

## **E25. Noise and vibration**

### **E25.1. Background**

Noise and vibration may cause adverse effects on amenity depending on:

- when and where it occurs;
- its duration;
- physical characteristics, including the sound pressure level (loudness) and frequency (pitch);
- its steadiness;
- variations of these properties; and
- 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. The Plan cannot control either traffic noise or natural noise.

The objectives and policies for noise and vibration seek to control the levels of noise and vibration created by activities to limit the adverse effects of noise and vibration on amenity values, human health and to protect existing noisy activities from reverse sensitivity effects.

### **E25.2. Objectives [rcp/dp]**

- (1) People are protected from unreasonable levels of noise and vibration.
- (2) The amenity values of residential zones are protected from unreasonable noise and vibration, particularly at night.
- (3) Existing and authorised activities and infrastructure, which by their nature produce high levels of noise, are appropriately protected from reverse sensitivity effects where it is reasonable to do so.
- (4) Construction activities that cannot meet noise and vibration standards are enabled while controlling duration, frequency and timing to manage adverse effects.

### **E25.3. Policies [rcp/dp]**

- (1) Set appropriate noise and vibration standards to reflect each zone's function and permitted activities, while ensuring that the potential adverse effects of noise and vibration are avoided, remedied or mitigated.
- (2) Minimise, where practicable, noise and vibration at its source or on the site from which it is generated to mitigate adverse effects on adjacent sites.

- (3) Encourage activities to locate in zones where the noise generated is compatible with other activities and, where practicable, adjacent zones.
- (4) Use area or activity specific rules where the particular functional or operational needs of the area or activity make such rules appropriate.
- (5) Prevent significant noise-generating activities other than roads and railway lines from establishing in or immediately adjoining residential zones.
- (6) Avoid activities sensitive to noise from establishing in industrial zones where adverse effects (including reverse sensitivity effects) arise that cannot be otherwise appropriately remedied or mitigated.
- (7) Require activities to be appropriately located and/or designed to avoid where practicable or otherwise remedy or mitigate reverse sensitivity effects on:
  - (a) existing or authorised infrastructure;
  - (b) adjacent Business – Light Industry Zone and Business – Heavy Industry Zone;
  - (c) existing lawfully established rural production activities;
  - (d) major recreation facilities;
  - (e) existing lawfully established commercial activities within Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone, Business – Mixed Use Zone; or
  - (f) regionally significant mineral extraction activities.

*Noise arising from lakes, rivers and the coastal marine area*

- (8) Require activities to be insulated or protected, from unreasonable manmade noise and vibration emitted from the use and development of neighbouring lakes, rivers or the coastal marine area.

*Noise arising from or affecting rural zones*

- (9) Avoid, remedy or mitigate the adverse effects of noise in the rural environment, having regard to the working nature of this environment.

*Construction, demolition and maintenance activities*

- (10) Avoid, remedy or mitigate the adverse effects of noise and vibration from construction, maintenance and demolition activities while having regard to:
  - (a) the sensitivity of the receiving environment; and
  - (b) the proposed duration and hours of operation of the activity; and

(c) the practicability of complying with permitted noise and vibration standards.

#### *Events and activities*

- (11) Recognise that activities occurring in the Open Space – Sport and Active Recreation Zone may generate high levels of noise and ensure that adverse effects are avoided, remedied or mitigated having regard to the sensitivity of the receiving environment.

#### **E25.4. Activity table**

Table E25.4.1 Activity table specifies the activity status of land use and development activities pursuant to section 9(3) of the Resource Management Act 1991 and the activity status of coastal use, occupation and activity pursuant to sections 12(1); 12(2) and 12(3) of the Resource Management Act 1991.

#### ***Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017***

If any activity listed in rules (including standards) E25.4.1 to E25.6.33 is regulated by the Resource Management (National Environmental Standard for Plantation Forestry) Regulations 2017 (“NESPF”) then the NESPF applies and prevails.

However, the NESPF allows the plan to include more restrictive rules in relation to one or more of the following:

- Significant Ecological Areas Overlay;
- Water Supply Management Areas Overlay;
- Outstanding Natural Character Overlay;
- High Natural Character Overlay;
- Outstanding Natural Landscapes Overlay;
- Outstanding Natural Features Overlay; or
- activities generating sediment that impact the coastal environment.

Where there is a rule in the plan that relates to any of the matters listed above then the plan rule will apply. In the event that there is any conflict between the rules in the plan and the NESPF in relation to any of the above, the most restrictive rule will prevail.

If the NESPF does not regulate an activity then the plan rules apply.

**Table E25.4.1 Activity table [rcp/dp]**

<b>Activity</b>		<b>Activity status</b>
(A1)	Activities that comply with all the relevant permitted activity standards	P
(A2)	Activities that do not comply with a permitted activity standard	RD

### **E25.5. Notification**

- (1) Any application for resource consent for an activity listed in Table E25.4.1 Activity table will be subject to the normal tests for notification under the relevant sections of the Resource Management Act 1991.
- (2) When deciding who is an affected person in relation to any activity for the purposes of section 95E of the Resource Management Act 1991 the Council will give specific consideration to those persons listed in Rule [C1.13\(4\)](#).

### **E25.6. Standards**

All activities must comply with the following relevant permitted activity standards.

#### **E25.6.1. General standards**

- (1) Noise levels arising from activities must be measured and assessed in accordance with the New Zealand Standard NZS 6801:2008 Measurement of environmental sound and the New Zealand Standard NZS 6802:2008 Acoustics - Environmental noise except where more specific requirements apply.
- (2) The application of an adjustment for noise containing special audible characteristics in terms of Appendix B4 Special Audible Characteristics in New Zealand Standard NZS 6802:2008 Acoustics – Environmental noise 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.
- (3) The noise from any construction work activity must be measured and assessed in accordance with the requirements of New Zealand Standard NZS6803:1999 Acoustics – Construction noise. Construction work is defined in New Zealand Standard NZS6803:1999 Acoustics – Construction noise.
- (4) The noise limits of the Plan do not apply to emergency service sirens and callout sirens during emergency situations.
- (5) Where more than one standard applies that requires insulation of a noise-sensitive space from an external noise source, the standards must be applied cumulatively.
- (6) Where standards are provided for specific activities, the zone interface standards and the zone standards do not apply to that activity.

*Noise levels arising from activities within zones*

#### **E25.6.2. Maximum noise levels in residential zones**

- (1) The noise (rating) levels and maximum noise level arising from any activity in the Residential – Large Lot Zone, Residential – Rural and Coastal Settlement Zone, Residential – Single House Zone, Residential – Mixed Housing Suburban Zone, Residential – Mixed Housing Urban Zone and the Residential – Terrace Housing and Apartment Buildings Zone measured

within the boundary of an adjacent site in these residential zones must not exceed the levels in Table E25.6.2.1 Noise levels in residential zones below:

**Table E25.6.2.1 Noise levels in residential zones**

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

- (2) The levels for the daytime hours in Table E25.6.2.1 Noise levels in residential zones may be exceeded by intermittent noise for reasonable periods where that noise is associated with normal household activities, such as lawn mowing or home handyman work.

