

Appendix C – Technical Memorandum - Three Waters

Proposed Plan Change 2, Waihi

Response to Submissions

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Contents

1	Executive Summary	3
2	Introduction	4
	2.1 Qualifications.....	4
	2.2 Technical Assessment Area	4
	2.3 Code of Conduct Statement	4
3	Process to Date	5
	3.1 Previous Involvement.....	5
	3.2 Issues Raised Through Process.....	5
4	Submissions Received.....	6
	4.1 Submission Topics Reviewed.....	6
	4.2 Other Comments Within Scope.....	6
5	Assessment	7
	5.1 Response to Submission No 12.3	7
	5.2 Response to Submission No 15.4	7
	5.3 Response to Submission No 4.5	7
	5.4 Response to Submission No 17.6	7

1 EXECUTIVE SUMMARY

This memo assesses the three waters infrastructure required to support a proposed structure plan and rezoning in Waihi. The review was undertaken by a professional engineer and involved analysis of existing capacity, previous reporting, and submissions received.

Waihi's water supply is nearing its consented limits but can support the proposed development if high water-use industries are avoided. Wastewater treatment is under pressure but expected to accommodate the additional load. Extensions to water and wastewater networks will be needed for all zones and vary in complexity and cost.

Stormwater infrastructure will depend on specific land uses. Provision has been made for peak flow detention, with on-site treatment expected. Submissions raised concerns about stormwater and construction impacts; these will be addressed through future consent processes in line with regulatory requirements.

Overall, the proposed rezoning is feasible from an infrastructure standpoint, with no unresolved constraints identified.

2 INTRODUCTION

2.1 Qualifications

BE(hons)MEng, EngNZ member with 6 years' experience working in civil design and construction. Currently serving as the engineering team leader at the Hauraki District Council.

2.2 Technical Assessment Area

For this proposed structure plan, elements of 'three waters' being stormwater, wastewater and fresh water supply were assessed in accordance with relevant standards to confirm;

1. Whether capacity existed within the existing networks, supply and receiving environments e.g.
 - a. Treatment plants
 - b. Reservoirs
 - c. Gravity networks
 - d. Streams
 - e. Groundwater
2. What infrastructure (and investment) might be required to cover any shortfalls

2.3 Code of Conduct Statement

Forming part of the requirements for professional affiliation with Engineering New Zealand, the standards for ethical conduct are outlined [here](#), but broadly these can be summarised to;

1. Take reasonable steps to safeguard health and safety
2. Have regard to effects on environment
3. Report adverse consequences
4. Act competently
5. Behave appropriately
6. Inform others of consequences of not following advice
7. Maintain confidentiality
8. Report breach of Code

3 PROCESS TO DATE

3.1 Previous Involvement

- Collate previous information relating to infrastructure supporting the plan change
 - Review of treatment plant capacities
 - Review of reservoir capacities
 - Review transport TIA
- Produced “Waihi Land Rezoning and Implications for 3 Waters Infrastructure” #3268818
 - Preliminary sizing of infrastructure and possible corridors
 - Initial sizing of stormwater requirements for comprehensive development
- Produced Memo “Waihi Land Rezoning 3 Waters Infrastructure Recommendations” #3416784
 - Summary document
- Produced Memo “Waihi Wastewater Treatment Plant Capacity” #3755626
- Attended and provided input to Workshop #3374730

3.2 Issues Raised Through Process

Below is a broad overview of the major issues identified.

Water supply in Waihi is nearing its consented capacity. Recent upgrades to the Waihi fresh water treatment plant have increased the resilience of the supply and provided for additional treatment capacity over double the consented take. The proposed developments are expected to be able to be serviced by the current consented limits provided there are no ‘wet’ industries established, which is inline with current district plan and plan change constraints. Ongoing improvements in Waihi water loss statistics are demonstrating a trend in the right direction for further water capacity.

The Waihi wastewater treatment plant has had ongoing compliance issues. A plan and significant investment have been put in place to address these concerns with the plant being fully compliant with consented discharge limits since April 2025. Additional funding is set aside in the long term plan for further upgrades. The load from the proposed plan change is expected to be within the current plants operating capacity. Additional focus is being placed on reducing I/I within Waihi in the medium to long term which will further improve the resilience of the plant during wet weather events.

