WINSTONE AGGREGATES

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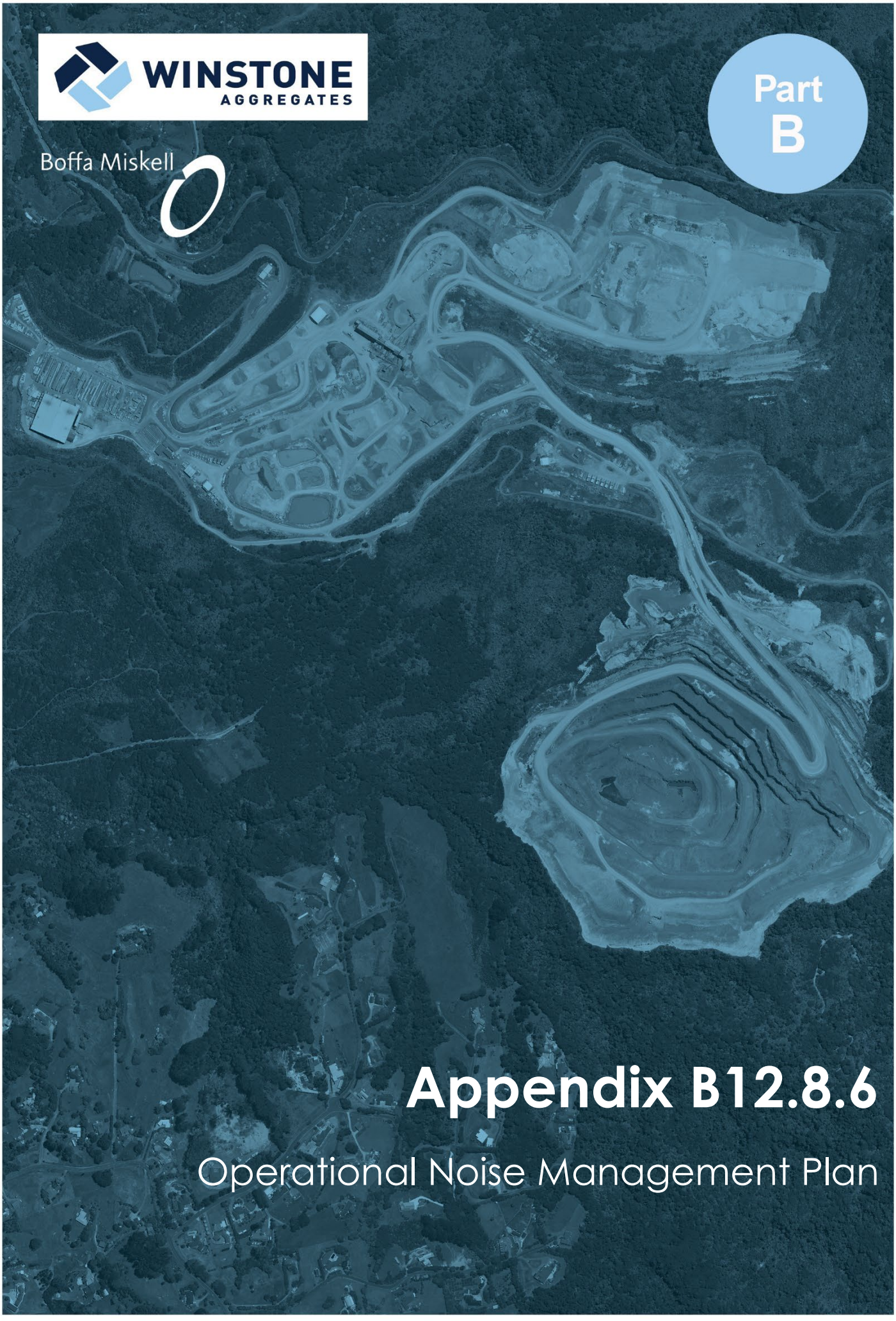
Part B



Appendix B12.8.6

Operational Noise Management Plan

Styles Group
Acoustics & Vibration Consultants

HUNUA QUARRY DRAFT ONMP

OPERATIONAL NOISE & VIBRATION MANAGEMENT PLAN

PREPARED FOR

Winstone Aggregates

DATE

23 March 2026

ONMP prepared by Styles Group for Winstone Aggregates.

REVISION HISTORY

Rev:	Date:	Comment:	Version:	Prepared by:	Reviewed by:
1	23/03/26	Draft version based on recommended conditions	Draft	Jamie Exeter, MASNZ Principal Styles Group	Jon Styles, MASNZ Director and Principal Styles Group

Table of contents

Appendices

Appendix A	Glossary
Appendix B	Resource consent conditions
Appendix C	Updates to the ONMP

1.0 Introduction

Winstone Aggregates (**Winstone**), a division of Fletcher Concrete and Infrastructure Limited (**FCIL**), has engaged Styles Group to prepare an Operational Noise and Vibration Management Plan (**ONMP**) for Hunua Quarry.

This ONMP has been prepared in accordance with the requirements of resource consent [TBC] (the **resource consent**) and the Auckland Unitary Plan (the **AUP**).

Winstone has resource consent to undertake the following activities over eight stages. These activities must be managed to ensure they do not generate unreasonable noise and vibration effects on neighbouring properties:

- expansion and deepening of the Symonds Hill Pit
- construction activities including:
    - vegetation clearance
    - constructing sediment retention ponds, haul roads, drainage networks, and culverts
    - stream realignment work
    - rehabilitation work.
- stripping overburden
- crushing in the Symonds Hill Pit
- processing, stockpiling, and dispatch in the main operations area
- purchasing truck movements and processing in the main operations area between 5:00 am and 7:00 am during periods of high demand.

The objective of this ONMP is to set out procedures to ensure that noise and vibration emissions from Hunua Quarry comply with the relevant limits and do not cause adverse effects on the neighbouring properties.

