

IN THE MATTER

of the Resource Management Act 1991

AND

IN THE MATTER

of a submission on Stage 3 of the Proposed District Plan relating to the notified General Industrial zone and associated variations

BY

**Tussock Rise Ltd**

Bright Sky Land Limited

Alpine Estates Ltd

TO

**Queenstown Lakes District Council**

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**STATEMENT OF EVIDENCE OF JEREMY WILLIAM TREVATHAN**

**DATED 29 MAY 2020**

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## 1.0 INTRODUCTION

### Qualifications and experience

- 1.1 My name is Jeremy Trevathan. I am an Acoustic Engineer and Director of Acoustic Engineering Services Limited, an acoustic engineering consultancy based in Christchurch. I hold the degrees of Bachelor of Engineering with Honours and Doctor of Philosophy in Mechanical Engineering (Acoustics) from the University of Canterbury. I am an Associate of the New Zealand Planning Institute, and a Member of the Acoustical Society of New Zealand.
- 1.2 I have fourteen years' experience in the field of acoustic engineering consultancy and have been involved with a large number of environmental noise assessment projects throughout New Zealand. I have previously presented evidence at Council and Environment Court Hearings, and before Boards of Inquiry. I have acted on behalf of applicants, submitters and as a peer reviewer for Councils.
- 1.3 I have read and agree to comply with the Code of Conduct for Expert Witnesses (Environment Court Practice Note 2014). I confirm this evidence is within my area of expertise, except where I state I am relying on facts or information provided by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

### Background

- 1.4 In February 2019, my company was engaged by Tussock Rise Ltd to provide acoustic engineering advice in relation to a mediation on Stage 1 of the Queenstown Lakes Proposed District Plan (PDP) which sought to rezone the Tussock Rise site at Lot 2 DP 477622 from Industrial B to Low Density Suburban Residential (LDSR). This original submission was struck out by QLDC and was not considered, but was approved as being within scope by the Environment Court. It is subject to Stage 1 mediation and appeals.

- 1.5 My company initially prepared a memorandum which considered the noise implications of the proposed re-zoning of the Tussock Rise site from Industrial B to LDSR (AES reference: AC20026 - 02 - M2, dated 27 February 2020).
- 1.6 I have now been asked to prepare evidence by Tussock Rise Ltd in regards to the submission that has been made on Stage 3 of the PDP, which now seeks for the land to be rezoned to Business Mixed Use (BMU).
- 1.7 I have also reviewed the Submission of Tussock Rise Ltd and the Council's S.42A report in relation to the noise effects.

## **2.0 SITE AND PROPOSAL**

- 2.1 The 9.3 hectare Tussock Rise site is located in the Industrial B zone of the Queenstown Lakes Operative District Plan (ODP). The site to the southeast of the Tussock Rise site is zoned Rural General in the ODP, but has now been rezoned to LDSR through Stage 1 of the PDP.
- 2.2 The sites immediately adjacent on the southeast boundary are also zoned Industrial B while the sites to the northeast and northwest are zoned Industrial A. Through Stage 3 of the PDP these and surrounding industrial sites are to be rezoned to a new General Industrial zone.
- 2.3 I am aware of the description provided in the planning evidence of Mr Devlin that the wider 'Wanaka Industrial Area', within which the Tussock Rise site is located, is almost completely surrounded by land zoned for residential purposes.
- 2.4 The topographic plan for the Tussock Rise site shows that it is located on an elevated plateau that sits several metres above the existing built form along Gordon and Ballantyne Roads. The topographic plan is attached to the evidence of Mr Devlin.

- 2.5 It is requested that the Tussock Rise site be rezoned to BMU. The BMUZ enables buildings up to a height limit of 12m in Wanaka (Rule 16.5.8.1).
- 2.6 My analysis outlined in the following sections considers the effect of a new BMU zone imposing different noise limits at the boundaries of the Tussock Rise site, potentially restricting new industrial activities on adjacent sites, and whether an appropriate level of acoustic amenity will be provided for any new residential activities on the Tussock Rise site.
- 2.7 I understand that the Stage 3 Tussock Rise Ltd submission also requests the rezoning of a larger area of the Industrial zone to BMU. The noise implications for this have also been considered.

