

Matatā Wastewater – Project Update



Subject: **MATATĀ WASTEWATER PROJECTS UPDATE**

To: **POLICY COMMITTEE**

Meeting Date: **TUESDAY, 23 FEBRUARY 2016**

Written by: **MANAGER STRATEGIC PROJECTS**

File Reference: **A1071784**

1 REASON FOR THE REPORT

At its meeting on 23 December 2015, the Council received a report on the Matatā wastewater project and made the following resolutions.

1. **THAT** the report “Matatā Wastewater Project Update” be received; and
2. **THAT** the Council reaffirms in principle the proposed WO5 scheme as the preferred solution for wastewater management for the communities of Matatā, Edgecumbe and Whakatāne; and
3. **THAT** the Mayor formally updates the Associate Minister of Health and the Chairperson of the Bay of Plenty Regional Council; and
4. **THAT** a rating impact and financial funding model be developed and presented to Council in the New Year for consideration of inclusion for consultation through the Annual Plan process; and
5. **THAT** the model and impact assessment include the Council’s contribution for the Edgecumbe oxidation pond upgrade as well as the flocculent and ultraviolet light discharge quality enhancements for the Whakatāne oxidation pond wastewater discharge; and
6. **THAT** the Council approves further expenditure estimated at \$225,000 to refine the project costs and prepare the Design Review Report for submission to the Ministry of Health by 28 February 2016; and
7. **THAT** the project team visit examples of community wastewater schemes within New Zealand that feature long lengths of pumped raw sewage and centralised wastewater disposal servicing satellite rural townships.

This report provides an update on the project work carried out over the last 2 months.

2 DISCUSSION

2.1 Central and regional government updates

The Mayor, Deputy Mayor, and Chief Executive met with the Associate Minister of Health and officials on 29 January 2016. The Associate Minister advised that the Ministry of Health was not able to raise the subsidy above the existing approved \$6.7M but was supportive of a whole of government approach and would facilitate meetings with the Ministers of Environment, Finance, and Māori Development once the Council had completed its business case.

On 3 February 2016, the Mayor and a number of councillors and the Chief Executive met with the Hon Anne Tolley, MP for East Cape.

It is clear from the above discussions that sourcing additional funding from central Government will be a considerable challenge.

The Mayor has also written to the Chairperson of the Bay of Plenty Regional Council with an update and acceptance of the BOPRC offer to assist with preparation of the business case and its subsequent presentation to Government Ministers and officials.

2.2 Financial modelling and rating impact

The Council has in place an equalised wastewater rating philosophy. The consequence of this philosophy is that new wastewater infrastructure for an individual community is funded across the district by all communities that have community wastewater systems (excluding Murupara). Affordability of a wastewater scheme for Matatā therefore impacts upon other district communities with wastewater systems with the exception of Murupara.

It has always been recognised that a wastewater system for Matatā is reliant on strong external funding support. If that support is not realised, the scheme is unlikely to be affordable for Matatā residents and the wider community.

The estimated capital cost for the proposed scheme which includes the upgrades at the Edgumbe and Whakatāne oxidation ponds is \$32M. The Matatā proportional cost is \$20M. Both figures include the \$3.1M spend on this project to date.

At the present point in time the Council has secured the following funding:

Bay of Plenty Regional Council	\$1.88 million
Ministry of Health (wastewater scheme subsidy)	\$6.7 million
Whakatāne District Council	\$4.6 million
Total	\$13.2 million
Shortfall	\$18.8 million

A financial modelling and rating impact assessment based on internal funding of \$11.8M and external funding of the balance confirms LTP exceedances in rating and borrowing from 2019. These are outlined in the following figures.