### **E25.6.3. Noise levels in rural and future urban zones**

- (1) The noise (rating) level from any activity in the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone or the Future Urban Zone measured within the notional boundary on any site in any rural zone must not exceed the limits in Table E25.6.3.1 Noise levels in the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone or the Future Urban Zone below:

**Table E25.6.3.1 Noise levels in the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone or the Future Urban Zone**

Time	Noise level
Monday to Saturday 7am-10pm	55dB $L_{Aeq}$
Sunday 9am-6pm	
All other times	45dB $L_{Aeq}$ 75dB $L_{AFmax}$

- (2) The noise (rating) level from any activity in the Rural – Rural Conservation Zone; Rural – Countryside Living Zone, Rural – Waitākere Foothills Zone; or the Rural – Waitākere Ranges Zone measured within the notional boundary on any site in any rural zone must not exceed the limits in Table E25.6.3.2 Noise levels in the Rural – Rural Conservation Zone, Rural – Countryside Living Zone, Rural – Waitākere Foothills Zone; or Rural – Waitākere Ranges Zone below:

**Table E25.6.3.2 Noise levels in the Rural – Rural Conservation Zone  
Countryside Living Zone, Rural – Waitākere Foothills Zone; or the Rural  
– Waitākere Ranges Zone**

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

(3) Standards E25.6.3(1) and E25.6.3(2) above do not apply to any of the following:

- (a) animal noise on farms unless they are confined within a building or enclosure on a permanent or semi-permanent basis;
- (b) the use of mobile agricultural horticultural or forestry vehicles or machinery, or other mobile or portable agricultural, horticultural or forestry equipment; and

**Note 1**

The operator of such vehicles or machinery is required by the Resource Management Act 1991 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.

- (c) the use of post-harvest facilities including vehicle access ways and milking sheds set back at least 100m from a notional boundary.

**E25.6.4. Bird scaring devices in the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone and the Future Urban Zone**

- (1) Bird scaring or bird repelling devices in the in the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone and the Future Urban Zone must not operate:
  - (a) between the hours of sunset and sunrise; and
  - (b) at a frequency of more than six times in any 60-minute period with no more than three shots in rapid succession; and
  - (c) where the noise level measured within the notional boundary on any other site exceeds 85dB  $L_{Zpeak}$ .

- (2) Standard E25.6.4(1) above does not apply to bird scaring devices that generate a noise level less than 70 dB  $L_{Zpeak}$  measured at the notional boundary on another site.

#### **E25.6.5. Noise levels in the Business – Heavy Industry Zone or the Business – Light Industry Zone**

- (1) The noise (rating) level arising from an activity in the Business – Heavy Industry Zone or the Business – Light Industry Zone measured within the boundary of any other site in those zones must not exceed the limits in Table E25.6.5.1 Noise levels in the Business – Heavy Industry Zone or the Business – Light Industry Zone below:

**Table E25.6.5.1 Noise levels in the Business – Heavy Industry Zone or the Business – Light Industry Zone**

<b>Time</b>	<b>Business – Heavy Industry Zone</b>	<b>Business – Light Industry Zone</b>
All times	70dB $L_{Aeq}$	65dB $L_{Aeq}$

#### **E25.6.6. Noise levels in the Business – General Business Zone or the Business – Business Park Zone**

- (1) The noise (rating) level arising from an activity in the Business – General Business Zone or the Business – Business Park Zone measured within the boundary of any other site in those zones must not exceed the limits in Table E25.6.6.1 Noise levels in the Business – General Business Zone and the Business – Business Park Zone below:

**Table E25.6.6.1 Noise levels in the Business – General Business Zone or the Business – Business Park Zone**

<b>Time</b>	<b>Business – General Business Zone</b>	<b>Business – Business Park Zone</b>
All times	65dB $L_{Aeq}$	60dB $L_{Aeq}$

#### **E25.6.7. Noise levels in the Business – Local Centre Zone or the Business – Neighbourhood Centre Zone**

- (1) The noise (rating) level and maximum noise level arising from any activity in the Business – Local Centre Zone or the Business – Neighbourhood Centre Zone measured or assessed as the incident level on the façade of any building on any other site in the Business – Local Centre Zone or the Business – Neighbourhood Centre Zone must not exceed the levels in Table E25.6.7.1 Noise levels in the Business – Local Centre Zone or the Business – Neighbourhood Centre Zone below:

**Table E25.6.7.1 Noise levels in the Business – Local Centre Zone or the Business – Neighbourhood Centre Zone**

Time	Business – Local Centre Zone	Business – Neighbourhood Centre Zone
7am - 10pm	60dB L <sub>Aeq</sub>	60dB L <sub>Aeq</sub>
10pm - 7am	50dB L <sub>Aeq</sub> 60dB at 63 Hz L <sub>eq</sub> 55dB at 125 Hz L <sub>eq</sub> 75dB L <sub>AFmax</sub>	50dB L <sub>Aeq</sub> 60dB at 63 Hz L <sub>eq</sub> 55dB at 125 Hz L <sub>eq</sub> 75dB L <sub>AFmax</sub>

**E25.6.8. Noise levels in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone or the Business – Mixed Use Zone**

The noise (rating) level and maximum noise level arising from any activity in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone or the Business – Mixed Use Zone measured or assessed as the incident level on the façade of any building on any other site in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone or the Business – Mixed Use Zone must not exceed the limits in Table E25.6.8.1 Noise levels in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone or the Business – Mixed Use Zone below:

**Table E25.6.8.1 Noise levels in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone or the Business – Mixed Use Zone**

Time	Business – City Centre Zone	Business – Metropolitan Centre Zone	Business – Town Centre Zone	Business – Mixed Use Zone
7am - 11pm	65 dB L <sub>Aeq</sub>	65 dB L <sub>Aeq</sub>	65dB L <sub>Aeq</sub>	65dB L <sub>Aeq</sub>
11pm – 7am	60dB L <sub>Aeq</sub> 65dB at 63 Hz L <sub>Aeq</sub> 60dB at 125 Hz L <sub>Aeq</sub> 75dB L <sub>AFmax</sub>	60dB L <sub>Aeq</sub> 65dB at 63 Hz L <sub>Aeq</sub> 60dB at 125 Hz L <sub>Aeq</sub> 75dB L <sub>AFmax</sub>	55dB L <sub>Aeq</sub> 65dB at 63 Hz L <sub>eq</sub> 60dB at 125 Hz L <sub>eq</sub> 75dB L <sub>AFmax</sub>	55dB L <sub>Aeq</sub> 65dB at 63 Hz L <sub>eq</sub> 60dB at 125 Hz L <sub>eq</sub> 75dB L <sub>AFmax</sub>

(2) The 63Hz and 125Hz octave band limits do not apply to fixed mechanical plant.



**E25.6.9. Noise levels between units in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone or the Business – Mixed Use Zone**

- (1) In situations where common building elements such as floors and walls connect two units in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone or the Business – Mixed Use Zone the noise (rating) level arising from any activity measured in any unit must not exceed the levels in Table E25.6.9.1 Noise levels between units in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone or the Business – Mixed Use Zone. below:

**Table E25.6.9.1 Noise levels between units in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone or the Business – Mixed Use Zone**

Unit affected	Time	Noise level
In all units except those containing activities sensitive to noise	At all times	50dB L <sub>Aeq</sub>
In bedrooms and sleeping areas within units containing activities sensitive to noise	Between 10pm and 7am in Business – Local Centre Zone and Business – Neighbourhood Centre Zone and Between 11pm and 7am in Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone and the Business – Mixed Use Zone	35dB L <sub>Aeq</sub> 45dB at 63 Hz L <sub>eq</sub> 40dB at 125 Hz L <sub>eq</sub>
	Between 7am and 10pm in Business – Local Centre Zone and Business – Neighbourhood Centre Zone and Between 7am and 11pm in Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone and the Business – Mixed Use Zone	40dB L <sub>Aeq</sub>
Other noise sensitive spaces	At all other times	40 dB L <sub>Aeq</sub>
<b>Note:</b> Adjustments for noise containing Special Audible Characteristics will only apply to A weighted levels		

- (2) The 63Hz and 125Hz octave band limits do not apply to fixed mechanical plant.

