping areas Between 10pm and 7am in Local Centre and Neighbourhood Centre Zones and between 11pm and 7am in City Centre, Metropolitan Centre, Town Centre and Mixed Use zones	Between 10pm and 7am	35dB L_{Aeq(15min)} at all times 45dB at 63 Hz L_{eq(15 min)}; and 40dB at 125 Hz L_{eq(15 min)}
Bedrooms and sleeping areas in City Centre, Metropolitan Centre, Town Centre and Mixed Use zones	Between 11pm and 7am	35dB L_{Aeq} 45dB at 63 Hz L_{eq} and 40dB at 125 Hz L_{eq}

Other noise sensitive spaces Habitable rooms (except bedrooms and sleeping areas) and classrooms in an educational facility <u>between 7am and 10pm</u>	<u>At all other times</u>	40 dBA $L_{Aeq(1\text{-hour})}$ at all times
<u>Bedrooms and sleeping areas and other habitable room of activities sensitive to noise</u>		<u>40dB L_{Aeq} between 7am and 10pm in local centres and neighbourhood centres</u>
<u>Classrooms in educational facilities</u>		<u>40dB L_{Aeq} between 7am and 11pm in the city centre, metropolitan centres, town centres and mixed use centres</u>

10. The levels limits in Table 7.9 above must be met based on the sum of: while taking into account:
- the existing road traffic noise levels at the external wall facade of any room or space subject to this rule, energy logarithmically averaged between 7am – 10pm and 10pm – 7am, 10pm – and
 - the allowable level of noise that can be generated by permitted by the zone or precinct controls or any adjacent zone or precinct controls.

Where windows or doors in an affected room must be shut to meet the controls in Table 9 above the room must be provided with:

- a mechanical kitchen extractor fan ducted directly to the outside to serve any cooking hob, if not already installed and in sound working order in the kitchen, and
- a mechanical ventilation system or systems capable of:
 - providing at least six air changes of outdoor air per hour in sleeping rooms and all habitable rooms and 10 air changes of outdoor air per hour in classrooms
 - enabling the rate of airflow to be controlled across the range, from the maximum airflow capacity down to 0.5 air changes (plus or minus 0.1) of outdoor air per hour
 - being individually switched on and off by the building occupants, in the case of each system
 - operating at a noise level of no more than 35dB $L_{Aeq}(1\text{min})$ in bedrooms and sleeping areas and no more than 40dB $L_{Aeq}(1\text{min})$ in the other habitable rooms, hallways of dwellings and classroom Noise levels from the mechanical system(s) must be measured at least 1m away from any diffuser, or
- air conditioning plus mechanical outdoor air ventilation capable of:
 - providing internal temperatures in sleeping areas, habitable rooms and classrooms not greater than 25 degrees Celsius at five per cent ambient design conditions with all external doors and windows of those rooms closed
 - providing 0.5 air changes (plus or minus 0.1) of outdoor air per hour in all habitable rooms
 - being individually switched on and off by the building occupants

~~iv. operating at a noise level of no more than 35dB LAeq(1 min) in bedrooms and sleeping areas and no more than 40dB LAeq(1 min) in the other habitable rooms, classrooms and hallways of dwellings.~~

~~d. Noise levels from the mechanical systems must be measured at least 1m away from any diffuser.~~

11. ~~Where a new room is constructed that is subject to Rule 1.2.912 (internal acoustic insulation requirement) and the noise levels in Table 7.9 (internal design noise level) can only be complied with when doors or windows to those rooms are closed those rooms must, as a minimum:~~

~~a. Be constructed to ensure compliance with the noise limits in Table 7.9; and~~

~~b. Be mechanically ventilated and/or cooled to achieve:~~

~~i. for residential dwellings, either: XX air changes per hour (or XX litres per second outdoor air) in bedrooms and YY air changes per hour (or YY litres per second outdoor air) in other habitable rooms;~~

~~a. Provide mechanical cooling to achieve an internal temperature no greater than 25°C based on external design conditions of dry bulb 25.1°C and wet bulb 20.1°C~~

~~Mechanical cooling must be provided for all habitable rooms (excluding bedrooms) provided that at least one mechanical cooling system shall service every level of a dwelling that contains a habitable room (including bedrooms); or~~

~~b. Provide a high volume of outdoor air supply to all habitable rooms with an outdoor air supply rate of no less than:~~

~~i. 6 air changes per hour (ACH) for rooms with less than 30% of the facade area glazed;~~

~~ii. 15 air changes per hour (ACH) for rooms with greater than 30% of the facade area glazed;~~

~~iii. 3 air changes per hour for rooms with facades only facing south (between 120 degrees and 240 degrees) or where the glazing in the façade is not subject to any direct sunlight.~~

~~ii. for all other noise sensitive spaces provide mechanical cooling to achieve an internal temperature no greater than 25°C based on external design conditions of dry bulb 25.1°C and wet bulb 20.1°C. the outdoor airflows specified for that space specified in Table A1 of AS/NZS 1668.2:2012 The~~

~~use of ventilation and air conditioning in buildings – Mechanical ventilation in buildings~~

- c. Provide relief for equivalent volumes of spill air.
- d. Have a ventilation system or other means of providing thermal comfort capable of maintaining an indoor temperature of at least 18 degrees Celsius and no greater than 24 degrees Celsius year round;
- d. Be individually controllable across the range of airflows and temperatures by the building occupants in the case of each system;
- e. Have a mechanical ventilation and/or cooling system that generates a noise level no greater than L_{Aeq} 35 dB the noise limits in Table 9 when measured 1m from the diffuser at the minimum air flows required to achieve the design temperatures and air flows in 14(b)(i) in (b) above.