Figure 3 Wastewater Rates

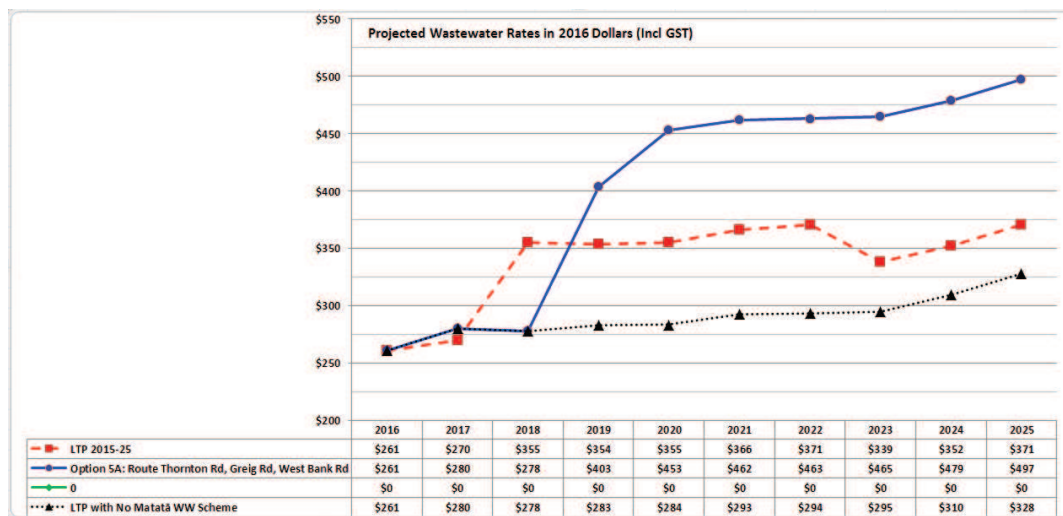


Figure 4 Rate/Rateable Unit

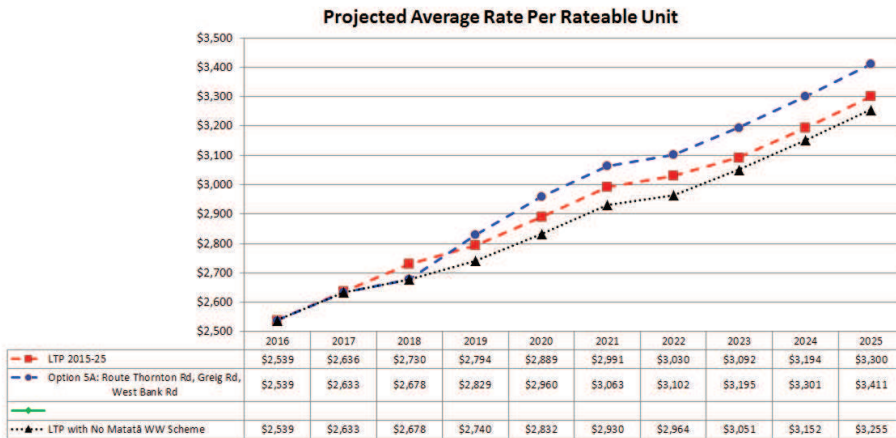


Figure 5 Projected Average Rate Increase

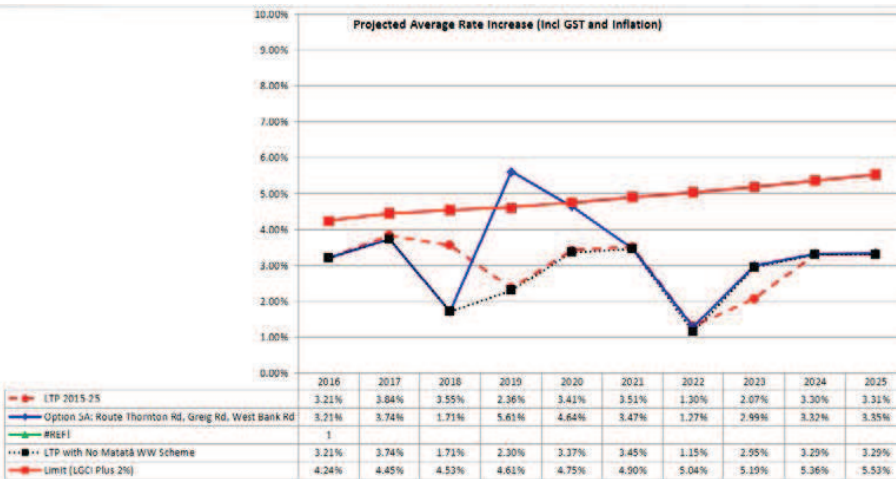
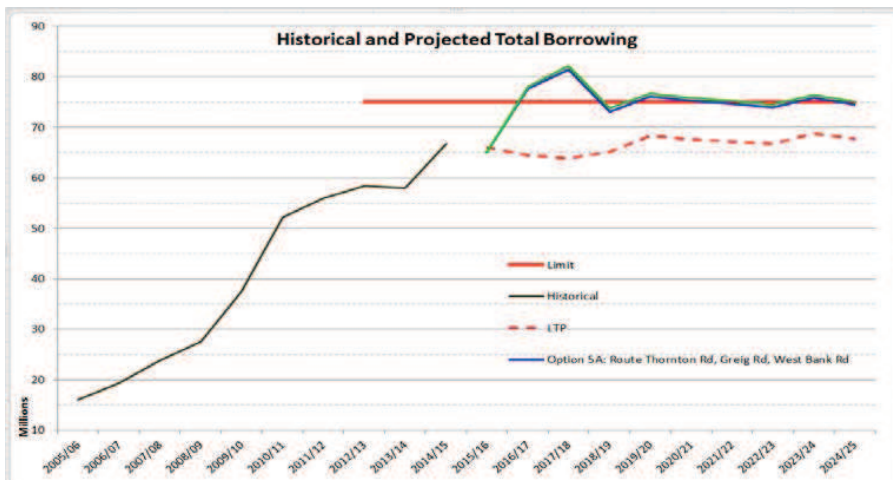


Figure 4 Historical and Projected Borrowing



The Council would be unable to approve \$11.8M as its contribution to the project without being inconsistent with its financial strategy included in the LTP.

If the Matatā project does not proceed, the Medical Officer of Health has requested the Bay of Plenty Regional Council investigate making Matatā a Maintenance Zone under the Regional Council's On-Site Effluent Treatment Regional Plan. A preliminary estimate of the cost to the Matatā community should the Maintenance Plan option proceed is in the order of \$15.2M plus Regional Council costs in effecting a Plan Change and subsequent enforcement. These costs will be borne by individual property owners because no central government subsidy is available for individual on-site wastewater treatment systems.

2.3 Wastewater Field Trip

A delegation of elected representatives and Council officers, supported by Jim Bradley of MWH, visited Timaru District Council and Waimakariri District Council on 15 and 16 February. Both councils had examples of combined wastewater schemes utilising oxidation ponds servicing rural communities and conveying the oxidation pond wastewater to a single ocean outfall which have many similarities to the preferred integrated wastewater solution that has been developed for Matatā.

Key points noted during the visit include:

Generic

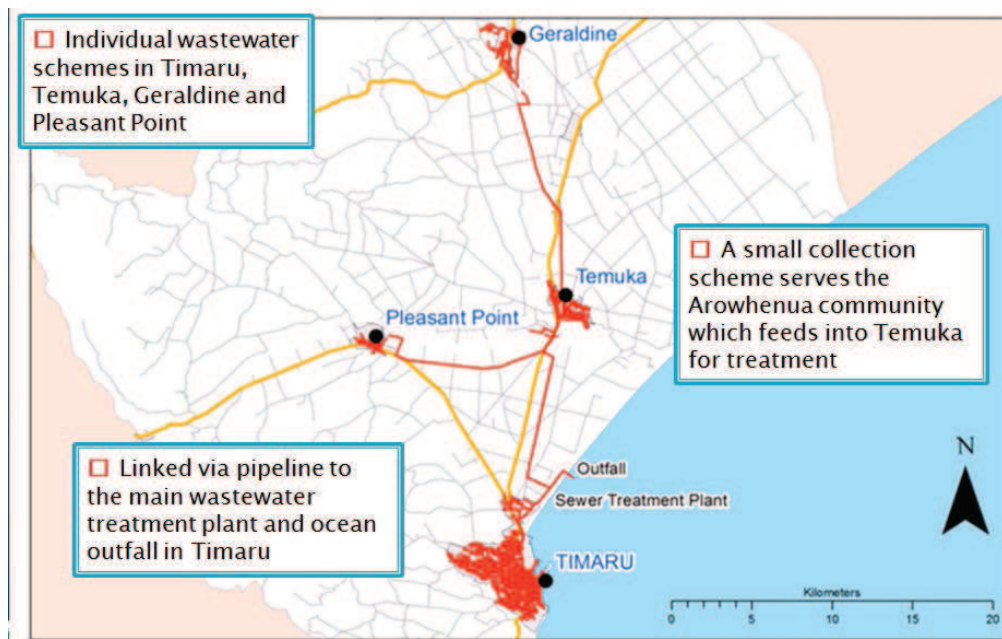
1. The impact of wastewater discharge on freshwater bodies, coupled with a tightening of Environment Canterbury freshwater management rules, were major drivers of ocean outfalls being the preferred discharge solution (rather than inland waterway discharge or land disposal). In all case, land disposal was investigated and found to be more expensive and have higher risks.
2. Socio-economic demographics were in 4-5 deprivation range for communities within both districts.
3. Both councils had strong political and officer relationships with iwi.
4. Recent consent renewals were for a 35-year term. They involved extensive oceanographic investigations and consultation. Public health risks from pathogens (harmful germs) was the key consideration in terms of shellfish, recreation and marine ecology.
5. Resource consent conditions include robust monitoring and effluent trigger values that allow a number of exceedances in a 12 month period for median and 90 percentile conformance limits.
6. Monitoring confirms that end of treatment wetlands add little benefit to wastewater quality.

Timaru District Council

7. Timaru had a well-developed wastewater strategy that has been progressively developed over 15 years, with key milestones specified along a strategic timeline.
8. The strategy was the result of sustained engagement using a multi-stakeholder group supported by a skilled independent facilitator.

9. Seven submissions were received to the renewal of the ocean outfall resource consent with one (DOC) in opposition. This was subsequently withdrawn.
10. The strategy provided for the purchase of farm land around the Timaru wastewater treatment plant, both for expansion and to create an adequate odour buffer. New oxidation ponds and a wetland are the treatment mechanism for a domestic scheme. These were commissioned approximately one year ago.
11. Timaru had an existing ocean outfall 400m offshore. The coast is not used for recreation or shellfish gathering.
12. The communities of Geraldine, Temuka and Pleasant Point all had oxidation ponds which discharged to rivers. A high level schematic of the system is provided in the following diagram.

Figure 1 Timaru District Wastewater Schemes Overview



13. The combined scheme involved conveyance of oxidation pond treated wastewater, the furthest township being 42kms with no odour management required.
14. Upgrades were done over several years in accordance with the overall strategy.
15. The Council has one small grinder pump/pressure sewer scheme at Arowhenua with approximately 40 connections. The Council is responsible for the controls and grinder pumps, and their maintenance (subject to negligence) and property owners are responsible for the pumping chambers (the pots).
16. To facilitate affordability, the Council offered property owners a range of payment solutions from lump sum to quarterly payments over 1, 5 or 10 years.
17. New work is funded by loan, upgrades through depreciation. Domestic wastewater rates were equalised as part of the wastewater strategy.
18. No central government sanitary wastewater subsidies were applied for. However the Ministry of Education contributed to a small community scheme.
19. An industrial wastewater strategy was developed collaboratively with industry.

