

**BEFORE THE HEARINGS PANEL  
FOR THE QUEENSTOWN LAKES PROPOSED DISTRICT PLAN**

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

**AND**

**IN THE MATTER** of Hearing Stream 12  
– Upper Clutha  
Annotations and  
Rezoning Requests

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**REBUTTAL EVIDENCE OF ULRICH WILHELM GLASNER  
ON BEHALF OF QUEENSTOWN LAKES DISTRICT COUNCIL**

**INFRASTRUCTURE**

**5 May 2017**

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 **Simpson Grierson**  
Barristers & Solicitors

S J Scott / C J McCallum  
Telephone: +64-3-968 4018  
Facsimile: +64-3-379 5023  
Email: sarah.scott@simpsongrierson.com  
PO Box 874  
SOLICITORS  
CHRISTCHURCH 8140

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## **1. INTRODUCTION**

- 1.1** My full name is Ulrich Wilhelm Glasner. I hold the position of Chief Engineer at Queenstown Lakes District Council (**QLDC** or **Council**). I have been in this position since July 2013.
- 1.2** My qualifications and experience are set out in my statement of evidence in chief dated 20 March 2017.
- 1.3** I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and that I agree to comply with it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that this evidence is within my area of expertise except where I state that I am relying on the evidence of another person. The Council, as my employer, has agreed for me to give expert evidence on its behalf in accordance with my duties under the Code of Conduct.
- 1.4** All references to Proposed District Plan provision numbers are to the Council's Reply version of those provisions unless otherwise stated.

## **2. SCOPE**

- 2.1** My rebuttal evidence is provided in response to the following evidence filed on behalf of various submitters:
- (a) Duncan White (Appendix B) for Christopher Jopson, Jacqueline Moreau and Shane Jopson (287);
  - (b) Duncan White (Appendix B) for Ranch Royal Estates Ltd (412);
  - (c) John McCartney for Michael Beresford (149);
  - (d) Scott Edgar for Hawthenden Limited (776); and
  - (e) Ken Gousmett for Glendhu Bay Trustees Limited (583).

### **3. URBAN WANAKA AND LAKE HĀWEA**

#### **Duncan White for Christopher Jopson, Jacqueline Moreau, and Shane Jopson (287)**

**3.1** Mr Duncan White has filed planning evidence for C and S Jopson and J Moreau in relation to the properties on Terranova Place (Lots 1-9 DP 304375). As part of his evidence Mr White has attached an Infrastructure Report at Appendix B to support the submission to rezone this land from notified Large Lot Residential to Low Density Residential Zone.

#### *Wastewater*

**3.2** I agree with the statements in Mr White's Appendix B of the report at 2.3 regarding Wastewater System Upgrades for Future Development. Part 2.3 discusses the feasibility of the existing wastewater system for future development, and its current ownership. The report states that the existing pump will be able to handle the estimated wastewater flows for future development provided it is operating as it should.

**3.3** The report also states that if the future development requires that the accessway becomes a legal vested road and the wastewater system is adopted by QLDC, then the system must comply with QLDC standards and requirements. I prefer this approach, opposed to the pump being privately owned. This is because my experience is that at times, privately owned wastewater infrastructure is not well maintained and operated. This can result in wastewater overflows and possible earlier renewals of pumps and other electrical and mechanical equipment. In some cases Council has to take over and operate the plant with additional cost to our ratepayers.

#### *Stormwater*

**3.4** I also agree with the statements in Appendix B of the report at 3.2 regarding Future Development Stormwater Management. The report notes that there is no piped stormwater reticulation to connect to easily, and that this means the feasibility of future management of the

site stormwater runoff needs to consider storage and infiltration into the ground.

**3.5** The report provides two options for stormwater control and dispersal. In Option A the soakpit services all the lots 35,318m<sup>2</sup> with 60% of the area considered as impervious, and in Option B the soak pit services all the lots but assumes that the impervious areas on each of the lots is being handled by their own stormwater control solutions. I prefer Option A, because this will address all stormwater runoff in one location/facility and will make operations and maintenance more cost effective.

**3.6** The report also details criteria used in the calculations, including estimated soil permeability. In my opinion further geotechnical investigation is required to determine that the assumptions in relation to permeability are correct. Without a proper geotechnical investigation it is hard to determine permeability and sizing of the required storage volume.

#### **4. FRINGE**

##### **Duncan White for Ranch Royal Estates Limited (412)**

**4.1** Mr White has filed evidence in relation to Lot 1 DP 303207, which the submitters seek be rezoned to Three Parks Special Zone within the Tourism and Community Facilities subzone. The submitters also sought that the Urban Growth Boundary be amended to include the site. I am responding to Appendix B of Mr White's evidence, being the infrastructure report.

**4.2** For clarity, I note that Ranch Royal Estates Limited has replaced Sir Clifford and Lady Marie Skeggs as submitter #412.