Note: this rule applies in addition to any requirements of Part G4 (Ventilation) of the New Zealand Building Code, under the Building Act 2004.

Cemetery and Maori Purpose zone

- 12. The noise (rating) level and maximum noise level from any activity measured within the boundary of any site in any Cemetery or Maori Purpose zone must not exceed the following limits

Comment [A5]: Rules 12 and 13 moved from section 1.3 below.

Table 10.9

Monday to Saturday 7am-10pm	50 dB L_{Aeq}
Sunday 9am-6pm	
All other times	40 dB L_{Aeq}
	75dB L_{AFmax}

Health Care Facility zone

- 13. The noise (rating) level and maximum noise level from any activity measured within the boundary of any site in any Health Care Facility zone must not exceed the following limits

Table 11.40

Monday to Saturday 7am-10pm	55 dB L_{Aeq}
Sunday 9am-6pm	

<u>All other times</u>	45 dB L_{Aeq}
	75dB L_{AFmax}

1.3 Noise arising from activities between zones

Coastal zone interface

RCP/DP

1. Except where specific noise provisions are provided for below, all The noise (rating) level generated by all any activity/ies in the CMA or on a lake or river must not exceed the following levels limits when measured at or within the boundary of any occupied dwelling or at the boundary of a site in a residential zone or notional boundary of any site in a residential rural zone containing an activity sensitive to noise rural dwelling.

Table 1240

7am-10pm	55 50dB $L_{Aeq(15\text{-min})}$
10pm-7am	45 40dB $L_{Aeq(15\text{-min})}$ 75dB L_{AFmax}

2. The noise limits in rule 1 levels in Table 10 above do not apply to:
 - a. the operational requirements of vessels (including cargo vessels, tugs, passenger liners, naval vessels and commercial fishing vessels), and
 - b. Temporary Activities.

Rural and future urban zones interface

3. The noise (rating) level and maximum noise level from any activity in a Mixed Rural, Rural Production, Rural Coastal or Future Urban zone measured within the boundary of any site in a residential zone must not exceed the following limits:

Table 13

<u>Monday to Saturday 7am-10pm</u>	<u>55dB L_{Aeq}</u>
<u>Sunday 9am-6pm</u>	
<u>All other times</u>	<u>45dB L_{Aeq}</u> <u>75dB L_{AFmax}</u>

4. The noise (rating) level and maximum noise level from any activity in a Rural Conservation or Countryside Living zone measured within the boundary of any site in a residential zone must not exceed the following limits:

Table 13B

<u>Monday to Saturday</u> <u>7am-10pm</u>	<u>50 dB L_{Aeq}</u>
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Comment [A6]: Rules 3 and 4 below are duplicated from Land use controls 1.2.3 and 1.2.4, to the extent that those rules formerly related to noise between zones.

<u>Sunday 9am-6pm</u>	
<u>All other times</u>	40 dB L_{Aeq} 75dB L_{AFmax}

5. Rules 3 and 4 above do not apply to
- animal noise on farms unless they are confined within a building or enclosure on a permanent or semi-permanent basis
 - the use of mobile agricultural horticultural or forestry vehicles or machinery, or other mobile or portable agricultural, horticultural or forestry equipment. Note: the operator of such vehicles or machinery is required by the RMA to adopt the best practicable option to ensure that noise emissions do not exceed a reasonable level, which will depend on the time they are used, how loud they are, how long it is used for and how often it is used near dwellings.
 - The use of post-harvest facilities including vehicle access ways and milking sheds set back at least 100m from any residential zone.

Residential zone interface Sport and Active Recreation Zone interface

6. The $L_{Aeq(15\text{ min})}$ noise (rating) level and maximum noise level (L_{AFmax}) arising from:
- ~~any non-residential recreational activity on land zoned Sport and Active Recreation measured at or within the boundary of a site in a residential zone or notional boundary of a site in a rural zone property in a residential zone that contains an activity sensitive to noise or~~
 - ~~any activity, other than farming, horticulture, measured at the notional boundary of any dwelling on rural zoned property must not exceed the following levels limits:~~

Table 14.12

Monday to Saturday 7am-9:30pm-10pm	60dB $L_{Aeq(15\text{ min})}$ for 25hrs in any 7 day period during these times
Sunday and public holidays 9am-6pm	55dB $L_{Aeq(15\text{ min-15 hours})}$ for all other periods during these times Except that for a cumulative period of i) 3 hours between 7am and 9.30pm Tuesday to Friday; ii) 6 hours between 7am and 10pm on Saturdays. <u>5 hours of that 15 hour period each day between 7am and 7pm on Thursdays, Fridays and Saturdays</u> the noise level shall not exceed 60dB L_{Aeq}
Sundays and Public Holidays 9am to 6pm outside the daylight saving period	55dB L_{Aeq} (measured over any 2-hour period) <u>Except that for a cumulative period of 3 hours between 10am and 3pm Sundays the noise level shall not exceed 60dB L_{Aeq}</u>

Sundays and Public Holidays 8am to 7pm during the daylight saving period	55dB L_{Aeq} (measured over any 2-hour period) <u>Except that for a cumulative period of 3 hours between 10am and 3pm Sundays the noise level shall not exceed 60dB L_{Aeq}</u>
All other times	45 <u>40dB</u> $L_{Aeq(15\text{-min})}$ 60 <u>55dB</u> $L_{eq(15\text{-min})}$ at 63 Hz 55 <u>50dB</u> $L_{eq(15\text{-min})}$ at 125 Hz 75dB L_{AFmax}

NOTE: Compliance with the lower noise limit of 40dB L_{Aeq} applying at all other times in Table 1442 may preclude intense, noisy activities or activities involving teams or groups from being undertaken where the receivers of noise are proximate.

