

BEFORE THE QUEENSTOWN LAKES DISTRICT COUNCIL

**IN THE MATTER OF** of the Resource Management Act 1991

**AND**

**IN THE MATTER OF** The Queenstown Lakes Proposed District Plan

Chapter 30 (Energy and Utilities)

Chapter 35 (Temporary Activities)

Chapter 36 (Noise)

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**STATEMENT OF EVIDENCE BY KIRSTY O'SULLIVAN**

(Submitter 433 and Further Submitter 1340)

2 SEPTEMBER 2016

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# **1 INTRODUCTION**

## **Qualifications and Experience**

- 1.1 My name is Kirsty O'Sullivan. I am a Senior Resource Management Consultant with the firm Mitchell Partnerships Limited.
- 1.2 My qualifications and experience are set out in paragraphs 1.1 to 1.4 of my statement of evidence on Chapter 3 (Strategic Directions), Chapter 4 (Urban Development) and Chapter 6 (Landscapes) of the Proposed Queenstown Lakes District Plan ("PDP"), dated 29 February 2016.
- 1.3 I confirm my obligations in terms of the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I confirm that I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

## **Scope of Evidence**

- 1.4 This hearing specifically relates to the submissions made on the following chapters of the PDP:
- 1.4.1 Chapter 30 (Energy and Utilities);
  - 1.4.2 Chapter 35 (Temporary Activities and Relocated Buildings); and,
  - 1.4.3 Chapter 36 (Noise).
- 1.5 The Queenstown Airport Corporation ("QAC") made submissions and/or further submissions with respect to these chapters.
- 1.6 In this statement of evidence, I address the following matters:
- 1.6.1 The appropriateness or otherwise of provisions contained in Chapter 30, insofar as they relate to Airports (Chapter 30);

- 1.6.2 The appropriateness or otherwise of provisions pertaining the temporary airshows and relocated buildings (Chapter 35);
  - 1.6.3 The protection of obstacle limitation surfaces surrounding Queenstown and Wanaka Airports (Chapter 35);
  - 1.6.4 The general provisions relating to the management of noise at Queenstown, and to a lesser extent, Wanaka Airport (Chapter 36);
  - 1.6.5 The proposed amendments to the sound insulation and mechanical ventilation tables and how they relate to the wider PDP provisions (Chapter 36);
- 1.7 In preparing this brief of evidence, I have read and reviewed:
- 1.7.1 The relevant chapters of the PDP as notified, including the associated section 32 evaluations;
  - 1.7.2 QAC's submission and further submission on the PDP;
  - 1.7.3 The section 42A reports prepared for Chapters 30, 35 and 36 (dated 19 August 2016); and,
  - 1.7.4 The expert evidence of Dr Chiles (dated 17 August 2016);
  - 1.7.5 The expert evidence of Mr Day (dated 2 September 2016); and,
  - 1.7.6 The expert evidence of Mr Roberts (dated 2 September 2016);
- 1.8 Where I have recommended changes to the provisions contained in the section 42A reports, a further section 32AA evaluation is provided in **Appendix A** attached.

## 2. BACKGROUND CONTEXT

### Queenstown and Wanaka Airport

- 2.1 The history of Queenstown and Wanaka Airports, their role in the Queenstown Lakes District, and the planning framework within which they operate has been described by Mr Mark Edghill and Mr John Kyle in

their respective statements of evidence on Chapter 3 (Strategic Directions), Chapter 4 (Urban Development) and Chapter 6 (Landscapes) of the PDP dated 29th February 2016 and 16<sup>th</sup> March 2016.

- 2.2 I adopt this evidence for the purposes of this hearing, noting it provides the contextual basis for some of the opinions I express in this statement. Copies of Mr Kyle's and Mr Edghill's evidence are **attached** (as **Appendix B**) to this statement, for the Panel's convenience.

### **3 CHAPTER 30 UTILITIES AND ENERGY**

- 3.1 Chapter 30 of the PDP relates to energy and utilities.

- 3.2 The definition of utility in the PDP includes "Anything described as a network utility operation in s166 of the Resource Management Act 1991".<sup>1</sup> The provisions contained in Chapter 30 therefore apply to Queenstown and Wanaka Airports, as "network utility operations" under the Resource Management Act 1991 ("RMA").

- 3.3 QAC lodged a number of further submissions with respect to Chapter 30. I note that the section 42A report writer (herein referred to as the Council Officer) appears to have omitted QAC's further submissions from the analysis contained in the section 42A report, including Appendix 2. I can therefore only infer, based on the Council's Officer's recommendations with respect to the original submissions that QAC further submitted on, whether QAC's further submissions are recommended to be accepted or rejected.

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<sup>1</sup> For the definition in full, refer to page 30-22 of the Chapter 30 section 42A report dated 19<sup>th</sup> August 2016.

### **General comment with respect to Chapter 30**

- 3.4 Clarification Note 30.3.3.3 sets out that the rules contained in Chapter 30 take precedence over any other rules that may apply to energy and utilities in the District Plan, unless specifically stated to the contrary.
- 3.5 While I agree that this approach is appropriate in the context of traditional utilities, I consider it presents an inherent difficulty for airports, as Chapter 30 does not contemplate the range of activities provided for at modern airports. Such activities are instead provided for by Chapter 17 (Queenstown Airport Mixed Use Zone) of the PDP.
- 3.6 Furthermore, it is conceivable that a situation may arise whereby QAC or QLDC (as the network utility operators for Queenstown and Wanaka Airports respectively) may be captured by the consent requirements under Chapter 30, whereas the same activity undertaken by another party (i.e. that is not a network utility operator) at the airport would be assessed under Chapter 17 and would likely be a permitted activity. For example, if QAC sought to construct a new building greater than 10m<sup>2</sup> in area and 3m in height at Queenstown Airport, resource consent would be required under Rule 30.4.17<sup>2</sup> of Chapter 30 as a controlled activity. The same activity undertaken by another party (i.e. not a network utility operator) would be permitted under Rule 17.4.1 of Chapter 17. In my view, this approach would lead to administrative and consenting inefficiencies and would be ineffective at achieving the higher order strategic objectives of the PDP.
- 3.7 Despite the new inclusion of airports in the PDP definition of utility (through reference to all network utility operations under section 166 of the RMA), the section 32 evaluation for Chapter 30 does not include an evaluation of how the provisions might impact upon the districts airports. The cost/benefit evaluation specifically undertaken with respect to

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<sup>2</sup> Rule 30.4.17 of the section 42A report for Chapter 30, or Rule 30.4.15 of Chapter 30 as notified.

Clarification Note 30.3.3.3 does not address, at all, the potential costs to the network utility operators at Queenstown and Wanaka Airports.

- 3.8 Given that there is an entire chapter within the PDP dedicated to Queenstown Airport, I suspect it was not the intent of the Council to inadvertently capture land use activities associated with airports within Chapter 30. By doing so, parts of Chapter 17 are negated. This is neither appropriate nor efficient in my view.
- 3.9 Accordingly, assuming the Panel has scope to do so, I consider that it would be appropriate to include a new clause (d) to Clarification Note 30.3.3.3 to clearly set out the Chapter 30 does not take precedence over Chapter 17 of the PDP.

#### **Objectives and Policies**

- 3.10 QAC supported a number of submissions that sought the retention of and/or amendment to notified provisions that recognise and provide for the operational and locational constraints of utilities and the positive benefits that accrue from the establishment of new and/or the ongoing operation of, existing utilities.<sup>3</sup>
- 3.11 The Council Officer has recommended some minor drafting amendments to the provisions that provide for the ongoing operation and use of utilities and their associated benefits. The Council Officer has therefore recommended accepting, in part, the original submissions that QAC further submitted on.<sup>4</sup> In my opinion, the Council Officer's recommendations are appropriate and ensure that the provisions give

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<sup>3</sup> Specifically, QAC lodged further submissions with respect to original submissions on Objectives 30.2.5, proposed new Policy 30.2.5.4, Objective 30.2.6, Policy 30.2.6.1, Policy 30.2.6.2, Policy 30.2.6.5, Objective 30.2.7, Policy 30.2.7.1 and Policy 30.2.7.4.

<sup>4</sup> Submission 251.12 on Objective 30.2.5, submissions 179.16, 781.15 and 191.14 on proposed new Policy 30.2.5.4, submissions 179.19, 781.18 and 191.17 on Objective 30.2.6 and submission 251.13 on Policy 30.2.6.1.

effect to the higher order strategic directives contained in Chapter 3 of the PDP.<sup>5</sup>

- 3.12 With respect to provisions that provide for the operational and locational constraints of utilities, the Council Officer has recommended accepting<sup>6</sup>, accepting in part<sup>7</sup> and rejecting<sup>8</sup> the original submissions on which QAC made further submissions.
- 3.13 As set out in my evidence<sup>9</sup> relating to Chapter 3 (Strategic Directions), Chapter 4 (Urban Development) and Chapter 6 (Landscapes), I consider that the PDP needs to recognise that the operational requirements of infrastructure may necessitate placement at a particular location. This includes the potential siting of infrastructure in areas of significant natural values such as Outstanding Natural Landscapes (ONL) or Outstanding Natural Features (ONF). An example might include a navigational aid located within an ONL.
- 3.14 As set out in the same brief of evidence<sup>10</sup>, I am also of the view that it is appropriate for infrastructure occupying ONLs and ONF to be located and designed, as far as reasonably practicable, to minimise the potential for adverse effects on the particular landscape character and/or visual amenity values inherent at the site. However, the very nature and purpose of that infrastructure may mean that it is impossible or undesirable to avoid, remedy or mitigate all adverse effects.

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<sup>5</sup> Objective 3.2.8.1 of Chapter 3, as proposed in the Council's Right of Reply for Chapters 3 and 4.

<sup>6</sup> Submission 251.16 on Policy 30.2.6.3 and submission 251.20 on Policy 30.2.7.4.

<sup>7</sup> Submission 251.14 on Policy 30.2.6.2 and submission 251.17 on Policy 30.2.7.1

<sup>8</sup> Submissions 179.23 and 191.21 on Objective 30.2.7 and submissions 179.24, 781.22 and 191.22 with respect to a new Policy.

<sup>9</sup> Refer to paragraphs 2.18 to 2.24 and 4.6 to 4.7 of the Statement of Evidence of Kirsty O'Sullivan, dated 29th February 2016.

<sup>10</sup> Refer to paragraphs 2.18 to 2.24 and 4.6 to 4.7 of the Statement of Evidence of Kirsty O'Sullivan, dated 29th February 2016.

3.15 It is on this basis that I support the recommendations of the Council Officer with respect to Policies 30.2.6.2, 30.2.6.5 and 30.2.7.4.<sup>11</sup> In my view, these policies all recognise and provide for the locational and operational constraints of network utilities and contemplate that there may be situations whereby the effects generated by such activities are adverse.

3.16 With respect to Objective 30.2.7<sup>12</sup>, the Council Officer has recommended the following drafting amendments:

~~Avoid, remedy or mitigate~~ *The adverse effects of utilities on surrounding environments, particularly those in or on land of high landscape value and within special character areas are avoided remedied or mitigated.*

3.17 In my view, the use of terms such as “high landscape value” and “special character areas” is inappropriate as they are subjective terms and are not defined. Such terms may give rise to inconsistent interpretation and application of this objective. I therefore prefer the drafting proposed by the telecommunications companies, as it focuses on the key landscapes where effects should be managed. I consider the wording proposed by these submitters should be further amended however, to reflect the Panel’s 4<sup>th</sup> procedural minute:

*The adverse effects of utilities on surrounding environments, particularly those in outstanding natural landscapes ~~and within identified special character areas~~ are avoided where practicable, and otherwise remedied or mitigated.*

3.18 To give effect to this policy, the telecommunication companies submitted that a new policy should be included in the PDP as follows:

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<sup>11</sup> Refer to page refer to page 30-5 and 30-6 of the Chapter 30 section 42A report dated 19<sup>th</sup> August 2016.

<sup>12</sup> Refer to page 30-5 of the Chapter 30 section 42A report dated 19 August 2016.



Recognise that in some cases, it might not be possible for utilities to avoid outstanding natural landscapes, outstanding natural features or identified special character areas and in those situations greater flexibility as to the way that adverse effects are management may be appropriate.

3.19 For reasons set out in paragraph 3. 14, I consider that this policy is appropriate. I therefore support the submission of the telecommunications companies and QAC's further submission.

3.20 With respect to Policy 30.2.7.1, the Council Officer has recommended some drafting amendments to the policy. While I consider these to be an improvement on the originally notified policy, I consider that the following further amendments are required:

~~Reduce~~ Manage adverse effects associated with utilities by:

- ~~Avoiding, remedying or mitigating their location identified sensitive environments and~~ protecting Outstanding Natural Landscapes and Outstanding Natural Features, ~~and skylines and ridgelines from~~ inappropriate development.
- Managing adverse effects on the amenity values of urban areas and the Rural Landscapes.
- Encouraging co-location or multiple use of network utilities where this is efficient and practicable in order to avoid, remedy or mitigate adverse effects on the environment
- Ensuring that redundant utilities are removed
- Using landscaping and or colours and finishes to reduce visual effects
- ~~Integrating utilities with the surrounding environment; whether that is a rural environment or existing built form.~~

3.21 In my view, the above changes provide greater clarity around the application of the policy. The changes remove references to subjective terms such as "identified sensitive environments". It also removes the requirement to protect features such as "skylines" and "ridgelines" that otherwise appear to be afforded the same level of protection as section 6(b) landscapes which is inappropriate in my view. With respect the final

bullet point, it is unclear what is meant by the term “integrate”. In my view, this bullet point should be deleted as the operational requirements may dictate a particular built form that may not “integrate” with rural or existing built form.

### **Rules**

3.22 QAC made a number of further submissions with respect to the rules contained in Chapter 30. Specifically, QAC supported submissions that provided for buildings, equipment cabinets and structures ancillary to or associated with utilities as a permitted activity.<sup>13</sup> QAC also lodged a further submission in support of a restricted discretionary activity status for utility buildings that do not meet the zone standards for the underlying zone.<sup>14</sup>

3.23 I am aware that these further submissions were made in order to preserve the permitted activity status for buildings and structures under the provisions and within the Queenstown Airport Mixed Use Zone. I consider that these further submission points will be addressed by the inclusion of an additional clause for Clarification Noise 30.3.3.3.

### **Conclusion**

3.24 Chapter 30 of the PDP provides the lower level detail around how to achieve the higher order strategic objectives and policies of the PDP, insofar as they relate to energy and utilities.

3.25 While I generally consider these provisions to be appropriate (particularly insofar as they relate to ‘traditional’ utilities), I consider that some further amendment is required in order to ensure the operational constraints of utilities is appropriately recognised and provided for.

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<sup>13</sup> Submission 251.21 with respect to Rule 30.4.8 and submission 179.28, submission 191.26 and submission 781.26 with respect to a proposed new rule.

<sup>14</sup> Submission 251.28 with respect to Rule 30.5.6.

3.26 With a more specific focus on Airports, in my view, Chapter 30 appears to inadvertently capture some airport activities. Airports are provided for comprehensively via Chapter 17 of the PDP, and the relevant designations. I consider this to be an oversight when drafting this chapter and consider that this matter should be rectified, if scope is available, in order to avoid potential consenting and administrative inefficiencies.

#### **4 CHAPTER 35 TEMPORARY ACTIVITIES AND RELOCATED BUILDINGS**

4.1 Chapter 35 of the PDP relates to temporary activities and relocated buildings.

4.2 QAC lodged a number of submissions and further submissions with respect to this chapter which in summary:

4.2.1 Support the inclusion of objectives and policies that recognise the contribution that temporary events provide for the social, cultural and economic wellbeing of the community<sup>15</sup>;

4.2.2 Seek the inclusion of new provisions that would provide for temporary airshows, such as “Warbirds over Wanaka”, at Wanaka Airport;<sup>16</sup>

4.2.3 Seek the inclusion of new provisions relating to the protection of obstacle limitation surfaces at Queenstown and Wanaka Airports;<sup>17</sup>

4.2.4 Oppose submissions that seek to provide a new framework for relocatable buildings, insofar as it may circumvent the requirements to adhere to zone specific development standards (such as those established under PC35).<sup>18</sup>

I address each of these issues below.

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<sup>15</sup> Submission 433.104 on Objective 35.2.1 and submission 433.105 on Policy 35.2.1.1.

<sup>16</sup> Submission 433.107.

<sup>17</sup> Submission 433.106 to 109 and submission 433.33.

<sup>18</sup> Further submission FS1340.46-48.

## Temporary Airshows

### *Objective 35.2.1 and Policy 35.2.1.1*

- 4.3 Objective 35.2.1 encourages temporary events and filming that are undertaken in a manner that manages adverse effects. Associated Policy 35.2.1.1 recognises the contribution that temporary events make to the social, economic and cultural wellbeing of the District.
- 4.4 QAC submitted that these provisions provide for the continuation of temporary events, such as Warbirds over Wanaka, which positively contribute towards the wellbeing of the community.<sup>19</sup> QAC therefore supported the retention of these provisions as notified. The Council Officer has recommended accepting QAC's submission.
- 4.5 In my view, these provisions are appropriate as they directly give effect to Part 2 of the Act through their encouragement of activities that enable people and communities to provide for their social, cultural and economic wellbeing while appropriately managing adverse effects. I therefore support the recommendations of the Council Officer with respect to these provisions.

### *New Rule for Temporary Airshows*

- 4.6 To further give effect to the aforementioned objective and policy, QAC submitted that a new rule should be included in the PDP that provides for temporary airshows at Wanaka Airport as a permitted activity (subject to identified parameters).<sup>20</sup> QAC also submitted that the definition of temporary activity should be amended to include air shows.<sup>21</sup>
- 4.7 The Council Officer has recommended that provisions addressing the activities of private operators at Wanaka Airport would be better placed in a zone specific chapter for the Airport and therefore recommends

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<sup>19</sup> Submission 433.104 and 433.105.

<sup>20</sup> Submission 433.107.

<sup>21</sup> Submission 433.33.

transferring this submission point for later consideration within the Business Zone hearing stream.<sup>22</sup> This recommendation is on the basis of a Minute issued by the Hearings Panel dated 16<sup>th</sup> June 2016, in which the Panel expressed an initial view that some specific zoning provision should be made for Wanaka Airport distinct from the surrounding Rural Zone. The Panel therefore directed QAC's submission concerning the zone provisions for Wanaka Airport be transferred to the Business Zone hearing stream (specifically, Chapter 17) for further consideration.

- 4.8 I agree with this approach and therefore do not address this submission point any further.

***Regulation of Temporary Obstacles***

- 4.9 Obstacle limitation surfaces are three dimensional surfaces that exist in the airspace above and adjacent to an Airport. As shown in Figure 1, obstacle limitation surfaces radiate outwards from an Airport's runway and can extend some distance beyond an Airport's actual location.

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<sup>22</sup> Refer to Paragraph 10.6 of the Chapter 35 section 42A report.

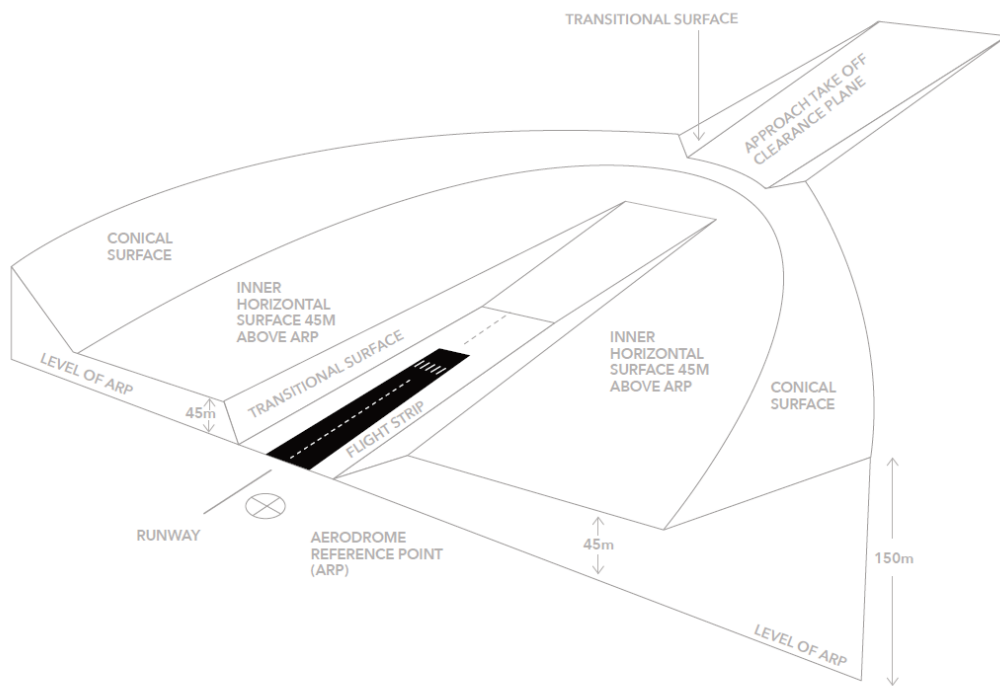


Figure 1: A three-dimensional depiction of an obstacle limitation surface surrounding an airport.

