Five Mile Centre

Private Plan Change – Acoustic Assessment

Queenstown Gateway (5M) Limited

Prepared by:

SLR Consulting New Zealand Limited

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Revision Record

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1.0	16 July 2026	Peter Runcie	Juan Restrepo	Peter Runcie
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Basis of Report

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Executive Summary

Queenstown Gateway (5M) Limited seeks a private plan change affecting land at 28–30 Grant Road and 3 Murchison Road, Frankton, to enable the establishment of a Health Care facility of up to 900 m² on the subject site. The proposal effectively transfers the ability to develop the currently permitted 900 m² Health Care facility from the adjacent Five Mile Centre (Frankton Flats Special Zone) to the plan change area, while ensuring that no more than 900 m² of Health Care floor area can be developed across the combined area of both sites.

The site is located within the Queenstown Airport Outer Control Boundary and is therefore subject to aircraft noise levels that have the potential to generate reverse sensitivity effects if not appropriately managed.

An acoustic assessment has been undertaken to review the existing noise framework, identify potential noise-related effects, and recommend appropriate provisions to manage aircraft noise exposure associated with Queenstown Airport.

The key acoustic consideration relates to aircraft noise and the potential for reverse sensitivity effects on Queenstown Airport operations. The proposed plan change addresses this by requiring any enabled Health Care facility to achieve the same internal aircraft noise performance standards currently applying to Health Care facilities within the Frankton Flats Special Zone. Specifically, the facility would be required to achieve an Indoor Design Sound Level of 40 dB Ldn through appropriate building design and, where required, mechanical ventilation.

The assessment confirms that the proposal does not alter the existing noise limits controlling noise generated from activities on the site and therefore does not increase the permitted noise anticipated by the planning framework experienced by neighbouring properties. In addition, Health Care activities are not typically significant noise-generating land uses and are not expected to materially alter the character of the surrounding acoustic environment.

As a result, the proposal maintains the intent of the airport noise management framework, provides an appropriate indoor acoustic environment for occupants, and does not increase the scale of Health Care development currently anticipated within the area.

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Acronyms and Abbreviations

A' weighted	A frequency adjustment which represents how humans hear sounds.
Ambient noise level	The all-encompassing sound associated with an environment or area, typically described using L_{Aeq}.
dB	Decibel
dBA	'A' weighted decibel
DIN 4150-3	German Industrial Standard DIN 4150-3 (1999): Structural vibration – Part 3 Effects of vibration on structures.
Free field	A monitoring location where the microphone is positioned sufficiently far from nearby surfaces for the measured data to not be influenced by reflected noise.
Hz	Hertz
L90 , L10 , etc.	Statistical exceedance levels, where LN is the sound pressure level exceeded for N% of a given measurement period.
L_{Aeq}	The 'A' weighted equivalent noise level. It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.
L_{Amax}	The A' weighted maximum sound pressure level of an event.
L_{dn}	A cumulative noise metric measuring average L_{Aeq} levels over a 24-hour period. A +10 dB penalty is added to noise events occurring between 10:00 pm and 7:00 am to account for increased human sensitivity to noise during typical sleeping hours. Often used in relation to noise from airports and ports.
Low frequency	Noise containing energy in the low frequency range.
L_P or SPL	Sound Pressure Level.
Lw or SWL	Sound Power Level.
NZS 6801:2008	New Zealand Standard NZS 6801:2008 "Measurement of Environmental Sound".
NZS 6802:2008	New Zealand Standard NZS 6802:2008 "Assessment of Environmental Noise".
NZS 6803:1999	New Zealand Standard NZS 6803:1999 "Acoustics – Construction Noise".
Octave-band	A frequency band where the highest frequency is twice the lowest frequency.
Rating level	A derived level used for comparison with a noise limit in accordance with NZS 6802: 2008.
Tonality	Noise containing a prominent frequency.

1.0 Introduction

Queenstown Gateway (5M) Limited is seeking to modify selected provisions applicable to the land at 28-30 Grant Road and 3 Murchison Road, Frankton, to enable a 900 m^2 Health Care facility (that is currently provided for within the adjacent Frankton Flats Special Zone) to establish within the Plan Change area.

SLR has been commissioned to undertake an acoustic assessment of the proposed private plan change.

