



Memo

To: Laura Galt – Hamilton City Council

From: Paul Avery – Beca **Date:** 28 November 2025

Subject: Ruakiwi Reservoir Requirement – Technical Specialist Report for Section 42A Reporting

Technical Area: Civil Engineering & Stormwater Management / Discharge

Version: Final

Purpose

1. This memorandum has been prepared to provide a technical assessment under section 42A of the Resource Management Act 1991 (RMA), in respect of Civil Engineering & Stormwater Management / Discharge in relation to the Ruakiwi Reservoir Alteration to Designation (the Requirement).

Introduction

2. My name is Paul Avery. I am a Civil Engineer with Beca Limited. I hold a Civil & Environmental BEng (hons) and am a member of Engineering New Zealand (MEngNZ).
3. I am a professional engineer and have worked within the civil infrastructure industry since 2008. I have over 17 years' experience on a wide variety of engineering projects in the UK and New Zealand, including civil and stormwater design across infrastructure projects.
4. I have no conflicts of interest.

Code of Conduct

5. I have read the Environment Court Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2023 and agree to comply with it. I confirm that the opinions expressed in this memorandum are within my area of expertise except where I state that I have relied on the advice of other persons. I have not omitted to consider materials or facts known to me that might alter or detract from the opinions I have expressed.

Scope

6. This memorandum covers the following:
 - a. The environmental effects associated with Civil Engineering & Stormwater Management / Discharge of allowing the Requirement, and whether any such adverse effects will be acceptable. Construction effects such as noise, vibration, dust and traffic are understood to be addressed separately by others.

- b. Relevant matters raised, and relief sought, in submissions.
- c. Relevant statutory considerations
- d. Recommended amendments and/or additions to the Requiring Authority's proposed designation conditions.

Executive Summary

7. This memorandum provides a technical assessment under section 42A of the Resource Management Act (RMA), focusing on Civil Engineering & Stormwater Management / Discharge aspects related to the Ruakiwi Reservoir Alteration to Designation (the Requirement). Following a review of pertinent documents, an on-site visit, and analysis of specific issues raised in submissions.
8. In my opinion, from a Civil Engineering & Stormwater Management / Discharge perspective, the proposed works for which designation is sought can be managed by appropriate designation conditions, and will have adverse effects that are no more than minor and comply with the relevant statutory requirements discussed above. No new or modified conditions are recommended.
9. There were no submissions against Civil Engineering & Stormwater Management / Discharge matters and therefore have no recommended responses to submissions.

Documents considered

10. The following documents have been considered in the preparation of this assessment:
 - a. *Central City Reservoir - Ruakiwi: Notice of Requirement for an Alteration to an Existing Designation: August 2025: Prepared by Bloxham Burnett & Olliver (BBO) for Hamilton City Council (the NoR).*
 - b. *Ruakiwi Reservoirs Project, Ruakiwi Road, Hamilton – Assessment of Environmental Effects Report to Support a Resource Consent Application to Waikato Regional Council – Earthworks & Stormwater Discharge: August 2025: Prepared by Bloxham Burnett & Olliver (BBO) for Hamilton City Council (the AEE)*
 - c. *IAF Central City Reservoir & Booster Pump Station – Stormwater Assessment & Design Report (Appendix C to the Resource Consent Application): Prepared by WSP for Hamilton City Council (the SWA)*
 - d. Submissions provided by Hamilton City Council (HCC).
 - 001 - Ernest Ross Needham
 - 002 - Department of Conservation
 - 003 - Phil Evans
 - 004 - Lyall Duffus
 - 005 - Glenda Morrissey
 - 006 – James and Jill McCulloch

None of the Submissions above raised Civil Engineering or Stormwater / Discharge matters.

Site visit

11. I visited the site on 05 November 2025. This involved a walkover of the whole site within the proposed designation and the adjacent road reserve. The included the area around the existing reservoir and existing site entrance.