The final version of this ONMP must be submitted to Auckland Council for approval before operational activities are undertaken in the consented expansion areas. If any material updates are made to the ONMP the revised version must be provided to Auckland Council for information before any changes are actioned.

A glossary of acoustics terms used in this document is provided in Appendix A.

2.0 Contents of this ONMP

In accordance with condition [TBC] of the resource consent, this ONMP includes:

- the relevant noise and vibration limits — Section 6.0
- the mitigation measures required to ensure that the relevant noise and vibration limits are complied with — Section 10.0
- procedures for undertaking noise and vibration measurements — Section 11.0
- procedures and managing any noise complaints — Section 12.0
- provisions for updating the ONMP to adapt to any changes in the receiving environment or any material changes to the quarry vehicle fleet and machinery — Section 14.0.

3.0 Roles and responsibilities

This document will be maintained by Winstone and updated as necessary in accordance with Section 14.0.

The provisions of this ONMP must be followed by all parties involved with the operation of Hunua Quarry and all permanent staff at Hunua Quarry must be familiar with its requirements.

The latest version of the ONMP must be made available to Auckland Council on request.

The key contacts for Hunua Quarry with respect to noise and vibration management are set out in Table 1.

Table 1: Key contacts for noise and vibration

Name	Role / responsibilities	Contact details	
[TBC]	Manager responsible for implementation of the ONMP	Phone Email:	
[TBC]	Contact for noise and vibration complaints	Phone: Email:	
Styles Group	Acoustics consultants for noise and vibration monitoring, noise level predictions, and advice on mitigation	Phone: Email:	09 308 9015 info@stylesgroup.co.nz

The ONMP manager is responsible for:

- ensuring the ONMP is maintained and updated as necessary over the life of the quarry
- ensuring that the mitigation measures identified in this ONMP are integrated into all relevant operations
- ensuring that induction and training processes include making permanent staff aware of the requirements of the ONMP.

4.0 Activities at Hunua Quarry

Noise and vibration will be generated by the activities listed below. Refer to Section 5.0 for the relevant noise and vibration limits, which depend on whether the activity is defined as construction or operational.

4.1 Construction activities

Construction activities, as defined by NZS 6803:1999 (and AAAC guidelines[1]), include temporary activities undertaken to establish, maintain, or reconfigure a site.

Construction activities at Hunua Quarry include:

- haul road construction
- earth bund construction
- vegetation clearance
- construction of sediment retention ponds
- construction of drainage networks
- construction of culverts and bridges
- stream realignment works
- rehabilitation work.

The noise and vibration limits for construction activities are set out in Sections 6.1 and 6.2. Limits for construction hours are provided in Section 8.0.

4.2 Operational activities

Operational activities are all other activities at Hunua Quarry, including:

- stripping overburden

[1] AAAC Guideline for interpreting and applying NZS 6803:1999

- cut and extraction in the Symonds Hill Pit
- loading and operation of processing plant
- use of mobile crushers
- truck and vehicle movements
- use of loaders, trucks, and other plant for stockpiling and dispatch
- use of trucks, and heavy plant in the overburden disposal area
- all activities associated with blasting, such as drilling, use of excavators, and haulage.

The noise limits for operational activities are set out in Section 6.3.

The use of explosives (blasting) is also an operational activity, but it has separate limits. These are set out in Section 6.5.

5.0 Nearest receivers

The nearest receivers where the noise and vibration limits apply are listed below. These sites all contain dwellings. They are not owned by FCIL and did not provide written approval to the consented activity.

- **A**: 341 Hunua Road
- **B**: 367 Hunua Road
- **C**: 191 Judge Richardsons Drive
- **D**: 610 Ponga Road
- **E**: 159 Middleton Road
- **F**: 170 Middleton Road
- **G**: 138 Middleton Road.

The noise and vibration levels at all other receivers will be lower because they are further from the quarry activity.

The nearest receivers and the area of Hunua Quarry zoned *Special Purpose — Quarry Zone* (**SPQZ**) are illustrated in in Figure 1. The SPQZ is relevant to the applying the correct noise and vibration limits (see Section 6.0).

