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*under:* the Resource Management Act 1991

*in the matter of:* Proposed Plan Change 3 to the Canterbury Land and Water Regional Plan - Section 15 - Waitaki and South Coastal Canterbury.

*and:* **Fonterra Co-operative Group Limited**

## Memorandum of counsel (**Processing**)

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Dated: 26 November 2015

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REFERENCE: JM Appleyard (jo.appleyard@chapmantripp.com)  
BG Williams (ben.williams@chapmantripp.com)

**Chapman Tripp**  
T: +64 3 353 4130  
F: +64 3 365 4587

245 Blenheim Road  
PO Box 2510, Christchurch 8140  
New Zealand

www.chapmantripp.com  
Auckland, Wellington,  
Christchurch



## MEMORANDUM OF COUNSEL

### INTRODUCTION

- 1 This memorandum follows the presentation by Fonterra Co-operative Group (*Fonterra*) to the Hearing Panel on 6 November 2015.
- 2 During the presentation the Hearing Panel invited Fonterra to consider whether there was any 'headroom' within the 40 tonnes per year of nitrogen allocated to "*industrial discharges*" in Table 15(o) for the Waihao-Wainono Area.
- 3 This was in the context of the Hearing Panel advising of:
  - 3.1 the absence of any submission seeking that the load of 40 tonnes as set out in Table 15(o) be reduced; and
  - 3.2 a small but potentially important amount of the 'unused' catchment load (i.e. the balance of the 40 tonnes) being able to reallocated, if (and *only* if) a reduction was directly volunteered by Fonterra, to other non-industrial purposes.
- 4 Following the hearing presentation, Fonterra has further engaged **Mr Rob Potts** to run a number of 'optimised' farming scenarios on the 214 hectares of land that is provided with wastewater by Fonterra.
- 5 The analysis has been undertaken using OVERSEER 6.2.1, which we understand was released on 23 November 2015 (meaning that the load as expressed in this memorandum may not be strictly comparable to the loads previously referred to in evidence).

### OPTIMISED FARM SYSTEM LOSSES

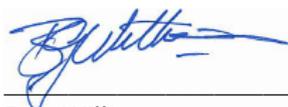
- 6 The need to run optimised farming scenarios is apparent from evidence and the questions and answers that occurred at the hearing (with **Mr Ian Goldschmidt**) – in short, the Studholme site is not fully developed and the farming properties that are currently receiving waste water from the site are currently being run on a very low input basis (which could change in the future).
- 7 As further advised to the Hearing Panel, there are also some uncertainties around the data inputs that do not give Fonterra confidence the modelled losses as expressed in evidence are representative of what is actually occurring. This again supported the use of optimised farming systems to assess an appropriate load.

- 8 As a result of the analysis undertaken, Fonterra considers that an optimised farming system under either the Scenario 1 or Scenario 2 developments (as referred to in evidence) would result in a maximum nitrogen loss on the 214 hectare area of around 27 tonnes.
- 9 In this regard it is noted that for all farming systems reviewed, the losses were higher than those which might be expected on the same type of farm operating with 'conventional' irrigation. This is in the large part reflective of the much higher volume of water being applied as a result of the plant's wastewater system (around 1,150 mm per hectare per year – much more than what would occur under conventional irrigation).
- 10 For completeness it is however noted that even if additional farm areas were added it would have little impact on the overall leaching load to the catchment, as the total mass leached would be very similar (although it would result in a reduction in the leaching rate per hectare).

#### **VOLUNTEERED REDUCTION**

- 11 On the basis of the analysis undertaken, Fonterra is prepared to volunteer a reduction in the load in Table 15(o) for the Waihao-Wainono Area to **27 tonnes** per annum.
- 12 This will make 13 tonnes available for potential reallocation.
- 13 It is important to emphasise that:
- 13.1 this is strictly on the basis that Fonterra's sought relief in relation to a 'substitution rule' (and associated provisions) allowing for the disposal of sludge wastes in substitution of existing farming load is accepted; and
- 13.2 the 27 tonne load will apply to all industrial discharges within the Waihao-Wainono area (not just those of Fonterra's).
- 14 Fonterra is happy to provide the technical work undertaken by **Mr Potts** to the Hearing Panel should it assist it in its decision making process.

Dated: 26 November 2015




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Ben Williams  
Counsel for Fonterra Co-operative  
Group Limited