

In The Matter of the Resource Management Act 1991 (“the Act”) And

In The Matter Selwyn District Plan Review Rezoning Requests  
DPR-460 Marama Te Wai Limited

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### **OFFICER COMMENTS of HUGH BLAKE-MANSON**

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#### **Introduction**

1. My name is **HUGH MAXWELL BLAKE-MANSON**. My qualifications are BE (Natural Resources) and I have Diplomas in Asset Management, Assessor (Drinking Water Networks) and Water Treatment (Operator). I am a Chartered Engineer. These qualifications allow me to practice, design, manage and audit any of the three waters; water, wastewater and stormwater. I am also completing a Masters in Freshwater Management at University of Canterbury.
2. I am an Infrastructure Advisor at Waugh Infrastructure Management Limited (Waugh), a position I have held for 20 months. I was previously employed by City Care Ltd as their Three Waters Contract Manager (2012-2021) and prior to that, Selwyn District Councils Asset Manager Utilities (2004-2012) covering water, wastewater, stormwater, land drainage and waterrace services for the Council (the Council).
3. I support the Council as an infrastructure advisor specialising in strategic, tactical and operational matters across the services identified.
4. I am authorised to present these comments on the Councils behalf.
5. I confirm that the matters on which I express my opinion are within my field of expertise.

#### **Scope of Review**

6. My comments relate to the impact the re-zoning of land in West Melton may have on Council’s drinking water supply, wastewater system and stormwater network, resulting from submissions from two parties. The parties submissions are jointly considered via DPR-0460 and the private Plan Change 77 (PC77).
7. These parties are Marama Te Wai Ltd and West Melton Holdings Ltd. I refer to them here as Marama Te Wai (MTW).

8. For the purpose of this review I have considered that a 218 lots in total could be created, with associated demands on the public utility networks.
9. I have read the Infrastructure Report provided by e2Environmental Ltd for both DRP-460 – MTW dated 30<sup>th</sup> May 2022.
10. I have referred to the infrastructure evidence provided by Mr S. Bishop for Plan Change PC74 (PC 74) where relevant to the townships water and wastewater networks and stormwater system, associated bulk conveyance and treatment infrastructure.

#### **West Melton - Water**

11. The Greater West Melton water supply provides water to a standard suitable for drinking to the communities of West Melton, Edendale and Johnson Road and surrounding rural residential connections. Council requires that all connections to this supply have a water meter and backflow protection.
12. Groundwater is sourced from five bores under four consents. Groundwater is piped under pressure between the communities, with bacteriological treatment being ultra violet light (UV) and cartridge filtration (West Melton) occurring then chlorination before being made available to consumers in those communities.
13. Mr Bishop has noted in his evidence that:
  - The West Melton Scheme was designed as a domestic supply and complies with the New Zealand Fire Fighting Code of Practice (FFCOP) (refer s22,23); and that Council requires all new subdivisions to be designed in accordance with Selwyn District Councils “Engineering Code of Practice” which requires that FFCOP servicing is provided (refer s24).
  - Hydraulic models have been used to plan future water infrastructure requirements for a number of water supplies including West Melton (refer s16).
  - Councils 2021-2031 Long Term Plan (LTP) includes network upgrade budgets for specific areas to address capacity constraints - refer s18 and Appendix 1 “Existing West Melton Water Supply – Scheme Layout”, and “West Melton Water Supply – Planned Upgrades”.
14. Currently the physical water supply infrastructure (those assets which abstract, treat, store and pump water) have capacity to meet existing demands and part of planned / proposed future

growth requirements. Upgrades are required to accommodate additional growth.

15. The modelling referred to, assesses the capacity of the piped network and bores to meet consumer demand in specific areas. While it does not cover DRP-0460, an updated model will be provided by Council by June 2023 which will include the DRP-0460 land. This is important as DRP-0406 adjoins an older part of the West Melton water network, and assessment of network capacity with the proposed additional demand needs to be undertaken.
16. Councils current LTP infrastructure improvement programme may need to be amended as a result of hydraulic model results, to address network capacity constraints thereby providing sufficient capacity to the boundary.
17. MTW will need to provide a site servicing plan at the time of any subdivision, and as part of engineering approval, which should include details on how the development will meet at least the Fire Fighting Code of Practice requirements and Councils levels of service being pressure and flow rate at the consumers point of connection.
18. It should be noted that development contributions would be payable for development identified for DPR-0460 should the rezoning proceed.

#### ***Conclusion – Water Supply***

19. I consider that additional capacity within the network to fully service this plan change is not currently available, though Council should address this following hydraulic modelling (network capacity) and associated infrastructure upgrades via its LTP process.
20. It is noted that development contributions are payable for any additional lot developed.

#### ***West Melton - Wastewater***

21. West Melton is serviced by a reticulated wastewater network which is pumped to and treated at the Pines Wastewater Treatment Plant (WWTP) in Rolleston.
22. Mr Bishop has identified that there is sufficient capacity in the bulk conveyance wastewater main to Rolleston (refer s29). He has also noted that the Rolleston Pines WwTP (refer s36-38), has planned upgrades underway or programmed.
23. MTW have identified three options for wastewater conveyance to Councils network (pumping directly into the Gainsborough PS pressure main, daily storage and off peak pumping either into

the Gainsborough PS pressure main or to a point within the local catchment). As part of its design philosophy, Council reserves access to its bulk pressure main to specific pumpstations and additional flows would compromise performance. Further, given risk and odour generation issues, off-peak pumping is not considered appropriate whether into its existing local network or the bulk conveyance system to Rolleston.

24. The servicing options proposed by MTW should be reassessed which can be done at the time of subdivision and engineering approval. For example this could include direct pumping to the Gainsborough pumpstation in Rossington Drive.
25. It should be noted that development contributions would be payable for development identified for DPR-0460 should the rezoning proceed.

***Conclusion - Wastewater***

26. There is a viable means to treat and dispose of wastewater for this plan change area. Details of any specific upgrades required can be addressed more specifically through the subdivision consent and engineering approval process.

***West Melton - Stormwater***

27. The soils beneath West Melton are typically free draining river borne sandy gravels, and the groundwater level has a typical depth 23.7m below the surface.
28. The PC77 submitter proposes that stormwater treatment and disposal would be provided for within the developments. I confirm that this is appropriate.

***Conclusion - Stormwater***

29. The submitter proposes that stormwater treatment and disposal would be provided for within the development. I confirm that this is appropriate.

**Hugh Blake-Manson**  
**6 December 2022**