Appendix to statement by Vision Kerikeri and community groups

Report in 2017 by Fred Terry (infrastructure consultant) on the implications of the UNDER DESIGN of Kerikeri Waste Water Scheme

Cause of under design in the WWTP

1. The inappropriate Latent Capacity Study provided the wrong base information as to the numbers of residences/commercial entities to be served by the WWTP, involving the quantity of sewerage that would be harvested and eventually treated from the Area of Benefit (AoB).

2. A simplistic Residential Zone formula has been established from a Study Area within the AoB, which then establishes average Lot size and Lots per hectare from a given area of available residential land in each area. This includes a reduction factor of 25% for roads and reserves. This erroneous formula has then been applied over the entire area.

3. The Study Area identified Lots and the assumption taken forward to establish a calculation formula was 1 dwelling per Lot. This error then ignores the existence of multiple dwellings, cross leases and commercial properties on many Lots. This vital information is available via the FNDC Rating Data Base, details which should have been used to effectively establish an accurate Latent Capacity. This information and detailed analysis was separately prepared by Alec Cox.

4. The amount of waste water generated within the AoB is totally in excess of the current capacity of the existing treatment facility. The proposed increased capacity treatment plant will demonstrate the basic design limitation in having to be prematurely upgraded well ahead of it's lifetime capacity. The possibility of increased local intense density demand in any sector, could impact on the reticulation line capacity, pump stations, and emergency storage capacities. The volumes could accelerate to be non-compliant again to the proposed Resource Consent of effluent discharge.

5. The current design for the restricted AoB is so under designed, there would be no possibility in include any future expansion of waste water services outside the current proposed AoB.

6. Potential unit intensification within the AoB will need to be carefully designed for each individual catchment to each pump station. This will have a bearing on the provision the reticulation pipe sizes, pump stations and associated emergency storage capacity.

Effects:-

1. The current published financial information associated with the proposed Kerikeri Waste Water scheme in 2017 – capital rate, operational rate, depreciation etc. are now meaningless.

2. The very high cost to retro-fit and upgrade an under designed installation.

3. Difficulty the Council will experience in managing the expected public development aspirations, if denied access to a reticulated scheme both inside and outside the AoB

Remedial Action Proposed in 2017

The only current non-compliant component of the existing scheme is the treatment facility.

1. Review an immediate design of an innovative compliant treatment facility, with sufficient capacity to provide for both short term and integrated district wide plan(s) Much of the work done to date, including the purchase of the treatment plant site would be an excellent start position.

2. Review the options of retaining the constrained AoB or an expanded option of an integrated design, to foster economic development with a larger economic base.

3. Undertake an environmental impact assessment to include the environmentally sensitive periphery residential areas boarding on the Kerikeri Inlet, river and estuary waters.

4. Invite the Northern Regional Council to participate the planning design of waste water reticulation of residential properties adjacent to the local marine environment. NRC have confirmed they will be enhancing their regulatory sampling of these waters for compliance.

5. Conduct an economic impact assessment of each option, which would focus on affordability to ratepayers. Intensify and renew public consultation through the up-coming review of the Long Term Plan process

6. Plan for the future with a Resource Consent application sufficient to accommodate the proposed discharge volume of treated waste water.

7. Urgently engage a local Kerikeri based engineering consultant to independently peer review the entire planning process thus far, and present findings to Council. Terms of reference to include, an up-to-date examination of Kerikeri's growth capacity, development potential, and environmental and financial impact assessments.

Fred Terry
Infrastructure Consultant 27th February 2017

Additional comments - 5 November 2025

Had the recommendations of the original Beca Review (30th October 2017) been taken up by council, the Kerikeri WWT Plant would now have the capacity to serve the community growth currently and in the near-term.

The strange action by Far North District Council's management team included:- The WWTP design engineer, Mott McDonald, *was not required to undertake a review of the decisions made by FNDC in respect to growth*. (Beca, 2017).[1] This was, I believe, essentially the main concern of the Ministry of Health at the time, and precluded both the Beca reviewer and the scheme designers of reviewing the project's essential pump station and pipeline capacities.

The way forward now, is to immediately rise to the challenge with the assistance of the recently formed 3 Waters Done Well Consortium that Far North District Council has signed up to.

[1] Beca's original Review 30th October 2017, page 14, 2nd paragraph.