This report contains a review of the relevant noise performance standards applicable to the existing site zoning; recommends appropriate noise performance standards for the proposed new zoning and provides an assessment of noise from the proposed zone and noise rules to adjacent sites.

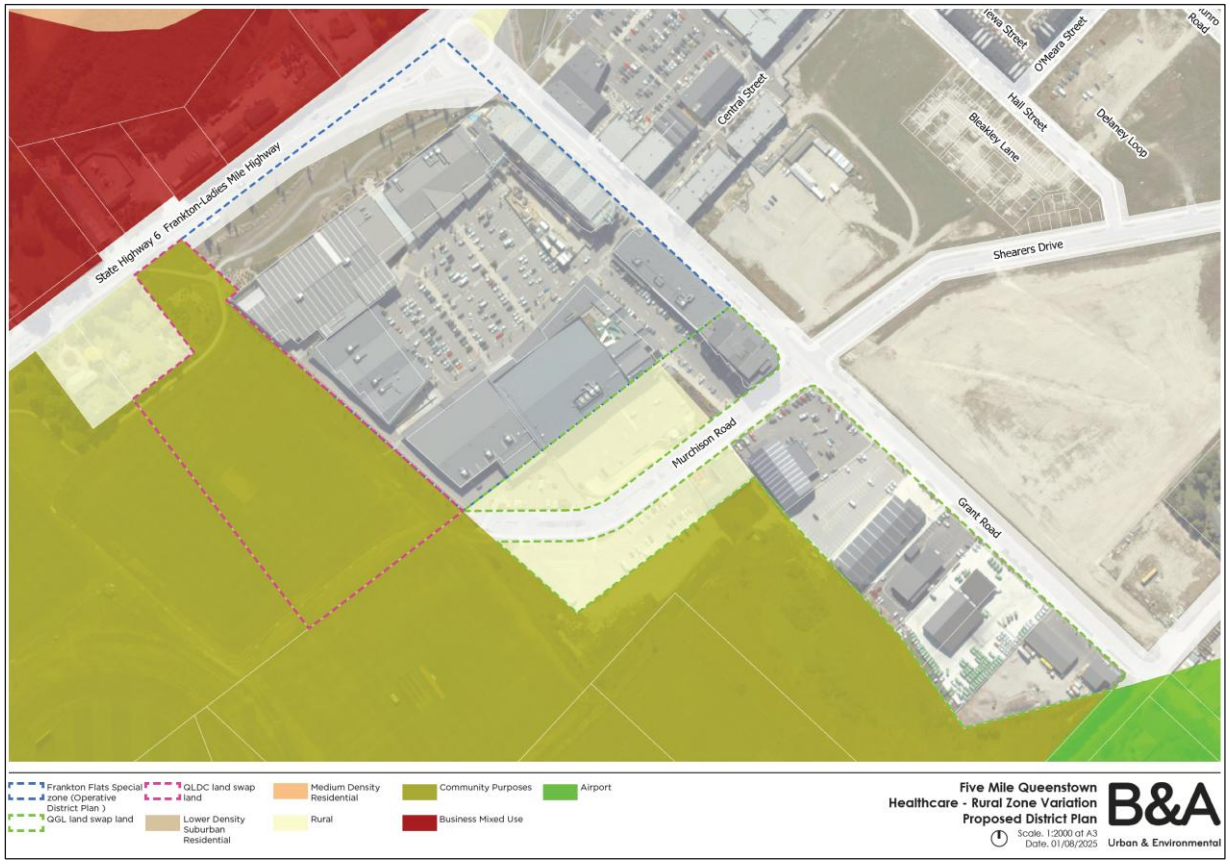
2.0 Site Description and Location

The subject site is located at 28-30 Grant Road and 3 Murchison Road, Frankton, approximately 500 m to the north of the Queenstown Airport runway. The history of the subject site and adjacent land associated with the land swap with Queenstown District Council are set out in the Section 32 Assessment Report prepared by Barker and Associates.

The site is on land zoned *Rural – General* in the Operative District Plan (ODP) and *Rural* in the Proposed District Plan (PDP). In both the ODP and PDP the site is within the Queenstown Airport Outer Control Boundary.

