

**BEFORE AN INDEPENDENT HEARINGS PANEL
IN CHRISTCHURCH**

TE MAHERE Ā-ROHE I TŪTOHUA MŌ TE TĀONE O ŌTAUTAHI

UNDER the Resource Management Act 1991 (the **RMA**)

AND

IN THE MATTER OF of the hearing of submissions on Plan Change 14
(Housing and Business Choice) to the Christchurch
District Plan

**STATEMENT OF REBUTTAL EVIDENCE OF MICHELE MCDONALD ON
BEHALF OF CHRISTCHURCH CITY COUNCIL**

**LOW PUBLIC TRANSPORT ACCESSIBILITY QUALIFYING MATTER AND
WATER AND WASTEWATER INFRASTRUCTURE**

Dated: 9 October 2023

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EXECUTIVE SUMMARY

1. This rebuttal evidence comments on the evidence of:
 - (a) Andrew McCarthy (submitter #681) with respect to three waters infrastructure on the hill suburbs of Christchurch and the application of the Low Public Transport Accessibility Qualifying Matter; and
 - (b) Andrew Hall on behalf of LMM Investments 2012 Limited (submitter #826) with respect to water and wastewater capacity for Whisper Creek Golf Resort land held by LMM Investments 2012 Limited.
2. To clarify, the wastewater capacity constraint areas published by Christchurch City Council (**Council**) should not be construed as meaning that capacity is available elsewhere, nor does it reflect the availability of capacity to accommodate growth as concluded by Mr McCarthy.
3. Further, Council's water and wastewater infrastructure is not necessarily sized to service the underlying District Plan zones as suggested by Mr Hall. Rather, infrastructure is sized to service consented and planned development (or growth) at the time of its construction. The water and wastewater infrastructure in Spencerville has therefore not been sized to service the proposed Golf Resort on land owned by LLM Investments 2012 Limited, despite the zoning of that land allowing for the Golf Resort. Capacity to service the proposed development must be confirmed independently.
4. Water and wastewater capacity is assessed against a specific, defined demand. Capacity must be re-assessed whenever the demand expectations change and therefore Mr Hall's understanding that capacity has been confirmed for the land zoned for the Golf Resort is incorrect.¹ Rather, rural restricted water supply and wastewater capacity was confirmed, assuming developments of 70 lots as part of a combined subdivision and land use consent (RMA/2019/2189).
5. Demand certainty is a pre-requisite for infrastructure planning to determine the cost implications and to evaluate the cost-effectiveness of infrastructure solutions for new development. Council's existing water and wastewater infrastructure plans are based on historic growth expectations prior to

¹ Statement of evidence of Andrew Hall dated 20 September 2023 at [40].

consideration of Medium Density Residential Standards (**MDRS**) intensification. The lack of studies and planning to illustrate the effect of intensification on water and wastewater infrastructure, as noted by Mr McCarthy, does not mean that further development is feasible. It simply means that the demand has not yet been confirmed and that infrastructure planning to address a particular demand has not yet occurred.

INTRODUCTION

6. My name is **Michele Ann McDonald**. I am employed as Team Leader – Asset Planning Water and Wastewater at the Council.
7. I prepared a statement of primary evidence on behalf of the Council dated 11 August 2023. My primary evidence addressed water and wastewater planning considerations, the Vacuum Sewer Capacity Constraints Qualifying Matter, and the Low Public Transport Accessibility Areas Qualifying Matter in the context of water and wastewater infrastructure arising from the submissions and further submissions on Plan Change 14 to the Christchurch District Plan (the **District Plan; PC14**).
8. I have the qualifications and experience set out at paragraphs 9 to 11 of my primary evidence dated 11 August 2023.
9. I repeat the confirmation given in my primary evidence that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023, and that my evidence has been prepared in compliance with that Code.

SCOPE OF REBUTTAL EVIDENCE

10. In preparing this rebuttal statement, I have read and considered the evidence filed on behalf of submitters, as that evidence relates to my primary evidence. In this evidence I respond to the evidence of the following witnesses, to provide clarity and address inaccuracies:
 - (a) Andrew McCarthy (submitter #681) with respect to three waters infrastructure on the hill suburbs of Christchurch and the application of the Low Public Transport Accessibility Areas Qualifying Matter; and

- (b) Andrew Hall (for submitter #826) with respect to water and wastewater capacity for Whisper Creek Golf Resort land held by LMM Investments 2012 Limited.