**E25.6.10. Noise levels for noise sensitive spaces in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone, Business – Mixed Use Zone, Business – Heavy Industry Zone or the Business – Light Industry Zone**

- (1) Noise sensitive spaces must be designed and/or insulated so that the internal noise levels do not exceed the levels in Table E25.6.10.1 Noise levels for noise sensitive spaces in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone, Business – Mixed Use Zone, Business – Heavy Industry Zone or the Business – Light Industry Zone below:

**Table E25.6.10.1 Noise levels for noise sensitive spaces in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone, Business – Mixed Use Zone, Business – Heavy Industry Zone or the Business – Light Industry Zone**

Unit affected	Time	Level
Bedrooms and sleeping areas in the Business – Local Centre Zone and in the Business – Neighbourhood Centre Zone	Between 10pm and 7am	35dB LAeq 45dB at 63 Hz Leq; and 40dB at 125 Hz Leq
Bedrooms and sleeping areas in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Mixed Use Zone, Business – Heavy Industry Zone or the Business – Light Industry Zone	Between 11pm and 7am	35dB LAeq 45dB at 63 Hz Leq and 40dB at 125 Hz Leq
Other noise sensitive spaces	At all other times	40 dBA LAeq

- (2) The levels in Table E25.6.10.1 Noise levels for noise sensitive spaces in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone, Business – Mixed Use Zone, Business – Heavy Industry Zone or the Business – Light Industry Zone above must be met based on the maximum level of noise permitted by the zone or precinct standards or any adjacent zone or precinct standards.
- (3) Where a new room is constructed that is subject to Standard E25.6.10(1) (internal acoustic insulation requirement) and the noise levels in Table E25.6.10.1 Noise levels for noise sensitive spaces in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre

Zone or the Business – Mixed Use Zone, Business – Heavy Industry Zone or the Business – Light Industry Zone (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 E25.6.10.1 Noise levels for noise sensitive spaces in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone, Business – Mixed Use Zone, Business – Heavy Industry Zone or the Business – Light Industry Zone; and

(b) for residential dwellings be mechanically ventilated and/or cooled to achieve either:

- (i) an internal temperature no greater than 25 degrees celsius based on external design conditions of dry bulb 25.1 degrees celsius and wet bulb 20.1 degrees celsius; or

Note 1

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

- (ii) a high volume of outdoor air supply to all habitable rooms with an outdoor air supply rate of no less than:

- six air changes per hour (ACH) for rooms with less than 30 per cent of the façade area glazed; or
- 15 air changes per hour (ACH) for rooms with greater than 30 per cent of the façade area glazed; or
- three 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.

(c) for all other noise sensitive spaces provide mechanical cooling to achieve an internal temperature no greater than 25 degrees celsius based on external design conditions of dry bulb 25.1 degrees celsius and wet bulb 20.1 degrees celsius; and

(d) provide relief for equivalent volumes of spill air; and

(e) be individually controllable across the range of airflows and temperatures by the building occupants in the case of each system; and

(f) have a mechanical ventilation and/or a cooling system that generates a noise level no greater than  $L_{Aeq}$  35 dB when measured 1m from the

diffuser at the minimum air flows required to achieve the design temperatures and air flows in Standard E25.6.10(3)(b)(i) and (ii) above.

**E25.6.10A Noise levels for noise sensitive spaces in the Business – City Centre Zone within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation**

- (1) Noise sensitive spaces, within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation, must be designed and/or insulated so that the internal noise levels do not exceed the levels in Table E25.6.10A.1 below; or
- (2) Is at least 50 metres from any railway network and is designed so that a noise barrier completely blocks line-of-sight from all parts of doors and windows, to all points 3.8 metres above railway tracks.
- (3) The levels in Table E25.6.10A.1 must be met based on an assumed level of 70 dB LAeq(1h) at a distance of 12 metres from the track and reduce at a rate of 3 dB per doubling of distance of up to 40m and 6 dB per doubling of distance beyond 40m.
- (4) Where a new room is constructed that is subject to Standard E25.6.10A(1) (internal acoustic insulation requirement) and the noise levels in Table E25.6.10A.1 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 E25.6.10A.1; and
  - (b) meet the ventilation and heating/cooling requirements provided at Standard E25.6.10(3)(b)-(f) above.

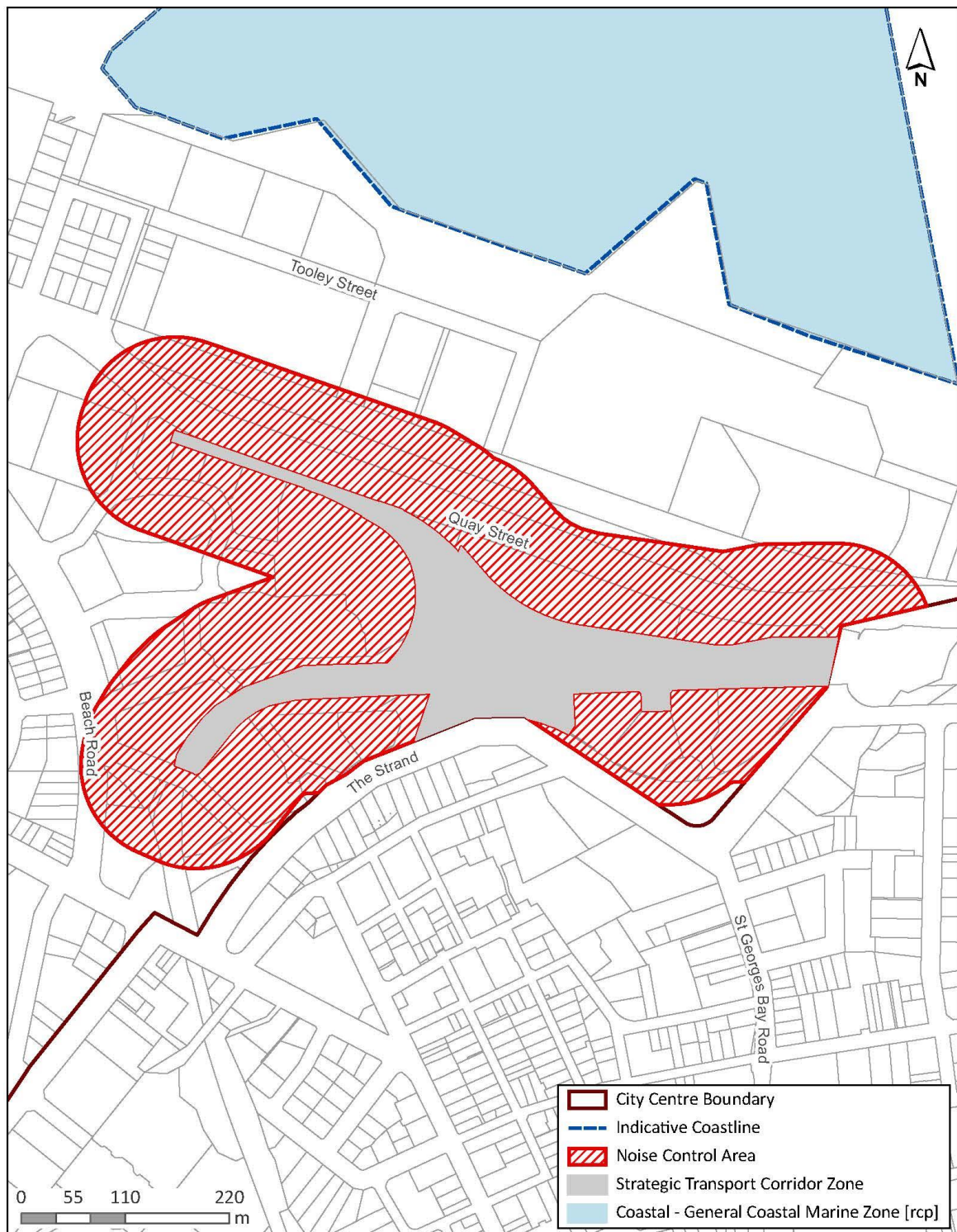
**Table E25.6.10A.1 Noise levels for noise sensitive spaces in the Business – City Centre Zone adjoining parts of the Strategic Transport Corridor Zone subject to a KiwiRail designation**