- b. The noise (rating) level and maximum noise level from the use of any voice or music amplification system associated with recreational activity on land zoned Sport and Active Recreation measured within the boundary of a site in a residential zone or notional boundary of a site in a rural zone shall comply with the following limits:

Table 14A

Monday to Friday 7am-10pm	50dB $L_{Aeq(5min)}$
Sunday and Public Holidays 9am-6pm	
All other times	40dB $L_{Aeq(5min)}$ 55dB $L_{eq(5min)}$ at 63 Hz 50dB $L_{eq(5min)}$ at 125 Hz 75dB L_{AFmax}

No 5 minute measurement may exceed the stated limit.

9. ~~At the same time, the following controls must also be met:~~
- ~~a. floodlights for sporting activities must be turned off by 9.30pm on Monday to Saturday and at 6pm on Sundays and public holidays~~
 - ~~b. organised outdoor recreational activities must be finished by 9.30pm on Monday to Saturday inclusive and by 6pm on Sundays and public holidays~~
 - ~~c. organised outdoor recreational activities must not commence before 7am on Monday to Saturday and 9am on Sundays and public holidays~~
 - d. vehicles entrances to any area exclusively serving an artificial sports field on the reserve must be closed between 11pm and 7am.

Public open space, Conservation, Informal recreation, Community and Civic Space Zones

7. The noise (rating) level and maximum noise level from any activity on land zoned Public Open Space Conservation, Informal Recreation, Community and Civic Spaces when measured ~~at or~~ within the boundary of a site in a residential zone ~~any activity sensitive to noise~~ or notional boundary of a site in a rural zone shall not exceed the following limits:

Table 14B.13

Monday to Saturday 7am-10pm	50dB $L_{Aeq(15min)}$
Sunday 9am-6pm	
All other times	40dB $L_{Aeq(15min)}$ 75dB L_{AFmax}

Residential zone interface

8. The $L_{Aeq(15min)}$ noise (rating) level and maximum noise level (L_{AFmax}) arising from:
- a. any non residential activity ~~not in a residential zone~~ measured at or within the boundary of a property site in a residential zone, or
 - b. any activity other than farming, agriculture, horticulture, or forestry measured at within the notional boundary of any dwelling on rural zoned property must not exceed the following levels limits.

Business, Centres, Mixed Use and Marina zones interfaces

8. The noise (rating) and maximum noise level from any activity on land in the Business, Centres, Mixed Use or Marina zones must not exceed the following limits when measured within the boundary of a site in a residential zone or within the notional boundary of property in a rural zone:

Table 14C.8

Monday to Saturday 7am-10pm	55dB $L_{Aeq(15min)}$
Sunday 9am-6pm	
All other times	45dB $L_{Aeq(15min)}$ 60dB $L_{eq(15min)}$ at 63 Hz 55dB $L_{eq(15min)}$ at 125 Hz 75dB L_{AFmax}

8A These noise limits in rule 8 above do not apply to:

- a. the noise from vehicles moving on roads controlled by Auckland Council or Auckland Transport.
- b. The noise affecting 11, 13, and 15 Harrison Road as generated on the Fulton Hogan sites at 7 Reliable Way [Lot 2, DP 114222, CT NA65A/209] and 4 Reliable Way Mt

Wellington [Lot 3, DP 363738, CT 259289]. Instead, the noise (rating) level arising from the Fulton Hogan sites shall comply with a limit of 60dB L_{Aeq} when measured within the boundary of 11, 13 or 15 Harrison Road.

c. The noise affecting the properties shown on Figure 1 of Appendix X <insert-legal description of properties> as generated on the DB Waitemata Breweries site and 3 Bairds Road, Otahuhu (PT Lot 4 DP 22498, Lot 1, DP 29149, PT Lot 4 DP 15832, PT Lot 2 DP 31817, PT Lot 9 DP 26107, Lot 1 DP 31104, PT Lot 10 DP 7281 all on CT 443069). Instead, the noise (rating) level arising from the DB site shall comply with a limit of L_{Aeq} 65dB with a maximum noise limit of L_{Amax} 90dB applying only between the hours of 10pm and 7am when measured within the boundary of the properties listed above.

Comment [A7]: Figure is proposed to be included as an Appendix to the PAUP, and is found at the end of this Attachment B.

RCP/DP

Schools interface

9. The noise (rating) level and maximum noise level from any activity measured within the boundary of any school not located in a school zone must not exceed the following limits:

Table 14D 44

<u>Monday to Saturday 7am-10pm</u>	<u>55 dB L_{Aeq}</u>
<u>Sunday 9am-6pm</u>	
<u>All other times</u>	<u>45 dB L_{Aeq}</u> <u>75dB L_{AFmax}</u>

All other zone interfaces

10. Except as provided for in rules 1 – 9 Rule 3 above, where noise generated by any activity on a site in one zone is received by any activity on a site in a different zone, the activity generating the noise must comply with the noise limits and controls of the different zone at the receiving site.

