

SUMMARY OF EVIDENCE OF DANASH SOOKDEV ON BEHALF OF MARK AND MELISSA PROSSER

INTRODUCTION

1. My full name is Danash Sookdev. My qualifications and experience are set out in my Evidence in Chief.
2. I prepared a statement of evidence and supplementary statements dated 5 March 2024, 24 April 2024 and 8 July 2024 in relation to Hearing Stream 12C in support of Mark and Melissa Prosser's submission of the Proposed Waimakariri District Plan (**PWDP**).
3. This Summary of Evidence sets out the key points within my Evidence in Chief and Supplementary Evidence.

SUMMARY OF EVIDENCE IN CHIEF

4. My evidence in chief (EIC) focused on whether there are any insurmountable servicing reasons that might arise from the increased demand on the water and wastewater network that would impede the Site from being rezoned to Large Lot Residential (LLR) under the PWDP.
5. In my experience, with regards to water I conclude that:
 - (a) Water supply for the Site can be provided through a restricted supply with on-site firewater storage on each future lot. There are two potential connection points, the nearby DN63 on Dawsons Road and a DN150 further away indicating that feasible solutions to provide 2.7l/s of demand to the Site.
 - (b) Firefighting provision for future LLR development could be serviced by connection into the WDC water supply scheme or via individual tanks located on each lot.
6. I identified three options for wastewater servicing the Site:
 - (a) Option 1: Gravity collection wastewater network which conveys and discharges the development wastewater flows to connect into the downstream WDC owned wastewater network.
 - (b) Option 2: Gravity collection wastewater network which collects, conveys and discharges the development wastewater into an onsite pump station which then pumps into the WDC owned wastewater network.
 - (c) Option 3: This option is the provision of an onsite Low Pressure Sewer System (LPSS) comprising a pump and storage chamber for each individual lot owner.

SUMMARY OR FIRST SUPPLEMENTARY EVIDENCE

7. My first supplementary evidence (SE#1) dated 24 April 2024, provided additional assessment of the water and wastewater servicing options following further investigations.
8. It reaffirms that water supply can be provided through a restricted supply with on-site firewater storage on each lot with two potential connection points being available.
9. It also outlines that alternatively, water supply could be serviced via extraction from groundwater, with an application to change the purpose of the existing consent (from irrigation purposes to community drinking water supply purposes) provided for under the Land and Water Regional Plan (**LWRP**) via a transfer and change in use application. The LWRP includes a pathway to enable community water supply use within an over-allocated catchment.
10. In terms of wastewater, my SE#1 acknowledges that wastewater for 20 lots from the Site has already been granted resource consent (RC205106 and RC205107 – **(the subdivision consent)**) and accounted for by the Council system (refer to attached Figure 1).
11. I reconfirm that wastewater servicing could also be provided via a LPS System (Option 3 above); or by gravity collection of wastewater flows (Options 1 and 2 above) to service the remaining approximately 95 lots.

SUMMARY OF SECOND SUPPLEMENTARY EVIDENCE

12. My second supplementary evidence (SE#2) dated 8 July 2024, provides additional consideration of the servicing options, with particular focus given to the approved subdivision consent. The approval of the subdivision consent confirmed the availability of connection of 20 lots from the Site into the WDC pressure main at the Dawsons Road / Wards Road intersection.
13. I assume that the 20 lot connection was approved on the basis that the consent holder would establish a gravity collection wastewater network to connect the site to the above WDC pressure main.
14. As discussed above, Option 2 and Option 3 involve on-site attenuation and then connection to a new pressure sewer main that pumps wastewater to the WDC pressure main at Dawsons Road / Wards Road intersection or to the Bradley's Road pump station.
15. The volume of wastewater in a pressurised system per allotment is significantly less than for a gravity system because a pressurised system is closed and is not susceptible to unexpected problems of inflow and infiltration from properties. This means a pressurised system can accommodate a higher number of connections when

compared to a gravity system serving the same development, a point I demonstrate by reference to the subdivision consent.