20. The Council had 12 years of data on individual industry/trade discharge volumes and loadings to help inform decision-making.
21. The separated major industry scheme currently serves the 14 large industries. Each industry is required to pre-treat for specified levels as set out in individual trade waste agreements with each industry, before discharging into the industrial sewer collection system. The Council milli-screen the separate industry wastewater stream before it is combined with the treated domestic wastewater (which includes the communities mentioned above), which then discharges through an ocean outfall.
22. Industrial trade waste comprises 60% (volume) and 95% (BOD loading) of the total wastewater discharge. Municipal and industrial trade waste are separate until final mixing prior to the ocean outfall. This allows for some balancing between the two waste streams and an ability to reduce on-site treatment costs for industry through dilution with the less concentrated domestic wastewater.
23. Despite the volume and loading statistics, an ocean receiving water risk investigation confirmed that bacterial and viruses from human waste were the biggest risk in the coastal waters particularly to the north near river mouths.
24. UV tertiary treatment prior to final discharge is not provided. Natural die-off of the bacteria and viruses occurs in the oxidation ponds and wetlands for the domestic scheme.
25. The domestic wastewater rates are harmonised (equalised) across all the domestic rate payers on the scheme. The current domestic wastewater rate is \$369 pa and the trade waste income from the 14 large discharges is around \$2.4M pa.

Waimakariri District Council

26. Waimakariri had an urban/rural lifestyle growth strategy in place prior to the 2010 Canterbury earthquakes and therefore did not need to create new residential/rural residential areas and associated infrastructure to cater for the influx of new residents displaced from Christchurch which equated to a 10 year growth projection occurring over 2 years.
27. A single ocean outfall 1.5km off shore services 9 communities. It was constructed and commissioned in 2006 slightly before the new Christchurch City outfall which is 3.0km long also discharging into Pegasus Bay of South Brighton beach.
28. The onshore coast has a high recreational use and shellfish are gathered for food.
29. UV disinfection treatment is provided prior to final ocean outfall discharge in order to reduce bacteria and viruses to meet consent requirements. No flocculent is added.
30. Due to geography, the majority of the reticulation network is gravity fed.
31. Multiple communities discharge into one of four oxidation ponds for treatment and all oxidation pond effluent passes through one of the two wetlands before discharge. A high level schematic of the system is provided in the following diagram.

Figure 2 Waimakariri District Wastewater Schemes Overview



32. One community utilises individual property septic tanks as chambers for primary treatment prior to discharge to a reticulated system. The Council will not use this model again.
33. Land application of oxidation pond treated wastewater is very expensive (wastewater rates for individual communities ranged from \$900 per annum (Oxford) to \$2,000 per annum (Mandeville). In comparison, the equalised rate for communities on combined reticulated systems was \$450 per annum.
34. The Council purchased a farm for land application of wastewater from the Rangiora community but the community favoured a combined solution with other communities which resulted in the Council installing an ocean outfall at a cost of \$36M (2006 dollars).
35. Property owners are responsible for all works within the property boundary (eg grinder pumps, pumping chamber and controls).
36. The Council specifies which grinder pumps are permissible in their three small grinder pump schemes.
37. There is minimal trade waste component to overall wastewater volumes or loadings.

Overall, the visit affirmed that the integrated strategy of WO5 with ocean outfall is consistent with the preferred solutions for Timaru and Waimakariri district communities. It confirmed that land based disposal of wastewater is expensive and becoming increasingly more difficult to deliver as a consequence of environmentally constraining central government policies around freshwater management. Neither council had wastewater schemes that pumped raw sewage

long distances, but pumping of oxidation pond treated wastewater up to 42kms was observed with no odour management issues.

The trip reinforced the importance of adopting a long-term collaborative approach to wastewater management and provided good insight into the value of having reliable and extensive monitoring data to inform resource consent renewals/new consent applications. I wish to acknowledge the Deputy Mayors and senior staff of Timaru and Waimakariri District Councils who gave freely of their time and knowledge through presentations and site visits and helped make the trip successful.

2.4 Collaboration with Fonterra

Following preliminary discussions and exchanges of technical information with representatives of Fonterra and its wastewater consultant, Fonterra has advised a risk review of joint treatment systems for the Matata and Edgumbe sewage wastewater and Fonterra's Edgumbe site meant it is unlikely to consider a joint proposal. This took into account issues such as community expectations, the significant risk of successful consenting for a combined wastewater discharge, and the time delay required to fully evaluate such a proposal.