1.4 Noise arising from Specific Activities

Residential zones – care centres – ~~early childhood education centres learning services, kindergartens~~

1. The noise (rating) level arising from any early childhood ~~education centre learning services or kindergarten~~ care centre or educational facility in any a residential zone when measured at or within the boundary of any adjacent property site in the residential zones must not exceed the following levels limits unless the relevant zone in which the facility is located provides for higher limits.

Table 15.14

Monday to Friday 7am-6pm (see note)	55dB $L_{Aeq(15-min)}$
All other times	45 40 dB $L_{Aeq(15-min)}$ 75dB L_{AFmax}

Where the prescribed timeframe is from 7am to 6pm (with reference to Clause 8.3 of NZS6802:2008)

- ~~2. These levels do not apply to the noise from normal recreational activities occurring at a care centre or educational facility site in a residential zone between 8am-6pm on Monday to Friday and 9am-1pm on Saturday.~~

Residential zones – educational facilities Schools and Tertiary

3. The noise (rating) level arising from the operation of a primary, intermediate school, secondary school or tertiary education facility must comply with the following noise limits, when measured within the boundary of any adjacent residentially zoned site:

Table 16.15

Monday to Saturday 7am to 10pm	55 dB $L_{Aeq(15-min)}$
Sunday 9am to 6pm	
All other times	45 dB $L_{Aeq(15-min)}$ 75 L_{Amax}

Note - Compliance with the noise limits of 45dB L_{Aeq} and 75dB L_{Amax} applying at all other times in Table 3A-16 may mean that functions, events, and other activities utilising buildings, car parks, accessways and open space proximate to any activity sensitive to noise may need to be restricted in terms of finishing time or noise level.

4. ~~These noise limits do not apply to noise from school sports and school recreational outdoor educational-recreational activities which are part of the normal school curriculum occurring between 0800 and 1800 hours Monday to Saturday.~~
5. ~~Where any part of the site (including car parks, access ways, buildings or open space) used for events, functions or performances is within 30m of a residential zone, there shall be no more than 8 events using those parts of the site extending beyond 10pm (including people leaving the site) in any 12 month period.~~

Wind turbines and wind farms

6. At any wind speed, the ($L_{A90(10min)}$) sound level from a wind turbine generator or wind farm must not exceed the background sound level by more than 5dB, or a level of 40dB $L_{A90 (10min)}$ whichever is the greater when measured at within the notational boundary ~~of~~ on any adjacent property which is a noise sensitive location as defined in New Zealand Standard on Acoustics – Wind Farm Noise (NZS 6808: 2010). The sound level of a wind turbine generator or wind farm must be measured and assessed to the requirements of New Zealand Standard on Acoustics – Wind Farm Noise (NZS 6808: 2010)
7. ~~The noise level generated by wind farms shall be measured and assessed in accordance with NZS6808:2010 Acoustics – wind farm noise. Wind turbine sound levels with special audible characteristics, such as tonality, impulsiveness, or amplitude modulation, must be adjusted by arithmetically adding up to +6dB to the measured level at the notional boundary. The assessment of special audible characteristics must be conducted in accordance with Appendix B of New Zealand Standard on Acoustics – Wind Farm Noise (NZS 6808: 2010).~~

Electricity generators

8. The $L_{Aeq(15min)}$ noise (rating) level and maximum noise level (L_{AFmax}) arising from the use of any ~~petrol or diesel powered~~ electricity generator in a rural or residential zone for residential use powered by an internal combustion engine on a site which does not have reticulated power, measured at within the boundary of any site in a residential zone or notional boundary of any site in a rural zone adjacent dwelling building containing an activity sensitive to noise must not exceed the following levels limits.

Table 17.46

7am to 10pm	55 <u>40</u> dB $L_{Aeq(15min)}$
10pm to 7am	45 <u>30</u> dB $L_{Aeq(15min)}$
	75dB L_{AFmax}

9. This rule does not apply to generators in use prior to the 30th September 2013. For generators established in-use prior to the 30th September 2013 the noise limits for the relevant zone or zone interface shall apply.

~~b.Noise levels must be measured in accordance with the New Zealand Standard on Acoustics—
Measurement of Environmental Sound (NZS 6801: 2008) and assessed in accordance with the New
Zealand Standard on Acoustic—Environmental Noise (NZS 6802: 2008).~~

1.5 Construction noise

Construction noise – all zones except City Centre and Metropolitan Centre zones

4. Noise from construction and demolition activities in all zones except in the City Centre and Metropolitan Centre zones must meet the requirements of noise limits in Tables 2 and 3 of New Zealand Standard on NZS 6803: 1999 Acoustics—Construction Noise (NZS 6803: 1999). The measurement and assessment of construction noise must be in accordance with New Zealand Standard on Acoustics—Construction Noise (NZS 6803: 1999), and the requirements of annex A of New Zealand Standard on Acoustics—Construction Noise (NZS 6803: 1999) must be used if it is necessary to assess the measured Leq levels in high background noise areas.