ANDREW MCCARTHY (SUBMITTER 681) REGARDING WATER INFRASTRUCTURE ON HILL SUBURBS

Purpose of wastewater capacity constraint areas

11. Mr McCarthy refers to Council's public-facing reflection of wastewater capacity constraint areas to draw the conclusion that *"there are no immediate infrastructural constraints to prevent further intensification on the majority of the Christchurch hill suburbs."*²
12. In my opinion this conclusion is not an accurate reflection of the Council's wastewater capacity constraint areas.
13. Wastewater capacity constraint areas do not identify all wastewater infrastructure components that have reached capacity within the City, nor do they reflect the availability of capacity to accommodate growth.
14. Rather, as noted on Council's website, wastewater capacity constraint areas are where current demand is likely to exceed capacity during peak wet weather events. The website further explains that these areas are serviced by gravity wastewater pipes which have reached their capacity and where the risk of wastewater overflows is high. It states that, in these areas, additional connections to Council's wastewater network need to meet specific requirements so that the risk of manhole overflows during storm events can be managed. Therefore, wastewater capacity constraint areas identify gravity-serviced areas that are at risk of manhole overflows; and where alternative connections will provide an interim solution.
15. During rain events, wastewater also overflows to rivers and streams at constructed sewer overflow sites to reduce the risk of overflows onto streets and private property. Such overflows are consented by Resource Consent (CRC 224552). The catchments that contribute to overflows at constructed sewer overflow sites are not included in the wastewater capacity constraint area map because alternative servicing solutions alone will not address the

² Statement of Evidence of Andrew McCarthy dated, 20 September 2023, at [2.25]

problem. **Appendix A** provides an overview of wastewater overflows and pipes that are surcharged throughout the City.

16. Council's wastewater plans identify the need for extensive infrastructure upgrades to reduce wastewater overflows to rivers and streams to meet the conditions of the discharge consent. Funding for such upgrades will be considered in future long-term plans on a priority basis that is aligned to wastewater overflow volume and frequency.

Wastewater capacity east of Ferrymead

17. Mr McCarthy states that intensification in the hill areas is *"likely to be gradual and play out in semi-predictable ways over multi-year periods"* and that this *"affords CCC with the opportunity to ensure correct design solutions are adopted and for infrastructure upgrades to be identified, planned, and programmed as part of its normal asset management planning process, should they be required."*⁶
18. In my opinion this statement is not an accurate reflection of Council's long-term plan for implementing infrastructure solutions.
19. **Appendix A** confirms that, during certain rain events, wastewater overflows at a constructed sewer overflow location at Moncks Bay. The map also shows that the gravity sewer pipe that services the hills areas east of Ferrymead is presently surcharged (at capacity).
20. Through Council's infrastructure planning processes, it has been determined that all three linear pump stations that services Mount Pleasant, Redcliffs, Clifton Hill and Sumner must be upgraded. The upgrades needed for Barnett Road and McCormacks Bay pump stations will also require the pressure mains to be upgraded (replaced with larger pipes). The gravity sewer in Ferry Road must be upgraded or a duplicate 600mm diameter pipe will have to be

³ Statement of Evidence of Andrew McCarthy dated, 20 September 2023, at [2.26]

installed. This infrastructure solution is reflected in **Figure 1** below.