4.10 As set out in the overview of QAC’s Airport Approach and Land Use Controls designation (Designation 4 in the Operative and Proposed District Plans), Civil Aviation rules require an Airport Operator to provide obstacle limitation surfaces around an airport to ensure the safe operation of aircraft approaching and departing the airport. The intention of these surfaces is to prevent objects such as structures and trees from penetrating the surfaces in areas critical to the operational safety and efficiency of the Airport. Obstacle limitation surfaces are therefore used as a tool to impose height limits on objects around an Airport.

4.11 The specific obstacle limitation surfaces that relate to Queenstown and Wanaka Airports are defined in Figures 1 to 4 of the Operative and Proposed Queenstown Lakes District. A copy of these figures are attached as **Appendix C**. These surfaces are designated for “Airport

Approach and Land Use Control” purposes in the Operative and Proposed Queenstown Lakes District Plan<sup>23</sup>.

- 4.12 QAC submitted that, in its experience, the proponents of some temporary activities often overlook these designations and the associated requirement under section 176 (b) of the Act to obtain the written consent of QAC, as the requiring authority, before penetrating these surfaces. QAC therefore sought the inclusion of a new suite of provisions (including a policy, rule and notification parameter) to address this issue.<sup>24</sup>
- 4.13 The Council Officer has acknowledged QAC’s need to manage obstacles within the operational airspace at Queenstown and Wanaka Airports. The Council Officer considers however, that the relief sought by QAC unnecessarily duplicate the requirements of the Civil Aviation Act 1990 and of the requirements of section 176 of the Resource Management Act 1991. The Council Officer therefore recommends rejecting QAC’s submission.<sup>25</sup>
- 4.14 I understand that temporary filming activities associated with the Events Centre and temporary crane activities on Frankton Flats have historically penetrated the obstacle limitation surfaces at Queenstown Airport. Such activities have occurred without the prior approval of QAC and have required immediate remediating action (i.e. removal of the structures) by the Airport and the Civil Aviation Authority. Noting the potential risks to aircraft safety arising from unauthorized penetration of the obstacle limitation surfaces, in my view, these examples both demonstrate that retaining status quo and remaining silent on the obstacle limitation surfaces in the PDP is ineffective at addressing this issue.

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<sup>23</sup> Refer to Designation 4 with respect to Queenstown Airport and Designation 65 with respect to Wanaka Airport.

<sup>24</sup> Submissions 433.106, 433.108 and 433.109.

<sup>25</sup> Refer to section 9 of Chapter 35 section 42A report.

4.15 Notwithstanding the above, I generally agree with the Council Officer's concerns around the potential efficiencies of duplicating controls under the Civil Aviation Act 1990 and section 176 of the Resource Management Act. I therefore recommend, as an alternative to the relief sought by QAC, the inclusion of a non-statutory clarification note which draws attention to the obstacle limitation surface designation. In my view, this approach is both efficient and effective, as it draws attention to the obstacle limitation surfaces without duplicating any existing statutory controls.

4.16 I recommend the new note should read as follows:

*Any person wishing to undertake an activity that will penetrate the designated Airport Approach and Land Use Controls obstacle limitation surfaces at Queenstown or Wanaka Airport must first obtain the written approval of the relevant requiring authority, in accordance with section 176 of the Resource Management Act 1991.*

### **Relocated Buildings**

4.17 The House Movers Section of New Zealand Heavy Haulage Association Incorporated (herein referred to "House Movers") lodged a number of submissions on Chapter 35 seeking the inclusion of a bespoke framework for relocatable buildings.<sup>26</sup>

4.18 QAC lodged further submissions in opposition to the House Movers, citing that all relocatable buildings should be subject to the performance standards of the zone to which they will be located.<sup>27</sup> I am aware this is a requirement of the notified PDP and understand that the relief sought by the House Movers effectively sought to remove this requirement.

4.19 The Council Officer appears to recommend accepting QAC's submission. In my view, this is appropriate as it will ensure that relocated buildings

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<sup>26</sup> Submission number 496.1 to 496.3.

<sup>27</sup> Further submission FS1340.46 and 47.



cannot circumvent development standards that have been designed to achieve specific resource management outcomes for that particular zone.

- 4.20 For completeness, I acknowledge the comments of the Council Officer with respect to relocated buildings and whether they are captured by the acoustic insulation and mechanical ventilation requirements of the Low Density Residential Zone.<sup>28</sup> I agree with the Council Officer's recommendation that this matter is best addressed during the residential hearing and therefore do not address this matter further in this evidence.

### **Conclusions**

- 4.21 Chapter 35 relates to the temporary activities and relocatable buildings. With the exception of provisions relating to temporary structures penetrating obstacle limitation surfaces, I generally agree with the recommendations of the Council Officer with respect to this chapter.
- 4.22 With respect to the provisions relating to the obstacle limitation surfaces, history demonstrates that retaining status quo and remaining silent on the controls imposed by these designations is ineffective at preventing structures penetrating these surfaces. I therefore consider that it is appropriate for the PDP to include a clarification note that draws attention towards the QAC and QLDC obstacle limitation designations.

## **5 CHAPTER 36 NOISE**

- 5.1 The proposed noise management approach for the District is set out in Chapter 36 of the PDP.

- 5.2 QAC lodged a number of submissions and further submissions with respect to this chapter which in summary, sought to:

5.2.1 retain the purpose statement as notified;<sup>29</sup>

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<sup>28</sup> Refer to paragraph 8.3 of the Chapter 35 section 42A report.

<sup>29</sup> Submission 433.10.

- 5.2.2 retain provisions that confirm the noise limits set out in Chapter 36 do not apply to sound from aircraft operations at Queenstown and Wanaka Airports (including helicopter and fixed wing aircraft);<sup>30</sup>
  - 5.2.3 ensure that only one set of noise provisions apply to Queenstown Airport;<sup>31</sup>
  - 5.2.4 retain Table 4 relating to sound insulation requirements for the acceptable construction materials, subject to a minor typographical amendment;<sup>32</sup>
  - 5.2.5 amend Table 5 relating to mechanical ventilation requirements within the Air Noise Boundary (“ANB”) and Outer Control Boundary (“OCB”) at Queenstown and Wanaka Airports;<sup>33</sup> and,
  - 5.2.6 Retain the definitions of “Design sound level”, “Indoor design sound level”, “Noise” and “Non-Critical Listening Environment” as notified and “Critical Listening Environment” subject to a minor amendment.<sup>34</sup>
- 5.3 The Council Officer has recommended accepting QAC’s submissions with respect to the purpose statement and the advisory notes.<sup>35</sup> In my view, these provisions are both effective and efficient as they provide clarification around the application of the chapter and avoid duplicating the noise management obligations set out in the Queenstown and Wanaka Airport designations. I therefore do not discuss these provisions further.
- 5.4 In the following sections, I address each of the remaining points of QAC’s submission. Where appropriate, I also draw on the evidence of Mr Day

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<sup>30</sup> Submissions 433.11 to 433.12, and 433.115 to 116.

<sup>31</sup> Submission 433.113 and 433.14.

<sup>32</sup> Submission 433.117 and further submission FS1340.49.

<sup>33</sup> Submission 433.118.

<sup>34</sup> Submissions 433.18, 433.20, 433.23 and 433.26 and further submission FS1340.1.

<sup>35</sup> Refer to paragraphs 8.13, 8.19, 8.21, 8.49 and 8.51 of the Chapter 36 section 42A report date 19<sup>th</sup> August 2016.

and Mr Roberts with respect to the proposed sound insulation and mechanical ventilation requirements of the PDP.

***Changes to Table 2 Heading and Rules 36.5.2 and 36.5.5***

- 5.5 The Council Officer has recommended changes to the notified heading in Table 2 from “Activity or sound source” to “Zones sound is received in”. The Council Officer has reasoned that the change makes the table consistent with the intent of Clarification Note 36.3.2.7<sup>36</sup>.
- 5.6 In my view this is a substantive change which has the potential to impact the application of the rule. For example, as notified, Rule 36.5.5 places no restrictions on noise generated and received within the Queenstown Airport Mixed Use Zone (i.e. noise effects are internalized within the zone). Noise generated by these same activities and received in adjacent zones is managed by Rule 36.5.2. The Council Officer’s proposed changes to the Table 2 headings will, in effect, mean that activities within the Queenstown Airport Mixed Use Zone must manage their effects on the adjacent zones (in accordance with Rule 36.5.2), yet there is no reciprocating requirement for users of the adjacent zone to manage their activities in a similar (i.e. users of the adjacent zone can generate an unlimited noise effect on the Queenstown Airport Mixed Use Zone). While in practice, this is unlikely to give rise to any adverse effects for QAC given the inherently noisy nature of the activities it undertakes, in my view, it demonstrates the unanticipated effects of the Council Officers recommended amendments.
- 5.7 With respect to Rule 36.5.2, QAC lodged a submission in opposition to Rule 36.5.2, reasoning that the rule does not identify a noise limit for the adjacent Remarkables Park Zone (as the receiver of noise generated in the Queenstown Airport Mixed Use Zone). QAC also submitted that Rule 36.5.2 was a duplicate of Rule 17.5.6. Given that Rule 17.5.6 did specify a

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<sup>36</sup> Refer to paragraph 8.24 of the section 42A report for Chapter 36 dated 17<sup>th</sup> August 2016.

noise limit within the Remarkables Park Zone, QAC submitted that Rule 36.5.2 should be deleted and replaced with Rule 17.5.6.<sup>37</sup>

- 5.8 Rule 17.5.6 sets out (my paraphrasing):
- 5.8.1 the maximum permissible noise levels from land based activities within the Queenstown Airport Mixed Use Zone, when received at any point within the Residential Zone or Activity Areas 1, 3, 4, 6 and 8 of the Remarkables Park Zone and at the notional boundary in the Rural Zone (notified Rule 17.5.6.1);
  - 5.8.2 Clarifies that the noise limits do not apply to sound from aircraft operations subject to the Aerodrome Purposes Designation (notified Rule 17.5.6.2); and,
  - 5.8.3 Clarifies that the noise limits to do not apply to construction noise, which shall be managed in accordance with NZS6803:1999 Acoustics Construction Noise (notified Rule 17.5.6.3).
- 5.9 The Council Officer has recommended that QAC's submission be rejected. The Council Officer has also expressed a preference for Rule 17.5.6 to be deleted, however acknowledges that this is beyond the scope of this hearing.<sup>38</sup>
- 5.10 It appears that the intent of Rule 17.5.6 is not all that dissimilar from existing rules contained within Chapter 36, specifically Rules 36.5.2, 36.3.2.8 and Rule 36.5.15 as notified.<sup>39</sup> From my review of this rule, the main point of difference, as identified by QAC's submission, appears to be the reference to the Remarkables Park Zone.
- 5.11 In my view, it is appropriate for land based activities within the Queenstown Airport Mixed Use (or any zone for that matter) to be

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<sup>37</sup> Submission 433.113.

<sup>38</sup> Refer to paragraph 8.26 of the Chapter 36 section 42A report dated 19<sup>th</sup> August 2016.

<sup>39</sup> Or Rules 36.5.2, 36.3.2.8 and 36.5.14 of the Chapter 36 report dated 19<sup>th</sup> August 2016.

managed in such a way to ensure that noise effects do not adversely impact adjacent zones. The Remarkables Park Zone is one such zone.

- 5.12 It remains unclear based on the section 42A report how the Council intends to manage and/or include provisions in Chapter 36 that relate to zones that are part of the Stage 2 of the PDP review. This is further complicated by references to some, but not all, Stage 2 zones in Chapter 36.
- 5.13 On the assumption that the Remarkables Park Zone has been omitted from Rule 36.5.2 as it does not form part of Stage 1 of the PDP and on the basis that this rule will be revisited during Stage 2, in my opinion the recommendation of the Council Officer is appropriate.
- 5.14 In response to concerns<sup>40</sup> raised by Dr Chiles with respect to the noise limits of the Queenstown Airport Mixed Use Zone being more lenient and having a longer daytime period, I note that this matter is addressed in the section 32 evaluation undertaken for the Queenstown Airport Mixed Use Zone. I understand that the extended day time period stated in the rule accounts for the operational hours of Queenstown Airport and provides consistency with the time periods that apply to similar activities within the adjacent Remarkables Park Zone and Frankton Flats zone.<sup>41</sup>
- 5.15 Returning to my earlier concerns with respect to the effects of the proposed changes to the Table 2 headings, I note that Rule 36.5.2 does not “fit” the new table format as it describes the source of the sound (i.e. land based activities within the Queenstown Airport Mixed Use Zone). While I consider that the current drafting is “workable” and can be interpreted in the manner it was intended, the drafting is clumsy and inconsistent with the remainder of Table 2. If the Panel has scope to do so, I consider that

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<sup>40</sup> Refer to paragraph 8.3 of the evidence of Mr Chiles dated 17<sup>th</sup> August 2016.

<sup>41</sup> Refer to page 7 of the Marshall Day Acoustics report appended as Attachment 4 of the section 32 evaluation of the Queenstown Airport Mixed Use Zone.

should be rectified to ensure consistent interpretation and application of this rule in the future.

### **Interpretation Matters**

5.16 As noted by Mr Day, there are a number of issues with the current drafting of Chapter 36 that may give rise to inconsistent interpretation and application of the rules contained in Chapter 36. While I note that these matters go beyond the scope of QAC's submissions, as an independent expert I consider that it is appropriate to bring these matters to the attention of the Hearings Panel. Specifically:

5.16.1 Clarification note 36.3.2.1 is vague and difficult to interpret. It is not clear what reference to a "level of activity" means and which part(s) of Chapter 36 it relates to. It also appears that the latter part of this note duplicates the non-compliance status column of Tables 2 to 3, and in some instances, gives rise to inconsistencies in the activity status for non-compliance.<sup>42</sup>

5.16.2 Clarification note 36.3.2.4 requires updating to reflect the recommended removal of Table 5.

5.16.3 Noise is not an "activity", as noted by Mr Day.<sup>43</sup>

5.16.4 It appears that the intent of Clarification Note 36.3.2.5 is to exempt "activities" contained in Table 1 to the underlying zone noise standards.<sup>44</sup> Table 1 then goes on to identify "activities" that are permitted. In my view, if the Panel has scope to do so,

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<sup>42</sup> Refer to Rules 36.5.2, 36.5.8 and 36.5.15 as notified or 36.5.2, 36.5.7 and 36.5.14 of the section 42A report for Chapter 36 and Rule 17.5.6.1 of Chapter 17 as notified.

<sup>43</sup> Refer to paragraph 48 of the Statement of Evidence of Mr Day, dated 2 September 2016.

<sup>44</sup> Refer to page 12 of the section 32 report, which specifically states "These rules will result in efficiencies in District Plan administration by clearly stating that these activities are exempt from the underlying zone noise limits".

this table would be better described as “exemptions” rather than “activities” and remove the activity status column.<sup>45</sup>

- 5.16.5 Clarification note 36.3.2.7 is unclear and could benefit from further drafting amendments.
- 5.16.6 There appears to be little distinguishing the second and third columns of Table 2, as amended by the Council Officer. For example, the second column of Table 2 identifies “Zones sound is received in”. The third column identifies the “Assessment location”, or in other words, the receiving environment where noise is measured from.
- 5.16.7 The assessment location where noise is measured from is unhelpfully vague and could capture the generator of the noise. I understand that this is not the intention.

#### ***Acoustic Treatment and Mechanical Ventilation***

- 5.17 Tables 4 and 5 of the notified PDP contain provisions relating to acoustic insulation and mechanical ventilation. In order to provide context to the opinions that I express with respect to these two tables, I consider that is appropriate to provide some background context around their provenance and their interlinkages with other sections of the PDP.
- 5.18 I also note that Mr Day has provided the rationale for requiring mechanical ventilation within the ANB and OCB at airports.<sup>46</sup> I do not repeat that evidence here and defer to Mr Day with respect to this matter.

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<sup>45</sup> Note that if this approach is adopted, Rule 36.4.6 could be retained, subject to the word “movement” being replaced with the word “operations”.

<sup>46</sup> Refer to paragraphs 34 to 36 of the Statement of Evidence of Mr Day, dated 2 September 2016.

*Plan Change 35 and the associated Notice of Requirement for Designation 2*

- 5.19 The history of PC35 is set out in the evidence of Mr Kyle dated 29<sup>th</sup> February 2015 and his summary evidence dated 16<sup>th</sup> March 2016.<sup>47</sup>
- 5.20 I adopt the evidence of Mr Kyle with respect to PC35.
- 5.21 To provide context to the following discussion, I wish to highlight the following key points from Mr Kyle's evidence:
- 5.21.1 The purpose of PC35 was to put in place an appropriate management regime for land use around Queenstown Airport, while providing for predicted ongoing growth in aircraft operations until 2037<sup>48</sup>. Accordingly, PC35 updated the Airport's noise boundaries to provide for predicted growth in aircraft operations and amended various zone provisions relating to the use of land within those noise boundaries likely to be affected by increased aircraft noise.
- 5.21.2 The foundation of the land use management approach adopted in PC35 is the New Zealand Standard for Airport Noise Management and Land Use Planning, NZS6805:1992 ("NZS6805");<sup>49</sup>
- 5.21.3 NZS6805 recommends that all new activities sensitive to aircraft noise ("ASAN")<sup>50</sup> within an airport's ANB and OCB are prohibited;<sup>51</sup>
- 5.21.4 PC35 adopted a more moderated approach than recommended by NZS6805 for existing Low Density Residential zoned sites

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<sup>47</sup> Section 5 of the Statement of Evidence of Mr Kyle, Hearing 1B, dated 29 February 2016.

<sup>48</sup> Paragraph 5.1 of the Statement of Evidence of Mr Kyle, Hearing 1B, dated 29 February 2016

<sup>49</sup> Paragraph 5.11 of the Statement of Evidence of Mr Kyle, Hearing 1B, dated 29 February 2016.

<sup>50</sup> Activity Sensitive to Aircraft Noise is defined in the Operative and Proposed Plans as meaning "any residential activity, visitor accommodation activity, community activity and day care facility activity as defined in this District Plan including all outdoor spaces associated with any educational facility, but excludes activity in police stations, fire stations, courthouses, probation and detention centres, government and local government offices".

<sup>51</sup> Paragraph 5.22 and 5.27 of the Statement of Evidence of Mr Kyle, Hearing 1B, dated 29 February 2016.



within the ANB, whereby new buildings and alterations and additions to existing buildings containing ASAN are able to be built inside the ANB, provided they incorporate appropriate sound insulation and mechanical ventilation measures, at the property owner's cost.<sup>52</sup>

5.21.5 Within the OCB, PC35 requires mechanical ventilation for new buildings containing ASAN within the Low Density Residential Zone and for alterations or additions to existing buildings containing ASAN inside the Rural, Low Density Residential, Frankton Flats and Remarkables Park zones.<sup>53</sup> The cost associated with such works is met by the developer, at the time the development work is undertaken.<sup>54</sup>

5.21.6 Any new buildings containing ASAN within the OCB in the Rural, Industrial and Frankton Flats zones are prohibited under PC35.<sup>55</sup>

5.22 Where the above described activities require acoustic insulation or mechanical ventilation under the relevant zone rule, compliance with the relevant rule can either be achieved either by implementing the construction specifications set out in Tables 1 and 2 of Appendix 13 of the operative District Plan (as amended by PC35) or by submitting a certificate to the Council from a person suitably qualified in acoustics stating that the proposed construction can achieve the specified indoor design level with the windows open. I note that Tables 4 and 5 of Chapter 36 of the PDP reflect those set out in Tables 1 and 2 of Appendix 13.

5.23 Mr Kyle also provided an overview of the NoR lodged in association with PC35. In summary, the NoR sought to amend the Aerodrome Purposes Designation (Designation 2) so to introduce obligations for QAC to undertake and fund noise mitigation works for those existing houses

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<sup>52</sup> Paragraph 5.22 of the Statement of Evidence of Mr Kyle, Hearing 1B, dated 29 February 2016.

<sup>53</sup> Noting that excepting the Low Density Residential Zone, no new ASAN activity is provided for as of right within these zones.

<sup>54</sup> Paragraph 5.28 of the Statement of Evidence of Mr Kyle, Hearing 1B, dated 29 February 2016.

