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# MEMORANDUM

**To:** Courtney Clyne  
Kaitatari (Analyst)

**From:** Stavros Michael  
GM Infrastructure/Manahautū: Tūāpapa me  
te Rākau Whakamarumarū

**Date:** 6 April 2021

**File Ref:**

**Subject:** Rotoiti Reticulation Deed Funding Adjustment Request

## Introduction

With reference to the resolutions of the Rotorua Te Arawa Lakes Strategy Group made at their meeting of 12 February 2021 and in relation to the Deed of Funding with the Crown for the Rotorua Te Arawa Lakes Programme.

At that meeting the Strategy Group agreed to make a formal request to the Minister for reconsideration of the current Deed of Funding allocation for the East Rotoiti reticulation scheme and to seek an adjustment on the basis of inflation of construction costs (acknowledging that the 2005 cost estimates in the Deed do not align with the 2021 actual costs to complete the works programmes), scheme consent compliance costs and in effectively addressing scheme cultural effects at Rotoiti.

Funding adjustment is sought for this final scheme in the current programme in the order of \$10m to restore the funding equity to the Deed's principle of 50% Crown and 50% local share costs.

## Background

Household septic tanks and other on-site waste water treatment and disposal systems are an important contributor to degraded lakes water quality (through leaching of nitrogen, phosphorus and pathogens). Accordingly, one of the most effective work programmes under the Deed of Funding between the Crown, Te Arawa Lakes Trust, BOPRC and Rotorua Lakes Council is the installation of community wastewater reticulation and treatment schemes (including the Rotoiti/Rotomā scheme).

The Crown (MfE Funding Deed) was established to assist the pursuit of water quality improvements in targeted Rotorua Lakes and in partnership with the BOPRC, the Rotorua Lakes Council and Te Arawa Lakes Trust. The Crown allocated, in 2005, some \$72 million to that effect. Funds from this pool would need to be matched by a local share in the order of a 50:50 ratio.

The funding contribution by the Crown remained static over its 25 years intended life. There are no terms within the Funding Deed that recognise the effects of CGPI (Cost of Goods Price Indices) inflation, the escalating regulation compliance costs and the need to give effect to cultural impacts mitigation as defined by mana whenua iwi.

Some ten (10) years ago, Council developed a proposal to construct a Rotoiti/Rotomā wastewater reticulation and treatment scheme. The attempts resulted in a failed Environment Court consent

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application in 2012. The application was not successful with considerable abortive costs and primarily (according to the EC Judge) because of a failure to meaningfully address the concerns of local iwi in a culturally appropriate manner. The Court considered that iwi had attempted to communicate and consult with the Council in a meaningful way, but that Council had turned away from such an approach. That failure materially contributed to a trust deficit between the local communities, the local iwi and councils.

In 2013 an integrated community steering group (RRSSG) was established. The RRSSG sought to overcome the legacy of significant relationship trust deficit. Following considerable effort it arrived at a new concept: a single treatment plant serving both catchments with wide support and broad consensus from local stakeholders. The concept plan was submitted to Rotorua Lakes Council and was adopted in 2014.

This is a complex project involving the need to carefully manage a legacy of poor mana whenua relationships and challenging site conditions in close proximity to sensitive water bodies. RLC's approach since 2014 has been to seek to engage, involve and truly understand and address community and especially iwi concerns, and to work in a way that upholds the Te Arawa partnership.

Some of the most important features in the endeavour of rebuilding mutual trust and community support have included:

- A long-term land lease agreement for the siting of high performance MBR based WWTP;
- Providing for on-property pre-treatment systems to address waste water conveyance cultural risks as identified by the Cultural Impacts Assessments carried out by mana whenua;
- A cultural impact team (including technical advisors) operates alongside the project team to ensure that cultural concerns are addressed at every stage of the project;
- All scheme staff are fully inducted at Taurua Marae (including health and safety and the cultural significance of the area);
- Comprehensive cultural monitoring during construction and for the full term of the resource consent;
- Careful design and installation of trunk mains to minimise cultural impacts and to address challenging land terrain adjacent to lakes' waters.

The project achievements to date are significant, particularly considering the legacy issues and the site specific related challenges, including:

- High quality MBR based WWTP constructed and operating;
- 35km of main trunk reticulation constructed and operating;
- Over 200 new STEP pre-treatment systems replaced old and failing septic tanks and are operational at Rotomā conveying influent to the WTP at Rotoiti.
- Extensive interaction with multiple Maori whenua owners to reach legally viable agreements to install municipal infrastructure on their lands.
- A joint open tender procurement process, for the identification of on property pre-treatment systems as required by the resource consent, between RLC and the Iwi Liaison Group.