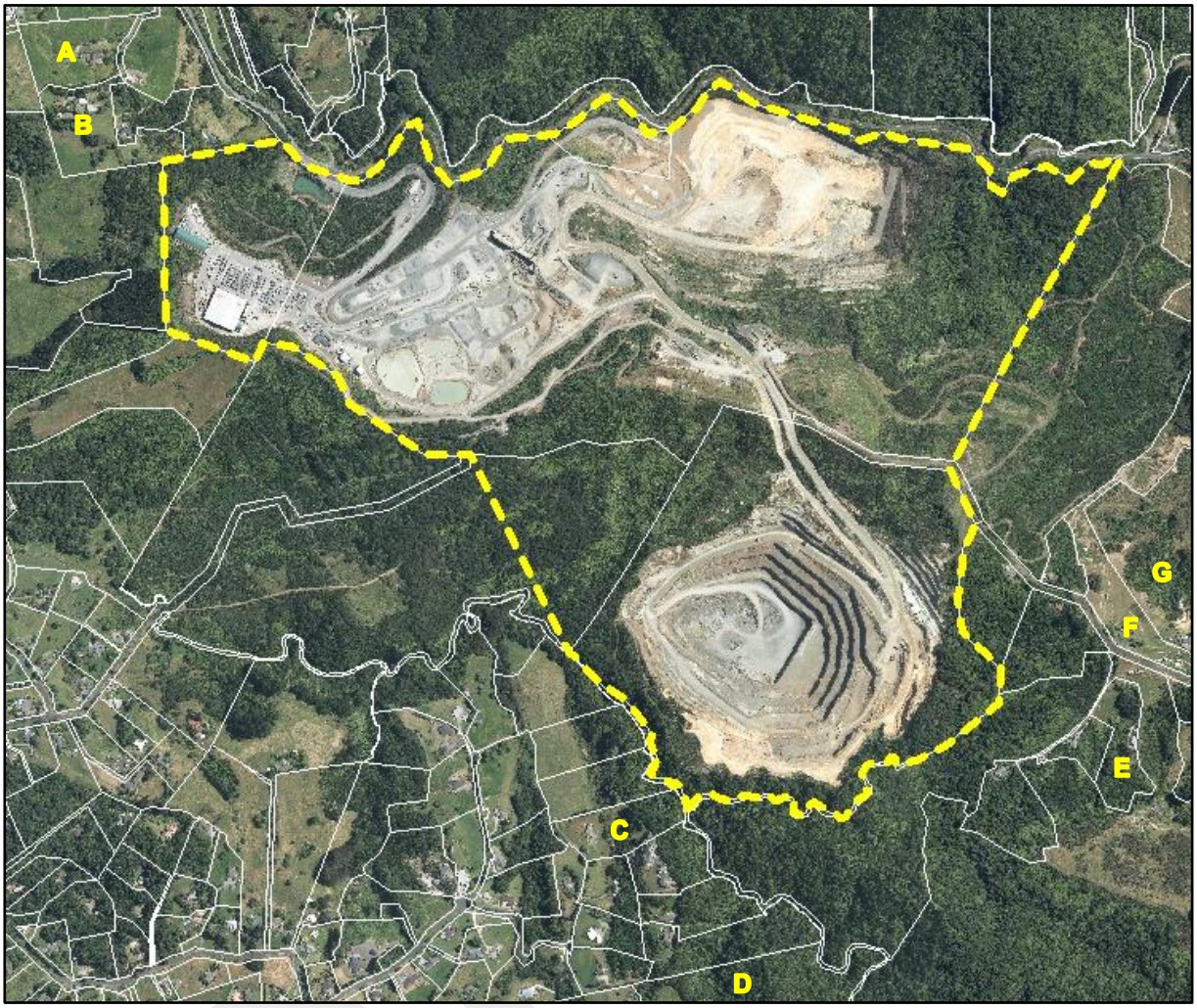


Figure 1: Nearest receivers and the SPQZ area of Hunua Quarry

6.0 Noise and vibration limits

This section summarises the noise and vibration limits for construction work, operational activities, and blasting. The resource consent conditions relevant to noise and vibration limits are provided in Appendix B.

The noise and vibration limits in this section do not apply at the following sites:

- Hunua Road: 369, 397, 411, 480-486, and 490
- Judge Richardson Drive: 105, 106, 108, 115, 118, 119, and 195
- Middleton Road: 161, 163, 165, 167, 180, 193, and 255.

6.1 Construction noise limits

Construction noise must comply with the following limits when measured at 1 m from the façade of any occupied dwelling and 1.2–1.5 m above ground level. These limits do not apply at the sites referenced in Section 6.0.

- Monday to Saturday 7:30 am to 6:00 pm: 70 dB L_{Aeq} and 85 dB L_{Amax}
- All other times: no noisy construction work is permitted. Any quiet construction activity must be generally inaudible outside the neighbouring dwellings.

6.2 Construction vibration limits

Construction vibration at Hunua Quarry must comply with:

- **Vibration amenity limit**: 2 mm/s PPV in any axis when measured in the corner of the floor of the storey of interest for multi-storey dwellings, or within 0.5 m of ground level at the foundation of a single storey dwelling. This limit only applies at dwellings that are occupied during the construction works.
- **Building damage limit**: The guideline vibration values of DIN 4150–3:2016 in all buildings when measured and assessed in accordance with the Standard. The relevant limits are provided in Section 7.0.

These limits do not apply to vibration from blasting (see Section 6.5).

6.3 Operational noise limits

All operational activities (except blasting – see Section 6.4) must comply with the following limits when measured and assessed in accordance with NZS 6801:2008 *Acoustics – Measurement of environmental sound* and NZS 6802:2008 *Acoustics – Environmental noise*.

The noise limits apply at the notional boundary of any site outside the *Special Purpose – Quarry Zone*.

- 7:00 am to 6:00 pm on Monday to Friday: 55 dB $L_{Aeq.}$
- 7:00 am to 4:00 pm on Saturday: 55 dB $L_{Aeq.}$
- All other times: 45 dB L_{Aeq} and 75 dB L_{Amax}.

6.4 Blasting noise limits (overpressure)

The overpressure limits depend on the location of the blast. Refer to Section 5.0 to determine whether the blast is within the SPQZ.

Overpressure must be measured in accordance with the guidance of Appendix J *Ground Vibration and Airblast Overpressure* of AS 2187.2:2006 *Explosives—Storage and use, Part 2: Use of explosives*.

6.4.1 Blasting in the SPQZ

Overpressure generated by using explosives within the *Special Purpose – Quarry Zone* must comply with a limit of 128 dB L_{Zpeak} when measured at the notional boundary of any dwelling outside the zone.

6.4.2 Blasting in the RMRZ (all other blasting)

Overpressure generated by using explosives within the *Rural — Mixed Rural Zone* must comply with a limit of 120 dB L_{Zpeak} when measured at the boundary of any other site.

6.5 Blasting vibration limits

Vibration generated by blasting activities must comply with the limits set out in the German Standard DIN 4150-3 2016: *Vibration in buildings – Part 3 Effects on structures* when measured and assessed in accordance with the Standard.

The relevant limits are provided in Section 7.0.

7.0 Vibration limits under DIN 4150-3:2016

DIN 4150-3:2016 recommends guideline values for avoiding cosmetic building damage according to the design, occupancy, and sensitivity of the subject building, and the frequency of the vibration.

The building classifications are:

- Line 1: Buildings used for commercial purposes, industrial buildings, and buildings of similar design
- Line 2: Dwellings and buildings of similar design and/or occupancy
- Line 3: Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value (e.g., listed buildings under preservation order).

The guideline values also depend on whether the vibration is ‘short-term’ or ‘long-term’. Short-term vibration is defined by the Standard as vibration which does not occur often enough to cause structural fatigue, and which does not produce resonance. Long-term vibration is all other types of vibration.