1a. Noise from construction activities in all zones except the City Centre and Metropolitan Centre zones must not exceed the following limits when measured 1m from the façade of any building that contains an activity sensitive to noise that is occupied during the works:

Table 17a – Noise limits for construction noise affecting Activities Sensitive to Noise

Time of week	Time Period	Typical Duration (dBA)	
		L _{eq}	L _{max}
Weekdays	6:30am - 7:30am	60	75
	7:30am – 6:00pm	75	90
	6:00am – 8:00pm	70	85
	8:00pm – 6:30am	45	75
Saturdays	6:30am - 7:30am	45	75
	7:30am – 6:00pm	75	90
	6:00am – 8:00pm	45	75
	8:00pm – 6:30am	45	75
Sundays and public holidays	6:30am - 7:30am	45	75
	7:30am – 6:00pm	55	85
	6:00am – 8:00pm	45	75
	8:00pm – 6:30am	45	75

Noise from construction activities in all zones except the City Centre and Metropolitan Centre zones must not exceed the following limits when measured 1m from the façade of any other building that is occupied during the works:

Table 17b – Noise limits for construction noise affecting any other activity

Time Period	Typical Duration L _{eq} (dBA)
7:30am – 6:00pm	75
6:00pm – 7:30am	80

1a For a project involving a total duration of construction work that is less than 15 calendar days the noise limits in tables 17a and 17b shall be increased by 5dB in all cases.

1b For a project involving a total duration of construction work that is more than 20 weeks the noise limits in tables 17a and 17b shall be decreased by 5dB in all cases.

Construction noise – City Centre and Metropolitan Centre zones

- Construction activities in the City Centre and Metropolitan Centre zones must comply with the requirements of (1) above for any receiver not in a City Centre or Metropolitan Centre zone and must not exceed the following levels limits when measured ~~as the incident level~~ for any 30-minute period 1m from the façade of any adjacent building in the City Centre or Metropolitan Centre zone that is occupied during the work:

Table 18 47

Construction of less than 15 consecutive calendar days' duration (total duration of works)		
	L _{Aeq(30 min)}	L _{AFmax}
Monday to Friday 6.30am-10.30pm	80 dB	90 dB
Saturday 7am-11pm	85 dB	90 dB
Sunday 9am-7pm	80 dB	90 dB
All other times (night time)	60 dB	75 dB
All other times in the Residential and Learning precincts in the City Centre zone	55 dB	75 dB

Table 19 44

Construction of 15 consecutive calendar days or more (total duration of works)		
	L _{Aeq(30 min)}	L _{AFmax}
Monday to Friday 6.30am-10.30pm	75 dB	90 dB
Saturday 7am-11pm	80 dB	90 dB
Sunday 9am-7pm	65 dB	85 dB
All other times (nighttime)	60 dB	75 dB
All other times in the Residential and Learning precincts in the City Centre zone	55 dB	75dB

- ~~The measurement and assessment of construction noise must be in accordance with New Zealand Standard on NZS 6803:1999 Acoustics—Construction Noise (NZS 6803: 1999) and the requirements of annex A of New Zealand Standard on Acoustics—Construction Noise (NZS 6803: 1999) must be used if it is necessary to assess the measured Leq levels in high background noise areas.~~
- Where external measurement of construction noise is impractical or inappropriate, the upper limits for the noise measured inside the building ~~must~~ shall be 20dB less than the ~~appropriate~~ relevant limits levels in tables 18 43 and 19 44 above.

Construction noise: essential work within the road carriageways

5. Noise from any construction, maintenance and demolition activities in the road ~~corridor~~ must meet the relevant noise limits in Tables 2 and 3 of New Zealand Standard NZS6803:1999 Acoustics—Construction Noise (NZS 6803: 1999) and ~~or~~ Tables 17a, 17b, 18 43 and 19 44.

6. The noise limits specified in (5) do not apply to unplanned repair or maintenance works or ~~minor~~ **minor** planned works in the road ~~corridor, state highway or motorway~~ between the hours of 10pm and 7am where:
 - a. The number of nights where the noise generated by the works exceeds the relevant noise limits in ~~NZS 6803:1999 or~~ tables 17a, 17b, 18 43 and 19 4 above at any one receiver is 3 or less ~~in any 12 month period;~~
 - b. The works cannot practicably be carried out during the day or because the road controlling authority requires this work to be done at night time;
 - c. Because of the nature of the works the noise produced cannot be practicably be made to comply with the relevant noise limits of ~~NZS 6803:1999 or~~ tables 17a, 17b, 18 43 and 19 44 above;
 - d. ~~5 days prior to works commencing~~ For planned works, a copy of the works access permit issued by Auckland Transport or approval from the New Zealand Transport Agency is provided to the Council 5 days prior to work commencing;
 - e. For ~~minor~~ planned works a construction noise and vibration management plan is provided to the Council ~~within no less than 5 days of prior to~~ the works commencing in accordance with the applicable provisions of (8) below.

7. The noise limits specified in (5) do not apply to unplanned repair or maintenance works or ~~minor~~ **minor** planned works in the road ~~corridor, state highway or motorway~~ between the hours of 7am and 10pm where:
 - a. The number of days where the noise generated by the works exceeds the relevant noise limits in ~~NZS 6803:1999 or~~ tables 17a, 17b, 18 43 and 19 44 above at any one receiver is 10 or less ~~in any 12 month period;~~ and
 - b. Because of the nature of the works and the proximity of receivers the noise generated cannot practicably made to comply with the relevant noise limits of ~~NZS 6803:1999 or~~ tables 17a, 17b, 18 43 and 19 44 above;
 - c. ~~5 days prior to works commencing~~ a For planned works, a copy of the works access permit issued by Auckland Transport or approval from the New Zealand Transport Agency is provided to the Council 5 days prior to work commencing;
 - d. For ~~minor~~ planned works where the works will take more than 8 hours to complete a construction noise and vibration management plan is provided to the Council ~~within no less than 5 days of prior to~~ the works commencing in accordance with the applicable provisions of (8).