The land to the north comprises the Five Mile Centre, which is zoned *Frankton Flats Special Zone* in the ODP (and has no current zone in the PDP). This land contains established commercial activities, as well as a hotel and several food and beverage facilities. The land to the west is zoned Community Purposes and is used as sports fields. The PDP zoning is shown in **Figure 1** below.

Figure 1 PDP Zoning



3.0 Noise Environment

The current noise environment is influenced by a mixture of activity on adjacent land; the commercial activities of the Five Mile Centre to the north, the sports fields to the west and the operation of the airport to the south.

The publicly available Queenstown Airport Noise Management Plan indicate the subject site is located within the 2037 aircraft noise contour range of approximately 56 to 58 dB Ldn.

Given the proposal does not introduce new noise-generating activities beyond those already anticipated by the existing planning framework, attended noise surveys are not considered necessary for the purposes of this assessment.

4.0 Noise Performance Standards

4.1 Noise Generated on the Site

Noise generated on the site is controlled by the limits in Rule 5.3.5.2 (v) in the ODP and 36.5 of the PDP. There are no proposed changes to the operational noise controls as part of the plan change, accordingly these are not assessed further.

4.2 Airport Reverse Sensitivity

Due to the site being within the Outer Control Boundary – Queenstown Airport and therefore exposed to a level of airport noise it is appropriate that activities which have a potential sensitivity to aircraft noise are subject to appropriate controls to avoid potential reverse sensitivity effects on the airport.

Reverse sensitivity effects can arise where new Activities Sensitive to Aircraft Noise (ASAN) are established in areas exposed to aircraft operations, leading to potential pressure for restrictions on the airport's existing and future activities.

The ODP and PDP adopt the same broad definition of ASAN. ASAN are defined in the ODP as "…*any residential activity, visitor accommodation, community activity and day care facility as defined in this District Plan including all outdoor spaces associated with any educational facility but excludes police stations, fire stations, courthouses, probation and detention centres, government and local government offices*." The ODP definition for Community Activity includes "*…the use of land and buildings for the primary purpose of health*.", thereby encompassing Health Care facilities.

The airport noise management framework is based on NZS 6805:1992 Airport Noise Management and Land Use Planning (**NZS 6805**). NZS 6805 is used by territorial or regional authorities to control airport noise. The Standard establishes maximum acceptable levels of noise for the protection of community health.

NZS 6805 recommends how noise control boundaries should be established around an airport and how the airport operator should manage its operations to comply with the limits established by the boundaries.

NZS 6805 recommends that ASAN should be prohibited where aircraft noise levels exceed 55 dB Ldn (inside what the ODP and PDP refer to as the 'Outer Control Boundary – Queenstown Airport' and NZS 6805 refers to as Outer Control Boundary) unless a district plan permits such uses, subject to a requirement to incorporate appropriate acoustic insulation to ensure a satisfactory internal noise environment.

A relevant example of this is Rule 12.18.5.2. (iii) of the ODP which requires ASAN in the *Frankton Flats Special Zone* and Outer Control Boundary – Queenstown Airport to be acoustically insulated from aircraft noise to achieve an Indoor Design Sound Level of 40 dB Ldn based on the 2037 Noise Contours. An internal design noise level of 40 dB Ldn is commonly adopted across New Zealand as an appropriate level of noise to avoid noise effects on occupants of ASAN.

Under both Rule 5.3.3.5 (iii) of the ODP and 21.4.31 of the PDP new ASAN in the *Rural – General* and *Rural* zones are a prohibited activity when within the Outer Control Boundary – Queenstown Airport. This approach differs from other zones within the Outer Control Boundary where ASAN may be established subject to acoustic insulation requirements.

4.3 Proposal

The Five Mile Centre land, without zone in the PDP at the time of writing but zoned *Frankton Flats Special Zone* in the ODP, enables "One Health Care facility (including but not limited to doctors and/or dentist surgery, but excluding hospitals), not exceeding a gross floor area of 900 m^2 in rule 12.18.3.3. (ii). No Health Care has been developed in the *Frankton Flats Special Zone* and the remaining space to do so is understood to be limited.

The plan change proposes to enable one Health Care facility of up to 900 m² on the subject site. The associated provisions are intended to ensure that no more than 900 m² of Health

Care floor area can be established across the combined area of the subject site and the Frankton Flats Special Zone.