The relevant limit for activity at Hunua Quarry can be determined (in most cases) by considering the following:

- The nearest buildings to Hunua Quarry are all dwellings (Line 2).
- Vibration measured in dwellings typically meets the short-term criteria when generated by trucks, heavy machinery, and blasting at quarries.
- The dominant frequency of the vibration is very likely to be less than 50 Hz.

The DIN 4150–3:2016 limits for short-term vibration at the foundations of dwellings are illustrated in Figure 2. The Standard includes other considerations, limits, and measurement locations, and should be referred to in full when assessing the potential for vibration to cause damage.

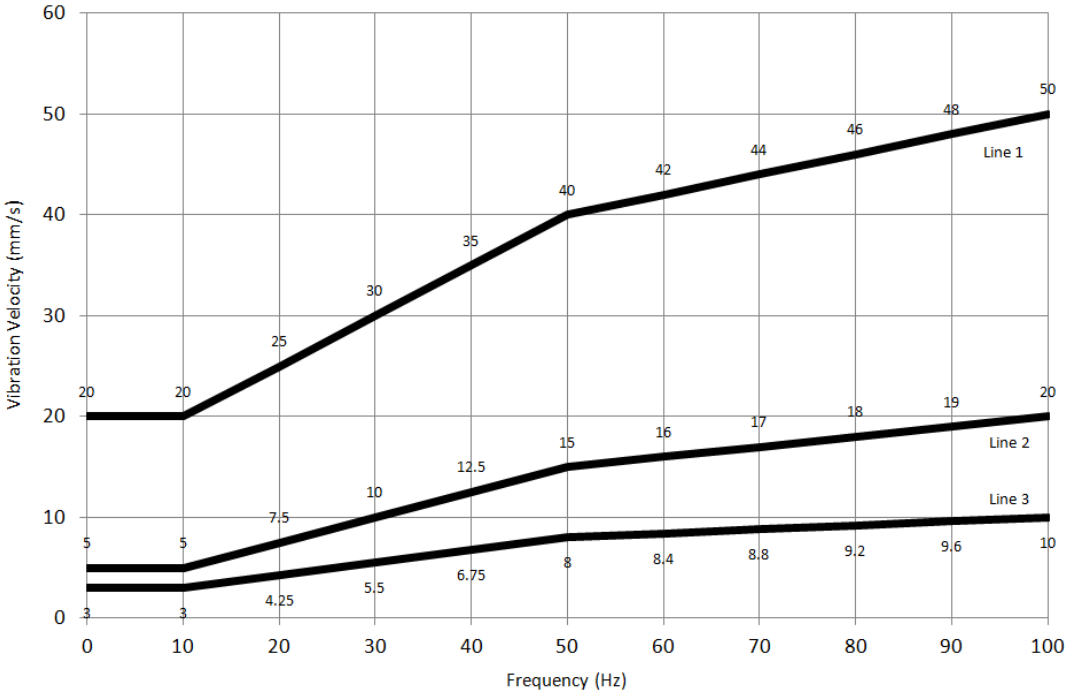


Figure 2: DIN 4150–3:2016 guideline values for short-term vibration

8.0 Construction hours

Noisy construction work, such as the use of heavy trucks and machinery, may only take place on site between the hours of 07:30 and 18:00, Monday to Saturday.

Quiet construction activity may take place at any time provided that any noise generated is generally inaudible at the notional boundary of any occupied dwelling.

9.0 Quarry noise sources

This section sets out the reference sound levels for construction and operational activities at Hunua Quarry.

9.1 Construction noise sources

Table 3 displays the current construction noise sources at Hunua Quarry. This will be updated as necessary when vehicles or equipment are replaced, or long-term noise measurements provide updated data.

Table 2: Reference noise levels and compliance distances from occupied dwellings

Construction activity	Unmitigated $L_{Aeq(15\ min)}$ noise level at 10 m	Unmitigated compliance distance
D9 bulldozer working in a small area	87 dB	95 m
Woodchipper	83 dB	60 m
Mulcher mounted on 10-t excavator	83 dB	60 m
Petrol chainsaw felling trees (33% on-time)	77 dB	30 m
Excavation with a 120-t excavator	82 dB	53 m
Excavation and loading trucks with a 45-t excavator	72 dB	17 m
Loading trucks with a 10-t excavator	67 dB	10 m

9.2 Operational noise sources

Table 3 displays the current operational noise sources at Hunua Quarry. This will be updated as necessary when vehicles or equipment are replaced, or long-term noise measurements provide updated data.

The reference sound power levels (L_{WA}) are all based on L_{Aeq} measurements.

Table 3: Operational noise sources

Activity at the quarry	Plant	Reference sound power level
Early morning operation between 5:00 am and 7:00 am	Purchasing trucks travelling between the front gate and the loadout area adjacent to the processing plant	114 dB L_{WA} trucks uphill 107 dB L_{WA} trucks downhill
	Loader	107 dB L_{WA}
	Processing plant	113 dB L_{WA}
Overburden stripping	Dump truck travelling between the stripping area and the OBDA	112 dB L_{WA}
	120-t excavator stripping overburden	112 dB L_{WA}
	30-t excavator stripping overburden and loading trucks	98 dB L_{WA}

Activity at the quarry	Plant	Reference sound power level
	D9 dozer shifting overburden to be loaded into trucks	115 dB L_{WA}
Operational activities during the daytime period	Dump truck travelling between the excavation area and the OBDA	112 dB L_{WA}
	180-t excavator extracting aggregate	112 dB L_{WA}
	120-t excavator extracting aggregate	112 dB L_{WA}
	40-t excavator loading trucks	100 dB L_{WA}
	30-t excavator loading trucks	98 dB L_{WA}
	10-t excavator loading trucks	95 dB L_{WA}
	D9 dozer	115 dB L_{WA}
	Drilling rig drilling holes for blasting	121 dB L_{WA}
	Grader maintaining surfaces of pit and haul roads	113 dB L_{WA}
	Mobile crusher at the Symonds Hill Pit floor	109 dB L_{WA}
	Processing plant	113 dB L_{WA}

10.0 Operational noise mitigation

This section sets out the operational noise mitigation measures that must be implemented.