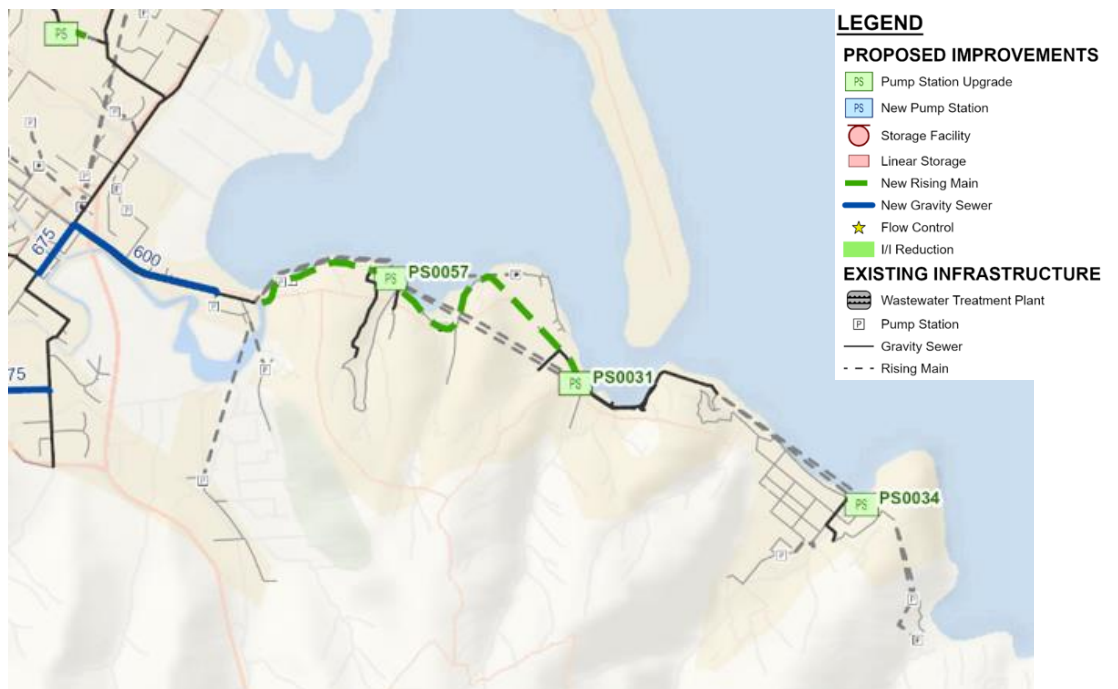


Figure 1 – Conveyance solution to address current constraints in area east of Ferrymead Bridge

21. To avoid the replacement of the 12-year-old pressure mains that have not yet reached their end-of-life period (green dotted lines on **Figure 1**) as needed for an upgrade, an alternative solution could be to construct storage facilities for excess wastewater at two of the pump stations (See **Figure 2**).



Figure 2 – Alternative solution to address current constraints and minimal growth in area east of Ferrymead Bridge

22. The infrastructure solutions presented above are sized to resolve existing constraints whilst including a minor growth allowance for 55 additional residential units throughout the catchment.
23. The removal of the area east of Ferrymead from the Low Public Transport Accessibility Area Qualifying Matter (the purple line bus route that services McCormacks Bay, Redcliffs, Moncks Bay and Sumner), has the potential to add more than 1,000 additional residential units (as infill) or for a full plan enabled intensification of more than 9,000 residential units. Capacity upgrades to accommodate such growth will constitute significant upgrades to the pump stations including to the wet wells, larger pressure mains, and a larger gravity pipe in Ferry Road. It will also trigger the need for additional upgrades downstream that has not yet been quantified.
24. The Council's long-term plan does not provide funding to implement the infrastructure solutions to accommodate growth for 55 additional residential units in the hills area east of Ferrymead, especially because funding has been assigned on a priority based to catchments that overflow into the Heathcote River and Avon River.
25. Progressive infrastructure upgrades in peripheral areas (such as the hills area east of Ferrymead) are not ideal because it means that the same infrastructure component would have to be upgraded multiple times within its life period.
26. Servicing of growth as it occurs over time results in reactive upgrades that are not recoverable from the developers that has caused the growth. This can only be solved by planning and establishing capacity in response to an agreed spatial development plan.

ANDREW HALL (SUBMITTER 826) ON BEHALF OF LLM INVESTMENTS 2012 LIMITED

Water and wastewater capacity to service 350 equivalent residential units on LLM Investments 2012 Limited's Whisper Creek land in Spencerville

27. Mr. Hall concludes in his evidence that because the demands for water and wastewater will be no greater than the underlying Golf Resort zoned land-use, that water and wastewater system capacity will be available to service

the zoned area. In my opinion this conclusion is not accurate. Council's water and wastewater infrastructure are not sized to service the underlying District Plan zones as suggested by Mr Hall.

28. In response to a combined subdivision and land use consent in September 2019, water and wastewater capacity assessments were performed for the development of 70 lots on the Golf Resort zoned land. Council confirmed at that time, that sufficient capacity will be available to service water to the 70 lots as rural restricted supply and to service wastewater from the 70 lots as a local pressure sewer system.
29. A rural restricted water supply means that there is insufficient water supply available for an on-demand and fire flow compliant system and that water will be trickle fed to individual private water storage tanks.
30. The availability of water and wastewater capacity to service 350 equivalent residential units⁴ will have to be assessed in more detail. Considering the demands noted by Mr. Hall as part of his evidence, I can confirm that:
 - (a) Water: The proposed development's water demand of 52.5 L/s⁵ exceeds the capacity of the Brooklands water supply pump station. There are no other pump stations available to augment supply. Furthermore, the 2,800 metre long, 200mm diameter water main will not be able to deliver a continuous demand of 52.5 L/s at the required pressure. It is for this reason that previous capacity assessments provided for a rural restricted supply up to 70 lots only.
 - (b) Wastewater: Council's wastewater pump station in Heyders Road has theoretical spare capacity to service the projected demand of 12.04 l/s as noted in Mr. Hall's evidence.⁶ The spare capacity that is available at the pump station will however have to be validated through flow monitoring and pump testing.