The remaining work comprises the decommissioning of old and failing septic tanks, the installation of a selected by tender pre-treatment systems at the Rotoiti households and consistent with the scheme scope that was adopted by Council in 2014, the resource consent conditions of 2017 and the Heads of Agreement with Ngati Pikiao.

The extensive, Iwi inclusive, procurement process to identify the most suitable systems for Rotoiti, using multi-criteria assessment including operational effectiveness, system safety, effluent quality performance, cultural preference and long term cost effectiveness has been long and robust. Through effective collaboration with mana whenua and the wider community, there is an emerging,

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enduring and promising bridging of the legacy trust deficit created by the earlier failed scheme attempt.

Final actual scheme costs are important for the local communities who will pay the net capital costs of the scheme but also for the wider district community who will carry the burden of the operational costs of the scheme in the long term. Costs are also important for the Council's own balance sheet.

Given that the physical works for the scheme started with a heavy cost burden (from the earlier 2012 proposal) and the need to invest upfront in meaningful engagement and inclusion to reach consensus, the extended effects of construction goods and services related inflation, better clarity of resource consent conditions and evidence based understanding of ground conditions it is not surprising that the current cost structure is at variance to the scheme's initial, concept based estimate, but close to the signalled initial envelope of uncertainty.

**Cost Information for RLC programmes under the Deed and of the East Rotoiti Scheme**

The Rotorua Lakes Council has direct responsibility, under the Funding Deed, to deliver waste water reticulation schemes. Since 2005 RLC has delivered (in round terms);

Scheme	Gross Costs	Deed Funding	Properties Connected	Future Capacity
	RLC	allocated		In Lines
Lake Rotorua	\$23 m		947	1095
Lake Okareka	\$8 m		260	60
West Rotoiti/Okere	\$11 m		410	200
East Rotoiti (Final part remaining for on property installation)	\$43 m		450	100
<b>TOTAL</b>	<b>\$85 m</b>	<b>\$32.5 m (38%)</b>	<b>2167</b>	<b>1455</b>
<b>Note:</b>				
East Rotoiti is the only scheme with an in-catchment treatment plant. All other schemes are reliant on the Rotorua central WWTP with capital investment to upgrade planned in the next LTP.				

The Deed funding allocation has not been inflation adjusted since 2005. For the RLC's programmes of works (heavily dependent on civil construction elements) and using Statistics NZ Business price index information, a weighted average adjustment for the period 2005-2020 indicates an inflationary pressure of approximately 44% or 2.9% p.a. justifying an adjustment to Deed funds for the RLC schemes to approximately \$46.8 m

*(see attached calculations - Using the Stats NZ Business price index information, Business financial data: December 2020 quarter | Stats NZ, the change in CGPI was calculated to be an increase in the overall index from 31410 as at December 2005 to 44204 (using grand totals) in December 2020 as per the latest information available. This translates to a total increase of approx. 41% over that time period. However, given the CGPI covers a wide range of components from earthmoving to land improvements to pipes etc to define a reasonable inflationary increase a weighted view of the most relevant components were used such that 50% of the*

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weighting is spread across pipelines (relevant for a treatment plant/reticulation system) and pumps, compressors, engines and valves. The remaining 50% balance was spread across a range of other relevant components e.g. earthmoving, electric motors, wiring etc all weighted at between 1-10% as relevant. Using a weighted average we calculated an increase across the date range from 2005 – 2020 at ~approx 44% or approx. 2.9% on average per year from 2005-2020.)

Specific to the East Rotoiti reticulation scheme, in 2014, the Rotorua Lakes Council resolved to;

**“Accept the Preferred Option for the Rotoiti/Rotoma Sewerage Scheme which includes LPGP for Rotoma and on site Biolytix (or equivalent) pre-treatment units for Rotoiti and that both communities be connected to a central MBR wastewater treatment plant and land disposal system”**

The RRSSC report to Council supporting the above resolution noted, in regards to costs of the preferred option, that;

- The scheme cost estimate are **concept level estimates** with an accuracy variance of 30%.
- The scheme cost estimates do not include any allowances for forward inflation or consent conditions.

Rounded - Estimated scheme gross costs of 2014 based on concept design	\$35 m
Rotoma part	\$7 m
East Rotoiti part	\$28 m

The scheme then progressed to complete the Cultural Assessment Impacts reports that were required to inform the resource consent application. The consent application was lodged and finally granted in late 2017. Concurrently land lease agreements were finalised for the siting of the new Treatment Plant on land owned by local Iwi.