The proposal is to retain the same sound insulation controls for this Health Care development as apply in the *Frankton Flats Special Zone* to avoid potential reverse sensitivity effects on the adjacent airport.

Changes are proposed to the wording of ODP and PDP to enable the above. This includes minor changes to rule 21.5.6 of the PDP to ensure that the Health Care enabled through the proposed plan change is required to meet the internal noise controls for ASAN. The recommended changes are shown underlined.

21.5.6	Airport Noise – Alteration or Addition to Existing Buildings (excluding any alterations of additions to any non-critical listening environment) including the enabled new Health Care Facility at Lot 10 DP 486920 or Lot 6 DP 476309 within the Queenstown Airport Noise Boundaries a. Within the Queenstown Airport Air Noise Boundary (ANB) - Alterations and additions to existing buildings containing an Activity Sensitive to Aircraft Noise must be designed to achieve an Indoor Design Sound Level of 40 dB Ldn, within any Critical Listening Environment, based on the 2037 Noise Contours. Compliance must be demonstrated by either adhering to the sound insulation requirements in Rule 36.6.1 of Chapter 36 and installation of mechanical ventilation to achieve the requirements in Rule 36.6.2 of Chapter 36, or by submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the Indoor Design Sound Level with the windows open. b. Between the Queenstown Airport Outer Control Boundary and the ANB – Alterations and additions to existing buildings containing an Activity Sensitive to Aircraft Noise including the enabled new Health Care Facility at Lot 10 DP 486920 or Lot 6 DP 476309 must be designed to achieve an Indoor Design Sound Level of 40 dB Ldn within any Critical Listening Environment, based on the 2037 Noise Contours. Compliance must be demonstrated by either installation of mechanical ventilation to achieve the requirements in Rule 36.6.2 of Chapter 36 or by submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the Indoor Design Sound Level with the windows open. Standards (a) and (b) exclude any alterations or additions to any non-critical listening environment**.**

As the plan change will ultimately be incorporated into the PDP framework, amendments to the ODP acoustic insulation provisions are understood not to be necessary.

5.0 Assessment of Noise Effects

5.1 Noise Limits

There are no proposed changes to the standards related to noise generated by use of the site. Therefore there would be no change to the applicable operational noise limits and therefore no increase in the level of noise anticipated by the planning framework.

5.2 Aircraft Noise

It is proposed to vary the Rural zone rules so that the Health Care facility enabled under the plan change is required to achieve the same performance requirements as the already

enabled Health Care facility within the *Frankton Flats Special Zone*. Further, the changes seek to ensure that no more than the currently permitted Health Care facility (900 m^2) can be developed.

These controls avoid potential reverse sensitivity effects by:

- ensuring the Health Care facility is required to attenuate airport noise to provide an appropriate Indoor Design Sound Level of 40 dB Ldn internal noise environment; and
- restricting the amount of land which can be developed on the combined subject site and *Frankton Flats Special Zone* land to 900 m^2.

Based on the future 2037 airport noise levels identified in Section 3.0 above, achieving the internal design sound level would require the Health Care building design to achieve a noise reduction of 16 to 18 dB.

This level of reduction is readily achievable with typical timber or steel frame cavity constructions, with windows closed. Example constructions may include lightweight cladding/warm roof, fibrous insulation in the wall and ceiling cavities, internal plasterboard lining and double glazing.

5.3 Ambient Noise Environment

Health Care activities are not generally significant generators of environmental noise and so the character of the noise in the surrounding area is not expected to materially change as a result of the proposed plan change.

6.0 Conclusion

Queenstown Gateway (5M) Limited seeks a private plan change affecting land at 28–30 Grant Road and 3 Murchison Road, Frankton, to enable the establishment of a Health Care facility of up to 900 m² on the subject site.

The proposal does not amend existing controls regulating noise generated by activities on the site and therefore will not increase permitted noise emissions or alter the permitted noise environment at surrounding properties.

The primary acoustic issue is managing reverse sensitivity effects arising from the site's location within the Queenstown Airport Outer Control Boundary. The proposed amendments address this by:

- requiring any Health Care facility enabled through the plan change to meet the same aircraft noise insulation standards currently applicable to Health Care facilities and other ASAN within the Frankton Flats Special Zone; and
- ensuring the proposal does not increase the overall quantum of Health Care development anticipated in the locality.