### 3.0 NOISE LIMITS

#### Current noise limits - ODP

- 3.1 As stated above, the Tussock Rise site and immediately surrounding sites are located within the Industrial A and B zones of the ODP. The noise limits applying to the industrial activities occurring in the adjacent Industrial A and Industrial B zones are outlined in the ODP in sections 11.3.5.2 and 11.5.6 respectively and are as follows:

#### Industrial A:

*Sound from non-residential activities measured in accordance with NZS 6801:2008 and assessed in accordance with NZS 6802:2008 shall not exceed the following noise limits at any point within any site outside this zone:*

*Daytime (0800 to 2000 hrs) 60 dB LAeq(15 min)*

*Night-time (2000 to 0800 hrs) 50 dB LAeq(15 min)*

Night-time (2000 to 0800 hrs) 70 dB LAFmax

*Sound from non-residential activities which is received in another zone shall also comply with the noise limits set in the zone standards for that zone.*

Industrial B:

*Sound from non-residential activities measured in accordance with NZS 6801:2008 and assessed in accordance with NZS 6802:2008 shall not exceed the following noise limits at any point within any site outside this zone (other than the business or industrial (A) zones):*

Daytime (0800 to 2000 hrs) 60 dB LAeq(15 min)

Night-time (2000 to 0800 hrs) 50 dB LAeq(15 min)

Night-time (2000 to 0800 hrs) 70 dB LAFmax

*Sound from non-residential activities which is received in another zone shall also comply with the noise limits set in the zone standards for that zone.*

- 3.2 As the Tussock Rise site is zoned Industrial B, the Industrial A sites to the northeast and northwest are currently able to generate up to 60 dB LAeq and 50 dB LAeq at the boundary of the Tussock Rise site for the daytime and night-time periods respectively.
- 3.3 The wording of the noise limits for the Industrial B zone means that currently the industrial activities on the sites to the southeast are not restricted to the daytime or night-time noise limits at the Tussock Rise site boundary. For these sites, the noise limits which current apply are at more distant Residential zones under the ODP or Rural dwellings.

## Noise rules associated with the proposed zoning - PDP

- 3.4 The noise standards which apply within the Business Mixed Use zone in the PDP are outlined in rule 16.9.5.1 and are as follows:

*Sound\* from activities shall not exceed the following noise limits at any point within any other site in this zone:*

*Daytime (0800 to 2200hrs) 60 dB LAeq(15 min)*

*Night-time (2200 to 0800hrs) 50 dB LAeq(15 min)*

*Night-time (2200 to 0800hrs) 75 dB LAFmax*

*\*measured in accordance with NZS 6801:2008 and assessed in accordance with NZS 6802:2008*

- 3.5 Rule 36.5.15 in the PDP outlines the noise standards for the General Industrial zone and states that sound from activities in the General Industrial Zone is to be assessed at any point within any site located in any other zone and to refer to standard relevant to the zone in which noise is received for the applicable noise limits. The way Rule 36.5.15 is worded means that there are no noise limits applicable at the boundaries of adjacent sites in the General Industrial zone.
- 3.6 For residential development within the BMU zone Rule 16.5.5s applies which states the following:

*For all residential development and visitor accommodation the following shall apply:*

*16.5.5.1 A mechanical ventilation system shall be installed for all critical listening environments in accordance with Table 5 in Chapter 36; and*

*16.5.5.2 All elements of the façade of any critical listening environments shall have an airborne sound insulation of at least 40 dB Rw + Ctr determined in accordance with ISO 10140 and ISO 717-1.*

This is a very high level of sound insulation.

#### **4.0 EFFECT OF REZONING THE TUSSOCK RISE SITE ON NEIGHBOURING INDUSTRIAL ACTIVITIES AND AMENITY PROVIDED FOR NEW DWELLINGS**

4.1 I have considered the noise limits currently applicable at the Tussock Rise site boundary through the ODP and the changes to these through the PDP and proposed rezoning to assess how the rezoning of the Tussock Rise site will affect the surrounding industrial activities. I have also considered what measures are appropriate to ensure new residential has an adequate acoustic environment.