10.1 Crushing in Symonds Hill Pit

Any crushing undertaken within Symonds Hill Pit must only be at the pit floor.

The crusher must be enclosed with acoustically rated shed. The shed must be designed to reduce the noise emissions from the crusher by at least 10 dB. It should be constructed using materials with a surface mass of no less than 7 kg/m^2 or from proprietary noise barriers (such as Echo Barrier[2], Soundbuffer[3] or Hushtec[4]).

[2] https://supplyforce.co.nz/echo-barrier

[3] http://soundbuffer.co.nz

[4] https://duraflex.co.nz/hushtec

Noise measurements must be undertaken when the crusher is first operated in the pit to confirm that a reduction of 10 dB is being achieved. If measurements identify that the minimum reduction is not being achieved, crushing must stop and the shed must be upgraded and retested.

10.2 Reversing alarms on quarry plant and vehicles

Tonal reversing alarms (beepers) can generate additional annoyance at neighbouring sites, so must not be used on quarry-based machinery. Alternatives such as broadband reversing alarms (squawkers) can be used.

10.3 General noise mitigation measures

The following mitigation measures must be implemented:

- Equipment must be maintained to ensure it is not generating excessive or unnecessary noise.
- Equipment generating excess or unnecessary noise should be stopped and reported to the site manager.
- When noisy equipment is not required to be running, it should be switched off and not left idling.
- All personnel operating heavy machinery near to the site boundaries must be aware of the provisions of this ONMP and the potential impacts of noise on the neighbours.

11.0 Noise and vibration monitoring

This section sets out the relevant monitoring locations, Standards, and requirements for noise and vibration monitoring. The results of all monitoring should be retained and provided to Auckland Council upon reasonable request.

11.1 Noise monitoring requirements

All noise and vibration measurements must be undertaken by a suitably qualified and experienced person (e.g., MASNZ) or any quarry personnel trained by the Hunua Quarry noise and vibration consultants identified in Section 3.0.

All noise monitoring must be undertaken using a sound level meter conforming to at least IEC651 Type 2 criteria.

Regular operational noise monitoring is necessary to ensure that noise emissions are compliant with the relevant limits set out in Section 6.0. All operational noise must be measured and assessed at the notional boundary (or a suitable proxy location) in accordance with NZS 6801:2008 and NZS 6802:2008.

Any noise modelling used to design mitigation or check compliance must be undertaken in accordance with NZS 6802:2008.

Construction and blasting noise should be monitored periodically and in response to any reasonable complaint. All construction noise must be measured and assessed at 1 m from the façade of any occupied building (or a suitable proxy location) in accordance with NZS 6803:1999. All overpressure (blasting noise) must be measured and assessed in accordance with the guidance of Appendix J of AS 2187.2:2006.

11.2 Frequency of noise monitoring

Noise monitoring must be undertaken at the following times (as a minimum):

- Stage 1 – within 6 months of commencement.
- Stage 2 – during construction works associated with the stream alignment.
- Stage 4 – when operational activities are within 400 m of the nearest receiver.
- Stage 7 – when operational activities are within 400 m of the nearest receiver.
- Stage 8 – when operational activities are within 400 m of the nearest receiver.
- Periodically throughout the life of the quarry to check compliance with operational, construction, and blasting noise limits.
- In response to any reasonable complaint received by Auckland Council or made directly to Huna Quarry.
- To test the noise levels generated by new plant, machinery, or vehicles.
- To test the effectiveness of mitigation implemented for compliance with the noise limits.

Periodic noise monitoring is not required where a permanent or semi-permanent noise monitoring system installed on site can provide robust and reliable data to assess compliance and reference sound levels.

11.3 Vibration monitoring requirements

Vibration must be monitored in response to any reasonable complaint.

All vibration must be measured and assessed at the foundations of the subject building in accordance with DIN 4150:2016 (or as otherwise directed by the Standard).

12.0 Complaints about noise and vibration

Any complaints received by quarry staff from residents will be directed to the relevant contact identified in Section 3.0.

The details of any complaints will be recorded in a register, including:

- the time and date of the noise or vibration causing the complaint
- the nature of the noise or vibration and what it was caused by, if known

- the name and contact number of the complainant, if provided
- the action taken in response to the complaint
- any corrective action measures implemented in accordance with Section 13.0.

The register will be made available to Auckland Council on request.

13.0 Corrective action measures

The corrective action measures illustrated in Figure 3 must be followed if non-compliance with the project noise or vibration limits is identified through monitoring.