<sup>55</sup> Paragraph 5.28 of the Statement of Evidence of Mr Kyle, Hearing 1B, dated 29 February 2016.

within the updated noise boundaries likely to be exposed to increased levels of aircraft noise.<sup>56</sup>

- 5.24 Specifically, the designation, as amended by the NoR:
- 5.24.1 Obliges QAC to offer 100% funding of noise mitigation for Critical Listening Environments of buildings located within the ANB that existed at the time the NOR was confirmed. This mitigation is required to achieve an indoor design sound level of 40dB Ldn or less based on the 2037 Noise Contours;
  - 5.24.2 Obliges QAC to offer to part fund retrofitting, over time, of mechanical ventilation of any Critical Listening Environment within existing buildings containing ASAN between the ANB and the 2037 60dB Noise Contour. Specifically, QAC is required to provide 75% funding;
  - 5.24.3 Sets out QAC's monitoring requirements for aircraft noise at Queenstown Airport to ensure compliance with noise limits at the defined noise boundaries (the ANB and OCB);
  - 5.24.4 Requires QAC to prepare and implement a Noise Management Plan; and
  - 5.24.5 Establishes and sets out the purpose of the Queenstown Airport Liaison Committee.
- 5.25 Where mechanical ventilation is required in accordance with QAC's retrofitting obligations, a condition of the designation requires the ventilation to be provided in accordance with Table 2 of Appendix 13 of the operative District Plan, or by an alternative strategy agreed by QAC and the building owner.<sup>57</sup>
- 5.26 The Aerodrome Purposes Designation (as amended by the NoR) therefore makes reference to (and effectively incorporates) the mechanical

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<sup>56</sup> Paragraph 5.3 of the Statement of Evidence of Mr Kyle, Hearing 1B, dated 29 February 2016.

<sup>57</sup> Refer to conditions 17 and 19 of the PDP or Operative Aerodrome Purposes Designation.

ventilation requirements set out in Table 2 of Appendix 13, which is akin to Table 5 of Chapter 36 of the PDP (as notified).

*Plan Change 26*

- 5.27 In November 2010, QLDC initiated Plan Change 26 (PC26). In a similar approach to PC35, PC26 sought to establish an appropriate land use management regime for ASAN around Wanaka Airport, while at the same time providing for the predicted and ongoing growth of the Airport.
- 5.28 Like PC35, PC26 updated Wanaka Airport's noise boundaries to provide for predicted growth in airport operations to 2036, and amended various zone provisions relating to land within the updated boundaries and likely to be affected by increased aircraft noise. PC26 was made operative on 14 March 2013.
- 5.29 Within the Rural General zone, new ASAN are prohibited with the OCB. For alternations or additions to existing buildings containing ASAN or building platforms approved before 20 October 2010, mechanical ventilation is required.
- 5.30 Where the provisions established under PC26 require mechanical ventilation, compliance with the relevant standards can be achieved by either implementing the construction specifications set out in Table 2 of Appendix 13 or by submitting a certificate to the Council from a person suitably qualified in acoustics stating that the proposed construction can achieve the specified indoor design sound level with the windows open.

*Proposed restructure of Table 5 and 6*

- 5.31 As demonstrated by the above overview of PC35, PC26 and the Aerodrome Purposes Designation for Queenstown Airport (as amended by the NoR associated with PC35), there are a number of interlinkages between Tables 4 and 5 of the PDP (as notified), the respective zone provisions and QAC's obligations under its Designation.

- 5.32 While I address the substantive amendments to the content of these tables below, I note that based on the technical advice of Dr Chiles, the Council Officer has recommended merging the mechanical ventilation requirements of Table 5 (which relate specifically to Queenstown and Wanaka Airports) with the mechanical ventilation requirements of Table 6 (which relate to the Queenstown and Wanaka Town Centre Zones, the Local Shopping Centre Zones and the Business Mixed Use Zone).
- 5.33 While I acknowledge that there is a degree of duplication between the two tables (as notified), in my view is inappropriate to combine these tables for the following reasons:
- 5.33.1 The origin of the effects the tables are trying to manage and/or mitigate are different and will likely change over time (i.e. noise associated with aircraft operations which is managed via a designation versus noise associated with an entertainment precinct).
  - 5.33.2 There are numerous interlinkages between Table 5 and the various zone provisions relating to the management of aircraft noise and QAC's Aerodrome Purposes Designation.
  - 5.33.3 The section 32AA evaluation has not taken into consideration the wider effects of this change on QAC's obligations (under the Aerodrome Purposes Designation) to provide noise mitigation treatment to existing residences within the 60dB noise contour.
  - 5.33.4 No submissions were made to change or alter Table 6.
- 5.34 In light of the above, I **attach**, as **Appendix D**, a copy of the changes that I consider are appropriate to address these issues, as well as those discussed in the following sections with respect to mechanical ventilation and sound insulation.

## Mechanical Ventilation

- 5.35 As notified, Table 5 of the PDP set out the mechanical ventilation requirements for Queenstown and Wanaka Airports. This table was consistent with Table 2 of Appendix 13, as amended by PC35.
- 5.36 As noted in QAC's submission, it has become apparent during the implementation of QAC's noise mitigation obligations under its Designation that there are some practical difficulties with implementing, and financial implications with using, a mechanical ventilation system in accordance with Table 5. I defer to the evidence of Mr Roberts for further detail on this matter.<sup>58</sup>
- 5.37 In accordance with expert advice received by Mr Roberts in 2015, QAC submitted that Table 5 of the PDP should be amended to reduce the high setting air changes and include the ability to use a more modern and efficient mix of plant.<sup>59</sup>
- 5.38 The Council Officer recommends accepting, in part, the submission of QAC with respect to this matter. The Council Officer has recommended however, based on the expert evidence of Dr Chiles, an alternative mechanical ventilation approach.<sup>60</sup>
- 5.39 While there appears to be some agreement between the experts around the need for changes to the mechanical ventilation requirements as notified, Mr Roberts and Mr Day have identified some difficulties with the approach proposed by Dr Chiles.<sup>61</sup> In summary, I understand the key issues to include:

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<sup>58</sup> Refer to paragraphs 8 to 14 of the Statement of Evidence of Mr Roberts, dated 2 September 2016.

<sup>59</sup> Submission 433.118.

<sup>60</sup> Refer to paragraph 8.63 of the section 42A report for Chapter 36, dated 17<sup>th</sup> August 2016.

<sup>61</sup> Refer to paragraphs 25 to 38 of the Statement of Evidence of Mr Roberts and paragraphs 37 to 43 of the Statement of Evidence of Mr Day, dated 2 September 2016.

- 5.39.1 The low ventilation rates set out in the clause G4 of the New Zealand Building Code seek to control mould and moisture within buildings, whereas the intent of the mechanical ventilation rates in the PDP is to provide sufficient ventilation and thermal comfort to residents within the ANB and OCB who need to keep windows close in order to mitigate the effects of aircraft noise.<sup>62</sup>
- 5.39.2 G4 of the Building Code provides for opening windows as an alternative option to mechanical ventilation, as a means of compliance. This is not appropriate in the context of airport where windows are required to remain closed to achieve the required indoor design sound level.<sup>63</sup>
- 5.39.3 G4 of the Building Code also specifies a minimum low ventilation rate, but not a maximum low ventilation rate. It is necessary to specify a maximum low rate to avoid drafts in winter.<sup>64</sup>
- 5.39.4 In terms of the high setting, five air changes per hour (as originally proposed by QAC) can be achieved by one fan unit. Six air changes requires multiple units and provides little material benefit.<sup>65</sup>
- 5.39.5 Passive relief venting is required to ensure the building is not pressurised.<sup>66</sup>
- 5.39.6 Existing heating, ventilation and cooling systems can contribute towards compliance with achieving the mechanical ventilation requires.<sup>67</sup>

5.40 I understand that approximately eight years has passed since the initial conception of the mechanical ventilation requirements set out in PC35.

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<sup>62</sup> Refer to paragraph 28 Statement of Evidence of Mr Roberts, dated 2 September 2016.

<sup>63</sup> Refer to paragraph 29 of the Statement of Evidence of Mr Roberts and paragraph 40 of the Statement of Evidence of Mr Day, both dated 2 September 2016.

<sup>64</sup> Refer to paragraph 30 Statement of Evidence of Mr Roberts, dated 2 September 2016.

<sup>65</sup> Refer to paragraphs 31 to 34 Statement of Evidence of Mr Roberts, dated 2 September 2016.

<sup>66</sup> Refer to paragraph 36 to 37 Statement of Evidence of Mr Roberts, dated 2 September 2016.

<sup>67</sup> Refer to paragraph 38 Statement of Evidence of Mr Roberts, dated 2 September 2016.

Given the difficulties experienced by QAC with implementing and operating the notified mechanical ventilation requirements of the PDP, I consider that it is appropriate to update the mechanical ventilations requirements to reflect current advances in technology. I therefore **attach, as Appendix D**, further amendments to the revised rule 36.6.3 proposed by Dr Chiles. The further amendments shown have been prepared in consultation with, and incorporate the recommendations of Mr Roberts and Mr Day.

### **Sound Insulation**

- 5.41 Table 4 of the PDP (as notified) describes the sound insulation requirements for Queenstown and Wanaka Airports. QAC submitted in support of this table, citing that it was largely consistent with Appendix 13 of the operative District Plan, as amended by PC35 and PC26.<sup>68</sup> QLDC also lodged a corporate submission with respect to Table 4, which sought amendments to Table 4 to more appropriately reflect modern building solutions.<sup>69</sup>
- 5.42 Based on the expert evidence of Dr Chiles, the Council Officer has recommended some amendments to Table 4 to update the glazing requirements of windows and doors. The Council Officer has also recommended updating the required width of ceiling gypsum or plasterboard.
- 5.43 On review of the evidence of Dr Chiles and Mr Day with respect to the glazing, it appears that both experts agree on this matter. I therefore consider that the recommendations of the Council Officer are acceptable and should be adopted by the Panel to address QAC and QLDC's submissions.

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<sup>68</sup> Submission 433.17.

<sup>69</sup> Submission 383.72.

5.44 With respect to the proposed width of the of gypsum or plasterboard, I consider this to be typographical rather than substantive amendment and support the proposed change from 1mm to 9mm.

5.45 I also note that Rule 36.6.2 makes reference to Queenstown and Wanaka Airports. As far as I am aware, there is no ANB at Wanaka Airport, therefore I cannot identify any circumstance in which this table would be triggered in the context of Wanaka Airport. In my view, it would therefore be appropriate to remove the reference to Wanaka Airport if the Panel considers it has scope to do so.

### **Definitions**

5.46 QAC lodged submissions in support of the following notified definitions:

5.46.1 Design sound level

5.46.2 Indoor design sound level

5.46.3 Non critical listening environment

5.46.4 Noise

5.46.5 Critical listening environment (subject to a minor amendment);

5.47 While the Council Officer considers that these submissions points could be accepted in the context of the noise chapter, it is recommended that the definitions be deferred until the Airport Mixed Use Zone hearing.<sup>70</sup>

5.48 Some of these terms will have a bearing on the interpretation of rules and/or standards contained in Chapter 36 as well as provisions due to be heard as part of the residential hearing stream in early October. I therefore consider that it is appropriate to consider these definitions as part of these proceedings.

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<sup>70</sup> Refer to paragraph 8.7 of the section 42A report for Chapter 36 dated 19<sup>th</sup> August 2016.



5.49 The definitions, as set out on the section 42A report, are in my view, appropriate, as they are largely consistent with the Environment Court decisions with respect to PC26 and PC35. I note however, that the definition of “Critical Listening Environment” makes reference to “non-critical living environments”. This term is not defined in the PDP (nor PC26 or PC35), therefore I consider that this term should be amended to refer to “Non-Critical Listening Environments”. I consider it likely that this is simply a typographical error.

## **Conclusions**

5.50 QAC made a number of submissions with respect to Chapter 36. While the recommendations of the Council Officer appear to address, for the most part, QAC’s submissions, I consider that there are wider issues with the interpretation and application of this chapter that will give rise to potential consenting and administrative inefficiencies.

5.51 With respect to the proposed amendments to the mechanical ventilation and sound insulation requirements, there appears to be agreement between the experts that further amendments are required to these provisions to reflect modern building practices and advances in technology. I therefore consider it is appropriate for these provisions to be updated, however for reasons set out in my evidence at paragraph 5.39, I consider that the requirements proposed by Mr Roberts are more appropriate.

**K O’Sullivan**

**2 September 2016**

# **Appendix A**

Amendments and S32AA Evaluation

## CHAPTER 30 – ENERGY AND UTILITIES - AMENDMENTS AND SECTION 32AA ASSESSMENT

Proposed provisions set out in the section 42A report dated 17 August 2016	Amended Provisions (deleted text <del>struck through</del> added text <u>underlined</u> ) recommended by Kirsty O’Sullivan on 2 September 2016	General Comments and the appropriateness of achieving the purpose of the Act / purpose of the Objective		
<p><b>30.3.3.3 Clarification</b></p> <p>The rules contained in this Chapter take precedence over any other rules that may apply to energy and utilities in the District Plan, unless specifically stated to the contrary and with the exception of:</p> <p>a. 26 Historic Heritage</p> <p>b. Hazardous Substances (16 ODP Operative)</p> <p>c. Earthworks (22 Operative)</p>	<p><b>30.3.3.3 Clarification</b></p> <p>The rules contained in this Chapter take precedence over any other rules that may apply to energy and utilities in the District Plan, unless specifically stated to the contrary and with the exception of:</p> <p>a. 26 Historic Heritage</p> <p>b. Hazardous Substances (16 ODP Operative)</p> <p>c. Earthworks (22 Operative)</p> <p>d. <u>17 Queenstown Airport Mixed Use Zone</u></p>	<ul style="list-style-type: none"> <li>Queenstown and Wanaka Airports comprise “regionally significant infrastructure” in the PDP.</li> <li>Chapter 17 of the PDP specifically provides for Queenstown (and potentially) Wanaka Airports.</li> <li>The objectives contained within Chapter 17 of the PDP and the higher order strategic objectives have regard to the efficient use and development of Queenstown and Wanaka Airports, as existing physical resources (section 7(b)).</li> <li>The amendment is appropriate as it gives effect to the objectives and policies contained with Chapter 17 and the higher order objectives and policies.</li> <li>The amendment is appropriate as ensures that Queenstown Airport is not inadvertently captured by Chapter 30.</li> </ul>		
		<p><b>Environmental, Cultural, Economic, Social and Cultural Benefits</b></p>	<p><b>Environmental, Economic, Social and Cultural Costs</b></p>	<p><b>Effectiveness &amp; Efficiency</b></p>
		<ul style="list-style-type: none"> <li>Economic benefits will accrue from removing the costs and time delays resulting from consenting requirements under Chapter 30.</li> <li>The proposed amendment will allow the social and economic wellbeing of the community to continue to be provided for, as enabled by Chapter 17 of the PDP.</li> </ul>	<ul style="list-style-type: none"> <li>No costs have been identified that have not already been addressed in the context of Chapter 17.</li> <li>Provisions managing environment costs, as set out in Chapter 17, will continue to apply.</li> </ul>	<ul style="list-style-type: none"> <li>Sub-clause (d) would remove administration and consenting inefficiencies resulting from a duplication in controls between Chapters 17 and 30.</li> <li>The proposed amendment is effective at providing for airports only and does not impact on the wider application of Chapter 30 for other utilities.</li> </ul>
<p><b>Objective 30.2.5</b></p> <p><del>Co-ordinate the provision of utilities as necessary to support the growth and development of the District</del> <u>The growth and development of the District is supported by utilities that are able to operate effectively and efficiently.</u></p>	<p>I agree with the proposed amendments.</p>	<p>No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016.</p>		
<p><b>Policy 30.2.5.4</b></p> <p><u>Recognise the positive social, economic, cultural and environmental benefits that utilities provide, including:</u></p> <p>a. <u>enabling enhancement of the quality of life and standard of living for people and communities</u></p> <p>b. <u>providing for public health and safety</u></p> <p>c. <u>enabling the functioning of businesses</u></p> <p>d. <u>enabling economic growth</u></p> <p>e. <u>enabling growth and development</u></p> <p>f. <u>protecting and enhancing the environment</u></p> <p>g. <u>enabling the transportation of freight.</u></p>	<p>I agree with the proposed amendments.</p>	<p>No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016.</p>		

<p>goods, people</p> <p><u>h. enabling interaction and communication</u></p>		
<p><b>Objective 30.2.6</b></p> <p>The <u>wellbeing of the community is supported by the establishment, efficient use, continued operation</u> and maintenance of utilities <u>necessary for the well-being of the community.</u></p>	<p>I agree with the proposed amendments.</p>	<p>No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016.</p>
<p><b>Policy 30.2.6.1</b></p> <p>Recognise the need for maintenance or upgrading of <u>a-utilities including regionally significant infrastructure</u> to ensure its on-going viability and efficiency.</p>	<p>I agree with the proposed amendments.</p>	<p>No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016.</p>
<p><b>Policy 30.2.6.2</b></p> <p><del>Consider long term options and economic costs and strategic needs when considering alternative locations, sites or methods for the establishment or alteration of a utility.</del>  <u>When considering the effects of proposed utility developments with adverse environmental effects, consideration shall be given to the consideration of alternatives, but also to how adverse effects have been managed through the route, site and method selection process while taking into account the locational, technical and operational requirements of the utility and the benefits associated with the utility.</u></p>	<p>I agree with the proposed amendments.</p>	<p>No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016.</p>
<p><b>Policy 30.2.6.5</b></p> <p>Recognise the presence and function of established network utilities, and their locational and operational requirements, by managing land use, development and/or subdivision in locations which could compromise their safe and efficient operation.</p>	<p>I agree with the drafting proposed.</p>	<p>No section 32AA required. I agree with the notified drafting of this rule.</p>
<p><b>Objective 30.2.7</b></p> <p><del>Avoid, remedy or mitigate</del> <u>The adverse effects of utilities on surrounding environments, particularly those in or on land of high landscape value, and within special character areas are avoided, remedied or mitigated.</u></p>	<p><b>Objective 30.2.7</b></p> <p><del>Avoid, remedy or mitigate</del> <u>The adverse effects of utilities on surrounding environments, particularly those in or on identified land of high outstanding natural landscape value, and within special character areas are avoided where practicable, and otherwise remedied or</u></p>	<p><b>General Comments and the appropriateness of achieving the purpose of the Act / purpose of the Objective</b></p> <ul style="list-style-type: none"> <li>• The amendments remove the use of vague and subjective terms such as “high landscape values” and “special character areas”.</li> <li>• The amendments recognise that in some circumstances, it will not be practicable or possible to avoid adverse effects.</li> <li>• The objective recognises and provides for outstanding natural landscapes, as a matter of national importance under section 6(b) of the RMA.</li> <li>• It is inappropriate for policies to afford ‘skylines’ and ridgelines with the same level of protection as outstanding natural landscapes.</li> <li>• The policy is the most appropriate way to achieve the objective as it provides direction around how to manage the effects of utilities on outstanding natural landscapes.</li> </ul>

<p><b>Policy 30.2.7.1</b></p> <p>Reduce adverse effects associated with utilities by:</p> <ul style="list-style-type: none"> <li>• <del>Avoiding, remedying or mitigating their location on sensitive sites including heritage and identified sensitive environments special character areas, and protecting Outstanding Natural Landscapes and Outstanding Natural Features, and skylines and ridgelines from inappropriate development.</del></li> <li>• <u>Managing adverse effects on the amenity values of urban areas and the Rural Landscapes.</u></li> <li>• Encouraging co-location or multiple use of network utilities where this is efficient and practicable in order to avoid, remedy or mitigate adverse effects on the environment</li> <li>• Ensuring that redundant utilities are removed</li> <li>• Using landscaping and or colours and finishes to reduce visual effects</li> <li>• Integrating utilities with the surrounding environment; whether that is a rural environment or existing built form.</li> </ul>	<p><del>mitigated.</del></p> <p><b>Policy 30.2.7.1</b></p> <p><del>Reduce</del> <u>Manage</u> adverse effects associated with utilities by:</p> <ul style="list-style-type: none"> <li>• <del>Avoiding, remedying or mitigating their location on sensitive sites including heritage and identified sensitive environments special character areas, and p</del> <u>Protecting</u> Outstanding Natural Landscapes and Outstanding Natural Features, and <del>skylines and ridgelines</del> from inappropriate development.</li> <li>• Managing adverse effects on the amenity values of urban areas and the Rural Landscapes.</li> <li>• Encouraging co-location or multiple use of network utilities where this is efficient and practicable in order to avoid, remedy or mitigate adverse effects on the environment</li> <li>• Ensuring that redundant utilities are removed</li> <li>• Using landscaping and or colours and finishes to reduce visual effects</li> <li>• <del>Integrating utilities with the surrounding environment; whether that is a rural environment or existing built form.</del></li> </ul>	<p><b>Environmental, Cultural, Economic, Social and Cultural Benefits</b></p> <ul style="list-style-type: none"> <li>• The amendments continue to protect Outstanding Natural Landscapes and Outstanding Natural Features from inappropriate development of utilities.</li> <li>• It is not clear what is meant by 'integrating' utilities with the surrounding environment and to what extent. Removing the last bullet point and relying on requirement to manage adverse effects on amenity values or urban areas and Rural Landscapes appears sufficient and removes the costs associated with duplicating controls.</li> </ul>	<p><b>Environmental, Economic, Social and Cultural Costs</b></p> <ul style="list-style-type: none"> <li>• The policy may result in some development of utilities within outstanding natural landscapes and features, as well as rural landscapes.</li> </ul>	<p><b>Effectiveness &amp; Efficiency</b></p> <ul style="list-style-type: none"> <li>• The amendments are efficient as they remove references to terms that are vague and/or not defined which could lead to inconsistent interpretation and application of the policy.</li> <li>• The amendments are effective at recognising the tiered approach to landscape protection, as set out in sections 6(b) and 7 (c) of the RMA.</li> <li>• The amendments are efficient as they remove duplication of controls contained within the policy.</li> </ul>
	<p><u>New Policy</u></p> <p><u>Recognise that in some cases it might not be possible for utilities to avoid outstanding natural landscapes, outstanding natural features and in those situations greater flexibility as to the way the adverse effects are managed may be appropriate.</u></p>	<p><b>General Comments and the appropriateness of achieving the purpose of the Act / purpose of the Objective</b></p>		
		<ul style="list-style-type: none"> <li>• While it is appropriate for infrastructure occupying sensitive locations to be located and designed, as far as reasonably practicable, to minimise the potential for adverse effects on the particular landscape character and/or the visual amenity values inherent at the site, there may be circumstances where the regionally and/or nationally significant benefits of enabling an activity need to be balanced against the adverse effects of a particular location.</li> <li>• The new policy is appropriate at achieving the objective as it provides guidance to decision makers that some flexibility should be afforded to the way in which adverse effects are managed.</li> </ul>		
		<p><b>Environmental, Cultural, Economic, Social and Cultural Benefits</b></p> <ul style="list-style-type: none"> <li>• The policy achieves a balance between providing for utilities, while mitigating their effects as far as reasonable practicable on the qualities and values held for the particular landscape within which they are located.</li> </ul>	<p><b>Environmental, Economic, Social and Cultural Costs</b></p> <ul style="list-style-type: none"> <li>• The provisions may result in some development within ONLs and ONFs, however the effects of these will be managed as appropriate.</li> </ul>	<p><b>Effectiveness &amp; Efficiency</b></p> <ul style="list-style-type: none"> <li>• The proposed policy is effective at achieving the objective, as well as other objective within the PDP that seek to provide for the effective and efficient operation of utilities.</li> </ul>