Michele Ann McDonald

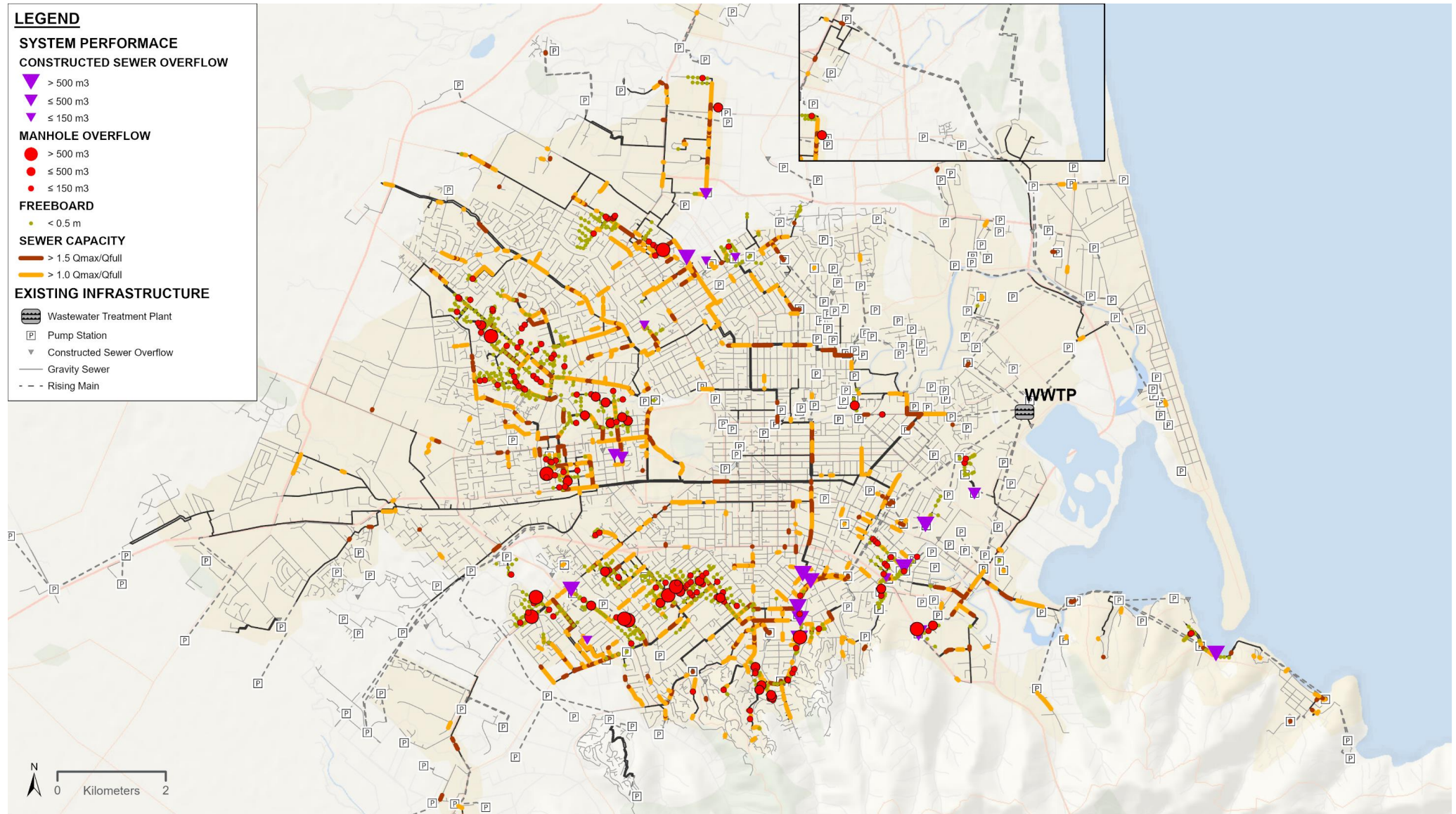
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⁴ Mr Hall's evidence is that the underlying Golf Resort Land-use has the equivalent effect of 350 homes (at [9] of his statement of evidence dated 20 September 2023).

⁵ Mr Hall's evidence is that the total flow for peak residential demand flow for 350 homes is 52.5l/s (at [24] of his statement of evidence dated 20 September 2023).

⁶ Statement of evidence of Andrew Hall dated 20 September 2023 at [22].

Appendix A – Location of constructed sewer overflows, manhole overflows and surcharged pipes throughout the city



Note: Purple triangles represented the overflows to rivers, streams, and the estuary. Coloured lines represent pipes that are at capacity. Red dots represent manhole overflows.