##### **Industrial A neighbours**

4.2 If the Tussock Rise site is zoned BMU, the noise limits for the noise received at the boundary of the Tussock Rise site from any of the neighbouring industrial sites would be 60 dB LAeq (daytime) and 50 dB LAeq (night time). This is no different to the limit that currently applies at the boundary between the Industrial A sites and the Tussock Rise site in the ODP. Therefore, no additional restrictions will be placed on the Industrial A sites adjacent to the Tussock Rise site on the northwest and northeast boundary.

- 4.3 With this noise limit in place, the sound insulation rule described in paragraph 3.6 above will be more than adequate to protect new noise sensitive development on the Tussock Rise site.

#### **Industrial B neighbours**

- 4.4 As described in paragraph 3.3 above, the industrial sites to the southwest which are zoned Industrial B in the ODP currently have no noise limit at the Tussock Rise boundary, as Tussock Rise is also zoned Industrial B. If the Industrial B sites, including Tussock Rise, were to be rezoned to the new General Industrial zone in the PDP, there would again be no noise limit at this boundary.
- 4.5 BMU zoning would introduce a 60 dB LAeq (daytime) and 50 dB LAeq (night time) limit at this boundary. I have considered what this would mean for existing industrial activities along this boundary, and for new or different industrial activities establishing on these neighbouring sites.

#### *Existing industrial activities*

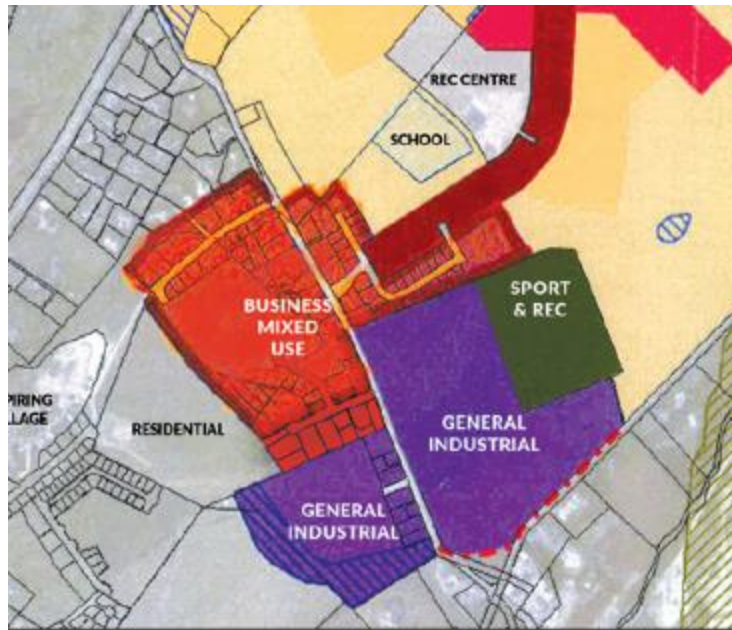
- 4.6 I understand that any legally established existing industrial activity on the 5 sites currently zoned Industrial B which adjoin Tussock Rise would be permitted to continue generating the level of noise they do currently. The key issue is then whether the BMU sound insulation requirements for new residential development and visitor accommodation outlined in paragraph 3.6 above are adequate to ensure reverse sensitivity effects would not arise due to new noise sensitive development on the Tussock Rise site in proximity to these existing permitted noise sources.
- 4.7 The BMU sound insulation rule described in paragraph 3.6 above provides adequate protection in the face of external noise levels up to 70 dBA. The existing industrial activities include a winery and the yard of a home improvement store. As a point of reference, an external wine press or a forklift may generate a noise level in the order of 65 - 70 dBA at 5 metres. Based on the current arrangement of the neighbouring



industrial sites, it appears very unlikely that a noise sensitive space in a residential unit would ever be constructed in that proximity to those existing sources. I therefore do not expect existing industrial activities to have an adverse effect on new residential development or visitor accommodation on the Tussock Rise site.