7A. The noise limits specified in (5) do not apply to road rehabilitation works that comprise the substantive removal and replacement of the road structural base and pavement in the road where:

- a. Any receiver has not been exposed to noise levels exceeding the noise limits in section (5) from previous road rehabilitation works within the 20 years of the programmed start date for the works subject to this rule;
- b. The number of nights where the noise generated by the works exceeds the relevant noise limits in ~~NZS 6803:1999~~ or tables 17a, 17b, 18 43 and 19 44 above at any one receiver is 20 days or less;
- c. Milling, concrete cutting, percussive demolition are completed by 10.30pm;
- d. The works cannot practicably be carried out during the day or because the road controlling authority requires this work to be done at night time;
- e. Because of the nature of the works the noise produced cannot be practicably be made to comply with the relevant noise limits of ~~NZS 6803:1999~~ or tables 17a, 17b, 18 43 and 19 44 above;
- f. A copy of the works access permit issued by Auckland Transport or approval from the New Zealand Transport Agency is provided to the Council 5 days prior to work commencing;
- g. A construction noise and vibration management plan is provided to the Council no less than 5 days prior to the works commencing in accordance with the applicable provisions of (8) below.

8. A construction noise and vibration management plan must be prepared by a suitably qualified and experienced person and include the following:

- a. Details of the community consultation to be undertaken to advise the occupiers of properties located within 100m of the proposed works of the following:
 - i. The area affected by the work;
 - ii. Why the work is required to be undertaken at night (where relevant);
 - iii. The times and days when the noise and vibration is likely to be generated;
 - iv. A contact name and number of the works supervisor who can be contacted if any issues arise; and
 - v. How noise and vibration complaints will be managed and responded to.
- b. A description of the works and its duration, anticipated equipment to be used and the processes to be undertaken; and
- c. Identification of the best practicable options that will be undertaken to mitigate and minimise any noise being produced that is likely to exceed the relevant limits of ~~NZS 6803:1999~~ or tables 17a, 17b, 18 43 and 19 44 above.

9. For the purpose of Rules 5, 6, 7 and 7A:

- a. Planned work means work that has been planned to take place at least 7 days before the work commences.
- b. The measurement and assessment of all construction noise must be in accordance with NZS 6803:1999.

~~5. — The above clauses do not apply to essential maintenance or utility works undertaken within the carriage way of a road (including the shoulder of a state highway or motorway) at night where:~~

- ~~a. it has been demonstrated to the council that these works cannot reasonably be carried out during daylight hours. For example, the location of the works within the carriageway of the road, and the traffic volumes on that road, make it impracticable to work during the day~~
- ~~b. it has been demonstrated to the council that these works cannot reasonably comply with the night time (10.30pm to 6.30am) noise levels of New Zealand Standard on Acoustics — Construction Noise (NZS 6803: 1999) or Table 1 and 2 above. For example the nature of the work make compliance impracticable~~
- ~~c. a works access permit and a construction noise and vibration management plan has been provided to council in accordance with clause 9 below.~~

Construction noise: essential work within the road carriageway during the day

~~6. — The above clauses do not apply to essential maintenance or utility works undertaken within a road during the day where:~~

- ~~a. it has been demonstrated to the council that these works cannot reasonably be carried out in compliance with the noise levels of New Zealand Standard on Acoustics — Construction Noise (NZS 6803: 1999) or table 1 and 2 above. For example, the nature of the work and the proximity to adjacent properties make compliance impracticable~~
- ~~b. this provision only applies for 10 days of any 12 month period outside any property on any road~~
- ~~c. a works access permit and a construction noise and vibration management plan has been provided to council in accordance with clause 7(c) below.~~

Construction noise: conditions of essential work within the road carriageway during the day or night

~~7. — The work permitted above must only occur if it:~~

- ~~a. — it is undertaken in accordance with a works access permit issued by Auckland Transport or if approved by the New Zealand Transport Agency~~
- ~~b. — the council has received that permit and a construction noise and vibration management plan for that work at least 5 working days before the work commences~~
- ~~c. — the construction noise and vibration management plan must be prepared by an acoustic specialist and must include the following:~~
 - ~~i. — an outline of the community consultation to be undertaken to advise the occupiers of properties located within 100m of the proposed works of the following:~~
 - ~~• — the area affected by the work~~
 - ~~• — if the work is required to be undertaken at night why this is necessary~~
 - ~~• — the type of work planned and the noise likely to be generated~~

- ~~• the date and times of work~~
- ~~• a contact name and number of the works supervisor who can be contacted if any issue arises~~
- ~~• how noise and vibration complaints will be managed~~
- ~~ii. a description of the works and its duration, anticipated equipment to be used and the processes to be undertaken~~
- ~~iii. an identification of the best practicable options that will be undertaken to mitigate and minimise any noise being produced that is likely to exceed the levels of New Zealand Standard on Acoustics – Construction Noise (NZS 6803: 1999) or Table 1 and 2 above.~~

