

BEFORE THE QUEENSTOWN LAKES DISTRICT COUNCIL

IN THE MATTER of the Resource Management Act ('Act')

AND

IN THE MATTER of the submission by Lake Wakatipu Station Limited on the QLDC Proposed District Plan 2015 (Stream 13) to rezone a piece of land from Rural General to Rural Visitor

STATEMENT OF EVIDENCE OF GARY MAURICE DENT

Lake Wakatipu Station (Submitter #478)

6th September 2017

1. My name is Gary Dent. I have a Bachelor of Engineering (Civil) and a Diploma in Hydraulic Engineering and I am a member of the Institution of Professional Engineers of New Zealand. Currently I am a Director and Principal Engineer for Fluent Infrastructure Solutions Limited in Dunedin. Our company specialises in infrastructure and three waters engineering design and implementation.

2. My qualifications and professional associations are:

Qualifications:

- Bachelor of Engineering (Civil), New Zealand
- Diploma in Hydraulic Engineering, Delft, The Netherlands
- CPEng and IntPE (pending approval December 2013)

Professional Memberships:

- Member – Institution of Professional Engineers New Zealand
- Member - New Zealand Hydrological Society
- Member – Water New Zealand (NZ Water & Wastes Association
Waioira Aotearoa).

3. I have practiced as a professional engineer since 1982 in the fields of irrigation engineering, flood hydrology, river engineering, urban stormwater and wastewater reticulation engineering and general civil engineering for water supply, wastewater and stormwater infrastructure assets and environmental effects assessment.

4. I am a Civil Engineer with over 30 year's experience in the infrastructure and environmental engineering fields. From experience in the preparation of infrastructure reports for a wide range of projects in the Queenstown Lakes area I am aware of the physical environment and the requirements for water infrastructure development.

5. In this matter I have been engaged by Ben Farrell to comment on the submission by Lake Wakatipu Limited on its submission to rezone 32ha of land located on the alluvial terraces of Halfway Bay south of the Lochy River from Rural General to Rural Visitor. More specifically, I was asked to review and

comment on paragraphs 8.64-8.67 of the evidence of Mr Ulrich Glasner dated 24 May 2017, which state:

8.64 Lake Wakatipu Station Limited & Review Seventeen Limited have sought that 32.5 ha of land be rezoned from Rural to Rural visitor. The Rural Visitor zone is an operative zone that hasn't been reviewed yet.

8.65 The site is the flat land at Halfway Bay on the western shore line of the southern arm of Lake Wakatipu. The land is outside the Queenstown three waters schemes. The submitter has not indicated the proposed extent of development or how they intend to service the site.

8.66 It is unclear what the proposed development would be and how it is proposed to be serviced. The site is susceptible to liquefaction. The ORC Otago Water Plan Change 6A Maps identify the area as part of the nitrogen sensitive large lake catchment area. Any development would need to use advanced treatment systems to treat wastewater.

8.67 In summary, I oppose the rezoning to (operative) Rural Visitor, from an infrastructure perspective, because it potentially allows a large high density development in a rural area and it is unclear how servicing of this site is planned, and whether it is feasible given site constraints.

6. Having reviewed aerial photos of the site, and correspondence from Paul Faulkner of Geosolve Limited commenting on the geological conditions and natural hazard risks of the site, I am of the opinion that it is feasible for rural visitor development on the site to be designed and implemented in such a way that:

- a. Is self-sufficient in that it can be readily and appropriately serviced in respect of water supply, stormwater and wastewater without relying on any council or offsite infrastructure.
- b. Will not create any significant environmental effects on the receiving environment (Lake Wakatipu and the Short Burn and Lochy Rivers).

7. To ensure the above outcomes I am satisfied that the following could be implemented:

- a. A potable drinking water and fire fighting water supply could be constructed using current practices and techniques with sufficient water being able to be sourced, treated and distributed to consumers meeting the NZ Drinking Water Standards and at sufficient flows and pressures in compliance with Queenstown Lakes District Council development engineering standards.

- b. There is sufficient, suitable area in the land proposed, for development wastewater to be collected, treated and disposed of to ground. As noted by Mr Ulrich Glasner the use of advanced treatment systems to treat the wastewater may well be required depending on the density of development in the future.

- c. The location and topography of the site will allow a stormwater system to be designed for the development to cope with storm events meeting the Queenstown Lakes District Council development engineering standards.



Signed Gary Maurice Dent
6 September 2017