2.5 Next Steps

Completion of the business case is the next milestone in the project. This will be a collaborative exercise with the Bay of Plenty Regional Council. Once the business case has been completed and reviewed, and found to be meritorious, subsequent steps include:

1. Development of an engagement strategy for the purpose of securing additional external funding
2. Development of a multi-party stakeholder group and engagement of an independent facilitator
3. Development of a public/private financial policy that will be transferable to other wastewater schemes in the future (eg Tāneatua, Murupara, Te Teko, Awakeri)
4. Development of a public/private trade waste financial policy for large industries
5. Development of a strategic plan for renewal and/or new wastewater resource consents
6. Engagement with the Bay of Plenty Regional Council and develop current and 2026 hypothetical conceptual consent conditions
7. Development of a monitoring programme that includes data capture of critical bottom line environmental and ecological indicators to support renewal of wastewater consents in 2026
8. Undertaking a septicity modelling study for the long conveyance lines as recommended by MWH and peer reviewers (PDP)

3 ASSESSMENT OF SIGNIFICANCE

The decisions of this report are not significant but are part of a process to arrive at a decision that may be significant in accordance with section 3.3 of the Council's Significance and Engagement Policy:

- 3.3 c) - The financial implications of the decision on the Council's overall resources are substantial.

- 3.3 e) - The proposal or decision is likely to generate a high degree of controversy in the community.

Section 2.2 of the Council’s Significance and Engagement Policy states that a matter shall be determined to be significant if/when:

- a) - Unbudgeted capital expenditure decisions, where the total cost would exceed 5% of the Council’s total annual capital expenditure for the relevant financial year, being **\$1,235,000**.
- b) - Unbudgeted operating expenditure decisions, where the total cost would exceed 1% of the Council’s total annual operating expenditure for the relevant financial year, being **\$738,000**.

The Matatā Wastewater standalone Scheme is included in the LTP with capex of \$12,200,000 and annual opex from \$210,000.

Once the business case has been completed and responses from external funding agencies confirmed, a revised rating impact and financial funding model will be presented to Council for consideration.

4 CONSIDERATIONS

Affordability to the community is the key determinant of whether or not the project will proceed through to implementation. The project team believe there are strong and distinctly separate reasons to support an increase in the subsidy from the Ministry of Health, and an increase in the grant from the Bay of Plenty Regional Council.

From a Ministry of Health sanitary wastewater subsidy scheme criteria perspective, valid and substantive arguments can be raised around public health benefit, environmental benefit, and socioeconomic conditions.

From a BOPRC perspective, the cumulative environmental benefits of removal of septic tank wastewater from the Matatā township, removal of the discharge from the Edgumbe oxidation ponds to the Omeheu Canal, and enhancement of the wastewater quality discharge from Edgumbe and Whakatāne to the marine receiving environment, are significant.

The aim of the project team is to deliver the preferred integrated option at a similar level of wastewater rating impact that was forecast for the previously consented Matatā standalone option. This will require a significant contribution from external funding partners.

5 CONCLUSION

The integrated wastewater solution for Matatā optimising existing infrastructure and resource consents is a solution that is aligned with those implemented by other New Zealand communities. Sourcing increased levels of external funding is the key challenge to successful delivery of the project. Development of a business case using the Treasury better business case model is essential to any representation to Government for funding.

A Maintenance Zone default position will have significant financial impacts upon individual Matatā property owners.

RECOMMENDATIONS:

1. **THAT** the report “Matatā Wastewater Project Update” be received; and
2. **THAT** the Council proceed with the development of the business case in collaboration with the Bay of Plenty Regional Council

Report Authorisation

Report writer:	Jeff Farrell	Manager Strategic Projects
First Approval:	Tomasz Krawczyk	General Manager Infrastructure
Final Approval:	Marty Grenfell	Chief Executive