Building Type	Occupancy/activity	Maximum internal noise level LAeq(1h)
Residential	Sleeping spaces	35 dB
	All other habitable rooms	40 dB
Education	Lecture rooms/theatres, music studios, assembly halls	35 dB
	Teaching areas, conference rooms, drama studios, sleeping areas	40 dB

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	Library	45 dB
Health	Overnight medical care, wards	40 dB
	Clinics, consulting rooms, theatres, nurses' stations	45 dB
Cultural	Places of worship, marae	35 dB

**Figure E25.6.10A.1 Area within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation (in the Business – City Centre Zone)**



**E25.6.11. Noise levels in the Coastal – Marina Zone [rcp/dp]**

- (1) The noise (rating) level arising from an activity in the Coastal – Marina Zone measured within the boundary of any other site in this zone must not exceed the levels in Table E25.6.7.1 Noise levels in the Coastal – Marina Zone.

**Table E25.6.7.1 Noise levels in the Coastal – Marina Zone**

Time	Coastal – Marina Zone
All times	60dB $L_{Aeq}$

**E25.6.12. Noise levels in the Special Purpose – Cemetery Zone or the Special Purpose – Māori Purpose Zone**

- (1) The noise (rating) level and maximum noise level from any activity measured within the boundary of any site in the Special Purpose – Cemetery Zone or the Special Purpose – Māori Purpose Zone must not exceed the levels in Table E25.6.12.1 Noise levels in the Special Purpose – Cemetery Zone or the Special Purpose – Māori Purpose Zone.

**Table E25.6.12.1 Noise levels in the Special Purpose – Cemetery Zone or the Special Purpose – Māori Purpose Zone**

Time	Special Purpose – Cemetery Zone or Special Purpose – Māori Purpose Zone
Monday to Saturday 7am-10pm	50 dB $L_{Aeq}$
Sunday 9am-6pm	
All other times	40 dB $L_{Aeq}$ 75 dB $L_{AFmax}$

**E25.6.13. Noise levels in the Special Purpose – Healthcare Facility and Hospital Zone**

- (1) The noise (rating) level from any activity measured within the boundary of any site in the Special Purpose – Healthcare Facility and Hospital Zone must not exceed the levels in Table E25.6.13.1 Noise levels in the Special Purpose – Healthcare Facility and Hospital Zone below:

**Table E25.6.13.1 Noise levels in the Special Purpose – Healthcare Facility and Hospital Zone**

Time	Special Purpose – Health Care Facility and Hospital Zone
Monday to Saturday 7am-10pm	55 dB $L_{Aeq}$
Sunday 9am-6pm	

All other times	45 dB L <sub>Aeq</sub> 75 dB L <sub>AFmax</sub>
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*Noise levels for activities between zones*

**E25.6.14. Noise levels at the coastal interface [rcp/dp]**

- (1) The noise (rating) level generated by any activity in the coastal marine area or on a lake or river must not exceed the levels in Table E25.6.14.1 Noise levels at the coastal interface when measured within the boundary of a site in a residential zone or notional boundary of any site in the Rural – Rural Production Zone, Rural – Mixed Rural Zone, Rural – Rural Coastal Zone; Rural – Rural Conservation Zone, Rural – Countryside Living Zone, Rural – Waitākere Foothills Zone and Rural – Waitākere Ranges Zone.

**Table E25.6.14.1 Noise levels at the coastal interface**

Time	Noise level
7am-10pm	50dB L <sub>Aeq</sub>
10pm-7am	40dB L <sub>Aeq</sub> 75dB L <sub>AFmax</sub>

- (2) The noise levels in Standard E25.6.14(1) 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 in E40 Temporary activities defined as “noise events”.

**E25.6.15. Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone or Future Urban Zone interface**

- (1) The noise (rating) level and maximum noise level from any activity in the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone or Future Urban Zone measured within the boundary of any site in a residential zone must not exceed the levels in Table E25.6.15.1 Noise levels at the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone or Future Urban Zone interface below:

**Table E25.6.15.1 Noise levels at the Rural – Mixed Rural Zone, Rural – Rural Production Zone, Rural – Rural Coastal Zone or Future Urban Zone interface**

Time	Noise level
Monday to Saturday 7am-10pm	55dB L <sub>Aeq</sub>
Sunday 9am-6pm	
All other times	45dB L <sub>Aeq</sub> 75dB L <sub>AFmax</sub>



(2) Standard E25.6.15(1) above does not apply to:

- (a) animal noise on farms unless they are confined within a building or enclosure on a permanent or semi-permanent basis; or
- (b) the use of mobile agricultural horticultural or forestry vehicles or machinery, or other mobile or portable agricultural, horticultural or forestry equipment; or

**Note 1**

The operator of such vehicles or machinery is required by the Resource Management Act 1991 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.

- (c) the use of post-harvest facilities including vehicle access ways and milking sheds set back at least 100m from any residential zone.

**E25.6.16. Rural – Rural Conservation Zone, Rural – Countryside Living Zone Rural – Waitākere Foothills Zone or Rural – Waitākere Ranges Zone interface**

- (1) The noise (rating) level and maximum noise level from any activity in the Rural – Rural Conservation Zone, Rural – Countryside Living Zone, Rural – Waitākere Foothills Zone or the Rural – Waitākere Ranges Zone measured within the boundary of any site in a residential zone must not exceed the levels in Table E25.6.16.1 Noise levels at the Rural – Rural Conservation Zone, Rural – Countryside Living Zone, Rural – Waitākere Foothills Zone or the Rural – Waitākere Ranges Zone.

**Table E25.6.16.1 Noise levels at the Rural – Rural Conservation Zone, Rural – Countryside Living Zone, Rural – Waitākere Foothills Zone or the Rural – Waitākere Ranges Zone**

Time	Noise level
Monday to Saturday 7am-10pm	50dB L <sub>Aeq</sub>
Sunday 9am-6pm	
All other times	40dB L <sub>Aeq</sub> 75dB L <sub>AFmax</sub>

(2) Standard E25.6.16(1) above does not apply to:

- (a) animal noise on farms unless they are confined within a building or enclosure on a permanent or semi-permanent basis; or

- (b) the use of mobile agricultural horticultural or forestry vehicles or machinery, or other mobile or portable agricultural, horticultural or forestry equipment; or

**Note 1**

The operator of such vehicles or machinery is required by the Resource Management Act 1991 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.

- (c) the use of post-harvest facilities including vehicle access ways and milking sheds set back at least 100m from any residential zone.