<p><b>Policy 30.2.7.4</b> Take account of economic and operational needs in assessing the location and external appearance of utilities.</p>	<p>I agree with the drafting proposed.</p>	<p>No section 32AA required. I agree with the notified drafting of this rule.</p>		
<p><b>30.4.8 Rule Utilities, Building, Structures and Earthworks which are not otherwise listed in this table</b> Utilities, Building, Structures and Earthworks which are not otherwise listed in this table – D (Discretionary Activities)</p> <p><b>30.5.6 Setback from internal boundaries and road boundaries</b> Where the utility is a building, it shall be set back in accordance with the internal and road boundary setbacks for accessory buildings in the zone in which it is located.</p>	<p><b>30.4.8 Rule Utilities, Building, Structures and Earthworks which are not otherwise listed in this table</b> Utilities, Building, Structures, <u>Underground Lines</u> and Earthworks which are not otherwise listed in this table – <u>D-P</u> (Permitted Activities)</p> <p><b>30.5.6 Setback from internal boundaries and road boundaries</b> Where the utility is a building, it shall be set back in accordance with the internal and road boundary setbacks for accessory buildings in the zone in which it is located. – <u>D-RD</u></p> <p><u>New Rule</u> <b><u>Permitted Activities</u></b> <u>The following activities shall be Permitted Activities throughout the District.....</u> <b><u>Rule 30.4.10 Buildings, equipment cabinets and structures ancillary to or associated with Utilities provided:</u></b></p> <p>a) <u>If the building or equipment cabinet is located in an identified Outstanding Natural Landscape or Feature, the building or cabinet is less 3.6m<sup>2</sup> in total footprint and 3m in height; and,</u></p> <p>b) <u>Meets the underlying zone standards, if the building or cabinet is not located in an identified Outstanding Natural Landscape or Feature, and the building or cabinets is more than 3.6m<sup>2</sup> in total footprint or more than 3m in height.</u></p>	<p><b>General Comments and the appropriateness of achieving the purpose of the Act / purpose of the Objective</b></p>		
		<ul style="list-style-type: none"> <li>It is appropriate for the rules in Chapter 17 and Chapter 30 to be consistent, insofar as they relate to airports. The proposed amendment will achieve this consistency.</li> <li>Permitting airport activities will give effect to the objectives and policies of Chapter 17.</li> </ul>		
		<p><b>Environmental, Cultural, Economic, Social and Cultural Benefits</b></p>	<p><b>Environmental, Economic, Social and Cultural Costs</b></p>	<p><b>Effectiveness &amp; Efficiency</b></p>
		<ul style="list-style-type: none"> <li>The proposed new rule will remove unnecessary consenting costs for utilities that are consistent with the built form and location of the underlying zone.</li> <li>The amenity of the underlying zones will be maintained.</li> </ul>	<ul style="list-style-type: none"> <li>The amendments may have further reaching effects as the rule is broader than just airports.</li> </ul>	<ul style="list-style-type: none"> <li>The new rule is efficient as it creates consistency in the built form and location of utilities with the underlying zones.</li> </ul>
<p><b>30.5.7 Rule Buildings in Outstanding Natural Landscapes (ONL) and Outstanding Natural Features (ONF)</b> Any building within an ONL or ONF shall be less than 10m<sup>2</sup> in area and less than 3m in height. – D (Discretionary Activity)</p>	<p>I agree with the drafting proposed.</p>	<p>No section 32AA required. I agree with the notified drafting of this rule.</p>		

## CHAPTER 35 – TEMPORARY ACTIVITIES - AMENDMENTS AND SECTION 32AA ASSESSMENT

Proposed objectives and policies of the section 42A report	Amended Provisions (deleted text <del>struck through</del> added text <u>underlined</u> ) recommended by Kirsty O’Sullivan on 2 September 2016	General Comments and the appropriateness of achieving the purpose of the Act / purpose of the Objective			
	<p><b>Clarification 35.3.2</b>  <u>In addition to these rules, any person wishing to undertake an activity that will penetrate the designated Airport Approach and Land Use Controls obstacle limitation surfaces at Queenstown or Wanaka Airport must first obtain the written approval of the relevant requiring authority, in accordance with section 176 of the Resource Management Act 1991.</u></p>	<ul style="list-style-type: none"> <li>The clarification note is appropriate as it draws attention to the Airport Approach and Land Use Controls designation which is not otherwise mapped on the zone maps and the associated requirements under section 176 of the RMA.</li> <li>The note is appropriate, as it maintains the safety and operational imperatives of the airports and also provides for the health and safety of the community, as set out in section 5 of the RMA.</li> </ul>	<p><b>Environmental, Cultural, Economic, Social and Cultural Benefits</b></p>	<p><b>Environmental, Economic, Social and Cultural Costs</b></p>	<p><b>Effectiveness &amp; Efficiency</b></p>
<p><b>Objective 35.2.1</b>  Temporary Events and Filming are encouraged and are undertaken in a manner that ensures the activity is managed to minimise adverse effects.</p>	I agree with the proposed amendments.	No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016.			
<p><b>Policy 35.2.1.1</b>  Recognise and encourage the contribution that temporary events and filming make to the social, economic and cultural wellbeing of the District’s people and communities.</p>	I agree with the proposed amendments.	No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016.			

## CHAPTER 36 – NOISE - AMENDMENTS AND SECTION 32AA ASSESSMENT

Proposed objectives and policies of the section 42A report	Amended Provisions (deleted text <del>struck through</del> added text <u>underlined</u> ) recommended by Kirsty O’Sullivan on 2 September 2016	General Comments and the appropriateness of achieving the purpose of the Act / purpose of the Objective		
<p><b>Purpose</b>  Overflying aircraft have the potential to adversely affect amenity values. The Council controls noise emissions from airports, including take-offs and landings,</p>	I agree with the proposed amendments.	No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016.		

via provisions in this District Plan, and Designation conditions. However, this is different from controlling noise from aircraft that are in flight. The RMA which empowers territorial authorities to regulate activities on land and water affecting amenity values, does not enable the authorities to control noise from overflying aircraft. Noise from overflying aircraft <del>can be controlled through</del> <u>is controlled under</u> section 29A of the Civil Aviation Act 1990.		
<b>36.3.2.8</b> The noise limits contained in Table 2 do not apply to sound from aircraft operations at Queenstown Airport <u>or Wanaka Airport</u> .	I agree with the proposed amendments.	No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016.
<del><b>Rule 36.4.6</b> Sound from aircraft movements within designated airports.</del>	I agree with the proposed amendments.	No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016, however note that could be retained if the Panel consider there is sufficient scope for the table within which this rule is located instead refer to 'exemptions'.
<b>Rule 36.5.2</b> Sound from the Queenstown Airport Mixed Use Zone received in the Residential Zones and the Rural Zone	I agree with the drafting proposed.	No section 32AA required. I agree with the notified drafting of this rule.
<b>Table 2 Rule 36.5.5</b> <b>Activity or Sound Source</b> Queenstown Airport Mixed Use Zone At any point within the zone. <b>Assessment Location</b> At any point within the Zone. <b>Time</b> Any time <b>Noise Limits</b> No limit <b>Non-Compliance Status</b> P	I agree with the drafting proposed.	No section 32AA required. I agree with the notified drafting of this rule, however note my wider concerns with the amendment to the headings of Table 2.
<b>35.5.13 Helicopters</b> ..... * For the avoidance of doubt this rule does not apply to designated airports.	I agree with the drafting proposed.	No section 32AA required. I agree with the notified drafting of this rule.



<p><b>36.5.14 Fixed Wing Aircraft</b></p> <p>.....</p> <p>* For the avoidance of doubt this rule does not apply to designated airports.</p>	<p>I agree with the drafting proposed.</p>	<p>No section 32AA required. I agree with the notified drafting of this rule.</p>		
<p><b>36.6.2</b></p> <p><b>Sound Insulation Requirements for the Queenstown and Wanaka Airport - Acceptable Construction Materials (Table 4).</b></p> <p><del>4mm glazing with effective compression seals or for double glazing 6mm-6mm airgap-6mm</del></p> <p><u>Double-glazing with 4 mm thick panes separated by a cavity at least 12 mm wide.</u></p>	<p>I agree with the drafting proposed.</p>	<p>No section 32AA required. I agree with the amendments set out in the section 42A report dated 17 August 2016.</p>		
<p><b>36.6.3</b></p> <p><b>Ventilation Requirements for the Queenstown and Wanaka Airport (Table 5)</b></p> <p>The following table sets out applies to the ventilation requirements within:</p> <p>(a) the airport Outer Control Boundary (OCB) and Air Noise Boundary (ANB); and</p> <p>(b) the Wanaka and Queenstown Town Centre Zones, Local Shopping Centre Zone and the Business Mixed Use Zone.</p> <p><u>Critical Listening Environments must have a ventilation and cooling system designed, constructed and maintained to achieve the following:</u></p> <p>i. <u>Ventilation must be provided to meet clause G4 of the New Zealand Building Code. At the same time, the sound of the system must not exceed 30 dB LAeq(30s) when measured 1 m away from any grille or diffuser.</u></p> <p>ii. <u>The occupant must be able to control the ventilation rate in increments up to a high air flow setting that provides at least 6 air changes per hour. At the same time, the sound of the system must not exceed 35 dB LAeq(30s) when measured 1 m away from any grille or diffuser.</u></p> <p>iii. <u>The system must provide cooling that is controllable by the occupant and can maintain the temperature at no greater</u></p>	<p><b>36.6.3</b></p> <p><b><u>Ventilation Requirements for Queenstown and Wanaka Airports for the Queenstown and Wanaka Airport (Table 5)</u></b></p> <p>The following table sets out applies to the ventilation requirements within <u>the airport Outer Control Boundary (OCB) and Air Noise Boundary (ANB) at Queenstown Airport, and the OCB at Wanaka Airport:</u></p> <p><u>Critical Listening Environments must have a ventilation and cooling system(s) designed, constructed and maintained to achieve the following:</u></p> <p>(a) <u>An outdoor air ventilation system. The ventilation rate must be able to be controlled by the occupant in increments as follows:</u></p> <p>(i) <u>a low air flow setting that provides air at a rate of of between 0.35 and 0.5 air changes per hour. The sound of the system on this setting must not exceed 30 dB LAeq(30s) when measured 1 - 2m away from any grille or diffuser;</u></p> <p>(ii) <u>a high air flow setting that provides at least 5 air changes per hour. The sound of the system on this setting must not exceed 35 dB LAeq(30s) when measured 2m away from any grille or diffuser.</u></p> <p>(b) <u>The system must provide, either by outdoor air alone, combined outdoor air and heating / cooling system or by direct room heating / cooling:</u></p>	<p><b>General Comments and the appropriateness of achieving the purpose of the Act / purpose of the Objective</b></p>		
<p>• The mechanical ventilation requirements enable residents within the ANB (Queenstown only) and OCB to keep their windows closed to reduce the effects of aircraft noise, while still maintaining an appropriate level of fresh air exchange.</p> <p>• Based on the evidence of Mr Scott, there appears to be some difficulties with the implementation and operation of the mechanical ventilation requirements of the PDP.</p> <p>• The proposed amendments ensure that the mechanical ventilation requirements are cost effective, yet still maintain an appropriate level of amenity for residents.</p> <p>• The amendments are appropriate at achieving various objectives and policies of the PDP, which seek to manage the effects of aircraft operations on activities sensitive to aircraft noise (ie. the obligations placed on QAC) and conversely, seek to manage reverse sensitivity effects on the airport (i.e. the obligations on new activities establishing within the ANB and OCB).</p>		<p><b>Environmental, Cultural, Economic, Social and Cultural Benefits</b></p>	<p><b>Environmental, Economic, Social and Cultural Costs</b></p>	<p><b>Effectiveness &amp; Efficiency</b></p>
<p>(a) <u>An outdoor air ventilation system. The ventilation rate must be able to be controlled by the occupant in increments as follows:</u></p> <p>(i) <u>a low air flow setting that provides air at a rate of of between 0.35 and 0.5 air changes per hour. The sound of the system on this setting must not exceed 30 dB LAeq(30s) when measured 1 - 2m away from any grille or diffuser;</u></p> <p>(ii) <u>a high air flow setting that provides at least 5 air changes per hour. The sound of the system on this setting must not exceed 35 dB LAeq(30s) when measured 2m away from any grille or diffuser.</u></p> <p>(b) <u>The system must provide, either by outdoor air alone, combined outdoor air and heating / cooling system or by direct room heating / cooling:</u></p>		<p>• The amendments will enable a greater range of mechanical ventilation options to be implemented, within the parameters specified by the standards.</p> <p>• The amendments will enable more cost effective systems to be implemented, maintained and operated.</p> <p>• The systems enabled by these provisions will reduce the number of mechanical ventilation units required, reducing the potential amenity impacts resulting from multiple large units being located within a residential context.</p> <p>• The amendments will ensure a suitable level of amenity is maintained within critical listening environments, including noise generated by the systems and the heating and cooling functions provided.</p>	<p>• QAC is obliged, via its Aerodrome Purposes Designation to provide mechanical ventilation to some existing dwellings containing activities sensitive to aircraft noise within the 60dB noise contour. Some costs may accrue for QAC, as the provisions now contain cooling requirements which were not previously required as part of their Designation requirements.</p>	<p>• The amendments are effective at addressing the implementation issues associated with the mechanical ventilation systems implemented in accordance with Table 5 of the PDP, as identified by Mr Roberts and QAC.</p> <p>• The amendments are efficient as they continue to provide developers with discretion around whether to build to the specified revised mechanical ventilation requirements, or obtain an acoustic certificate which demonstrates compliance with the required indoor design sound levels (as specified in the zone rules).</p>

<p>than 25°C and no less than 18°C. At the same time, the sound of the system must not exceed 35 dB LAeq(30s) when measured 1 m away from any grille or diffuser.</p>	<ul style="list-style-type: none"> <li>(i) <u>cooling that is controllable by the occupant and can maintain the temperature within the Critical Listening Environment at no greater than 25°C; and</u></li> <li>(ii) <u>heating that is controllable by the occupant and can maintain the temperature within the Critical Listening Environment at no less than 18°C; and</u></li> <li>(iii) <u>the sound of the system when in heating or cooling mode must not exceed 35 dB LAeq(30s) when measured 2m away from any grille or diffuser.</u></li> </ul> <p>(c) <u>A relief air path must be provided to ensure the pressure difference between the Critical Listening Environments and outside is never greater than 30Pa.</u></p> <p>(d) <u>If cooling is provided by a heat pump then the requirements of (a)(ii) and (c) do not apply.</u></p> <p><u>Note: Where there is an existing ventilation, heating and/or cooling system, and/or relief air path within a Critical Listening Environment that meets the criteria stated in the rule, the existing system may be utilised to demonstrate compliance with the rule.</u></p> <p><del>i. Ventilation must be provided to meet clause G4 of the New Zealand Building Code. At the same time, the sound of the system must not exceed 30 dB LAeq(30s) when measured 1 m away from any grille or diffuser.</del></p> <p><del>ii. The occupant must be able to control the ventilation rate in increments up to a high air flow setting that provides at least 6 air changes per hour. At the same time, the sound of the system must not exceed 35 dB LAeq(30s) when measured 1 m away from any grille or diffuser.</del></p> <p><del>iii. The system must provide cooling that is controllable by the occupant and can maintain the temperature at no greater than 25°C and no less than 18°C. At the same time, the sound of the system must not exceed 35 dB LAeq(30s) when measured 1 m away from any grille or diffuser.</del></p>			
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## **Appendix B**

Evidence of Mark Edghill (29 February 2016)

And

Evidence of John Kyle (29 February 2016)

**BEFORE THE QUEENSTOWN LAKES DISTRICT COUNCIL**

**IN THE MATTER OF**      the Resource Management Act 1991

**AND**

**IN THE MATTER OF**      the Queenstown Lakes Proposed District  
Plan

Chapter 3 (Strategic Direction), Chapter 4  
(Urban Development) and Chapter 6  
(Landscape)

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**STATEMENT OF EVIDENCE MARK EDGHILL**

**(29 FEBRUARY 2016)**

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## 1. INTRODUCTION

### Qualifications and Experience

- 1.1 My full name is Mark Dugdale Edghill. I am the Acting Chief Executive Officer of Queenstown Airport Corporation Limited (**QAC**) and am authorised to give evidence on its behalf.
- 1.2 I was appointed Acting Chief Executive in August 2015, having served as Chief Financial Officer for QAC since February 2014.
- 1.3 I hold an Honours degree from Durham University, am a Fellow of The Institute of Chartered Accountants in England & Wales, a Fellow of CPA Australia and a member of Chartered Accountants Australia and New Zealand.

### QUEENSTOWN AIRPORT CORPORATION LIMITED – AN OVERVIEW

- 1.4 QAC was formed in 1988 to manage the Airport. Prior to this the Airport was operated by the Crown, Queenstown Lakes District Council (**QLDC**) and Arrowtown Borough Council as the Queenstown Airport Authority.
- 1.5 QAC was formed pursuant to section 3(A) of the Airport Authorities Act 1966. A copy of the Order is **attached** to my evidence and marked "**A**". QAC is also a requiring authority in terms of the Resource Management Act 1991 and copies of the Order in Council and Gazette Notice are and marked "**B**".
- 1.6 Queenstown Airport is a 'lifeline utility' under the Civil Defence Emergency Management Act 2002. Under this Act, lifeline utilities have a key role in planning and preparing for emergencies and for response and recovery in the event of an emergency. As a lifeline utility QAC must, amongst other things, ensure that the Airport is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency.
- 1.7 QAC is currently 75.01% owned by QLDC and 24.99% owned by Auckland International Airport. QAC also manages Wanaka Airport on behalf of QLDC, and has a caretaker role for Glenorchy Aerodrome, including ground maintenance.

## **2 QAC STATUTORY FRAMEWORK, OBJECTIVES AND STATEMENT OF INTENT**

- 2.1 As an Airport Authority established under the Airport Authorities Act, Queenstown Airport must be operated or managed as a commercial undertaking (section 4(3)).
- 2.2 QAC is a Council Controlled Trading Organisation (**CCTO**) for the purposes of the Local Government Act 2002. Section 59 sets out the principal objectives of a CCTO which are to:
- a) achieve the objectives of its Shareholders, both commercial and non-commercial, as specified in the statement of intent; and
  - b) be a good employer; and
  - c) exhibit a sense of social and environmental responsibility by having regard to the interests of the community in which it operates and by endeavouring to accommodate or encourage these when able to do so; and
  - d) conduct its affairs in accordance with sound business practice.
- 2.3 QAC's business is also subject to regulatory control under the Airport Authorities Act 1966 and complies with the disclosure requirements of a specified airport company pursuant to the Airport Authorities (Airport Companies Information Disclosure) Regulations.
- 2.4 The company's governance is also covered by the Companies Act 1993.
- 2.5 QAC's aeronautical operations are governed by the Civil Aviation Act 1990 and Civil Aviation Rules Part 139.
- 2.6 QAC's decisions relating to the operation of the Airport must be made in accordance with its statement of intent and its constitution and relevant legislation discussed above, including of course the Resource Management Act.
- 2.7 QAC's vision, as set out in the statement of intent 2016-2018 is to:

*"Seize the challenge to make Queenstown easy to get to, with an airport experience that leaves a wonderful first and lasting impression."*

2.8 To achieve this vision and to be successful over the next five years, QAC has the following strategic objectives:

1. Deliver excellent service consistently throughout a period of significant growth and infrastructure development.
2. Grow passenger volumes.
3. Expand airport capacity to meet the anticipated growth in aircraft movements and passenger volumes.
4. Grow non-aero revenue.
5. Pursue operational excellence including being an outstanding corporate citizen within the local community.