Accordingly, it is concluded that the proposed plan change will maintain the effectiveness of the existing airport noise management framework and avoid adverse reverse sensitivity effects. The proposed noise provisions are therefore considered appropriate and sufficient to support the private plan change.

Sincerely,

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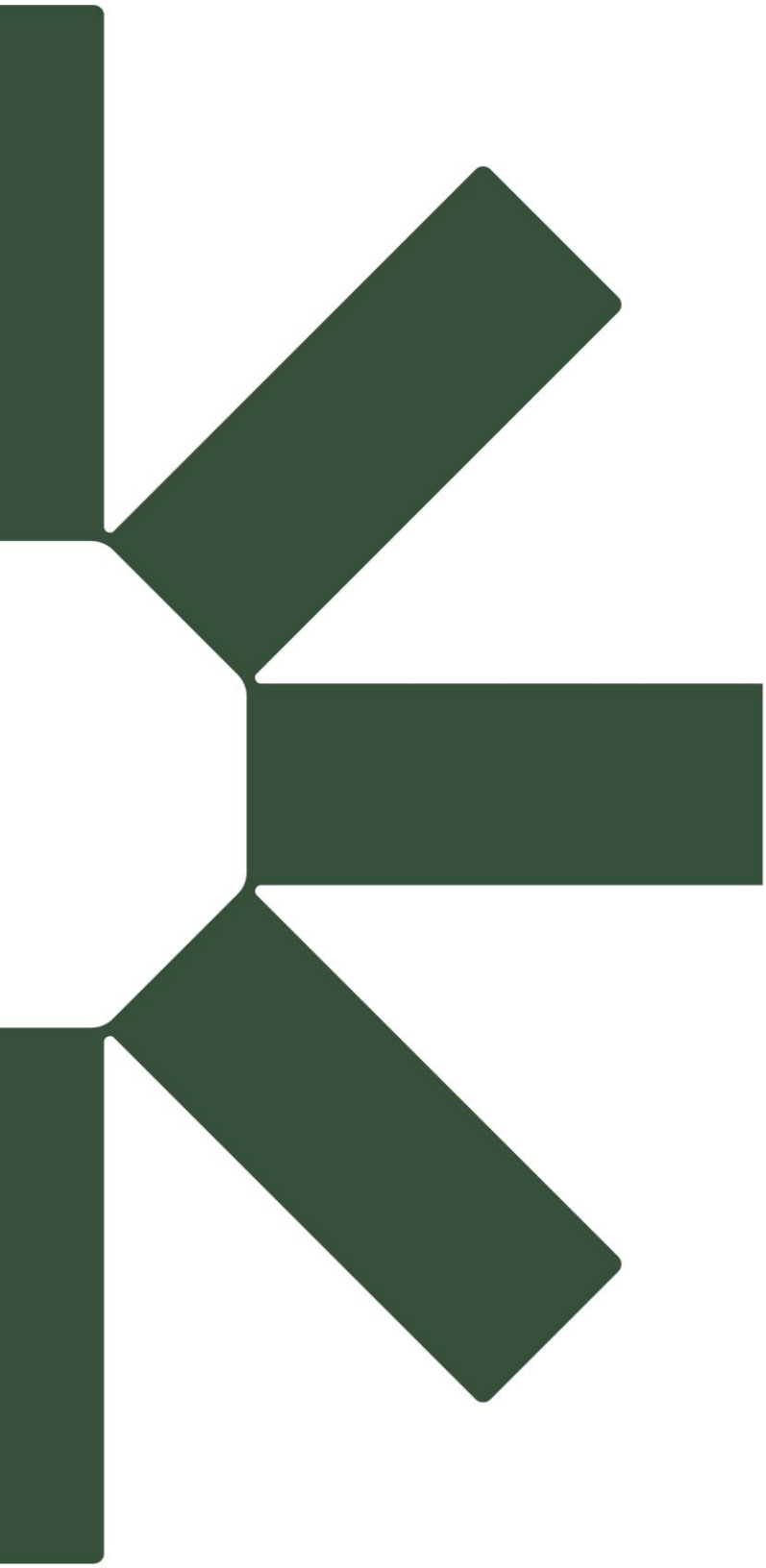

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