**E25.6.17. Open Space – Sport and Active Recreation Zone interface**

- (1) The noise (rating) level and maximum noise level arising from any recreational activity in the Open Space – Sport and Active Recreation Zone measured within the boundary of a site in a residential zone or notional boundary of a site in a rural zone must not exceed the levels in Table E25.6.17.1 Noise levels at the Open Space – Sport and Active Recreation Zone interface below:

**Table E25.6.17.1 Noise levels at the Open Space – Sport and Active Recreation Zone interface**

<b>Time</b>	<b>Noise level</b>
Monday to Saturday 7am-10pm	55dB $L_{Aeq}$ Except that for a cumulative period of: (i) 3 hours per day between 7am and 9.30pm Monday to Friday; and (ii) 6 hours between 7am and 10pm on Saturdays. the noise level must not exceed 60dB $L_{Aeq}$
Sundays and Public Holidays 9am to 6pm outside the daylight saving period	55dB $L_{Aeq}$ Except that for a cumulative period of 3 hours between 10am and 3pm on Sundays the noise level must not exceed 60dB $L_{Aeq}$
Sundays and Public Holidays 8am to 7pm during the daylight saving period	55dB $L_{Aeq}$ Except that for a cumulative period of 3 hours between 10am and 3pm Sundays the noise level must not exceed 60dB $L_{Aeq}$
All other times	40dB $L_{Aeq}$ 55dB $L_{eq}$ at 63 Hz 50dB $L_{eq}$ at 125 Hz 75dB $L_{AFmax}$

## Note 1

Compliance with the lower noise limit of 40dB  $L_{Aeq}$  applying at all other times in Table E25.6.17.1 Noise levels at the Open Space – Sport and Active Recreation Zone interface may preclude intense, noisy activities or activities involving teams or groups from being undertaken where the receivers of noise are close to boundaries.

- (2) The noise (rating) level and maximum noise level from the use of any voice or music amplification system associated with recreational activity in the Open Space – Sport and Active Recreation Zone measured within the boundary of a site in a residential zone or notional boundary of a site in a rural zone must not exceed the levels in Table E25.6.17.2 Noise levels from any voice or music amplification system associated with recreational activity on land zoned Open Space – Sport and Active Recreation Zone below:

**Table E25.6.17.2 Noise levels from any voice or music amplification system associated with recreational activity on land zoned Open Space – Sport and Active Recreation Zone**

Time	Noise level
Monday to Saturday 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 $L_{AFmax}$

- (a) No five minute measurement may exceed the stated limit.

**E25.6.18. Open Space – Conservation Zone, Open Space – Informal Recreation Zone, Open Space – Civic Spaces Zone or Open Space – Community Zone interface**

- (1) The noise (rating) level and maximum noise level from any activity in the Open Space – Conservation Zone, Open Space – Informal Recreation Zone, Open Space – Civic Spaces Zone or Open Space – Community Zone when measured within the boundary of a site in a residential zone or notional boundary of a site in a rural zone must not exceed the levels in Table E25.6.18.1 Noise levels at the Open Space – Conservation Zone, Open Space – Informal Recreation Zone, Open Space – Civic Spaces Zone or Open Space – Community Zone interface below:

**Table E25.6.18.1 Noise limits at the Open Space – Conservation Zone, Open Space – Informal Recreation Zone, Open Space – Civic Spaces Zone or Open Space – Community Zone interface**

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

#### **E25.6.19. Business zones interface**

- (1) The noise (rating) and maximum noise level from any activity in the business zones must not exceed the levels in Table E25.6.19.1 Noise levels at the business zone interface when measured within the boundary of a site in a residential zone or within the notional boundary of property in a rural zone.

**Table E25.6.19.1 Noise levels at the business zone interface**

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

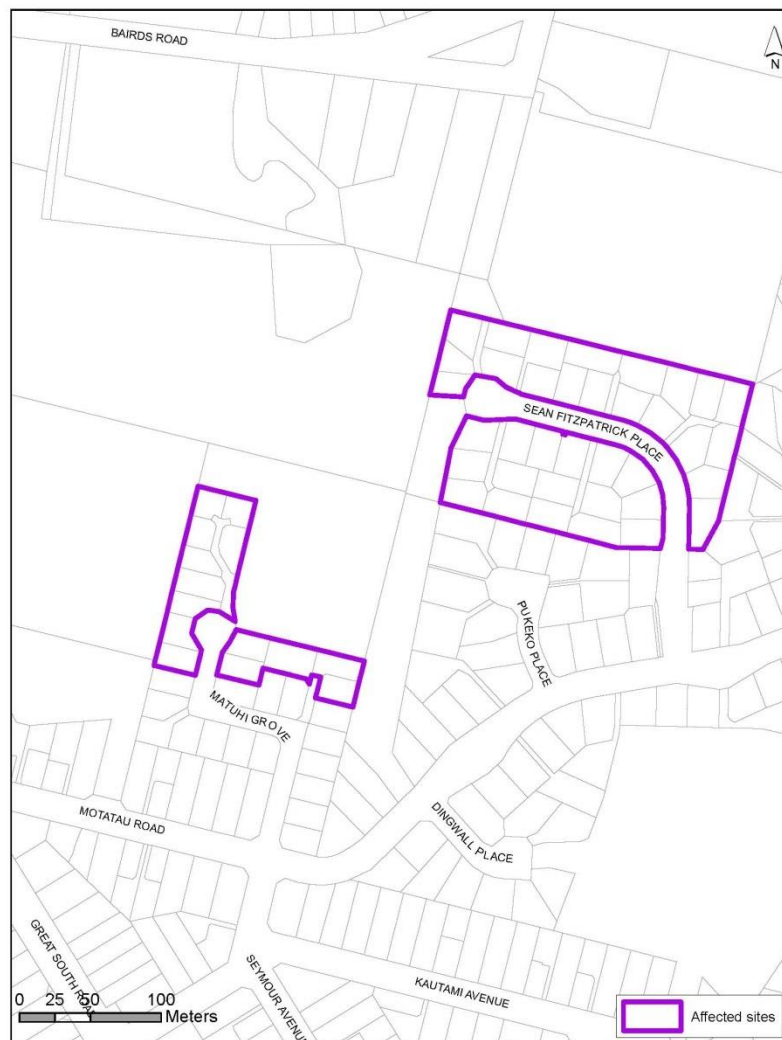
- (2) These noise limits in Standard E25.6.19(1) above do not apply to any of the following:
- (a) the noise from vehicles moving on roads controlled by Auckland Council or Auckland Transport; or
  - (b) the noise affecting 11, 13, and 15 Harrison Road as generated on the Fulton Hogan sites at 7 Reliable 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 must comply with a limit of 60dB  $L_{Aeq}$  when measured within the boundary of 11, 13 or 15 Harrison Road; or
  - (c) the noise affecting the sites identified in Table E25.6.19.2 Affected sites and on Figure E25.6.19.1 Affected sites as generated on the DB Waitemata Breweries site and 3 Bairds Road, Ōtahuhu (being 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 Waitemata Breweries site must comply with a limit of 65dB  $L_{Aeq}$  with a maximum noise limit of

90dB  $L_{AFmax}$  applying only between the hours of 10pm and 7am when measured within the boundary of the sites identified in Table E25.6.19.2 Affected sites and shown on Figure E25.6.19.1 Affected sites below:

**Table E25.6.19.2 Affected sites**

Lot 1 DP 205759	Lot 10 DP 205759
Lot 14 DP 205759	Lot 2 DP 205759
Lot 22 DP 205759	Lot 4 DP 205759
Lot 25 DP 205759	Lot 8 DP 205759
Lot 26 DP 205759	Lot 17 DP 205759
Lot 31 DP 205759	Lot 12 DP 205759
Lot 304 DP 205759	Lot 11 DP 205759
Lot 6 DP 205759	Lot 15 DP 205759
Lot 302 DP 205759	Lot 300 DP 205759
Lot 301 DP 205759	Lot 24 DP 205759
Lot 18 DP 205759	Lot 28 DP 205759
Lot 19 DP 205759	Lot 34 DP 205759
Lot 23 DP 205759	Lot 35 DP 205759
Lot 29 DP 205759	Lot 14 DP 335896
Lot 33 DP 205759	Lot 18 DP 335896
Lot 13 DP 205759	Lot 7 DP 335896
Lot 16 DP 205759	Lot 8 DP 335896
Lot 7 DP 205759	Lot 9 DP 335896
Lot 9 DP 205759	Lot 13 DP 335896
Lot 3 DP 205759	Lot 15 DP 335896
Lot 5 DP 205759	Lot 16 DP 335896
Lot 21 DP 205759	Lot 17 DP 335896
Lot 27 DP 205759	Lot 31 DP 341162
Lot 30 DP 205759	Lot 28 DP 341162
Lot 32 DP 205759	Lot 29 DP 341162
Lot 303 DP 205759	Lot 30 DP 341162
Lot 36 DP 205759	Lot 100 DP 341162
Lot 37 DP 205759	Lot 27 DP 341162

- (3) For measurement of noise in the Warkworth: Clayden Road Precinct, noise shall be measured from the Noise Measurement Line as shown on Precinct Plan I552.9.1 and as set out in Rule I552.6.6 Noise Management Area, Noise Measurement Line and Covenants

**Figure E25.6.19.1 Affected sites****E25.6.20. Noise levels at the Coastal – Marina Zone interface**

- (1) The noise (rating) levels and maximum noise level from any activity on land in the Coastal – Marina Zone must not exceed the levels in Table E25.6.20.1 Noise levels at the Coastal Marina Zone interface when measured within the boundary of a site in a residential zone or within the notional boundary of property in a rural zone.

**Table E25.6.20.1 Noise levels at the Coastal – Marina Zone interface**

Time	Noise level
Monday to Saturday 7am-10pm	55dB L <sub>Aeq</sub>
Sunday 9am-6pm	
All other times	45dB L <sub>Aeq</sub>

	60dB L <sub>eq</sub> at 63 Hz 55dB L <sub>eq</sub> at 125 Hz 75dB L <sub>AFmax</sub>
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- (2) The noise levels in Standard E25.6.20(1) above do not apply to the noise from vehicles moving on roads controlled by Council or Auckland Transport.

#### **E25.6.21. Schools interface**

- (1) The noise (rating) level and maximum noise level from any neighbouring activity measured within the boundary of any school not located in the Special Purpose – School Zone must not exceed the levels in Table E25.6.21.1 Noise levels from any neighbouring activity measured within the boundary of any school not located in a Special Purpose – School Zone.

**Table E25.6.21.1 Noise levels from any neighbouring activity measured within the boundary of any school not located in a Special Purpose – School Zone:**

<b>Time</b>	<b>Noise level</b>
Monday to Saturday 7am-10pm	55dB L <sub>Aeq</sub>
Sunday 9am-6pm	
All other times	45dB L <sub>Aeq</sub> 75dB L <sub>AFmax</sub>

#### **E25.6.22. All other zone interfaces**

- (1) Except as provided for in Standards E25.6.14 to E25.6.21 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 standards of the zone at the receiving site.

*Noise arising from specific activities*

#### **E25.6.23. Noise levels for care centres for a childcare centre, creche, kindergarten, kohanga reo, play centre, play group, early childhood learning service or an after school care centre**

- (1) The noise (rating) level arising from any care centres for a childcare centre, creche, kindergarten, kohanga reo, play centre, play group, early childhood learning service or an after school care centre in any zone when measured within the boundary of any site in a residential zone must not exceed the levels in Table E25.6.23.1 Noise levels for care centres for a childcare centre, creche, kindergarten, kohanga reo, play centre, play group, early childhood learning service or an after school care centre unless the relevant zone in which the care centres for a childcare centre, creche, kindergarten, kohanga reo, play centre, play group, early childhood learning service or an after school care centre is located provides for higher levels.

**Table E25.6.23.1 Noise levels for care centres for a childcare centre, creche, kindergarten, kohanga reo, play centre, play group, early childhood learning service or an after school care centre**

Time	Noise level
Monday to Friday 7am-6pm	55dB L <sub>Aeq</sub>
All other times	40dB L <sub>Aeq</sub> 75dB L <sub>AFmax</sub>

**E25.6.24. Noise levels for a primary school, intermediate school, secondary school or tertiary education facility**

- (1) The noise (rating) level arising from the operation of a primary, intermediate school, secondary school or tertiary education facility must comply with the noise levels in Table E25.6.24.1 Noise levels for a primary school, intermediate school, secondary school or tertiary education facility when measured within the boundary of any residentially zoned site.

**Table E25.6.24.1 Noise levels for a primary school, intermediate school, secondary school or tertiary education facility**

Time	Noise level
Monday to Saturday 7am to 10pm	55dB L <sub>Aeq</sub>
Sunday 9am to 6pm	
All other times	45dB L <sub>Aeq</sub> 75dB L <sub>AFmax</sub>

**Note 1**

Compliance with the noise levels of 45dB L<sub>Aeq</sub> and 75dB L<sub>AFmax</sub> applying at all other times in Table E25.6.24.1 Noise levels for a primary school, intermediate school, secondary school or tertiary education facility 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.

- (2) These noise limits do not apply to noise from school sports and school recreational activities occurring between 8am and 6pm Monday to Saturday.

**E25.6.25. Noise levels for wind turbines or wind farms**

- (1) At any wind speed, the L<sub>A90 (10min)</sub> 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<sub>A90 (10min)</sub> whichever is the greater when measured within the notional boundary on any property which is a noise sensitive location as defined in New Zealand Standard 6808: 2010 Acoustics – Wind farm noise.



- (2) The noise level generated by wind farms must be measured and assessed in accordance with New Zealand Standard 6808:2010 Acoustics – Wind farm noise.

#### **E25.6.26. Noise levels for electricity generators**

- (1) The noise (rating) level and maximum noise level arising from the use of any electricity generator in a rural zone or a residential zone powered by an internal combustion engine measured within the boundary of any site in a residential zone or the notional boundary of any site in a rural zone must not exceed the levels in Table E25.6.26.1 Noise levels for electricity generators.

**Table E25.6.26.1 Noise levels for electricity generators**

Time	Noise level
7am to 10pm	40dB L <sub>Aeq</sub>
10pm to 7am	30dB L <sub>Aeq</sub> 75dB L <sub>AFmax</sub>

- (2) Standard E25.6.26(1) does not apply to generators in use prior to the 30 September 2013. For generators established on or before 30 September 2013 the noise limits for the relevant zone or zone interface apply.

#### *Construction noise*

#### **E25.6.27. Construction noise levels in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone**

- (1) Noise from construction activities in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone must not exceed the levels in Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone when measured 1m from the façade of any building that contains an activity sensitive to noise that is occupied during the works.

**Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone**

Time of week	Time Period	Maximum noise level (dBA)	
		L <sub>eq</sub>	L <sub>max</sub>
Weekdays	6:30am - 7:30am	60	75
	7:30am - 6:00pm	75	90
	6:00pm - 8:00pm	70	85
	8:00pm - 6:30am	45	75
Saturdays	6:30am - 7:30am	45	75
	7:30am - 6:00pm	75	90

	6:00pm - 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
	6:00pm - 8:00pm	45	75
	8:00pm - 6:30am	45	75

- (2) Noise from construction activities in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone must not exceed the levels in Table E25.6.27.2 Construction noise levels for noise affecting any other activity when measured 1m from the façade of any other building that is occupied during the works.

**Table E25.6.27.2 Construction noise levels for noise affecting any other activity**

Time Period	Maximum noise levels Leq dBA
7:30am – 6:00pm	75
6:00pm – 7:30am	80

- (3) For a project involving a total duration of construction work that is less than 15 calendar days, the noise levels in Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone and Table E25.6.27.2 Construction noise levels for noise affecting any other activity above shall be increased by 5dB in all cases.
- (4) For a project involving a total duration of construction work that is more than 20 weeks the noise limits in Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone and Table E25.6.27.2 Construction noise levels for noise affecting any other activity above shall be decreased by 5dB in all cases.

#### **E25.6.28. Construction noise levels in the Business – City Centre Zone and the Business – Metropolitan Centre Zone**

- (1) Construction activities in the Business – City Centre Zone and the Business – Metropolitan Centre Zone must comply with Standard E25.6.27(1) above for any receiver not in a Business – City Centre Zone or a Business – Metropolitan Centre Zone and must not exceed the levels in Table E25.6.28.1 Construction noise levels for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone and Table E25.6.28.2 Construction noise levels for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone

when measured for any 30 minute period 1m from the façade of any building in the Business – City Centre Zone or the Business – Metropolitan Centre Zone that is occupied during the work.

**Table E25.6.28.1 Construction noise levels for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone**

<b>Construction of less than 15 consecutive calendar days duration (total duration of works)</b>		
<b>Time</b>	<b>L<sub>Aeq</sub>(30 min)</b>	<b>L<sub>AFmax</sub></b>
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 City Centre Residential Precinct and the Learning Precinct	55 dB	75 dB

**Table E25.6.28.2 Construction noise levels for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone**

<b>Construction of 15 consecutive calendar days or more (total duration of works)</b>		
<b>Time</b>	<b>L<sub>Aeq</sub>(30 min)</b>	<b>L<sub>AFmax</sub></b>
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 (night time)	60 dB	75 dB
All other times in the City Centre Residential Precinct and the Learning Precinct	55 dB	75dB

Where external measurement of construction noise is impractical or inappropriate, the upper limits for the noise measured inside the building will be 20dB less than the relevant levels in Table E25.6.28.1 Construction noise levels for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone

and Table E25.6.28.2 Construction noise levels for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone above.

**E25.6.29. Construction noise and vibration levels for work within the road**

- (1) Noise from any construction, maintenance and demolition activities in the road must comply with the relevant noise levels in the following relevant table:
  - (a) Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
  - (b) Table E25.6.27.2 Construction noise levels for noise affecting any other activity; or
  - (c) Table E25.6.28.1 Construction noise levels for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
  - (d) Table E25.6.28.2 Construction noise levels for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone.
- (1A) Vibration from any construction, maintenance and demolition activities in the road must comply with the relevant vibration levels in the following relevant table or standard:
  - (a) the limits set out in E25.6.30(1)(a) German Industrial Standard DIN 4150-3 (1999): Structural vibration – Part 3 Effects of vibration on structures; and
  - (b) Table E25.6.30.1 Vibration limits in buildings.
- (2) The noise levels specified in Standard E25.6.29(1) above do not apply to unplanned repair or maintenance works or planned works in the road between the hours of 10pm and 7am where:
  - (a) the number of nights where the noise generated by the works exceeds the relevant noise levels in the following tables:
    - (i) Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (ii) Table E25.6.27.2 Construction noise levels for noise affecting any other activity; or
    - (iii) Table E25.6.28.1 Construction noise levels for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or

- (iv) Table E25.6.28.2 Construction noise levels for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone;  
at any one receiver is 3 nights or less; and
  - (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; or
  - (c) because of the nature of the works the noise produced cannot be practicably be made to comply with the relevant noise levels of the following tables:
    - (i) Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (ii) Table E25.6.27.2 Construction noise levels for noise affecting any other activity; or
    - (iii) Table E25.6.28.1 Construction noise levels for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (iv) Table E25.6.28.2 Construction noise levels for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
  - (d) 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 five days prior to work commencing; or
  - (e) for minor planned works a construction noise and vibration management plan is provided to the Council no less than five days prior to the works commencing in accordance with the applicable provisions of Standard E25.6.29(5) below.
- (3) The noise levels specified in Standard E25.6.29(1) above do not apply to unplanned repair or maintenance works or planned works in the road between the hours of 7am and 10pm where:
- (a) the number of days where the noise generated by the works exceeds the relevant noise levels in the following tables:
    - (i) Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (ii) Table E25.6.27.2 Construction noise levels for noise affecting any other activity; or

- (iii) Table E25.6.28.1 Construction noise levels for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (iv) Table E25.6.28.2 Construction noise levels for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone;
  - at any one receiver is 10 days or less; or
  - (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 levels of the following tables:
    - (i) Table E25.6.27.1 Construction noise limits for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (ii) Table E25.6.27.2 Construction noise limits for noise affecting any other activity; or
    - (iii) Table E25.6.28.1 Construction noise limits for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (iv) Table E25.6.28.2 Construction noise limits for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
  - (c) 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 five days prior to work commencing; or
  - (d) for 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 no less than five days prior to the works commencing in accordance with the applicable provisions of Standard E25.6.29(5) below.
- (4) The noise levels specified in Standard E25.6.29(1) do not apply to road rehabilitation works that comprise the substantial removal and replacement of the road structural base and pavement in the road where:
- (a) the number of nights where the noise generated by the works exceeds the relevant noise levels in the following tables:
    - (i) Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (ii) Table E25.6.27.2 Construction noise levels for noise affecting any other activity; or

- (iii) Table E25.6.28.1 Construction noise levels for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (iv) Table E25.6.28.2 Construction noise levels for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone;
  - at any one receiver is 20 days or less; and
  - (b) milling, concrete cutting, percussive demolition are completed by 10.30pm; and
  - (c) 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; and
  - (d) because of the nature of the works the noise produced cannot be practicably be made to comply with the relevant noise levels of the following tables:
    - (i) Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (ii) Table E25.6.27.2 Construction noise levels for noise affecting any other activity; or
    - (iii) Table E25.6.28.1 Construction noise levels for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (iv) Table E25.6.28.2 Construction noise levels for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; and
  - (e) a copy of the works access permit issued by Auckland Transport or approval from the New Zealand Transport Agency is provided to the Council five days prior to work commencing; and
  - (f) a construction noise and vibration management plan is provided to the Council no less than five days prior to the works commencing in accordance with the applicable provisions of Standard E25.6.29(5) below.
- (4A) The vibration levels specified in Standard E25.6.29(1A)(b) do not apply to works within the road where:
- (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 five days prior to work commencing; and

- (b) a construction noise and vibration management plan is provided to the Council no less than five days prior to the works commencing in accordance with the applicable provisions of Standard E25.6.29(5) below.
- (5) 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 all 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, the processes to be undertaken and the predicted noise and vibration levels; and
  - (c) identification of the best practicable options that will be undertaken to mitigate and minimise any noise and vibration being produced that is likely to exceed the relevant levels of the following tables:
    - (i) Table E25.6.27.1 Construction noise levels for activities sensitive to noise in all zones except the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (ii) Table E25.6.27.2 Construction noise levels for noise affecting any other activity; or
    - (iii) Table E25.6.28.1 Construction noise levels for construction less than 15 consecutive calendar days duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (iv) Table E25.6.28.2 Construction noise levels for construction of 15 consecutive calendar days or more duration in the Business – City Centre Zone and the Business – Metropolitan Centre Zone; or
    - (v) Table E25.6.30.1 Vibration limits in buildings.
- (6) For the purpose of Standards E25.6.29(1) to E25.6.29(4A) above:
  - (a) planned work means work that has been planned to take place at least seven days before the work commences;



- (b) the measurement and assessment of all construction noise must be in accordance with New Zealand Standard NZS 6803:1999 Acoustics – Construction noise; and
- (c) the measurement of all vibration must be in accordance with E25.6.30 Vibration.