There are limitations on the current gravity wastewater network that would supply zone W3. Additional costs were expected to be able to service this development – perhaps through onsite storage for peak events, a new rising main or upgrades to the downstream network

Additional infrastructure investment is required to extend the wastewater and freshwater networks to supply all the proposed developments within the plan change.

4 SUBMISSIONS RECEIVED

4.1 Submission Topics Reviewed

The two specific comments regarding infrastructure for Ford Road are;

Infrastructure

Submitter Name	Submission No.	Support/ Oppose	Decision Requested	Reason for Request
Horticulture New Zealand	12.3	Oppose	Withdraw W2 from Proposed Plan Change 2.	Lack of comprehensive infrastructure planning with W2 falling outside existing stormwater, wastewater and land drainage catchments.
James McHardy	15.4	Amend	Ensure industrial expansion is accompanied by infrastructure upgrades to prevent environmental degradation and community disruption.	Concern about the adverse environmental and community effects of industrial expansion within the region.

The two comments relating to stormwater are:

Stormwater

Submitter Name	Submission No.	Support/ Oppose	Decision Requested	Reason for Request
Dorothy McHardy	4.5	Oppose	Reject the proposed plan change as it relates to Ford Road.	Stormwater disposal and the effects this may have on kiwifruit orchard/business.
Ian & Elizabeth Keys	17.6	Oppose	Provide clarification and assurances around mitigating stormwater and surface water runoff.	Potential surface flooding associated with a large area of developed land is of great concern as the existing waterway is only sufficient for the current rural situation.

4.2 Other Comments Within Scope

There are many submissions along the theme of landscaping and lack of bunds around the site (for W2). During construction this is a common way to meet consent conditions regarding noise, dust and management of stormwater runoff. Once the site is established though the landscaping would really depend on what is proposed and the assessment of effects undertaken at resource consent stage.

5 ASSESSMENT

5.1 Response to Submission No 12.3

While the proposed rezoning is outside the currently supplied area, an assessment of the existing infrastructure for 3 waters has been undertaken and found that there is capacity to supply the proposed land change with fresh water and wastewater services. Various infrastructure has been identified for upgrading to enable this expansion should it proceed – the cost of which would be recovered through specific developer agreements or development contributions. A comprehensive design within the development has not been undertaken to allow for flexibility of the types of industrial activities that may establish onsite. There are many ways that a developer could meet SW discharge standards for quality and quantity (depending on the proposed land use activity) and this detail would typically be confirmed at time of application for discharge consent with the regional (and local) authority. To date, assessment has focused on whether the development *could* comply, not on a specific solution.

5.2 Response to Submission No 15.4

All construction activities will be required to be undertaken in line with any subsequent approved land use consent which typically addresses environmental impacts and ensures they are managed according to best practice. There is a trade off to be made between providing space for responsible economic growth of the region and the loss of productive land. Commenting on this balance is not within my scope.

5.3 Response to Submission No 4.5

Under the land drainage act no change in land use is permitted to discharge water in a way that will result in adverse effects on a lower property – including discharge to air or ground. A lower property is also required to accept the flows from the property above it (at the predevelopment levels). Developing an industrial site no doubt has challenges with regards to maintaining neutrality for stormwater quality and quantity but with engineering tools available it is not considered an unachievable target. Without specifying the type of industrial activity the site should have, more specific controls cannot be established at the land use change stage and must be addressed at time of application for land use consent when an assessment of specific impacts is undertaken.

5.4 Response to Submission No 17.6

Similar to Submission 4.5. It is accepted that there is currently a lack of detail for the stormwater infrastructure within the planned zone change which is due to the lack of detail on the type of industry that may set up here. A balance lot has been provided within the plan change area for detaining the peak runoff event for a typical industrial site assuming 80% coverage with impervious surfaces. Stormwater treatment is expected to be undertaken on each lot based on the type of industrial activity proposed as it could vary significantly making a centralised system inefficient to specify. There are many examples of industrial areas that have been responsibly developed with positive outcomes.