### **QUEENSTOWN AIRPORT HISTORY**

2.9 The Airport was first licensed by the Civil Aviation Authority in 1935. Commercial airfield ventures commenced at the site after the Second World War, when a number of buildings were established. The first commercial flight was recorded in 1947. This signalled the start of the growth and development of Queenstown Airport as a regional airport.

2.10 By the early 1950s regular commercial activities, including the first scheduled passenger service between Queenstown and Dunedin, had commenced. By the early 1960s Mount Cook Airline was providing scheduled flights from the Airport.

2.11 In 1968 the runway (then 1341 metres in length) was sealed and by the early 1970s a small terminal building was established for passenger use.

2.12 In 1988 QAC was formed to operate the Airport.

2.13 In 1990 extensions (in width) to the runway and terminal (check-in area) were undertaken to provide for the first jets, operated by Ansett. This was followed by the first Boeing Jet (Boeing 737-300) operated by Air New Zealand in 1992.

- 2.14 Further extensions to the runway in the mid to late 1990s enabled fully laden jet aircraft, including Boeing 737, to fly direct from Queenstown to any New Zealand destination. Return Trans-Tasman services were also introduced at this time. Also during this time Airways Corporation upgraded its facility from a Flight Service to full Air Traffic Control and built a new Control Tower at the Airport.
- 2.15 In 1995 the Council notified its review of the District Plan which addressed the Airport and provided for its growth until 2015, through the introduction of noise boundaries, amongst other measures. I understand these noise boundaries are contained within the printed version of the Operative District Plan, although they are now very outdated, and are superseded by the Plan Change 35 noise boundaries. I will discuss Plan Change 35 in more detail shortly.
- 2.16 The development of the Airport progressed more significantly in 2001, with the completion of a 1891m (sealed length) runway, and construction of additional aprons. The terminal building was also refurbished at this time, although this soon reached capacity, and a further expansion was pursued.
- 2.17 Around 2007 the roading infrastructure associated with the Airport was upgraded, which included QAC providing land and capital to build access to the Remarkables Park shopping centre, along with the roundabout at the Airport entrance on SH6.
- 2.18 Further terminal expansions were undertaken in 2009, 2010, 2011, 2012 and most recently in 2015. These expansions variously accommodated additional retail and food and beverage space, increases in the baggage handling and reclaim areas, and arrival and departure areas for international and domestic passengers.
- 2.19 Runway End Safety Areas (**RESA**) were constructed over 2009 - 2011 at both ends of the main runway, to extend the safety areas to accord with a CAA requirement and retain international flights. These involved significant civil engineering works, arguably the largest of their type since the construction of the Clyde Dam.
- 2.20 Runway lights were installed in July 2011, with the aim of minimising the number of disruptions to flight schedules and enhancing safety in poor weather conditions. Further lighting is required to accommodate flights after dark, as I describe shortly.



- 2.21 A number of further significant projects have been undertaken more recently, some of which will be explained in further detail shortly.
- 2.22 The history of development of Queenstown Airport over the last 75 years shows that the Airport is constantly changing and expanding to meet the needs of operators and passengers.

### **3 QUEENSTOWN AIRPORT PRESENTLY**

- 3.1 Queenstown Airport operates a mixture of scheduled flights, private jets, general aviation and helicopters. It is the fastest growing airport in New Zealand and the fourth busiest by passenger numbers.
- 3.2 The Airport provides an essential link for domestic and international visitors to New Zealand's premier destinations, including Queenstown and Milford Sound. It serves as the direct international and domestic gateway to the lower South Island.
- 3.3 The Airport receives direct scheduled services from New Zealand's main metropolitan ports of Auckland, Wellington and Christchurch, which provide strong regional links throughout the country, as well as from the Australian cities of Sydney, Melbourne, Brisbane and Coolangatta. Auckland and Sydney airports are the major international gateway airports for long haul visitors. Private jets are also a growing market, both short and long haul, with aircraft flying direct from north Asia and West Coast USA.
- 3.4 The Airport is also one of New Zealand's busiest helicopter bases and is heavily used for tourist 'flightseeing', especially to Milford Sound and Mount Cook, on fixed-wing and rotary-wing aircraft.
- 3.5 Today the main runway has a sealed length of 1,911m plus a 90m RESA at each end. There is a secondary crosswind runway for light aircraft and this plays an integral part in 'organising the sky' for the approximately 24,000 aircraft landings per year (both scheduled and non-scheduled) at the Airport. On a busy day the Airport air traffic controllers can handle over 180 aircraft movements per day.

## **QAC'S LANDHOLDINGS**

- 3.6 QAC owns approximately 137 ha of land on Frankton Flats, comprising:
- a. 83ha incorporating the airfield, runways and aprons, rescue fire facilities and air traffic control tower;
  - b. 8ha of terminal, car parking, road network and commercial land leased to airport-related businesses;
  - c. 17ha of land currently used by General Aviation;
  - d. 17ha of undeveloped land recently rezoned for industrial purposes through Plan Change 19, located to the north of the main runway;
  - e. 12ha of undeveloped rural and golf course land. The golf course land is leased to QLDC for a nominal annual rate.
- 3.7 A plan showing QAC's landholdings and its designation boundaries is attached to Mr Kyle's evidence.

## **GROWTH AND DEVELOPMENT OF THE AIRPORT**

- 3.8 A sustained period of outstanding passenger growth in the past six months to December 2015 has set new records, with the total number of passengers through the Airport hitting 1.5 million for the first time over a 12 month period. This number was comprised of 1,067,947 domestic and 441,461 international passengers. The greatest percentage growth was observed in the international market, with international passengers increasing by 25.9% (or 90,818 passengers) and domestic passengers by 10.1% (or 97,859 passengers) on the previous year.
- 3.9 For the first 6 months of the 2016 financial year, QAC achieved a Net Profit After Tax of \$6.2 million. This result compares with a profit of \$4.7 million for the previous corresponding period, an increase of 31%. In line with its dividend policy, QAC has paid an interim dividend of \$1.0 million to its shareholders, with 75.01% payable to Queenstown Lakes District Council and 24.99 % to Auckland Airport.
- 3.10 Growth shows no sign of slowing in the coming years. The Airport's current forecast is that passenger numbers will grow to approximately 2.5 million by 2025.

3.11 To accommodate the ongoing passenger and aircraft movement growth, QAC has invested heavily in developing infrastructure and working alongside airline and airport partners to introduce innovations and technology to improve operational efficiency and overall visitor experience. Significant capital investment in infrastructure has been required over the past few years, most recently the \$17 million 4,100m<sup>2</sup> extension to the Airport international terminal building and the \$18 million project designed to improve the Airport's airfield infrastructure and enable it to accommodate after dark flights for the first time from winter 2016. These are discussed in more detail below.

#### *Terminal Expansion*

3.12 The recent 4100m<sup>2</sup> terminal expansion includes a new international arrivals area, new customs and Ministry for Primary Industry areas, duty free shopping, a new baggage carousel dedicated solely to international arrivals, and toilets and service areas. In addition, the existing international departure lounge has been more than doubled in size to provide for extra toilets, seating and retail.

#### *After Dark/Evening Flights*

3.13 On the back of delivering the significant terminal expansion, QAC's next focus is to introduce evening (after-dark) flights for winter 2016, which will allow the Airport to expand capacity in the short term without building additional terminal infrastructure. Evening flights will allow the Airport to use its full consented operational hours between 6am and 10pm, moving from an 8-hour operating window during the winter peak to a 16-hour window. I note these flights will need to comply with the noise limits introduced by Plan Change 35.

3.14 To further explain, Queenstown Airport has long been consented, in terms of the District Plan and Airport Designation, for flights to occur up until 10pm. However, in practice evening flights have only been able to occur in summer, as flights are currently limited to daylight hours under the CAA's Aeronautical Information Publication for Queenstown Airport.

3.15 In May 2014 QAC obtained CAA and Australia's Civil Aviation Safety Authority (**CASA**) approval-in-principle for after dark air transport operations to and from Queenstown Airport. This approval was issued against a comprehensive Foundation Safety Case, which set out the infrastructure and lighting upgrades required at Queenstown Airport, and the operational and procedural controls that will be adopted

by airlines in their independent Operator Safety Cases for after dark flights. The CAA and CASA approval will enable aircraft to operate at Queenstown:

- a. From 6am to sunrise, where sunrise is after 6am (for example, in winter).
- b. From sunset (or more correctly Evening Civil Twilight) to 10pm. During winter in particular this provides a much longer window for flights to arrive and depart Queenstown than was previously the case.

3.16 Evening flights will provide a significant benefit for travellers and business, with an extended operating window giving more flexibility, better connectivity across airline networks, and improved airport experience with peak times spread out and less pressure on facilities and services. As an example, for leisure travellers it would make weekend holidays from Auckland and Australia possible year-round. It would also give business people more flexibility with their travel plans and potentially allow people to base themselves in Queenstown and commute to other main centres more easily. The biggest immediate benefit will be increasing the flying window during the short winter months, which are also our busiest passenger months.

3.17 QAC commenced the physical works required to accommodate evening flights in November last year, with an \$18m runway and lighting infrastructure upgrade. This work includes resurfacing and widening the runway (from 30m to 45m), and improved navigational infrastructure through the installation of a comprehensive aeronautical lighting package (runway, taxiway, approach and apron lights).

3.18 This project is due to be completed in April 2016. Airlines are in the process of developing their own operational safety cases for regulatory (CAA) approval to operate at Queenstown Airport after dark. Air New Zealand has already announced it will commence evening flights into and out of Queenstown this winter from 1 July, subject to regulatory approval.

3.19 The introduction of evening flights will mark a step-change for the Airport as a major local employment hub as it moves to a 'split-shift' operating model to cater for the extended operating window. This will create a number of job opportunities, adding to the 350-strong team already working in and around the Airport.

3.20 Ensuring it is ready for evening flights will be a key focus for QAC over the next 6 months.

*Acquisition of Lot 6*

3.21 QAC also seeks to designate and acquire part of Lot 6 DP304345 for Aerodrome Purposes. Lot 6 is owned by Remarkables Park Limited (**RPL**) who opposes both the designation and acquisition. Discussions have been ongoing with RPL since at least 2008, however unfortunately agreement has not been reached and the matter is before the Court.

3.22 The designation and acquisition of part of Lot 6 will importantly, but without limitation:

- a. Provide for appropriate (safe) clearances for the formation of a Code C taxiway parallel to the main runway so as to increase that runway's capacity;
- b. Provide additional grass and paved apron areas and space for hangars for general aviation and helicopter activities, along with additional hangar space for Code C aircraft (i.e. jets).
- c. Enable general aviation and helicopter bases and activities (**GA**) to move from the south western area of the Airport (near Lucas Place) so as to enable essential growth around the Airport including:
  - i. further expansion of the terminal;
  - ii. additional apron areas around the terminal for scheduled aircraft;
  - iii. additional carparking for public and rental vehicles etc.

3.23 These works are essential for the ongoing development of the Airport, and the project has been recognised as one of “national significance” by the Minister for the Environment.

3.24 While the GA operators remain in their current locations along Lucas Place, the Airport's landslide activities cannot be expanded to the detriment of neighbours who experience a higher level of aircraft noise under the existing configuration.

- 3.25 In the most recent decision on Lot 6 (22 December 2015), the Court found in favour of QAC on the following points:
- a. Reconfirmed its finding that the new GA precinct should be established to the south of the main runway and proposed taxiway, and on Lot 6 land;
  - b. That the area of Lot 6 land required is about 16ha and not the 8ha originally decided.
- 3.26 The Court is expected to confirm the 16ha designation once an aeronautical study has been completed and CAA approval is obtained for the works enabled by the designation. The aeronautical study for this is underway.

*Plan Change 35*

- 3.27 QAC's counsel and its planning witness, Mr Kyle, have explained the background to and detail of Plan Change 35. My evidence provides an update on the roll out of the noise mitigation package, as required by the amendments to Designation 2 (Aerodrome Purpose) associated with the Plan Change.
- 3.28 Following work in 2013/14, which involved forming the Queenstown Airport Community Liaison Committee and adopting the Noise Management Plan, and discussing options with our affected neighbours, QAC has been working through its aircraft noise mitigation obligations as required by the Designation.
- 3.29 QAC's primary focus over the past year has been to progress works on the 13 homes most affected by aircraft noise located within PC35 Air Noise Boundary (**ANB**). This has involved each home being assessed by noise management experts and individual acoustic treatment package reports being developed.
- 3.30 These acoustic packages were then worked through and put into action in two trial houses. Project manager RCP worked with contractors to test a number of different scenarios to ensure that when work is undertaken on each home, proven best practices which achieve optimal acoustic results with the least impact to the people living in the house are adopted.

- 3.31 In addition to field testing mitigation options, QAC has completed the following:
- a. Preliminary design work for the 13 homes that qualify for the full noise mitigation package (i.e. sound insulation and mechanical ventilation).
  - b. Drafted legal agreements for presentation to homeowners which have been subsequently approved by the Queenstown Airport Liaison Committee.
  - c. Held one-on-one meetings with each homeowner to present and discuss the bespoke noise mitigation design solution for their home and the legal documentation.
- 3.32 Once noise mitigation works are underway for the first 13 homes, attention will turn to the properties with the 60 dB L<sub>dn</sub> 2037 Noise Contour and QAC will contact owners regarding mechanical ventilation proposals for their homes. This phase involves a further 123 homes and is timed to begin mid 2016.
- 3.33 Noise mitigation works will continue in annual or two-yearly tranches for the next 20 years.
- 3.34 QAC's approach is guided by its obligations in the Aerodrome Purposes Designation and the Noise Management Plan, which was formulated through the notice of requirement and Plan Change 35 process.

#### *Masterplanning*

- 3.35 Developing a 30 year Masterplan over the next 12 months is also a key focus for QAC. The project outline has been completed and consultants will be appointed in May, with plans started to be developed over winter. Once confirmed, the Masterplan will guide the long-term development of the Airport.

#### **QAC's CONTRIBUTION TO THE DISTRICT**

- 3.36 A 2014 economic assessment undertaken by Market Economics<sup>1</sup> has assessed that Queenstown Airport facilitates tourism spending of between \$592m and \$638m, sustaining between 14,855 and 15,948 jobs, and that by 2037 total tourism spending facilitated by the Airport will be between \$1.1bn and \$1.4bn.

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<sup>1</sup> Market Economics Report titled "Queenstown Airport: Mixed Use Zone, Economic Assessment November 2014".

- 3.37 An economic analysis undertaken for PC35 indicated that in 2037, gross output of the Airport will increase to \$522 million and will sustain the equivalent of 8,100 full time workers each year. This is likely understated, given current growth projections.
- 3.38 Currently, more than 350 people work in and around Queenstown Airport. In addition to QAC, the Airport's management company, the wider airport community comprises approximately 60 businesses, from retailers, rental car providers and general aviation operators to airlines, ground handling services and border security agencies. There are also a number of auxiliary service providers and contractors who work with these businesses to support the airport's operations.
- 3.39 The introduction of evening flights later this year and the move to a 'split-shift' operating model to cater for the extended operating window will create a number of further job opportunities, and inevitably lead to increased tourist spending in the District.
- 3.40 Consequently, Queenstown Airport can be considered a significant strategic resource and provides substantial direct and indirect benefits to the local and regional economy.

### **SUMMARY FOR QUEENSTOWN AIRPORT**

- 3.41 QAC's business success and growth is intrinsically linked to the fortunes of the region's tourism and visitor industry. In turn, this industry depends on QAC providing effective air connectivity for New Zealand and overseas visitors, along with a world-class passenger service and experience for all visitors.
- 3.42 Land constraints, constrained airspace, heightened international airport aviation security requirements, and phenomenal growth means Queenstown Airport will continue to evolve solely as a commercial airport. For QAC that means an airport that is able to meet the future needs of scheduled 'Regular Passenger Transport' (RPT) services and associated passengers, the special demands of the private jet market, and the region's commercial general aviation industry as a hub for visitor flightseeing.



- 3.43 QAC will continue to work closely with aviation and tourism partners to identify growth opportunities for the future, particularly in off peak months, to ensure its infrastructure is developed to meet demand. We see the need for the community to continue to invest in the region's infrastructure and tourism to both maintain a quality visitor experience and to handle the anticipated growth from new and emerging long haul markets.
- 3.44 Growth projections remain very strong and QAC is mindful it needs to manage this growth in line with community expectations and any District Plan requirements. Given this growth, and the significant contribution the Airport makes to the community, it is imperative, in my view, that new noise sensitive activities around the Airport are carefully managed.

#### **4. WANAKA AIRPORT**

- 4.1 Wanaka Airport accommodates aircraft movements associated with scheduled general aviation and helicopter operations, and is a major facilitator of commercial helicopter operations within the District.
- 4.2 Wanaka Airport provides a complementary and supplementary facility to Queenstown Airport.
- 4.3 QAC provides aeronautical and property expertise to QLDC in relation to the management of Wanaka Airport, and receives a fee from QLDC for the management of the airport calculated on a cost recovery basis only. This includes the cost of onsite airport staff, aeronautical advisory support, property management services, accounting and administration services, management input to the airport's development, and fulfilling compliance obligations.

**M Edghill**

**29 February 2016**

PAUL REEVES,  
Governor-General  
ORDER IN COUNCIL

At Wellington this 31st day of July 1989

Present:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL

PURSUANT to section 3 (3) of the Airport Authorities Act 1966, His Excellency the Governor-General, acting by and with the advice and consent of the Executive Council, by this order, which shall come into force on the 2nd day of August 1989, consents to the exercise by Queenstown Airport Corporation Limited of the powers conferred on local authorities by section 3 of that Act.

MARIE SHROFF,  
Clerk of the Executive Council.

EXPLANATORY NOTE

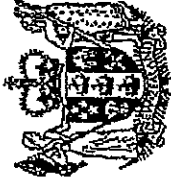
This note is not part of the order, but is intended to indicate its general effect.

By this order, which comes into force on 2 August 1989, the Governor-General consents to the exercise by Queenstown Airport Corporation Limited, a company formed pursuant to section 3A of the Airport Authorities Act 1966, of the powers of a local authority under section 3 of that Act. That section confers the power to establish, improve, maintain, operate, and manage airports and acquire land for those purposes.

Issued under the authority of the Regulations Act 1936.

Date of notification in Gazette: 3 August 1989.

This order is administered in the Ministry of Transport.



THE RESOURCE MANAGEMENT (APPROVAL OF QUEENSTOWN AIRPORT CORPORATION LIMITED AS REQUIRING AUTHORITY) ORDER 1992

CATHERINE A. TIZARD, Governor-General

ORDER IN COUNCIL

At Wellington this 21st day of December 1992

Present:

THE RIGHT HON. D. C. MCKINNON PRESIDING IN COUNCIL  
PURSUANT to section 167 of the Resource Management Act 1991, Her Excellency the Governor-General, acting by and with the advice and consent of the Executive Council, and on the recommendation of the Minister for the Environment, hereby makes the following order.

ORDER

1. Title and commencement—(1) This order may be cited as the Resource Management (Approval of Queenstown Airport Corporation Limited as Requiring Authority) Order 1992.

(2) This order shall come into force on the 7th day after the date of its publication in the *Gazette*.

2. Interpretation—In this order, unless the context otherwise requires, "airport" has the meaning given to that term by section 2 of the Airport Authorities Act 1955.

3. General approval—Queenstown Airport Corporation Limited is hereby approved as a requiring authority, under section 167 of the Resource Management Act 1991, for the operation, maintenance, expansion, and development of the airport known as Queenstown Airport.

B

SCHEDULE		Cl 4
PROPOSED WORKS		
Territorial Authority	Location	Project Name
Queenstown Lakes District Council	All the land to the east that is between the existing airport and the Slickover River	Redevelopment of the airport
Queenstown Lakes District Council	All the land to the north that is between the existing airport and Stave Highway 6	Redevelopment of the airport
Queenstown Lakes District Council	All the land to the south that is between the existing airport and the Kawarau River	Redevelopment of the airport

4. Approval in respect of proposed works—Queenstown Airport Corporation Limited is hereby approved as a requiring authority, under section 167 of the Resource Management Act 1991, for the proposed works described in the Schedule to this order.

ROB MACFARLANE,  
Acting for Clerk of the Executive Council.

EXPLANATORY NOTE

This note is not part of the order, but is intended to indicate its general effect.  
This order approves Queenstown Airport Corporation Limited, under section 167 of the Resource Management Act 1991, as a requiring authority for the operation, maintenance and expansion of Queenstown Airport and for the proposed projects specified in the Schedule to the order.