Analysis

Introduction

12. In my opinion, the NoR including:

- Appendix B (Design Drawings)
- Appendix C (Designation Drawings)
- Appendix K (Civil Design Report and Erosion and Sediment Control Plan)

Provides an appropriate level of analysis of the effects of the works on Civil Engineering & Stormwater Management/ Discharge matters.

The NoR includes information taken from the SWA and the AEE, which supports this opinion.

Summary of Information Considered

13. In relation to Civil Engineering and Stormwater disciplines the following information from the NOR application document was considered:

- The presence of existing water infrastructure on the Ruakiwi site includes an existing reservoir and connection points to the city water network.
- Space for vehicle tracking for trafficked areas within the designation and for site entranceways appears sufficient.
- Construction access points and vehicle tracking for heavy productivity motor vehicles (19.45m articulated) has been considered by the applicant.
- Bulk earthworks which include:
 - a. cut to be removed from site
 - b. cut used for preloading of the reservoir
 - c. importing engineered material.
- ESCP will be in accordance with the WRC guidelines.
- The capacity and energy dissipation of scour water/ stormwater pipe outfall to be constructed in (Hamilton) Lake Rotorua.
- Assessment of the need to attenuate flows into (Hamilton) Lake Rotorua to avoid downstream adverse effects.
- Any changes to the contributing catchment of discharges to (Hamilton) Lake Rotorua.
- The proposed new Clarence Street feed pipe will be installed by drilling using welded PE pipe.
- Stormwater treatment of trafficked site areas.

- Availability of temporary laydown, stockpiling and staging areas.

14. I largely agree with and adopt the applicant's analysis for the purposes of this memorandum.

Environmental effects

Stormwater quality

15. There will be potential for contaminated stormwater to be generated from proposed trafficked hardstand areas of the site. The proposed stormwater management approach is to capture runoff from all trafficked areas and treat at source in raingardens. This approach will prevent first flush runoff from discharging direct to the lake and significantly reduce the risk of adverse effects on water quality.
16. Sampled water will contain chlorine but will be discharged in low volumes having negligible effect downstream. The maximum discharge limit will be 0.3l/s. This has been agreed with WRC by the applicant.
17. Scour water will be dechlorinated before discharge preventing any adverse quality effect.

Stormwater quantity

18. No attenuation / retention stormwater management devices are proposed for runoff and scour water discharge as it has been assessed by the applicant that the downstream Lake Rotorua is large enough to provide sufficient buffering capacity. It is noted that there will be adequate space within the proposed designation to provide storage volumes if required to meet the final resource consent obligations.

Matters raised in submissions

19. There were no submissions that raised Civil Engineering & Stormwater matters.

Statutory Considerations

20. I have reviewed the discussion in Section 13.5 of the NoR on the provisions in the statutory documents relating to Civil Engineering & Stormwater / Discharge that are listed below. I agree with the comments on those provisions. In my opinion, based on that analysis, the Requirement is consistent with those provisions.
- a. RMA – Section 5 – Purpose of RMA,
 - b. RMA – Section 6 – Matters of national importance,
 - i. the preservation of the natural character of ... lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development
 - c. RMA – Section 7 – Other matters,
 - d. National Policy Statement for freshwater NPS-FW
 - e. Waikato Regional Policy Statement – objectives:

- Water Resources, Sections 3.12, 3.5.2, 3.5.3
 - River and Lake Bed Module, Sections 4.2.2, 4.2.3
 - Accelerated Erosion, Sections 5.1.2, 5.1.3
 - Discharges onto or into Land, Sections 5.2.2, 5.2.3
- f. Hamilton District Plan – Objectives & Policies:
- Objectives 25.13.2.2 The health and well-being of the Waikato River are protected from the adverse effects of stormwater runoff from subdivision and development and enhanced when development occurs

Conclusions

21. In my opinion, from a Civil Engineering & Stormwater Management / Discharge perspective, the proposed works for which designation is sought can be managed by appropriate designation conditions and will have adverse effects that are no more than minor and comply with the relevant statutory requirements discussed above. No new or modified conditions are recommended.

Recommendations

Designation conditions

No new or modified conditions are recommended.