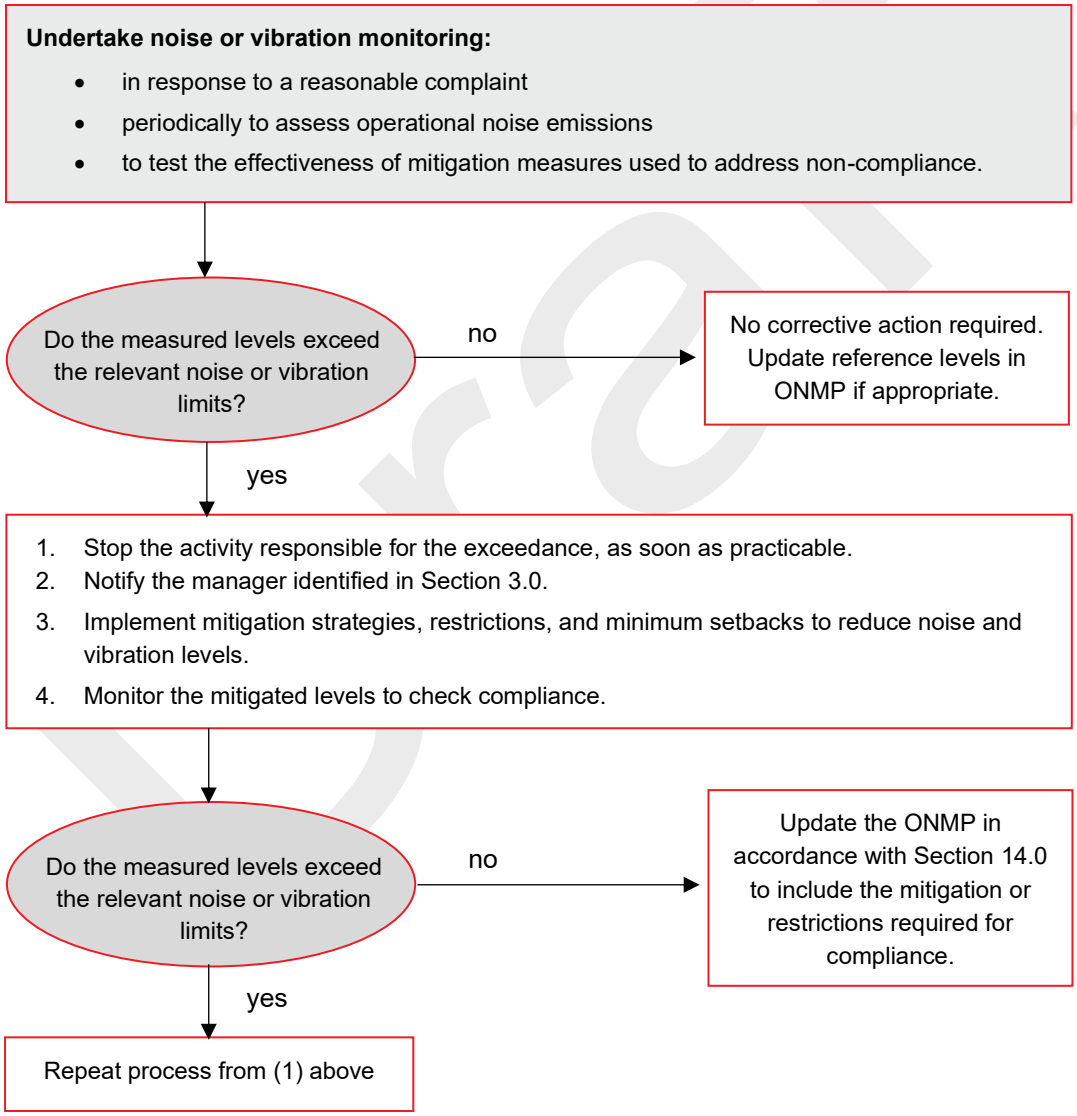


Figure 3: Corrective action measures

14.0 Revisions to this ONMP

This ONMP must be reviewed and updated where necessary:

- if changes in methodology or management are required to respond to non-compliance with noise or vibration limits being identified through monitoring, or in response to complaints
- if new plant, trucks, or vehicles are purchased for use on site that may change the cumulative operational noise emissions (higher or lower)
- to adapt to changes in the receiving environment where an existing dwelling:
  - becomes unoccupied (permanently or semi-permanently)
  - is acquired by or under the control of FCIL
  - changes use and is no longer an activity sensitive to noise.
- to adapt to changes in the receiving environment where a new dwelling is established within a rural zone near to Symonds Hill Pit
- at least every five years.

Any updated version of this ONMP must:

- be based on enabling compliance with the relevant noise and vibration limits in Section 6.0
- meet the objectives stated in Section 1.0
- record any material changes in Appendix C
- be provided to Auckland Council for information before any material changes are actioned.

Appendix A Glossary

Noise	Noise is unwanted, harmful, or inharmonious (discordant) sound which serves little or no purpose for the exposed persons. Sound is wave motion within matter, be it gaseous, liquid, or solid. Noise usually includes vibration as well as sound. The Resource Management Act 1991 defines noise as 'includes vibration'.
dB (decibel)	The basic measurement unit of sound. The decibel is a logarithmic scale that allows a wide range of values to be compressed into a more comprehensible range, typically 0 dB to 120 dB. Noise levels in decibels cannot be added arithmetically since they are logarithmic numbers. If one machine is generating a noise level of 50 dB, and another similar machine is placed beside it, the level will increase to 53 dB and not 100 dB.
$L_{Aeq(t)}$ (dB)	The A-weighted equivalent sound pressure level with the same energy content as the measured varying acoustic signal over a sample period (t). The preferred metric for sound levels that vary over time because it considers the total sound energy over the period of interest.
L_{AFmax} (dB)	The maximum A-weighted sound pressure level recorded during the measurement period using a fast time-weighting response.
L_{WA} (dB)	Sound power level (L_{WA}) is the acoustical energy emitted by a sound source. It is an absolute value and is not affected by distance or the environment. The L_{WA} is used in computer noise modelling to calculate the sound pressure level (e.g. L_{Aeq}) at a given distance.
L_{AE} (dB)	The A-weighted single event noise exposure level (also known as SEL). It is used to quantify the noise generated by individual events referenced to a standard period of one second. It is the dBA noise level over one second that would produce the equivalent sound energy as the actual event.
Noise Rating Level	A noise level derived in accordance with NZS 6802:2008 *Acoustics – Environmental noise*.
Notional boundary	A line 20 metres from any side of a residential unit or other building used for a noise sensitive activity or the legal boundary where this is closer to the building.
PPV	Peak particle velocity, measured in mm/s. The standard metric for the measurement of ground borne vibration in New Zealand. The instantaneous maximum velocity reached by a vibrating element as it oscillates about its rest position.

Appendix B Resource consent conditions

Recommended noise and vibration consent conditions — to be updated.

Construction noise and vibration

1. Construction work may only take place on site between the hours of 7:30 am and 6:00 pm, Monday to Saturday. This condition does not prevent quiet construction activities from taking place at any time, provided that any noise generated is generally inaudible at the notional boundary of any occupied dwelling.