The conclusion of these processes together with detail design feasibility investigations works highlighted increasing cost pressures on the scheme and these were reported to the Rotorua Te Arawa Lakes Water Quality Programme Steering Group from early 2018.

Various efforts were made to mitigate or reduce these emerging actual costs pressures and included;

1. Utilising open competitive tenders for all elements of the scheme.
2. Proposed to restrict the scope of the project and exclude from reticulation the segments of communities to the extreme west of the benefit zone (Curtis Street) – This was not accepted by the affected communities.
3. Proposed to construct an alternative access to the new Treatment Plant via adjoining land with easier topography instead of the challenging terrain of the land owned by Haumingi 9B3B. – This was not accepted by the Naumingi 9B3B Trust as it would potentially compromise their future Papakainga housing plans.

With tenders for the final part of the scheme involving the decommissioning of old and failing septic tanks, the supply and installation of pre-treatment systems and connecting local reticulation for some 450 properties in East Rotoiti now closed and fully evaluated in January 2021 the final costs for the East Rotoiti/Rotoma scheme emerge as;

Final scheme gross costs 2021	\$53 m
Rotoma part	\$10 m
East Rotoiti part	\$43 m

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The Rotoma component is not part of the Deed Funds and cost changes are a local share matter.

The East Rotoiti component cost variances are driven in the main by the following elements:

CGPI Composite Indices 7 years from 2014 (calibrated to Stats NZ tables)	\$7.7 m
WWTP Access road and utilities (Land lease compliance)	\$2.2 m
Additional UV treatment for WWTP (consent condition compliance)	\$0.7 m
Maori whenua (multiple owners) legal searches and consents	\$0.5 m
Special design and installations for 180 properties with high water tables	\$1.0 m
Legal/Biolytix trial/CIT/Land/ extended community consultation costs	\$2.2 m
Miscellaneous geotechnical solutions for Maori sensitive sites	\$0.7 m
<b>TOTAL variance to 2014 concept estimate</b>	<b>\$15.0 m</b>

The funding allocated from the Deed for East Rotoiti is \$11.5m. In order to reinstate and adjust the deed funds to the 50/50 ratio with local share the Deed funding needs to be augmented by \$10m to \$21.5 m.

It is important to note that although the provision of on-property pre-treatment systems for this scheme, as required by mana whenua Iwi and the resource consent, is an additional cost element compared to traditional gravity waste water systems or low pressure gravity pumps this provision is not the main driver or the leading factor for cost variance to the initial estimates of 2014.

The local topography of the scheme (properties situated around the lake and influent required to be conveyed to higher ground where the WWTP is located) requires on property pumps and inter mains trunk network transition pumps to convey influent to the treatment plant. A similar system, but utilising Low Pressure Grinder Pumps (LPGPs) instead of pre-treatment systems, has a marginal 10-14% lower cost to these systems if cultural effects were not a major concern. In this case and in view of the failed earlier proposal (2012) in the Environment Court not considering cultural effects is not a viable option.

Considering similar schemes delivered by Council from 2005 to date one can readily note that the on property pre-treatment systems are not the main cost variance driver. On average and calibrating for inflation effects a system involving Low Pressure Grinder Pumps (LPGPs) instead of the proposed STEP or BIOLYTIX would cost for each property around \$14,000 versus the \$15,500 per property for pre-treatment.

**Conclusion**

Tenders for the final component of the scheme have been received and assessed. A preferred supplier contract is ready to be considered by the Rotorua Lakes Council. However, if the Deed funding imbalance is not addressed the local share of the scheme's costs will be roughly 75% instead of the 50% envisaged by the 2005 agreement.

Without the funding balance restoration RLC is unable to consider and agree to the final installation portion of the scheme. Costs are likely to continue to escalate with further time delays and the outcomes sought by the reticulation scheme will not be achieved with failing septic tanks compromising the lake water quality. Further delays would also compromise the repair of relationships achieved between Iwi and Councils since 2012.

The Minister is also requested to consider that the level of deprivation in the Rotoiti community is quite high. Data collected by Iwi to understand the ability of ahi kaa whanau to meet the net costs of the project records:

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- There are 114 Ahi Kaa properties/whānau. Some 97% of these are within the Rotoiti portion of the scheme.
- The median household income is \$48,000.

The anticipated cost of the scheme will be a very hard challenge for most of these property owners.

The Minister's support in this request would be greatly appreciated by the Rotorua Lakes Council, te Arawa Lakes Trust and the affected local communities.

**Stavros Michael**

**GM Infrastructure/Manahautū: Tūāpapa me te Rākau Whakamarumarū**