Issued under the authority of the Acts and Regulations Publication Act 1989.  
Date of publication in Gazette: 23 December 1992.  
This order is administered in the Ministry for the Environment.

**Supplementary Integration Agreement**

Pursuant to section 10 of the Private Schools Conditional Integration Act 1975, notice is given that a supplementary integration agreement has been signed between the Minister of Education on behalf of Her Majesty the Queen acting through the Senior Manager, National Operations, Ministry of Education, pursuant to delegated authority, and the proprietor of the following school:

St John the Evangelist Primary School, Otara.

The said supplementary integration agreement was executed on the 22nd day of August 1994. A copy of the supplementary agreement is available for inspection without charge by any member of the public at the district office of the Ministry of Education.

Dated at Wellington this 25th day of August 1994.

K. PHILLIPS, Senior Manager, National Operations.

206472

**Supplementary Integration Agreement**

Pursuant to section 10 of the Private Schools Conditional Integration Act 1975, notice is given that a supplementary integration agreement has been signed between the Minister of Education on behalf of Her Majesty the Queen acting through the Senior Manager, National Operations, Ministry of Education, pursuant to delegated authority, and the proprietor of the following school:

St Francis School, Thames.

The said supplementary integration agreement was executed on the 22nd day of August 1994. A copy of the supplementary agreement is available for inspection without charge by any member of the public at the district office of the Ministry of Education.

Dated at Wellington this 23rd day of August 1994.

K. PHILLIPS, Senior Manager, National Operations.

206479

**Environment****Resource Management Act 1991****The Resource Management (Approval of Queenstown Airport Corporation Limited as Requiring Authority) Notice 1994**

Pursuant to sections 167 and 420(6) of the Resource Management Act 1991, the Minister for the Environment, hereby gives the following notice:

**Notice**

1. Title and commencement—(1) This notice may be cited as the Resource Management (Approval of Queenstown Airport Corporation Limited as Requiring Authority) Notice 1994.

(2) This notice shall come into force on the 28th day after the date of its publication in the *New Zealand Gazette*.

2. Interpretation—In this notice, unless the context otherwise requires, the word "airport" means any defined area of land or water intended or designed to be used either

wholly or partly for the landing, departure, movement, or servicing of aircraft, and includes any buildings, installations, and equipment on or adjacent to any such area used in connection with the airport.

3. Approval as requiring authority—Queenstown Airport Corporation Limited is hereby approved as a requiring authority under section 167 of the Resource Management Act 1991, for the operation of the Queenstown Airport situated approximately 10 kilometres north-east of Queenstown between State Highway No. 6 and State Highway No. 6A in the district of Queenstown-Lakes District Council.

Dated at Wellington this 22nd day of August 1994.

SIMON UPTON, Minister for the Environment.

206474

**Health****Tuberculosis Regulations 1951****Approval of Persons Authorised to Perform Vaccinations Against Tuberculosis**

Pursuant to regulation 6 (4) of the Tuberculosis Regulations 1951, the Director-General of Health hereby gives notice that the following persons, additional to those listed in the *New Zealand Gazette*, dated 17 March 1994, No. 25, at page 1115, have been approved as qualified to perform vaccinations against tuberculosis in accordance with those regulations:

- Bernice Bird, infection control nurse.
- Kathryn Bowmar, nurse.
- Lelia Currie, public health nurse.
- Marie Dietrich, midwife.
- Sharon Doelman, public health nurse.
- Susan Duckmanton, midwife.
- Angela Gullick, public health nurse.
- Christine Hartell, practice nurse.
- Jocelyn Harvey, public health nurse.
- John Holmes, medical practitioner.
- Tina Johnston, public health nurse.
- Michelle Leath, nurse.
- Elizabeth McKay, public health nurse.
- Patricia Moulds, occupational health nurse.
- David Murdoch, medical practitioner.
- Elizabeth Reid, midwife.
- Allison Somerville, occupational health nurse.
- Judith Watkins, nurse.
- Kathleen Williams, public health nurse.
- Mei Ping Yong, nurse.

Dated at Wellington this 26th day of August 1994.

C. LOVELACE, Director-General of Health.

206500

**BEFORE THE QUEENSTOWN LAKES DISTRICT COUNCIL**

**BEFORE THE QUEENSTOWN LAKES DISTRICT COUNCIL**

**IN THE MATTER OF**      the Resource Management Act 1991

**AND**

**IN THE MATTER OF**      the Queenstown Lakes Proposed  
District Plan

Chapter 3 (Strategic Direction),  
Chapter 4 (Urban Development) and  
Chapter 6 (Landscape)

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**STATEMENT OF EVIDENCE JOHN CLIFFORD KYLE**

**(29 FEBRUARY 2016)**

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Lane Neave  
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Dunedin  
Kirsty O'Sullivan  
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## 1. INTRODUCTION

### Qualifications and Experience

- 1.1 I hold an honours degree in Regional Planning from Massey University, obtained in 1987. I am a Partner with the firm Mitchell Partnerships, which practices as a planning and environmental consultancy throughout New Zealand, with offices in Auckland, Tauranga and Dunedin.
- 1.2 I have been engaged in the field of town and country planning and resource and environmental management for 28 years. My experience includes a mix of local authority and consultancy resource management work. For the past 22 years, this experience has retained a particular emphasis on providing consultancy advice with respect to regional and district plans, designations, resource consents, environmental management and environmental effects assessment. This includes extensive experience with large-scale projects involving inputs from a multidisciplinary team.
- 1.3 An outline of the projects in which I have been called upon to provide environmental planning advice in recent times is included as **Appendix A**.
- 1.4 I am familiar with and have made numerous visits to Queenstown Airport and the areas surrounding the Airport. I have assisted the Queenstown Airport Corporation with planning matters for more than a decade. I am generally familiar with planning issues in the Queenstown Lakes District, having actively practiced there since 1994.
- 1.5 I advise that I have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. In particular, unless I state otherwise, this evidence is within my scope of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.
- 1.6 My firm, Mitchell Partnerships Limited (**MPL**) has been commissioned by Queenstown Airport Corporation (**QAC**) to provide resource management planning advice with respect to the Proposed Queenstown Lakes District Plan (**Proposed Plan**). My firm prepared the submissions and further submissions on behalf of QAC.

## Scope of Evidence

1.7 In this brief of evidence, I will:

- Set out the planning context for Queenstown and Wanaka Airports;
- Provide an overview of the strategic significance of Queenstown and Wanaka Airports and why they warrant recognition in the Proposed Plan;
- Provide the contextual background and genesis behind Plan Change 35 and the associated Notice of Requirement initiated by QAC in 2008;
- Set out why the provisions that were settled via the Environment Court process as part of Plan Change 35 (**PC35**) remain the most suitable means of managing the effects of aircraft noise at and around Queenstown Airport;
- Explain how the higher order objectives and policies of PC35 should be carried forward and incorporated into the Proposed Plan; and,

## 2. QUEENSTOWN AIRPORT – PLANNING CONTEXT

2.1 QAC operates the regionally and nationally significant Queenstown Airport, and the regionally significant Wanaka Airport. Mr Edghill has provided some context about QAC and the role of Queenstown and Wanaka Airports in facilitating the transportation of people and goods to the region. I do not intend to repeat that here.

2.2 Queenstown Airport is managed by QAC. QAC is a network utility operator and a requiring authority under section 166 of the Resource Management Act 1991 (the **RMA** or the **Act**).

2.3 Queenstown Airport is the subject of three designations in the operative Queenstown Lakes District Plan (**Operative Plan**), namely:

- **Designation 2 – Aerodrome Purposes:** The purpose of this designation is to protect the operational capability of the Airport, while at the same time minimising adverse environmental effects from aircraft noise on the community at least to year 2037;



- **Designation 3 – Air Noise Boundary:** This designation defines the location of the Airport’s Air Noise Boundary (**ANB**). The location of the ANB shown in the designation is outdated however, and was updated, to provide for airport operations until 2037, via noise boundaries promulgated as part of Plan Change 35; and,
- **Designation 4 – The Approach and Land Use Control (transitional slopes and surfaces):** The purpose of this designation is to provide obstacle limitation surfaces around the Airport to ensure the safe operation of aircraft approaching and departing the Airport.

2.4 Excepting Designation 3, these designations are proposed to be “rolled over” (with modifications), in the Proposed Plan. Designation 3 has been subsumed by Plan Change 35 which provides for an updated ANB to be included in the District Plan (Planning Map 31a) (refer to paragraph 5.31 of my evidence for further background). QAC has therefore given notice of its intent to withdraw Designation 3.

2.5 Maps depicting the extent of Designation 2 (Aerodrome Purposes) and two figures showing the extent of Designation 4 (Approach and Land Use Controls) are attached in **Appendix B**. The extent of QAC’s landholdings (designated and undesignated) is attached as **Appendix C**.

### 3. WANAKA AIRPORT – PLANNING CONTEXT

3.1 The Queenstown Lakes District Council (**QLDC**) is the requiring authority for Wanaka Airport, with QAC managing the operations of the Airport on QLDC’s behalf.

3.2 Wanaka Airport is designated for “Aerodrome Purposes” (Designation 64) and a designation exists for “Approach and Land Use Control” purposes (Designation 65) in the Operative Plan. The purpose of these designations is to:

- Protect the operational capability of the Airport, while at the same time minimising adverse effects from aircraft noise (Designation 64); and,
- Define essential airport protection measures, transitional slopes and surfaces, aircraft take off climb and approach slopes and airport height and obstacle clearances (Designation 65).

- 3.3 These designations are also proposed to be “rolled over” (with modifications), in the Proposed Plan.
- 3.4 A map depicting the extent of these designations is attached as **Appendix D**.

#### **4. THE NATIONAL AND REGIONAL SIGNIFICANCE OF INFRASTRUCTURE**

- 4.1 Queenstown and Wanaka Airports comprise significant infrastructure that plays a critical role in providing for the economic and social wellbeing of the Queenstown Lakes District.

##### **Queenstown Airport as a facilitator of economic growth and wellbeing**

- 4.2 Research undertaken by QLDC in 2013<sup>1</sup> estimated that more than a third of the local economy is based on tourism and around half of all employment is related to the tourism sector<sup>2</sup>.
- 4.3 Queenstown Airport serves an important role in facilitating the movement of people and goods, which in turn feeds the District’s tourism industry and commerce more generally. Queenstown Airport is the primary arrival and departure port for many visitors to the District.
- 4.4 As explained by Mr Edghill, over the previous 12 month period, Queenstown Airport accommodated in excess of 1.5 million passengers. Recent growth projections have indicated that passenger growth is set to continue, with 2.5 million passengers projected by 2025.
- 4.5 Based on the Ministry of Business, Innovation and Employment tourism forecasts and passenger number growth rates, total tourism spending is projected to increase by between 3.4 per cent and 3.9 per cent per annum. A 2014 economic assessment<sup>3</sup> indicated this is expected to take the total tourism spending facilitated by Queenstown Airport to between \$1.1bn and \$1.4bn by 2037. However, that amount will likely now be significantly greater, given the Airport’s most recent growth predictions.

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<sup>1</sup> Market Economics Limited “*Queenstown Airport Mixed Use Zone, Economic Assessment*” November 2014.

<sup>2</sup> Note, these figures did not the wider tourism activities inputs (supply chains).

<sup>3</sup> Market Economics Limited “*Queenstown Airport Mixed Use Zone, Economic Assessment*” November 2014.

- 4.6 Quite clearly the economic impact of the Airport both now and in the future is significant. Moreover, as indicated in the evidence of Mr Edghill, Queenstown Airport comprises an important tourist gateway into the Queenstown Lakes District. In recent times, the growth in passenger numbers has been pronounced, with greatest percentage growth occurring in international passengers. Queenstown is a nationally significant tourist destination. Tourism is a crucially important industry to the New Zealand economy as a whole. It is evident that the on-going ability of Queenstown Airport to function is essential to the tourism industry, both regionally and nationally.
- 4.7 The on-going ability of Queenstown Airport to function and grow without undue constraint is therefore of significant importance to the tourism industry, both regionally and nationally.
- 4.8 Because the tourism industry is such a significant contributor to the District's economy, the ongoing operation and development of the Airport is also of significant importance to the social and economic wellbeing of the community.

#### **QAC as a Lifeline Utility Entity**

- 4.9 Queenstown Airport is a lifeline utility under the Civil Defence Emergency Management Act 2002 (**CDEM**) in respect of its operation of Queenstown Airport. Accordingly, QAC has duties under that Act which are aimed at ensuring the wellbeing of people and the community is maintained during and after an emergency.
- 4.10 While not an identified lifeline utility under the CDEM, Wanaka Airport is likely to provide important air access to the Queenstown Lakes District in the event that road access is compromised during an emergency event<sup>4</sup>.

#### **Regional Policy Statements (RPS)**

- 4.11 The Operative and Proposed Regional Policy Statements for Otago provide specific policy recognition of infrastructure and acknowledge its importance in providing for the social, economic and cultural wellbeing of people and communities. Of note are the following provisions:

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<sup>4</sup> In the Queenstown Lakes District Council Emergency Management Plan 2013-2016.

*Operative Regional Policy Statement for Otago*

- Queenstown Airport is recognised in the explanation to issue 9.3.3<sup>5</sup> of the RPS as one of the region's major airports.
- Objective 9.4.2<sup>6</sup> seeks to promote the sustainable management of Otago's infrastructure to meet the present and reasonably foreseeable needs of Otago's communities.
- Policy 9.5.2<sup>7</sup> seeks to promote and encourage efficiency in the development and use of Otago's infrastructure through:
  - Encouraging development that maximises the use of existing infrastructure while recognising the need for more appropriate technology;
  - Promoting co-ordination amongst network utility operators in the provision and maintenance of infrastructure;
  - Encouraging a reduction in the use of non-renewable resources while promoting the use of renewable resources in the construction, development and use of infrastructure; and
  - Avoiding or mitigating the adverse effects of subdivision, use and development of land on the safety and efficiency of regional infrastructure.
- Policy 9.5.3<sup>8</sup> aims to promote and encourage the sustainable management of Otago's transport network through:
  - Promoting the use of fuel efficient modes of transport; and
  - Encouraging a reduction in the use of fuels which produce emissions harmful to the environment; and
  - Promoting a safer transport system; and
  - Promoting the protection of transport infrastructure from the adverse effects of land use activities and natural hazards.

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<sup>5</sup> Issue 9.3.3, page 123 of the Operative Regional Policy Statement for Otago 1998.

<sup>6</sup> Objective 9.4.2, page 125 of the Operative Regional Policy Statement for Otago 1998.

<sup>7</sup> Policy 9.5.2, page 126 of the Operative Regional Policy Statement for Otago 1998.

<sup>8</sup> Policy 9.5.3, page 127 of the Operative Regional Policy Statement for Otago 1998.

*Proposed Regional Policy Statement*

- Objective 3.5<sup>9</sup> aims to ensure that infrastructure of national and regional significance is managed in a sustainable way.
- Policy 3.5.1<sup>10</sup> seeks to recognise the national and regional significance of infrastructure, including airports (as noted in subparagraph (e)).
- Policy 3.5.3<sup>11</sup> seeks to protect infrastructure of national or regional significance, by:
  - Restricting the establishment of activities that may result in reverse sensitivity effects;
  - Avoiding significant adverse effects on the functional needs of infrastructure;
  - Avoiding, remedying or mitigating other adverse effects on the functional needs of the such infrastructure;
  - Assessing the significance of the adverse effects on those needs, as detailed in the “Significance threshold” schedule (Schedule 3) of the Proposed Regional Policy Statement);
  - Protecting infrastructure corridors for infrastructure needs, now and for the future.

4.12 The Proposed Plan is required to give effect to the Operative and have regard to the Proposed Regional Policy Statements.

**Summary**

4.13 It is clear from the above that Queenstown and Wanaka Airports comprise significant infrastructure that contributes to the social and economic wellbeing of the community. In my opinion, it is therefore imperative that such infrastructure is properly recognised and provided for in the Proposed Plan. Put simply, the wider benefits that accrue from the airport should attract significant weight in preparing and confirming the provisions of the Proposed Plan.

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<sup>9</sup> Objective 3.5, page 59 of the Proposed Regional Policy Statement for Otago 2015.

<sup>10</sup> Policy 3.5.1, page 59 of the Proposed Regional Policy Statement for Otago 2015.

<sup>11</sup> Policy 3.5.3, page 60 of the Proposed Regional Policy Statement for Otago 2015.

4.14 Given the role of the Strategic Directions chapter of the Proposed Plan in setting the policy framework for the management of growth, land use and development, it is important in my view that the significance of infrastructure is recognised and provided for within this chapter. It is also required in order to give effect/have regard to the Operative and Proposed Regional Policy Statements. My colleague, Ms Kirsty O'Sullivan, will provide evidence with respect to the form that such policy recognition should take. I have reviewed her evidence and endorse what she has to say in this respect.

## **5. PLAN CHANGE 35 - THE GENESIS AND BACKGROUND TO THE PLAN CHANGE**

5.1 In 2008 QAC initiated Plan Change 35 (**PC35**) and an associated Notice of Requirement (**NOR**) to alter Designation 2. The purpose of PC35 was to put in place an appropriate management regime for managing land use around Queenstown Airport while providing for the predicted ongoing growth of the aircraft operations to 2037. Accordingly, the Plan Change updated the Airport's noise boundaries<sup>12</sup> (Air Noise Boundary (**ANB**) and Outer Control Boundary (**OCB**)) to provide for predicted growth in aircraft operations to 2037, and amended various zone provisions relating to the use of land within those updated boundaries likely to be affected by increased aircraft noise.

5.2 Specifically, PC35 sought changes to the following chapters of the Operative District Plan:

Chapter 4 District Wide Issues;

Chapter 5 Rural Areas

Chapter 6 Queenstown Airport Mixed Use

Chapter 7 Residential Areas

Chapter 11 Business and Industrial Areas;

Chapter 12 Special Zones

Chapter 14 Transport

Appendix 1 Designations

Appendix 13 (relating to Sound Insulation and Ventilation Requirements);  
Definitions;

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<sup>12</sup> Prior to which the OCB being contained in the Operative District Plan and the ANB in Designation 3.

- 5.3 In conjunction with the land use management regime proposed by PC35, the associated NOR proposed to introduce obligations for QAC (via its Aerodrome Purposes Designation) to undertake and fund noise mitigation works for those existing houses within the updated noise boundaries likely to be exposed to increased levels of aircraft noise.
- 5.4 PC35 was adopted by QLDC and following the hearing of submissions, was confirmed on 1<sup>st</sup> November 2010.<sup>13</sup>
- 5.5 PC35 was the subject of a number of appeals to the Environment Court. The appeals were largely resolved by agreement in early 2012, which was jointly presented to the Court during the course of two hearings and the filing of subsequent memoranda.
- 5.6 During the course of the Court proceedings the provisions were, at the Court's direction, redrafted by the parties to correct errors, ambiguities and inconsistencies contained in QLDC's decision on the Plan Change. A final set of provisions, giving effect to the Court's directions, was filed jointly by the parties in May 2013.
- 5.7 To provide some context for the Panel, I attach as **Appendix E** of my evidence, the full suite of provisions confirmed by the Environment Court on 8<sup>th</sup> May 2013. The three interim Environment Court decisions that relate to PC35 and together confirm its provisions and those of the associated NOR are attached as **Appendix F** to my evidence. I note the Noise Management Plan included in the Appendix contains a summary of QAC's noise mitigation obligations under the Designation. This may be of some assistance to the Panel in understanding the more technical aspects of PC35.
- 5.8 I note that the Environment Court confirmed PC35 provisions affect the following chapters of the Proposed Plan:
- Chapter 3 Strategic Direction;
  - Chapter 4 Urban Development
  - Chapter 7 Low Density Residential

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<sup>13</sup> Excepting provision for a limited number of scheduled flights after 10pm, which decision was accepted by QAC (i.e. not appealed).

- Chapter 15 Local Shopping Centre
- Chapter 17 Airport Mixed Use
- Chapter 21 Rural
- Chapter 36 Noise
- Chapter 37 Designations

- 5.9 It is therefore appropriate in my view to provide an overview of PC35 and the associated NOR in this phase of the hearing of submissions on the Proposed Plan in order to ensure the Panel has the contextual background necessary to consider QAC's submissions on the chapters which are the subject of this hearing and on later chapters.
- 5.10 In order to understand why, in my opinion, the Environment Court confirmed provisions remain the most current and appropriate means of managing the effects of aircraft noise on activities sensitive to aircraft noise (ASAN), and why similar provisions should be incorporated in the Proposed Plan, I will provide some background around the promulgation of PC35, and how the provisions were developed.