16. A capacity safety factor of 1.2 per dwelling unit during Average Dry Weather Flows (ADWF) is applied for wastewater.¹ Considering the initial Wet Weather Flow factor of 4 for the consented wastewater, a comparison between the gravity system and the pressure system results in a factor of 3.33 ($4/1.2 = 3.33$). When this is multiplied by the 20 lots approved under the subdivision consent (3.33×20), it results in an equivalent 67 lots serviced by the pressurised rising main.
17. Accordingly, in my view WDC have already allocated the equivalent of 67 lots from the Site when a pressurised rising main is used to convey wastewater instead of a gravity system. On this basis the additional demand created by the Prosser Proposal is only 48 additional lots ($67+48 = 115$). The conversion to a pressurised system and the attenuation of peak flows provided by Option 2 (or Option 3) above means that there will be adequate capacity within the WDC wastewater system to accommodate the Prosser Proposal.

CONCLUSION

18. Overall, I am confident that a solution to provide water and wastewater capacity to service the Site is available to support the development.
19. Wastewater servicing options are available to the Site without adverse effects on the receiving environment or operation of the existing WDC infrastructure system.
20. Thank you again for the opportunity to present my evidence and I am happy to address any questions.

Danash Sookdev
22 July 2024

¹ Based on the Water New Zealand Pressure Sewer Guidelines February 2020 – Section B2.4 Design Methodologies

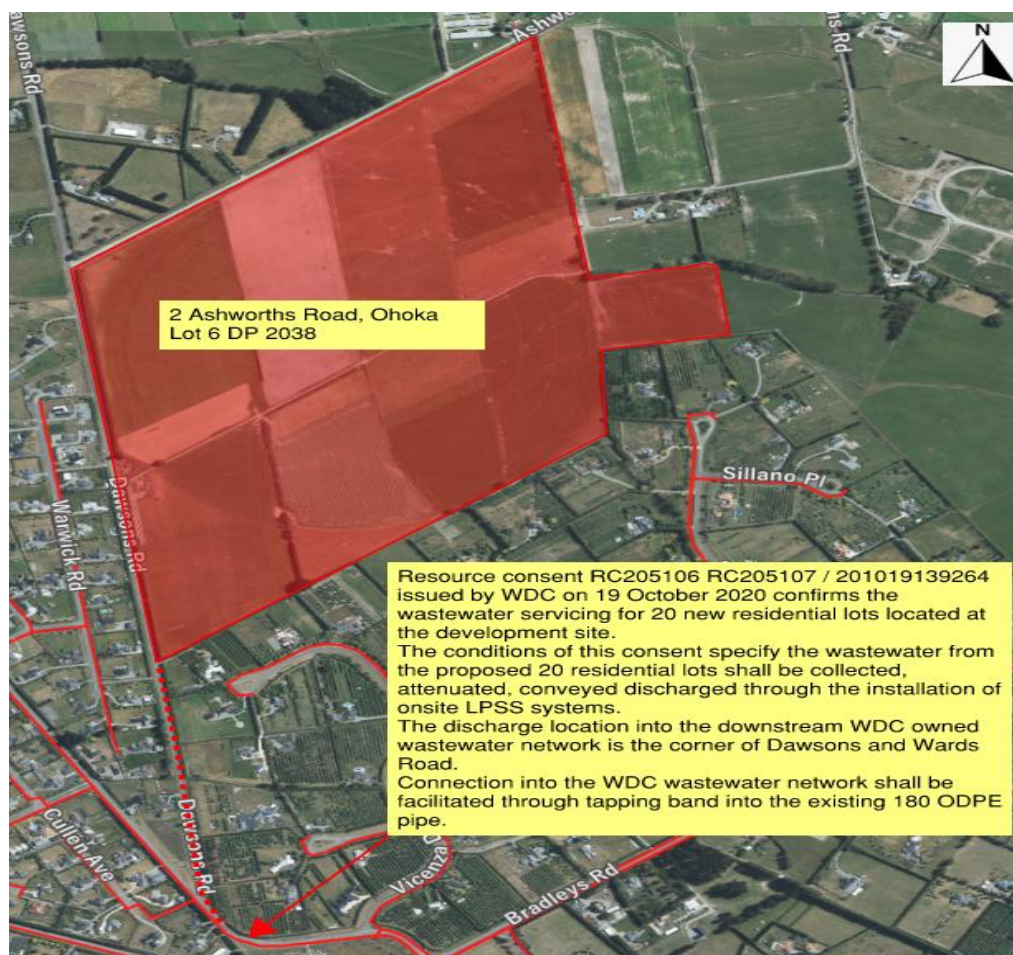


Figure 1. Sketch illustrating the wastewater servicing arrangement under existing Resource Consent RC205106 RC205107 / 201019139264 for the proposed development of 20 residential lots (Ref.: WDC 3 Waters Utilities, 2023)