### *Vibration*

#### **E25.6.30. Vibration**

- (1) Construction and demolition activities must be controlled to ensure any resulting vibration does not exceed:
  - (a) the limits set out in German Industrial Standard 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
  - (b) the limits in Table E25.6.30.1 Vibration limits in buildings in any axis when measured in the corner of the floor of the storey of interest for multi-storey buildings, or within 500mm of ground level at the foundation of a single storey building.

**Table E25.6.30.1 Vibration limits in buildings**

Receiver	Period	Peak Particle Velocity Limit millimetres/second
Occupied activity sensitive to noise	Night-time 10pm to 7am	0.3 mm/s
	Daytime 7am to 10pm	2 mm/s
Other occupied buildings	At all times	2 mm/s

Works generating vibration for three days or less between the hours of 7am to 6pm may exceed the limits in Table E25.6.30.1 Vibration limits in buildings above, but must comply with a limit of 5mm/s peak particle velocity in any axis when measured in the corner of the floor of the storey of interest for multi-storey buildings, or within 500mm of ground level 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 in writing no less than three days prior to the vibration-generating works commencing; and
- (ii) the written advice must 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.

- (2) 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 limits of Table E25.6.30.2 Vibration levels for stationary machinery when measured in any occupied room of any building on another site or in any occupied unit under different ownership from the source of the vibration. Vibration must be measured in accordance with ISO 2631-2:2003 Mechanical vibration and shock – Evaluation of human exposure to whole-body vibration – Part 2: Vibration in buildings (1Hz to 80Hz):

**Table E25.6.30.2 Vibration levels for stationary machinery**

Affected occupied building or area	Time of day	Maximum vibration level in root mean square velocity (mm/s) between 8 and 80Hz
Noise sensitive spaces	7am-10pm	0.20
Bedrooms and sleeping areas only within activities sensitive to noise	10pm-7am	0.14

- (3) For vibration levels applying to work within the road, refer to E25.6.29.

#### *Blasting*

#### **E25.6.31. Noise levels for blasting**

- (1) The noise created by the use of explosives for any 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 ( $L_{zpeak}$ ).
- (2) The noise created by the use of explosives for construction activities must not exceed a peak sound pressure level of 120dBC measured 1m from the façade of any occupied building.

#### *Helicopter noise*

#### **E25.6.32. Noise levels for helicopters take-off or landing**

- (1) The take-off or landing of a helicopter on any site except for emergency services must not exceed  $L_{dn}$  50dB or 85dB  $L_{AFmax}$  measured within the boundary or the notional boundary of any adjacent site containing activities sensitive to noise and  $L_{dn}$  60dBA within the boundary of any other site.

#### *Transport noise*

#### **E25.6.33. Noise levels for traffic from new and altered roads**

- (1) All new roads and all altered roads that are within the scope of New Zealand Standard NZS 6806: 2010 Acoustics – Road traffic noise – New and altered

roads must comply with the requirements of New Zealand Standard NZS 6806: 2010 Acoustics – Road traffic noise – New and altered roads.

#### **E25.7. Assessment – controlled activities**

There are no controlled activities in this section.

#### **E25.8. Assessment – restricted discretionary activities**

##### **E25.8.1. Matters of discretion**

The Council will restrict its discretion to all of the following matters when assessing a restricted discretionary resource consent application:

(1) for noise and vibration:

(a) the effects on adjacent land uses particularly activities sensitive to noise;  
and

(b) measures to avoid, remedy or mitigate the adverse effects of noise.

(2) for internal noise levels of noise sensitive spaces in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone, Business – Mixed Use Zone, or the Business – City Centre Zone adjoining parts of the Strategic Transport Corridor subject to a KiwiRail designation:

(a) reverse sensitivity effects;

(b) alternative temperature control solutions; and

(c) mitigating environmental conditions.

##### **E25.8.2. Assessment criteria**

The Council will consider the relevant assessment criteria for restricted discretionary activities from the list below:

(1) for noise and vibration:

(a) whether activities can be managed so that they do not generate unreasonable noise and vibration levels on adjacent land uses particularly activities sensitive to noise;

(b) the extent to which the noise or vibration generated by the activity:

(i) will occur at times when disturbance to sleep can be avoided or minimised; and

(ii) will be compatible with activities occurring or allowed to occur in the surrounding area; and

(iii) will be limited in duration, or frequency or by hours of operation; and

- (iv) will exceed the existing background noise and vibration levels in that environment and the reasonableness of the cumulative levels; and
    - (v) can be carried out during daylight hours, such as road works and works on public footpaths.
  - (c) the extent to which the effects on amenity generated by vibration from construction activity:
    - (i) will be mitigated by written advice of the activity to adjacent land uses prior to the activity commencing; and
    - (ii) can be mitigated by monitoring of structures to determine risk of damage to reduce occupant concern; and
    - (iii) can be shown to have been minimised by the appropriate assessment of alternative options; and
    - (iv) are reasonable taking into account the level of vibration and the duration of the activity (where levels of 10mm/s peak particle velocity may be tolerated only for very brief periods).
  - (d) whether the measures to minimise the noise or vibration generated by the activity represent the best practicable option.
- (2) for works in the road or rail corridor:
- (a) whether the effects on amenity values and sleep quality generated by construction activity in the road or rail corridor are reasonable taking into account the background noise levels.
- (3) for reverse sensitivity effects:
- (a) whether the activity or infringement proposed will unduly constrain the operation, of existing activities (excluding construction or demolition activities); and
  - (b) for land in the Business - City Centre Zone within 100m of the Strategic Transport Corridor Zone subject to a KiwiRail designation, the outcome of any consultation with KiwiRail
- (4) for noise in the Business – City Centre Zone, Business – Metropolitan Centre Zone, Business – Town Centre Zone, Business – Local Centre Zone, Business – Neighbourhood Centre Zone or the Business – Mixed Use Zone:
- (a) in addition to the assessment criteria in E25.8.2(1) above, all of the following will be considered:
    - (i) the background noise at the affected receivers and the extent to which this is proposed to be exceeded;

- (ii) the 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; and
  - (iii) the frequency and duration of the exceedance.
- (5) for alternative temperature control solutions:
  - (a) whether alternative solutions such as passive or mixed-mode cooling can provide a sufficient thermal comfort level that can be maintained having regard to ASHRAE (US) Standard 55:2013 - Thermal environmental conditions for human occupancy, CIBSE (UK) Technical Memorandum TM52:2013 – The limits of thermal comfort: avoiding overheating in European buildings, BS EN 15251:2007 – Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics.

#### **E25.9. Special information requirements**

There are no special information requirements in this section.