**New Zealand Standard on Airport Noise Management and Land Use Planning (NZS6805:1992)**

- 5.11 The foundation of the approach adopted by PC35 is the New Zealand Standard for Airport Noise Management and Land Use Planning, NZS6805:1992 (the **New Zealand Standard** or the **Standard**). This Standard is recognised as the key guiding document for managing aircraft noise at New Zealand airports.
- 5.12 As noted, PC35 seeks to provide for growth in aircraft operations at the Airport until 2037, that being 25 years from when the Plan Change was first promulgated. The initial part of the PC35 process involved undertaking aircraft noise monitoring, and modelling how this would change over time, out to the year 2037<sup>14</sup>. The modelling determined that the noise boundaries contained in the Operative District Plan were quickly becoming out of date and that QAC needed to investigate how best to provide for its future operational requirements.

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<sup>14</sup> This work was carried out by Marshall Day Acoustics. The modelled aircraft noise predictions utilised flight growth projections which were forecast by Airbiz Limited.



5.13 In approaching the task of how best to provide appropriate aircraft noise management provisions in the District Plan, the decision was taken to respect the structure of the Operative District Plan, as far as could be achieved. Reliance on a designation approach (addressing QAC's obligations), in tandem with the imposition of new or amended objectives, policies and methods within the zones that relate to land around the Airport (addressing the community's obligations) was determined to be the best approach to managing the effects of aircraft noise at Queenstown Airport. This approach has since been endorsed by the Environment Court<sup>15</sup>.

5.14 I maintain of the view that this approach remains the most appropriate and should be carefully considered in formulating the Proposed Plan.

#### **Air Noise Boundary (ANB)**

5.15 The New Zealand Standard recommends the *implementation of practical land use planning controls and airport management techniques to promote and conserve the health of people living and working near airports, without unduly restricting the operation of airports*.<sup>16</sup>

5.16 The New Zealand Standard sets out that a balance needs to be achieved between accommodating the needs of the Airport on an on-going basis and providing for the health and the amenity values enjoyed by those occupying and using land surrounding the Airport.

5.17 One of the techniques advocated in the New Zealand Standard for achieving this outcome is the imposition of an ANB. An ANB is a "*mechanism for local authorities to establish compatible land use planning and to set limits for the management of aircraft noise at airports where noise control measures are needed to protect community health and amenity values*"<sup>17</sup>.

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<sup>15</sup> Refer to the three interim decisions attached as Appendix F of my evidence.

<sup>16</sup> New Zealand Standard 6805:1992: Airport Noise Management and Land Use Planning (NZS 6805:1992); Section 1.1.3, page 5.

<sup>17</sup> NZS 6805:1992, Section 1.1.2, page 5.

- 5.18 The ANB comprises a noise boundary inside of which noise exposure is expected to exceed 65dB L<sub>dn</sub>. The New Zealand Standard recommends that new residential activities, schools, hospitals or other noise sensitive uses should be prohibited inside the ANB<sup>18</sup>. The approach adopted within PC35 in respect of the ANB was therefore guided by the New Zealand Standard, with amendments as necessary to reflect the current nature and scale of established activities occurring around the airport.
- 5.19 The ANB at Queenstown Airport, as amended by PC35<sup>19</sup>, includes land which accommodates a number of existing residential dwellings in Frankton, particularly to the west of the main runway. Where such circumstances apply, the New Zealand Standard advocates that steps should be taken to provide existing residential dwellings with appropriate acoustic insulation to ensure a satisfactory internal noise environment. QAC therefore offered, as part of PC35 and the associated NOR package, to fund mitigation measures, including acoustic insulation and mechanical ventilation for existing dwellings within the proposed ANB to the extent necessary to achieve an internal noise environment of 40dB L<sub>dn</sub>. QAC is obliged to provide this mitigation treatment through conditions of Designation 2.
- 5.20 It is important to understand that the ANB (as amended by PC35) reflects the position of the 65dB L<sub>dn</sub> boundary in the year 2037. In reality, the growth in flight numbers at Queenstown Airport, and thus the aircraft generated noise increase, will be gradual over time. QAC is therefore obligated to complete acoustic insulation mitigation of these existing residential properties within the ANB ahead of the full noise exposure limit being reached at that particular property.
- 5.21 As set out by Mr Edghill<sup>20</sup>, QAC has recently commenced with this work, offering acoustic mitigation packages to 13 houses within the 2037 ANB.
- 5.22 The New Zealand Standard recommends that no new<sup>21</sup> ASANs should be provided for in the ANB, however during the promulgation of PC35 QAC recognised that historical development and associated zoning for residential purposes has occurred in close proximity to the Airport runway. QAC therefore

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<sup>18</sup> NZS 6805: 1992, Table 1, page 15.

<sup>19</sup> And attached to the legal submission of R Wolt dated 29 February 2016.

<sup>20</sup> Paragraph 3.29 of the Evidence in Chief of Mr Mark Edghill, dated 26 February 2016.

<sup>21</sup> "New" includes alterations and additions to existing ASAN.

adopted a more moderated approach to that recommended by the Standard whereby new residential dwellings and alterations and additions to existing dwellings are able to be built inside the ANB, provided they occupy an already zoned site and where the dwelling incorporates appropriate sound insulation and mechanical ventilation measures, at the property owner's cost.

5.23 While the 2037 ANB extends over the Residential, Remarkables Park, Rural and Airport Mixed Use zones of the District Plan, existing residential dwellings are only provided for by zoning and exist within the Residential Zone.

5.24 At the time PC35 was promulgated, residential dwellings were a permitted activity in the Residential Zone<sup>22</sup>. These existing development rights were therefore "grandfathered" in the new PC35 provisions. I understand that QAC intends to support the grandfathering approach for properties in the Proposed Plan subject to retention of the Operative Plan standards regarding density and lot size. Despite being a more moderate approach than the New Zealand Standard, I agree that the continuation of this approach is appropriate.

5.25 As indicated earlier, PC35 also introduced proposed new acoustic insulation and mechanical ventilation requirements for any new or alterations or additions to existing buildings containing ASAN located within the new ANB, to be provided at the property owner's cost, at the time of development. This approach was considered appropriate because the provisions of PC35 provide a definitive flag to property owners within the ANB that their property will experience high levels of aircraft noise should they choose to construct new dwellings within this area.

#### **Outer Control Boundary**

5.26 The New Zealand Standard identifies that the Outer Control Boundary (OCB) is based on a noise contour at or beyond which aircraft noise should not exceed 55dB L<sub>dn</sub>.

5.27 The New Zealand Standard recommends that any new residential dwellings, schools, hospitals or other noise sensitive uses (ASANs) should be prohibited within the OCB, unless the District Plan permits such uses. Then they should

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<sup>22</sup> Subject to compliance with Site and Zone Standards. These include Zone Standards 7.5.5.3vi and 7.5.6.3viii require residential properties and other ASANs to meet an internal design sound level of 40dB L<sub>dn</sub>.

be subject to a requirement to incorporate appropriate acoustic insulation to ensure a satisfactory internal noise environment. The New Zealand Standard also recommends that alterations or additions to existing residences or other ASANs inside the OCB should be appropriately insulated from aircraft noise to achieve an acceptable internal design sound level.

5.28 Generally in line with the New Zealand Standard, PC35 sought to prohibit any new ASAN inside the OCB in the Rural, Industrial and Frankton Flats zones and to require mechanical ventilation for new dwellings, or for alterations or additions to existing dwellings inside the Rural, Residential, Frankton Flats and Remarkables Park zones. The cost associated with such works is met by the developer, at the time the development work is undertaken. This approach is consistent with the approach advocated within the New Zealand Standard.

5.29 In practical terms, what has been found from sound insulation studies around other New Zealand airports is that the level of mitigation required within the OCB can be readily grouped as follows:

- Modern houses located between 55.0 to 58.0dB Ldn – will generally achieve 40dB Ldn inside with windows slightly ajar.
- Modern houses located between 58.0 to 65.0dB Ldn – will generally achieve 40dB Ldn inside with windows closed and thus mechanical ventilation is required to provide an alternative form of ventilation

5.30 PC35 also promoted strong policy based dissuasion against the promulgation of further plan changes that would result in land within the OCB being rezoned for noise sensitive (ASAN) development. Whilst it is accepted that some land around the Airport has been allowed to develop in a way which incorporates ASANs or where ASANs have been previously consented<sup>23</sup>, in my view it is important to now recognise that any future opportunity to similarly develop currently undeveloped land should be dissuaded.

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<sup>23</sup> Frankton Flats Zone for example.

5.31 A good deal of land has historically been dedicated to urban development (including provision for ASANs) on land at Frankton, sometimes in very close proximity to the Airport runway. Moreover, more recent initiatives (such as PC19 for example) have reflected an on-going desire to continue to consolidate development (including ASANs) at Frankton. A cautious approach to the location of further ASANs on land around the Airport was adopted via PC35 and in my opinion, should be transferred through to the Proposed Plan. Having said that, the PC35 approach pays a good deal of respect to the pattern of urban development that already exists on land around the airport, as evidenced by the grandfathering of existing development rights (refer to paragraph 5.24).

### **Notice of Requirement**

5.32 To complement the land use management regime established under PC35, QAC gave notice of requirement to alter Designation 2 to introduce obligations on QAC for the management and mitigation of noise generating activities at the airport. In summary, this NOR:

- Obliges QAC to offer 100% funding of noise mitigation for Critical Listening Environments of buildings located within the ANB (65dB Noise Contour) that existed at the time the NOR was confirmed. This mitigation is required to achieve an indoor design sound level of 40dB Ldn or less based on the 2037 Noise Contours;
- Obliges QAC to offer to part fund retrofitting, over time, of mechanical ventilation of any Critical Listening Environment within existing buildings containing ASAN between the ANB and the 2037 60dB Noise Contour. Specifically, QAC is required to provide 75% funding;
- Sets out QAC's monitoring requirements for aircraft noise at Queenstown Airport to ensure compliance with noise limits at the defined noise boundaries;
- Requires QAC to prepare and implement a Noise Management Plan; and,
- Establishes and sets out the purpose of the Queenstown Airport Liaison Committee.

The confirmed Environment Court NOR conditions have been included in the notified Aerodrome Designation (Designation 2), and as explained by Mr Edghill, QAC has commenced giving effect to them. These matters will be addressed in detail in the relevant hearing for the Designation.

### **Zone Specific Rules**

5.33 I do not intend to address the zone specific rule structure established during PC35 in any detail today, nor how the proposed zone rules should be integrated into the relevant zone chapters, as these will be addressed at later hearings in due course. For context however, the Proposed Plan should ensure that Queenstown Airport is protected from reverse sensitivity effects arising from ASAN as follows:

- Recognise, within the higher order provisions of the Proposed Plan, the need to manage existing and limit the establishment of further noise sensitive activities in proximity to Queenstown Airport to ensure that the operational capacity and integrity of the Airport is not significantly compromised now or in the future.
- Within the Low Density Residential zone (or areas of land proposed to be rezoned from Low Density Residential zone in the Operative Plan to an alternative zoning in the Proposed Plan), require any new and alterations or additions to existing buildings containing ASAN to provide mechanical ventilation for Critical Listening Environments on sites located within the PC35 OCB, and mechanical ventilation and sound insulation for sites located within the PC35 ANB, to achieve an Indoor Sound Level of 40dB Ldn, based on 2037 Noise Contours<sup>24</sup>. Failure to achieve this standard should result in a non-complying activity status.
- Within the Rural and Industrial zone, prohibit any new ASAN within the PC35 OCB. For alterations or additions to existing buildings containing ASAN, require mechanical ventilation of Critical Listening Environments for sites located within the OCB, to achieve an Indoor Sound Level of 40dB Ldn, based on 2037 Noise Contours.
- Within the Remarkables Park zone, prohibit all residential, visitor accommodation and community activities within the 2037 60dB Noise Contour. For all new and alterations or additions to existing buildings

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<sup>24</sup> The 2037 noise contours are the predicted airport noise contours for Queenstown Airport for the year 2037 in 1dB increments from 70dB Ldn to 55dB Ldn inclusive.

containing residential, educational facilities or visitor accommodation, within the specified area shown as Figure 2 (refer to the full suite of Environment Court endorsed provisions attached as **Appendix E** for Figure 2) require Critical Listening Environments to achieve an Indoor Sound Level of 40dB Ldn, based on 2037 Noise Contours<sup>25</sup>.

- Within the Frankton Flats A Zone, specify a maximum threshold for visitor accommodation units, health care facilities and educational facilities and Critical Listening Environments these activities to achieve an Indoor Sound Level of 40dB Ldn, based on 2037 Noise Contours. All other ASAN within the zone are prohibited.
- Ensure that the number of ASAN occurring within the PC35 ANB and OCB is maintained as far as can be achieved at the levels currently anticipated by the Operative District Plan, avoiding an increase in the number of sensitive receivers being exposed to aircraft noise within the ANB and OCB.
- Ensure that appropriate noise boundaries are in place to enable operations at Queenstown Airport to continue and expand to meet foreseeable future demand until 2037.

## **6. HIGHER ORDER PC35 PROVISIONS**

6.1 PC35 introduced two new objectives into the operative District Plan. The proposed new objectives were deliberately specific to Queenstown Airport on the basis that the Airport is the pre-eminent commercial airport in the district and it has increasingly become so since the operative District Plan was first notified in 1995. The objectives were included in the District Wide Issues section of the District Plan to reflect this significance.

6.2 District Wide Objective 7 seeks to:

*Maintain and promote the efficient operation of Queenstown Airport and set appropriate noise limits in order to protect airport operations and to manage the adverse effects of aircraft noise on any Activity Sensitive to Aircraft Noise.*

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<sup>25</sup> The 2037 noise contours are the predicted airport noise contours for Queenstown Airport for the year 2037 in 1dB increments from 70dB Ldn to 55dB Ldn inclusive.

- 6.3 This objective is primarily directed at achieving the balance sought by the New Zealand Standard. It clearly acknowledges the need to set noise limits for the management of aircraft noise at the Airport. It recognises that land use planning methods can be an effective way to manage exposure to aircraft noise around airports. It is a recognised fact that despite best endeavours in adapting aircraft technology and flight management, it is not possible to avoid aircraft noise on land around airports. Whilst changes in aircraft design have progressively yielded reductions in the noise signature of most aircraft, modelling can only be based on the quietest technology currently available and not some unknown future technology.
- 6.4 Uncontrolled use of airport infrastructure can unnecessarily expose people to high levels of noise, and in turn reverse sensitivity concerns in response to this noise can constrain the operation of airports. The objective is intended to address the need to place suitable limitations on aircraft noise, consistent with the approach advocated within the New Zealand Standard.
- 6.5 As indicated earlier, Queenstown Airport is a key strategic asset to the District and it is important to plan now for its future. PC35 Objective 7 reflects this importance and should be incorporated in Chapter 4 of the Proposed Plan without further amendment.
- 6.6 District Wide Objective 8 seeks to:
- Manage urban growth issues on land in proximity to Queenstown Airport to ensure that the operational capacity and integrity of the Airport is not significantly compromised now or in the future.*
- 6.7 This objective is directed at managing urban growth on land around the Airport. It also endeavours to ensure that land use planning decisions encourage compatible uses rather than those that will conflict directly with Airport operations. In my opinion this objective is still relevant in the context of the Proposed Plan and will assist to sustain the potential of the Airport to meet the reasonably foreseeable needs of future generations, through ensuring only appropriate development takes place in the immediate vicinity of the Airport, and reducing the potential for reverse sensitivity effects that could compromise Airport operations.



- 6.8 This objective recognises that Frankton is one of the Council's preferred locations for accommodating urban growth. As expressed earlier, it is essential that this growth is managed in a way that ensures that the potential for incompatibility is mitigated as far as can be possible.
- 6.9 I consider that adequate balance has been achieved within the PC35 objectives between the interests of the Airport, and those of the surrounding community, noting again the PC35 provisions have been endorsed by the Environment Court. The existing investment in Airport infrastructure at Frankton is significant. This infrastructure is well developed and can be enhanced to accommodate projected growth in flight numbers. If the operation of the Airport is unduly curtailed and projected growth is not accommodated, then this will compromise the attractiveness of Queenstown as a destination for airlines, which could result in the curtailment of regular passenger services over time. This would likely have a significant effect on the essential underpinnings of the Queenstown economy.
- 6.10 Limiting the ability for new ASANs to establish on land not yet developed around the Airport is in my opinion appropriately precautionary, and is a method supported by the New Zealand Standard. Any relaxation of that approach has the potential to lead to reverse sensitivity effects on the Airport and poor land use planning outcomes in the future. In my opinion, any decision that brings additional people to the impact of aircraft noise would not appropriately provide for the needs of future generations.
- 6.11 I understand that the section 42A report has recommended rejecting QAC's submission with respect to carrying forward PC35 Objectives 7 and 8 and their associated policies into Chapter 4 of the Proposed Plan. Whilst the Council Officer notes that it is important to translate the substantive objectives, policies and rules from PC35 into the Proposed Plan, he considers that QAC's amendments would create a lengthy Chapter 4 with an unbalanced focus on the Airport's interests ahead of more general urban development considerations. The Council Officer considers that QAC's key objectives are provided for in lower order chapters<sup>26</sup>.

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<sup>26</sup> Paragraph 12.72, page 28 of the section 42A Hearing Report for Chapters 3 and 4 of the Proposed Plan.

6.12 I disagree with the recommended approach of the Council Officer, for the reasons set out above. The two objectives discussed in this section and their attendant policies have been extracted directly from the Urban Development chapter of the Operative District Plan, as amended by PC35. These policies provide the fundamental objective and policy framework that underpins the lower order chapters referred to by the Council Officer. Without them there may be insufficient foundation for the related provisions in the lower chapters. In my opinion, the approach proposed by the Council Officer is therefore not the most appropriate in terms of section 32.

6.13 I note that Objectives 7 and 8 and associated policies proposed by QAC have been endorsed by the Environment Court. During this process, the provisions were closely scrutinised

## **7. CONCLUSIONS**

7.1 All too often the experience in New Zealand (and off shore) is that insufficient foresight has been applied to the protection of significant assets such as airports, meaning unwise land use decisions are taken to allow sensitive uses to encroach on the footprint of impact created by such facilities. Already ports, airports and other industries in New Zealand have had their operations curtailed due to reverse sensitivity concerns. Whilst I accept that compromise is often necessary, early recognition that facilities such as airports inevitably grow and development is important in informing land use planning decisions. The best form of protection available to avoid reverse sensitivity concerns is to avoid development “coming to the effect” in the first place.

7.2 The provisions developed via PC35 enable Queenstown Airport to continue to host growth in commercial airlines and other aviation use of its facilities in line with growth projections to 2037, whilst recognising and safeguarding the Airport as an existing strategic asset, the growth enabled by PC35 will yield a substantial benefit to the regional and national economies. The provisions of PC35 therefore assist in safeguarding Queenstown Airport as an existing strategic asset.

7.3 Given this, the currency of the PC35 provisions, and the recent and extensive Court proceedings involving QAC, QLDC and other affected parties to achieve them, it is imperative in my opinion that the Proposed Plan adopts and incorporates the land use management regime established under PC35, without substantive amendment.