*New or different industrial activities*

- 4.8 If the Tussock Rise site alone was zoned Business Mixed Use, a new or different industrial activity establishing in the neighbouring Industrial B zone would need to comply with a 60 dB LAeq (daytime) and 50 dB LAeq (night time) limit at the Tussock Rise boundary - whereas under the current zoning or under General Industrial zoning there is no noise limit in this location. However, for the sites towards the southwest, there is a stringent noise 50 dB LAeq (daytime) and 40 dB LAeq (night time) limit resulting from the rezoning of the “Bright Sky” site directly adjacent to the west to LDSR through Stage 1 of the PDP.
- 4.9 Whether or not the noise limit change at the Tussock Rise boundary is viewed negatively by a new industrial operator on a neighbouring site will depend on which site they are seeking to establish, and on the nature of their business. Many activities will be able to comply with a 60 dB LAeq (daytime) and 50 dB LAeq (night time) limit at one site boundary, with minimal modification to their operation. As above, for the Industrial B sites to the southwest, there is already some restriction. Some operators may even consider the situation to be an improvement, as they will indirectly benefit from some protection from their industrial neighbours, which would not be the case if there was no noise limit on any boundary.
- 5.0 EFFECT OF REZONING THE WIDER AREA (INCLUDING TUSSOCK RISE SITE) ON EXISTING NEIGHBOURING INDUSTRIAL ACTIVITIES AND AMENITY PROVIDED FOR NEW DWELLINGS**
- 5.1 The Tussock Rise submission also seeks that the wider area be rezoned to BMU as shown in the image reproduced below:



*Figure 2: Requested Re-zoning*

- 5.2 This would rezone all the current Industrial A and B sites on both sides of Frederick Street and north of Frederick Street, including the Tussock Rise site to BMU.
- 5.3 As described above, rule 16.5.5 of the PDP requires a high level of sound insulation for any new noise sensitive development in the BMU zone. This is likely to be adequate to ensure that noise from any existing industrial activities in the area is adequately mitigated, should new noise sensitive activities be established within the new BMU area outside the Tussock Rise site.
- 5.4 For new industrial activities, the rezoning of the existing Industrial A and B sites outside the Tussock Rise site to BMU will introduce more stringent noise limits for these sites, by imposing at 60 dB LAeq and 50 dB LAeq daytime and night-time limit at the boundary to any other site in the BMU zone. As described above, while these are the same numerical noise limits as those which currently apply for the Industrial A and B zones under the ODP, these limits are currently only assessed at sites in different zones.
- 5.5 However most of the relevant Industrial A sites currently already share at least one boundary with a different zone - Industrial B, Rural Residential or Rural General. So this

change in assessment location to ‘all neighbouring sites’ is unlikely to represent a meaningful additional restriction.

- 5.6 For the Industrial B sites, as described above, the only noise limits which currently apply are at distant residential zones under the ODP. As also described above, the rezoning of the “Bright Sky” site directly adjacent to the west to LDSR through Stage 1 of the PDP will however introduce a more stringent noise limit at this interface. As with the Industrial B sites directly adjoining Tussock Rise, how this alternative noise limit regime is viewed by a potential new industrial operator will depend on the nature of their business, and on which site they are looking to establish.

## 6.0 CONCLUSIONS

- 6.1 I have considered the potential noise effects that may be associated with the rezoning of the Tussock Rise site.
- 6.2 Noise limits of 60 dB LAeq (daytime) and 50 dB LAeq (night-time) introduced at the Tussock Rise site boundary from the rezoning of the site to BMU would not restrict the activities of any of the surrounding Industrial A sites. Appropriate acoustic amenity would be provided for any new dwellings within the BMU zone, as a sound insulation rule is already proposed for BMU (Rule 16.5.5 of the PDP). This sound insulation rule will be adequate to ensure noise emissions from existing neighbouring Industrial B sites do not have an adverse effect.
- 6.3 New industrial activities looking to establish on neighbouring Industrial A sites will need to comply with the same noise limits as under the current rules. New industrial activities looking to establish on neighbouring Industrial B sites will need to comply with a 60 db LAeq (daytime) and 50 dB LAeq (night time) noise limit. How this is viewed by new potential operators will depend on the nature of their business, and which site they are considering.