1.6 Vibration

1. ~~Construction and demolition activities including rock breaking, blasting and pile driving activities~~ must be controlled to ensure any resulting ground vibration does not exceed the:
 - a. ~~levels limits~~ set out in ~~Table 4~~ of DIN 4150-3 (1999): Structural vibration – Part 3 Effects of vibration on structures when measured in accordance with that Standard on any structure not on the same site; ~~and on the foundation or the horizontal plane of the highest floor of an affected any unoccupied building.~~
~~Construction and demolition activities including rock breaking, blasting and pile driving activities must be controlled~~
 - b. ~~The following limits~~ when measured in any axis in the corner of the floor of the storey of interest for multi-storey buildings, or at the foundation of a single storey building:

Table 20 45

<u>Receiver</u>	<u>Location</u>	<u>Period</u>	<u>Peak Particle Velocity Limit</u>
<u>Occupied Activity Sensitive to Noise</u>	<u>Inside the building</u>	<u>Night-time 10pm to 7am</u>	0.3 mm/s
		<u>Daytime 7am to 10pm</u>	4.2 mm/s
<u>Other occupied buildings</u>	<u>Inside the building</u>	<u>Daytime 7am to 10pm</u> <u>At all Times</u>	2 mm/s

- c. Works generating vibration for 3 days or less between the hours of 7am to 6pm may exceed the limits in Rule ~~1b~~ above, but must comply with a limit of 5mm/s PPV when measured in any axis in the corner of the floor of the storey of interest for multi-storey buildings, or at the foundation of a single storey building, where:
 - i. All occupied buildings within 50m of the extent of the works generating vibration are ~~advised notified~~ in writing no less than 3 days prior to the vibration-generating works commencing;
 - ii. The written ~~notification advice~~ shall include details of the location of the works, the duration of the works, a phone number for complaints and the name of the site manager.
- d. ~~Permanently installed~~ stationary vibrating, reciprocating and rotating machinery and all piping, ducting and other equipment attached to such machinery must be installed and maintained so that any resulting vibration does not exceed the ~~levels limits~~ of the following table when measured ~~in any occupied room or on any building on any another site or in any occupied unit in adjacent buildings or areas of buildings~~ under different ownership from the source of the vibration. Vibration shall be measured in accordance with ISO2631-2:2003 Mechanical Vibration and Shock – Evaluation of

Human Exposure to Whole-body Vibration – Part 2: Vibration in Buildings (1Hz to 80Hz).

Table ~~21~~ ~~16~~

Affected occupied building or area	Time of day	Maximum vibration level in rms velocity (mm/s) between 8 and 80Hz
Buildings in a Heavy Industry or Light Industry zone	All	0.80
Buildings for commercial activities	All	0.40
Habitable rooms of buildings designed for residential use Noise Sensitive Spaces within Activities Sensitive to Noise	7am-10pm	0.20
Bedrooms and sleeping areas only of buildings designed for residential use within Activities Sensitive to Noise	10pm-7am	0.14
Surgery Operating rooms of health care facilities, rooms with microscopes and cameras for television broadcast	All	0.10

~~1. Construction and demolition activities including rock breaking, blasting and pile driving activities must be controlled to ensure any resulting ground vibration does not exceed the levels limits set out in Table 1 of DIN 4150-3 (1999): Structural vibration – Part 3 Effects of vibration on structures when measured on the foundation or the horizontal plane of the highest floor of an affected any unoccupied building.~~

~~1A. Construction and demolition activities including rock breaking, blasting and pile driving activities must be controlled to ensure any resulting vibration does not exceed the following limits:~~

Table 17

<u>Receiver</u>	<u>Location</u>	<u>Period</u>	<u>Peak Particle Velocity Limit</u>
<u>Occupied Activity Sensitive to Noise</u>	<u>Inside the building</u>	<u>Night-time 10pm to 7am</u>	<u>0.3 mm/s</u>
		<u>Daytime 7am to 10pm</u>	<u>1 mm/s</u>
<u>Other occupied</u>	<u>Inside the building</u>	<u>Daytime 7am to 10pm</u>	<u>2 mm/s</u>

<u>buildings</u>			
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2. Stationary vibrating, reciprocating and rotating machinery and all piping, ducting and other equipment attached to such machinery must be installed and maintained ~~The vibration arising from any activity (except construction, maintenance, demolition, activities in the Mineral Extraction zone and from traffic in the road or rail corridors) shall be undertaken so that any resulting vibration does not exceed the levels~~ limits of the following table when measured ~~in or on any building on any other site in adjacent buildings or areas of buildings under different ownership from the source of the vibration.~~

Table 15

Affected occupied building or area	Time of day	Maximum vibration level in rms velocity (mm/s) between 8 and 80Hz
Buildings in a Heavy Industry or Light Industry zone	All	0.80
Buildings for commercial activities	All	0.40
Habitable rooms of buildings designed for residential use	7am-10pm	0.20
Bedrooms and sleeping areas of buildings designed for residential use	10pm-7am	0.14
Surgery rooms of health care facilities, rooms with microscopes and cameras for television broadcast	All	0.10

1.7 Blasting

- The noise created by the use of explosives for any ~~rock~~ blasting activity measured at the boundary of the site on which the explosives are used must not exceed a peak sound pressure of 120 dB (L_{zpeak}) ~~of~~. The noise created by the use of explosives for construction activities shall not exceed a peak sound pressure level of 120dBC measured 1m from the facade of any occupied building.