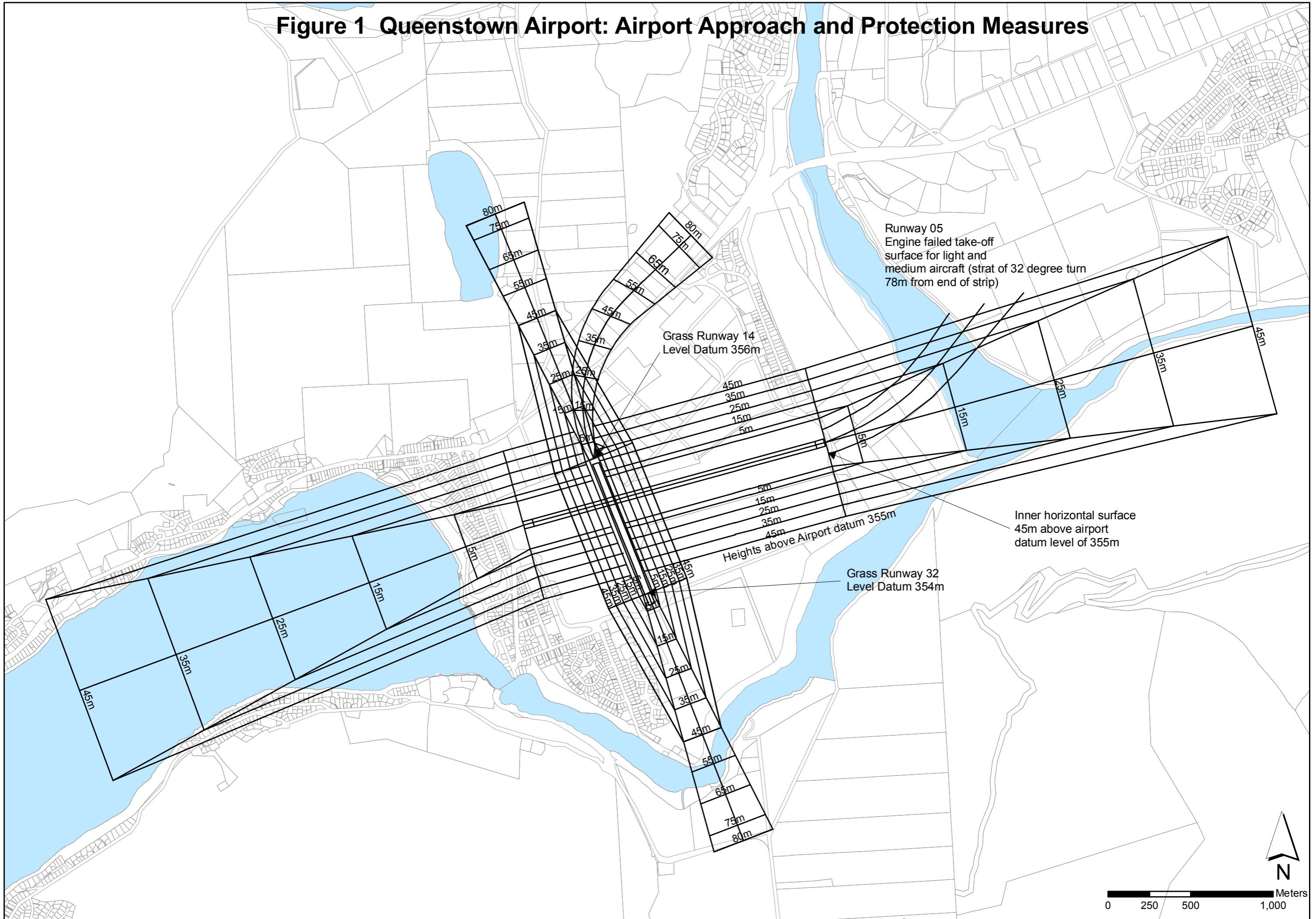
**John Kyle**

**29 February 2016**

## **Appendix C**

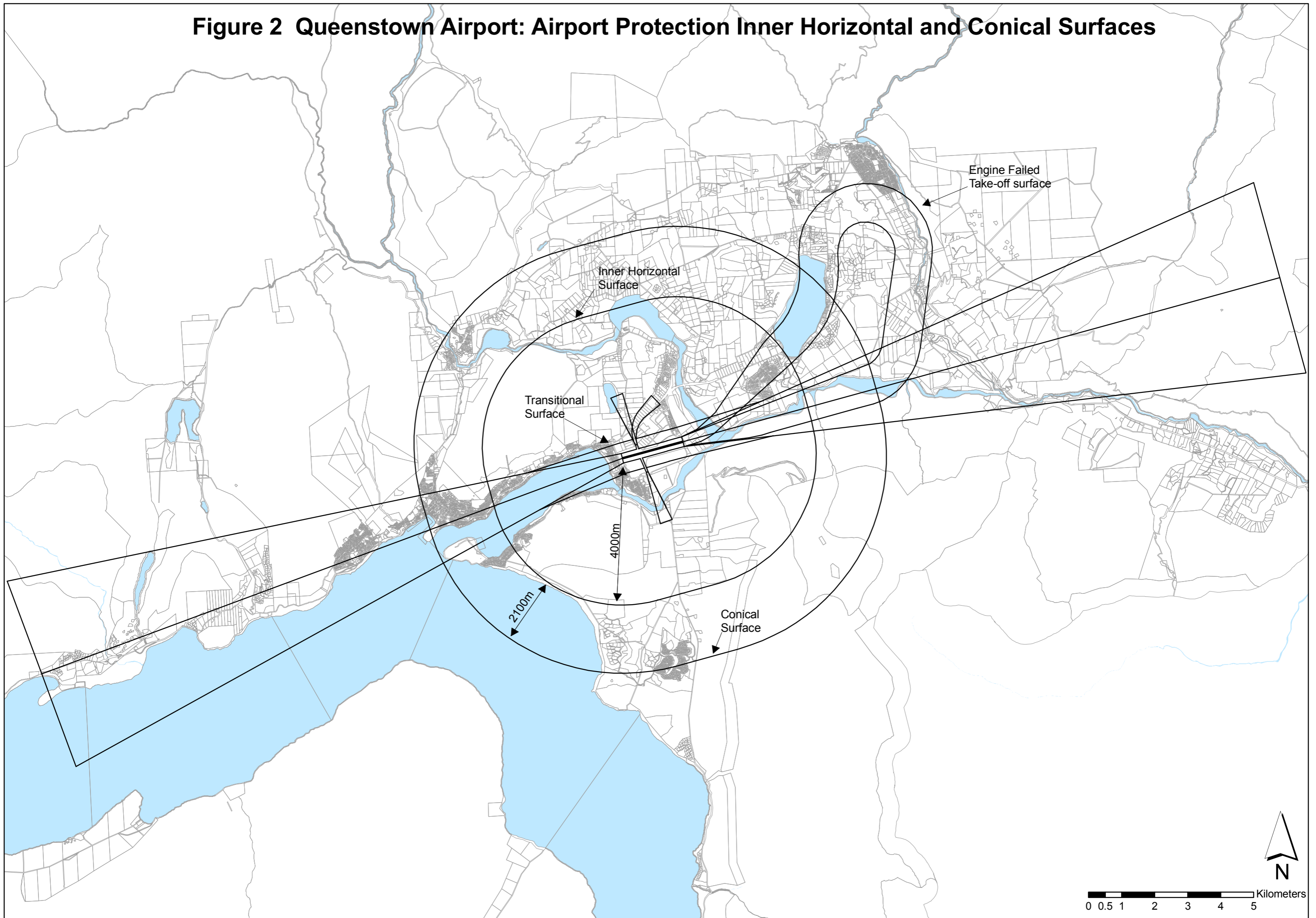
Designation 4 and Designation 65  
Obstacle Limitation Surface Figures

**Figure 1 Queenstown Airport: Airport Approach and Protection Measures**





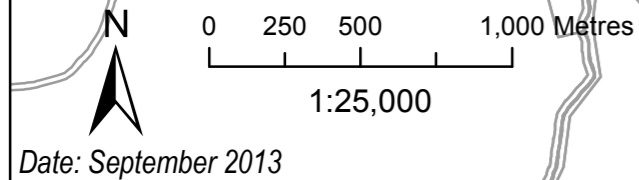
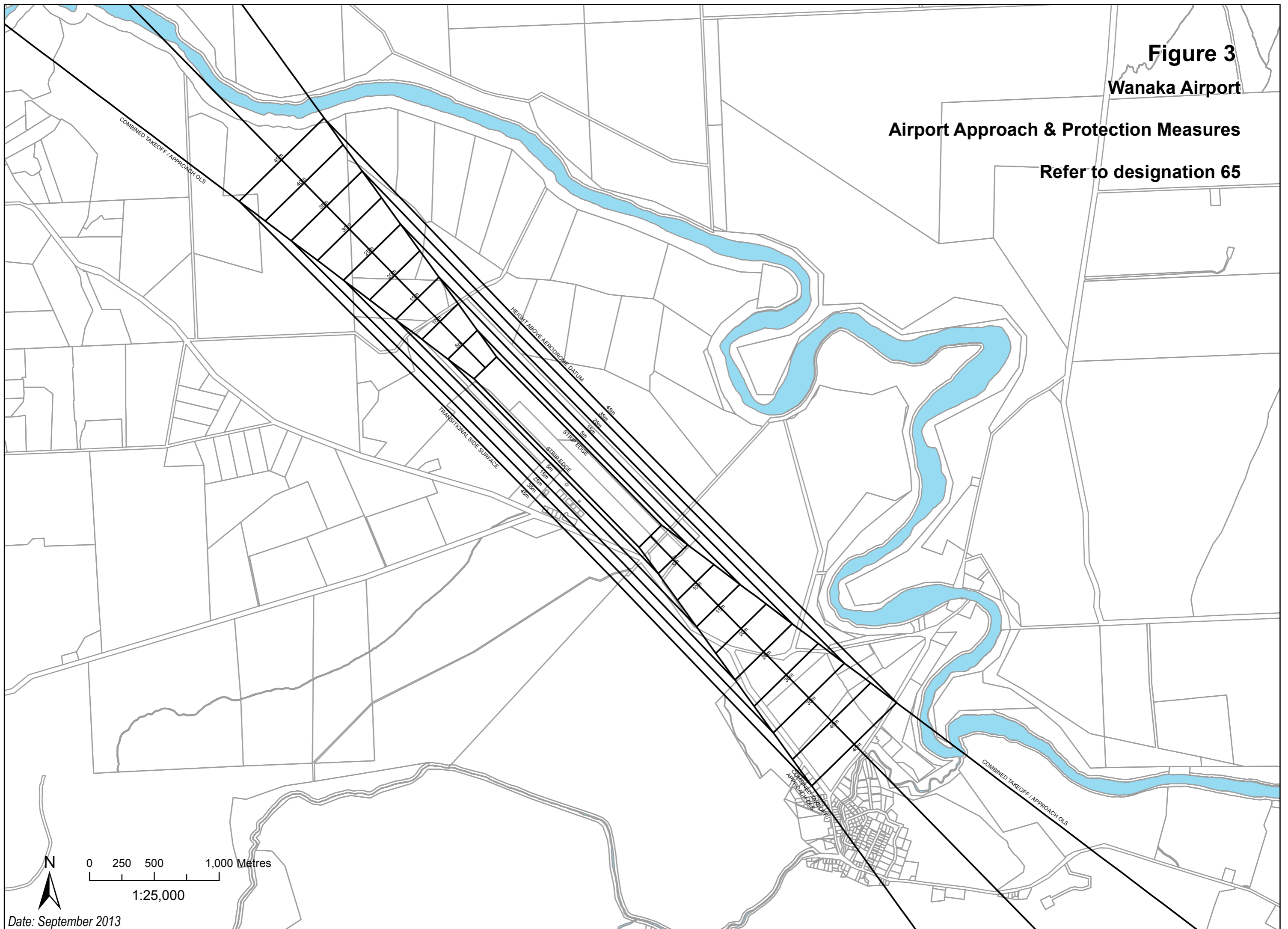
**Figure 2 Queenstown Airport: Airport Protection Inner Horizontal and Conical Surfaces**



**Figure 3**  
**Wanaka Airport**

**Airport Approach & Protection Measures**

**Refer to designation 65**

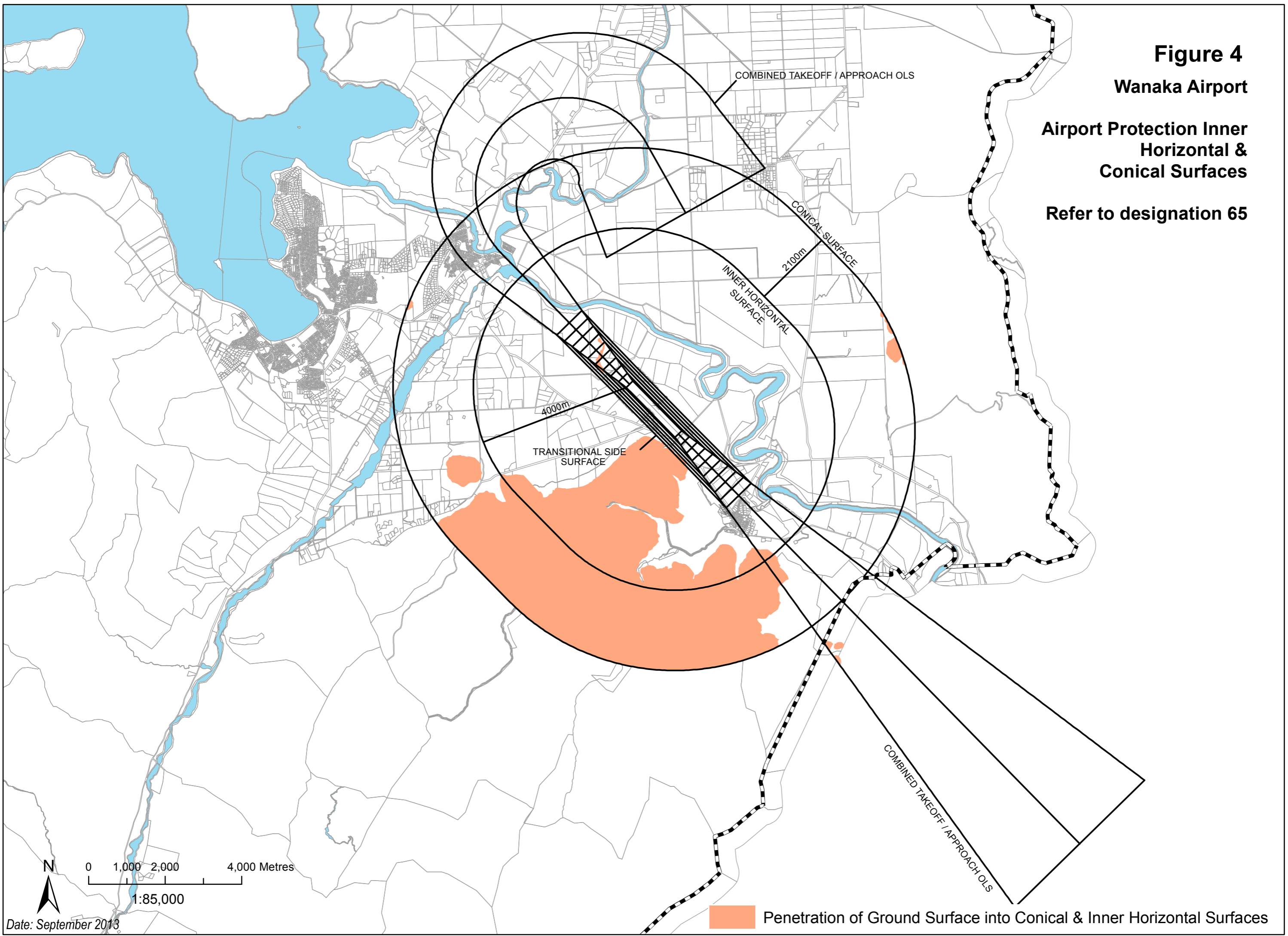




**Figure 4**  
**Wanaka Airport**

**Airport Protection Inner  
Horizontal &  
Conical Surfaces**

**Refer to designation 65**



N  
0 1,000 2,000 4,000 Metres  
1:85,000  
Date: September 2013

Penetration of Ground Surface into Conical & Inner Horizontal Surfaces



## **Appendix D**

Revised Provisions

Section 42A report recommend changes to notified chapter are shown in underlined text for additions and ~~strike through text~~ for deletions. Dated 17<sup>th</sup> August 2016.

Further amendments to the provisions shown in red underlined text for additions and ~~red strike through text~~ for deletions as recommended by Kirsty O'Sullivan, Mitchell Partnerships Limited on 2 September 2016.

## 36.6 Airport Noise

### 36.6.1 .....

### 36.6.2 Sound Insulation Requirements for the Queenstown ~~and Wanaka~~ Airport - Acceptable Construction Materials (Table 4).

The following table sets out the construction materials required to achieve appropriate sound insulation within the airport Air Noise Boundary (ANB).

Building Element	Minimum Construction	
External Walls	Exterior Lining:	Brick or concrete block or concrete, or 20mm timber or 6mm fibre cement
	Insulation:	Not required for acoustical purposes
	Frame:	One layer of 9mm gypsum or plasterboard (or an equivalent combination of exterior and interior wall mass)
Windows/Glazed Doors	<del>4mm glazing with effective compression seals or for double glazing 6mm-6mm airgap-6mm</del> <u>Double-glazing with 4 mm thick panes separated by a cavity at least 12 mm wide.</u>	
Pitched Roof	Cladding:	0.5mm profiled steel or masonry tiles or 6mm corrugated fibre cement
	Insulation:	100mm thermal insulation blanket/batts
	Ceiling:	1 layer 9mm gypsum or plaster board
Skillion Roof	Cladding:	0.5mm profiled steel or 6mm fibre cement
	Sarking:	None Required
	Insulation:	100mm thermal insulation blanket/batts
	Ceiling:	1 layer <u>9mm</u> gypsum or plasterboard
External Door	Solid core door (min 24kg/m <sup>2</sup> ) with weather seals	

Note: The specified construction materials in this table are the minimum required to meet the Indoor Design Sound Level. Alternatives with greater mass or larger thicknesses of insulation will be acceptable. Any additional construction requirements to meet other applicable standards not covered by this rule (eg fire, Building Code etc) would also need to be implemented.

### 36.6.3 Ventilation Requirements Queenstown and Wanaka Airport for the ~~Queenstown and Wanaka Airport (Table 5)~~

The following ~~table sets out~~ applies to the ventilation requirements within the airport Outer Control Boundary (OCB) and Air Noise Boundary (ANB) at Queenstown Airport, and the OCB at Wanaka Airport:

Critical Listening Environments must have a ~~ventilation and cooling~~ system(s) designed, constructed and maintained to achieve the following:

- (a) An outdoor air ventilation system. The ventilation rate must be able to be controlled by the occupant in increments as follows:
  - (i) a low air flow setting that provides air at a rate of of between 0.35 and 0.5 air changes per hour. The sound of the system on this setting must not exceed 30 dB LAeq(30s) when measured 1 - 2m away from any grille or diffuser;
  - (ii) a high air flow setting that provides at least 5 air changes per hour. The sound of the system on this setting must not exceed 35 dB LAeq(30s) when measured 2m away from any grille or diffuser.
- (b) The system must provide, either by outdoor air alone, combined outdoor air and heating / cooling system or by direct room heating / cooling:
  - (i) cooling that is controllable by the occupant and can maintain the temperature within the Critical Listening Environment at no greater than 25°C; and
  - (ii) heating that is controllable by the occupant and can maintain the temperature within the Critical Listening Environment at no less than 18°C; and
  - (iii) the sound of the system when in heating or cooling mode must not exceed 35 dB LAeq(30s) when measured 2m away from any grille or diffuser.
- (c) A relief air path must be provided to ensure the pressure difference between the Critical Listening Environments and outside is never greater than 30Pa.
- (d) If cooling is provided by a heat pump then the requirements of (a)(ii) and (c) do not apply.

Note: Where there is an existing ventilation, heating and/or cooling system, and/or relief air path within a Critical Listening Environment that meets the criteria stated in the rule, the existing system may be utilised to demonstrate compliance with the rule.

~~(a) the airport Outer Control Boundary (OCB) and Air Noise Boundary (ANB); and~~

~~(b) the Wanaka and Queenstown Town Centre Zones, Local Shopping Centre Zone and the Business Mixed Use Zone.~~

- ~~i. Ventilation must be provided to meet clause G4 of the New Zealand Building Code. At the same time, the sound of the system must not exceed 30 dB LAeq(30s) when measured 1 m away from any grille or diffuser.~~
- ~~ii. The occupant must be able to control the ventilation rate in increments up to a high air flow setting that provides at least 6 air changes per hour. At the same time, the sound of the system must not exceed 35 dB LAeq(30s) when measured 1 m away from any grille or diffuser.~~
- ~~iii. The system must provide cooling that is controllable by the occupant and can maintain the temperature at no greater than 25°C and no less than 18°C. At the same time, the sound of the system must not exceed 35 dB LAeq(30s) when measured 1 m away from any grille or diffuser.~~

Room Type	Outdoor Air Ventilation Rate (Air Changes Room Type per Hour, ac/hr)	
	Low Setting	High Setting
<b>Bedrooms</b>	1-2 ac/hr	Min. 5 ac/hr
<b>Other Critical Listening Environments</b>	1-2 ac/hr	Min. 15 ac/hr
Noise from ventilation systems shall not exceed 35 dB LAeq(1 min), on High Setting and 30 dB LAeq(1 min), on Low Setting. Noise levels shall be measured at a distance of 1 m to 2 m from any diffuser.		
Each system must be able to be individually switched on and off and when on, be controlled across the range of ventilation rates by the occupant with a minimum of 3 stages.		
Each system providing the low setting flow rates is to be provided with a heating system which, at any time required by the occupant, is able to provide the incoming air with an 18 °C heat rise when the airflow is set to the low setting. Each heating system is to have a minimum of 3 equal heating stages.		
If air conditioning is provided to any space then the high setting ventilation requirement for that space is not required.		

### 36.7 Ventilation Requirements for other Zones (Table 56)

The following table (Table 56) sets out the ventilation requirements in the Wanaka and Queenstown Town Centre Zones, the Local Shopping Centre Zone and the Business Mixed Use Zone.

Room Type	Outdoor Air Ventilation Rate (Air Changes Room Type per Hour, ac/hr)	
	Low Setting	High Setting
<b>Bedrooms</b>	1-2 ac/hr	Min. 5 ac/hr
<b>Other Critical Listening Environments</b>	1-2 ac/hr	Min. 15 ac/hr
Noise from ventilation systems shall not exceed 35 dB LAeq(1 min), on High Setting and 30 dB LAeq(1 min), on Low Setting. Noise levels shall be measured at a distance of 1 m to 2 m from any diffuser.		
Each system must be able to be individually switched on and off and when on, be controlled across the range of ventilation rates by the occupant with a minimum of 3 stages.		
Each system providing the low setting flow rates is to be provided with a heating system which, at any time required by the occupant, is able to provide the incoming air with an 18 °C heat rise when the airflow is set to the low setting. Each heating system is to have a minimum of 3 equal heating stages.		
If air conditioning is provided to any space then the high setting ventilation requirement for that space is not required.		