##### *Water supply*

**4.3** I agree with the report that a water supply to the site will be possible once Three Parks is developed and reticulation extended to adjacent

properties. I note that modelling is required to determine that level of service can be achieved, as this is not demonstrated within the report.

#### *Wastewater*

- 4.4** I agree with the report that a wastewater network to the site will be possible once Three Parks is developed and reticulation extended to adjacent properties and upstream catchments. As with water supply, in my opinion modelling is required to determine that pipe sizes can cope with the additional flow.

#### *Stormwater*

- 4.5** I agree with on-site low impact design stormwater disposal, as discussed in part 3.4 of the report. In my opinion geotechnical investigations are required to determine permeability of the ground.

#### **John McCartney for Michael Beresford (149)**

- 4.6** Mr McCartney has filed evidence in relation to the engineering matters involving potential rezoning of land (Section 2 SECT 5 Blk XIV Lower Wanaka SD), which is located to the west of Peninsula Bay in Wanaka and covers 51 hectares also known as Sticky Forest. The submitters want part of this area rezoned to low density residential.

#### *Water Supply*

- 4.7** Mr McCartney provided further information on the current water supply, namely Beacon Point Reservoir. He confirmed that water will be able to be supplied to the site from existing Council infrastructure, however booster pumps may be required to enable reticulation on higher parts of the site. He noted that the booster pump will not hinder the ability to develop the subject land.
- 4.8** Based on new information provided in Mr McCartney's evidence, and the confirmation that the submitter agrees with my previous comments, I accept that sufficient water is available and pressure boosting is required to provide levels of service.

### *Wastewater*

- 4.9** Mr McCartney reports that due to the topography of the site, a wastewater pump station will be required to ensure that there was only one point of wastewater discharge from the site. He then states that the assumed dwelling yield was 765, but the actual lot yield will only be approximately 150 dwellings, resulting in fewer if any unbudgeted upgrades being required. The wastewater flows from these dwellings could be directed to Lakeside Road No. 1 Pump Station.
- 4.10** Based on there being only 150 dwellings, not 765 dwellings, I agree with the statements made by the submitter that possible wastewater flows from the site should be directed into pump station Lakeside Road No 1. I note that the flow upgrades of the existing network could be planned in a timely manner and addressed in the next Long Term Plan or Annual Plan processes.

### *Stormwater*

- 4.11** Mr McCartney states that to prevent runoff only neighbouring land stormwater drainage will need to involve low impact design principles to emphasise conservation and use of on-site natural features. Mr McCartney notes that this method of stormwater control could be successfully implemented on the land following investigations, analysis and design.
- 4.12** In my opinion low impact design is the preferred option to manage stormwater. I note that geotechnical investigations will be required to determine permeability of the ground.

### *Conclusion*

- 4.13** Based on the new information with much reduced demand on the water and wastewater flows on the infrastructure network I am no longer opposing the rezoning request.

### **Scott Edgar for Hawthenden Limited (776)**

**4.14** Mr Edgar has filed evidence in relation to the Outstanding Natural Landscape identified on the Hawthenden Farm, and the proposed rezoning of parts of Hawthenden Farm from Rural to Rural Residential and Rural Lifestyle. At paragraphs 74 – 81 Mr Edgar discusses infrastructure, including stormwater, water supply and wastewater treatment and disposal in relation to Hawthenden Farm and its rezoning.

**4.15** I agree with all infrastructure comments made by Mr Edgar, including that alternative solutions are likely to be available should connections to Council's services prove unavailable or impractical, and that a rezoning would create an expectation that Council services would be extended to rezone areas in the immediate term. I have nothing further to add.

## **5. RURAL**

### **Ken Gousmett for Glendhu Bay Trustees Limited (583)**

**5.1** Mr Gousmett has filed evidence in relation to water, supply, wastewater, stormwater, power supply and telecommunications in relation to the proposed Glendhu Station Zone. Mr Gousmett states at paragraph 9 that there is adequate infrastructure planned and consented at Glendhu Bay to serve a new Glendhu Station Zone.

**5.2** Mr Gousmett states that there is sufficient water resources available to serve the development opportunities that would not adversely affect the environment. With regards to wastewater, Mr Gousmett states that it can adequately be managed on-site through employing present wastewater management technology and with the availability of suitable land for effluent disposal purposes. He says that adverse off-site effects can be avoided. Mr Gousmett provides further detail on stormwater runoff, noting that it will be collected and piped to soakholes on-site and that no piped reticulation is planned.



**5.3** Based on the new information provided in regards of water supply at paragraphs 11 – 14, wastewater at paragraphs 15 – 18, and stormwater at paragraphs 19 – 20 of Mr Gousmett's evidence, I no longer oppose the rezoning sought by Glendhu Bay Trustees Limited from notified Rural zone to a new Glendhu Special zone. I agree with Mr Gousmett's evidence that adequate infrastructure can be available for the development at Glendhu Bay

A handwritten signature in blue ink, appearing to read 'Glasner', with a stylized flourish at the end.

**Ulrich Wilhelm Glasner**

**5 May 2017**