1.8 Helicopter noise

- The take-off or landing of a helicopter on any site except for emergency services shall not exceed ~~must not cause a noise level which exceeds~~ L_{dn} 50dB or 85dB L_{AFmax} measured within

the boundary or on the notional boundary of any adjacent site containing activities sensitive to noise and L_{dn} 60dBA within the boundary of any other site.

1.9 Transport noise

1. All new roads and all altered roads that are deemed to be within the scope of NZS 6806: 2010 shall comply with the requirements of NZS 6806:2010.

2. Assessment - Development Land use control infringements

2.1 Matters of discretion

In addition to the general matters of discretion in ~~clause~~ Rule 2.3 of the general provisions, the council will restrict its discretion to the matters below for the listed ~~development~~ land use control infringement.

1. Noise and vibration
 - a. effects on adjacent land uses particularly activities sensitive to noise
 - b. measures to avoid, remedy or mitigate the adverse effects of noise
 - ~~c. reverse sensitivity effects.~~
2. Internal noise levels of noise sensitive spaces in centres and mixed use zones
 - a. reverse sensitivity effects
 - b. alternative ventilation solutions

2.2 Assessment criteria

In addition to the general assessment criteria in ~~clause~~ Rule 2.3 of the general provisions, the council will consider the relevant criteria below for the listed ~~development~~ land use control infringement.

1. Noise and vibration
 - a. Effects on adjacent land uses
 - i. ~~Noise and vibration generated by an activity should~~ Activities shall be managed so that they do not generate unreasonable not adversely affect noise and vibration levels on adjacent land uses particularly noise activities sensitive land uses to noise.
2. Measures to avoid, remedy or mitigate the adverse effects of noise and vibration
 - a. ~~In considering the assessment criterion above, the council will assess w~~Whether the noise or vibration generated by the activity:
 - i. will occur at times when disturbance to sleep can be avoided or minimised
 - ii. will be compatible with activities occurring or allowed to occur in the surrounding area
 - iii. will be limited in duration, ~~or~~ frequency or by hours of operation.
 - iv. will exceed the existing background noise and vibration levels in that environment and the reasonableness of ~~those existing~~ the cumulative levels
 - v. can be carried out during daylight hours, such as road works and works on public footpaths.
 - b. Whether the effects on amenity generated by vibration from construction activity:
 - i. will be mitigated by **written advice** ~~notification~~ of the activity to adjacent land uses prior to the activity commencing
 - ii. can be mitigated by monitoring of structures to determine risk of damage to reduce occupant concern
 - iii. can be shown to have been minimised by the appropriate assessment of alternative options
 - iv. are reasonable taking into account the level of vibration and the duration of the activity (where levels of 10mm/s PPV may be tolerated only for very brief periods)

c. Whether the measures to minimise the noise or vibration generated by the activity represent the best practicable option

d. For works in the road or rail corridor:

Whether the effects on amenity and sleep disturbance generated by construction activity in the road or rail corridor are reasonable taking into account the background noise levels.

3. Reverse sensitivity effects

a. Whether the activity or infringement proposed should not will unduly constrain the operation of existing activities (excluding construction or demolition activities), be adversely affected by the existing or expected level of noise including transport noise and

4. Noise in Centres and Mixed Use Zones

In addition to the assessment criteria in 1 above, the following shall be considered:

- a) Background noise at the affected receivers and the extent to which this is proposed to be exceeded
- b) Level of existing sound insulation (where that information is available) and ventilation options for affected receivers existing as at the date of notification of the plan.
- c) Frequency and duration of the exceedance

5. Alternative ventilation solutions

a) Whether alternative solutions such as passive or mixed mode cooling can provide a sufficient thermal comfort level that can be maintained in accordance with ASHRAE (US) Standard 55:2013, CIBSE (UK) Technical Memorandum TM52:2013, BS EN 15251.

Definitions:

Noise sensitive space means any indoor space within an activity sensitive to noise excluding any bathroom, water closet, laundry, pantry, walk in wardrobe, corridor, hallway, lobby, stairwell, clothes drying area, kitchens not part of a dwelling, garage or other space of a specialised nature occupied neither frequently nor for extended periods.

Notional boundary means Aa line 20m from any side of a building containing an activity sensitive to noise sensitive land use, or the legal boundary where this is closer to the building noise sensitive land use.

Unit

For the purposes of Chapter H6.2, Unit means a defined part of a building under different ownership, including apartments and separate leased areas within a building.

Activities sensitive to noise

~~Activities sensitive to unreasonable high levels of noise being~~ any dwellings, visitor accommodation, boarding houses, marae complex, papakāinga, retirement villages, supported residential care, care centres, class rooms in education facilities, and ~~hospital night wards~~ healthcare facilities with an overnight stay facility.

Sleeping Areas. ~~For the purposes of the land use controls in this section~~ For the purposes of Chapter H6.2, 'sleeping areas' means areas that are specifically designed and constructed within activities sensitive to noise facilities that provide for sleep but are not residential bedrooms. These areas include rooms such as hospital wards, sleeping areas in care centres and studio apartments.

[PART 5 APPENDICES](#)

[Appendix X: DB Waitemata Breweries Noise Exclusion Sites](#)

[Figure 1](#)