   Advice note: construction work includes (without limitation) temporary activities associated with vegetation clearance, stream realignment, rehabilitation work, and the construction of sediment retention ponds, haul roads, drainage networks, culverts, and earth bunds.

Blasting noise and vibration

2. All blasting at Hunua Quarry must comply with the following limits, except that no overpressure limits apply at 369, 397, 411, 480-486, and 490 Hunua Road, 105, 106, 108, 115, 118, 119, and 195 Judge Richardson Drive, and 161, 163, 165, 167, 180, 193, and 255 Middleton Road.

   i. Overpressure generated by using explosives within the *Special Purpose – Quarry Zone* must comply with a limit of 128 dB L_{Zpeak} when measured at the notional boundary of any dwelling outside the zone. Overpressure must be measured in accordance with the guidance of Appendix J *Ground Vibration and Airblast Overpressure* of AS 2187.2:2006 *Explosives—Storage and use, Part 2: Use of explosives*.

   ii. Overpressure generated by using explosives within the *Rural — Mixed Rural Zone* must comply with a limit of 120 dB L_{Zpeak} when measured at the boundary of any other site.

   iii. Vibration generated by blasting activities must comply with the limits set out in the German Standard DIN 4150-3 2016: *Vibration in buildings – Part 3 Effects on structures* when measured and assessed in accordance with the Standard.

   iv. All blasting is restricted to the following except where it is necessary for safety reasons:

   - Blasting must only take place between 9:00 am and 5:00 pm on Monday to Saturday.
   - The number of blasts over any calendar fortnight must not exceed an average of two per day.

   v. A siren must be used prior to blasting to alert people in the vicinity.

Operational noise

3. All operational activities except blasting must comply with the following limits when measured and assessed in accordance with NZS 6801:2008 *Acoustics – Measurement of environmental sound* and NZS 6802:2008 *Acoustics – Environmental noise*. The noise limits apply at the notional boundary of any site outside the *Special Purpose – Quarry Zone* except at 369, 397, 411, 480-486, and 490 Hunua Road, 105, 106, 108, 115, 118, 119, and 195 Judge Richardson Drive, and 161, 163, 165, 167, 180, 193, and 255 Middleton Road.

    - 7:00 am to 6:00 pm on Monday to Friday: 55 dB $L_{Aeq.}$
    - 7:00 am to 4:00 pm on Saturday: 55 dB $L_{Aeq.}$
    - All other times: 45 dB L_{Aeq} and 75 dB L_{Amax}.

4. An Operational Noise and Vibration Management Plan (ONMP) must be prepared for Hunua Quarry before operational activities begin in any of the expansion areas.

    The objective of the ONMP is to set out procedures to ensure that noise and vibration emissions from Hunua Quarry comply with the relevant limits and do not cause adverse effects on the neighbouring properties.

    The ONMP must include (as a minimum):

    - roles and responsibilities for the implementation of the ONMP
    - the activities and noise sources at Hunua Quarry
    - the relevant noise and vibration limits
    - the neighbouring receivers
    - mitigation measures and all operational restrictions required to ensure that the relevant noise and vibration limits are complied with
    - procedures for undertaking noise and vibration measurements
    - procedures for managing noise and vibration complaints
    - corrective action measures
    - provisions for updating the ONMP to adapt to any changes in the receiving environment or any material changes to the quarry vehicle fleet and machinery
    - Procedures for ensuring that the use of any mobile crushing plant in the Symonds Hill Pit is enclosed, screened, or otherwise operated to ensure that it does not exceed a reference noise level of 81 dB LAeq(15 min) at 10 m.

5. Tonal reversing alarms (beepers) must not be used on quarry-based machinery. Alternatives without tonal characteristics such as broadband reversing alarms (squawkers) are permitted.

Appendix C Updates to the ONMP

Material updates to the ONMP must be recorded in the table below

Date	Sections updated	Reasons for updates	Changes to methodology or mitigation required

Appendix C Cetaware^{TM} measurement locations

WIN1

WIN2

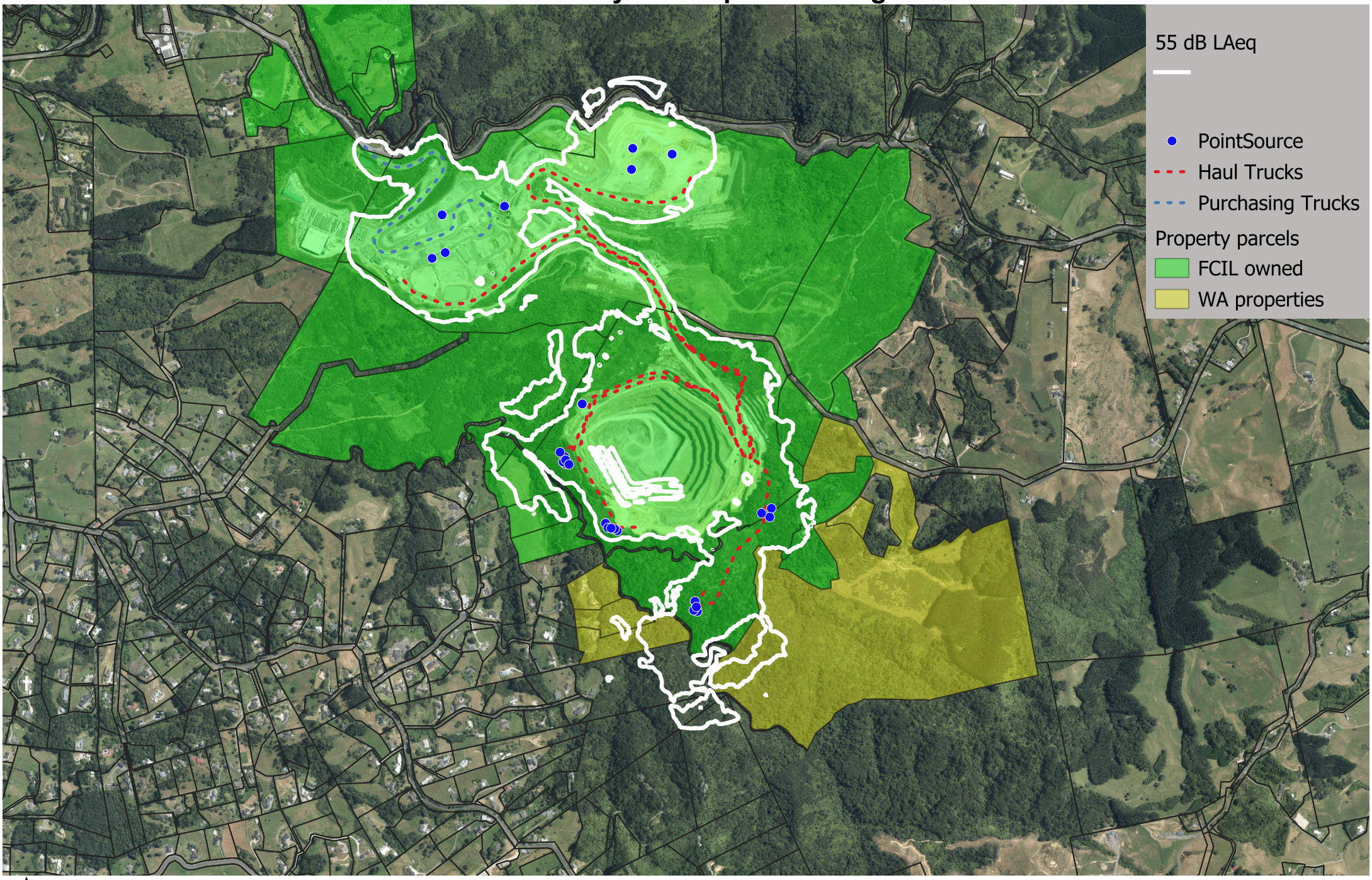
WIN3

WIN4

WIN5

Appendix D Noise level contours

Hunua Quarry Development - Stage 1



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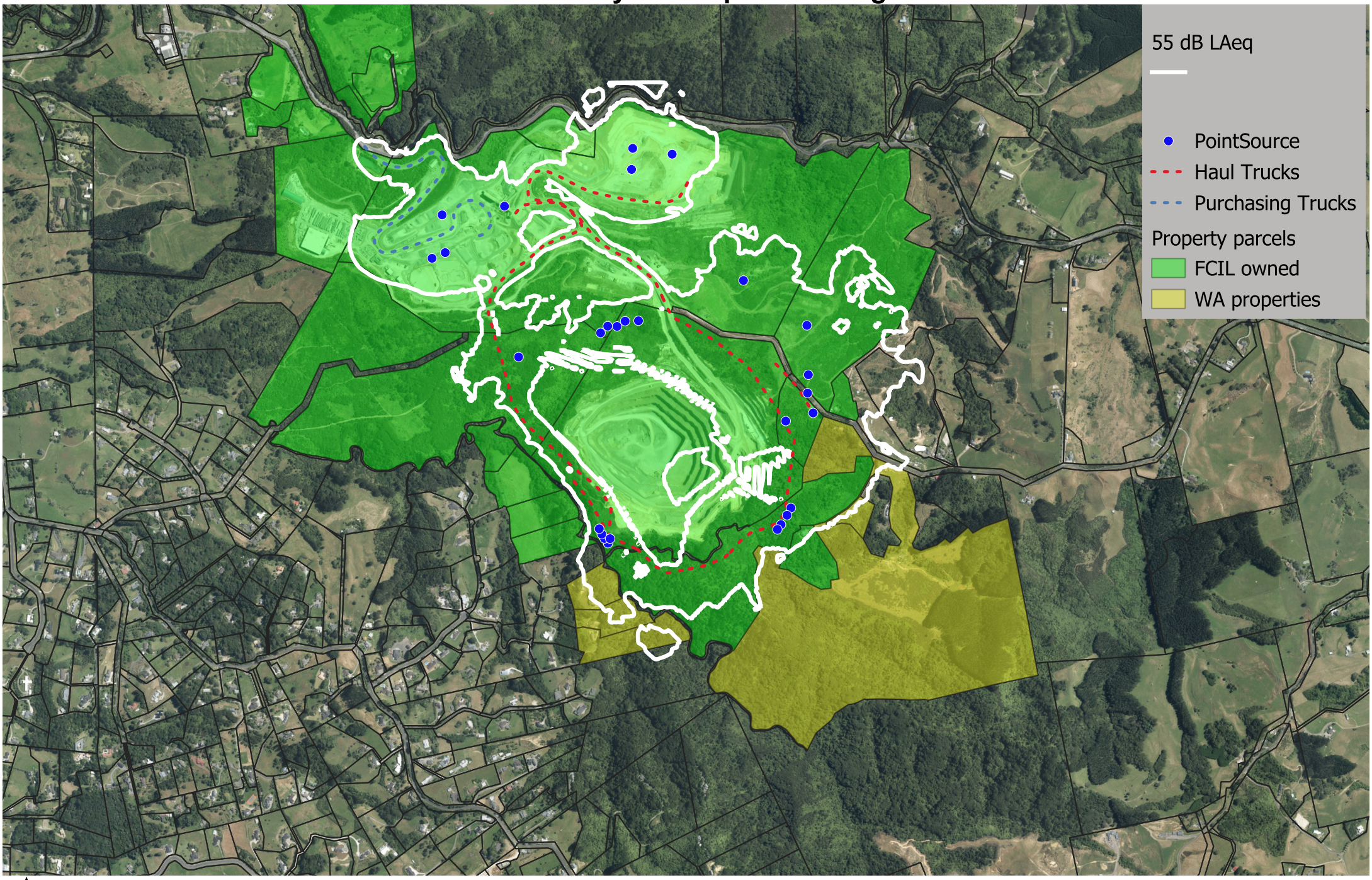
Hunua Quarry Development - Stage 7



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