

Central Hawke's Bay District Council – Report

TO: COUNCIL

FROM: Chief Executive

DATE: 20 March 2012

FILE REF: SER2-103, 104

SUBJECT: REVIEW OF WAIPUKURAU AND WAIPAWA WASTE WATER
(SEWERAGE) TREATMENT PROJECT

1.0 SUMMARY

Council is working in a joint venture with Hawke's Bay Regional Council to treat sewage effluent from the Waipukurau and Waipawa sewerage treatment plants by irrigation to forest blocks. The latest estimated cost for this project considerably exceeds the draft 2012-2022 Long Term Plan budget for this project. An alternative treatment option is available that could meet the requirements of the existing resource consent for the wastewater treatment plants within the draft LTP budget.

2.0 RECOMMENDATIONS

1. That Council put on hold the work on the resource consent and design for the project for irrigation of treated sewage from Waipukurau and Waipawa to forest blocks.
2. That Council review the latest cost estimates provided by the consultants for the project for irrigation of treated sewage from Waipukurau and Waipawa to forest blocks.
3. That Council relook at the BioFiltro option to treat sewage from Waipukurau and Waipawa and include as part of the Long Term Plan Expo.
4. That Council staff report back to Council with a recommended option by 26 April 2012 for inclusion in the final Long Term Plan.

3.0 BACKGROUND

Council is working in a joint venture with Hawke's Bay Regional Council to treat the effluent from the Waipukurau and Waipawa sewerage treatment plants by irrigating onto two forest blocks owned by the Regional Council. Applications for resource consents have been submitted to the Regional Council (Regulatory Section) for the necessary consents for this project. The hearing for the consents is likely to take place in April 2012.

Pattle Delamore Partners (PDP) have been engaged as consultants on this project. PDP have recently provided an updated estimate of the costs of constructing the project as conceptually designed at this time (ie. prior to resource consent being granted). PDP's estimate of the construction costs is \$11,005,785. PDP's comment is

that they consider this estimate to be conservative but based on other similar completed projects. They also comment that it is likely in the present contracting climate that the actual cost could be 10% less than this - \$10,000,000.

In the draft Long Term Plan (LTP) Council has included a budget for the construction of the project to irrigate treated sewage from Waipukurau and Waipawa to forest blocks of \$8,300,000. An estimate of \$500,000 per annum has also been included for the operating costs of the completed project. These budgets were prepared from a previous budget compiled by the consultants CPG who were earlier dismissed from this project. This was the best information available while the LTP was being compiled. The LTP includes discussion about the significant effect of this cost on Central Hawke's Bay district ratepayers.

The resource consent process is expected to cost \$360,000, most of which is budgeted for in the 2011-12 financial year. However \$100,000 would have to be taken out of the LTP estimate of \$8,300,000, leaving a budget of \$8,200,000 to construct the project.

4.0 CONSIDERATION OF ALTERNATIVES

The current 2008 resource consents held by the Central Hawke's Bay District Council for the Waipukurau and Waipawa sewerage treatment plants require the plants to produce a higher quality of effluent being discharged into the rivers by September 2014. Since 2003, Council has investigated a number of options to meet those requirements. Most options either did not achieve the quality required, or were too expensive.

However, recent reviews of advances in sewage treatment technology show that at least one of the previous options considered could now meet the higher 2008 consent requirements at a lesser cost than the forest disposal option and within the budget shown in the draft LTP. In 2007 the BioFiltro option of using worm farms for sewage treatment was looked at by Council but it was considered too new and unproven in New Zealand to risk Council using this option. Also at that time the additional cost of reducing the levels of phosphorus to meet the 2008 consent conditions was prohibitive. Since then a number of worm farms have been built in New Zealand by BioFiltro, the results have established a track record for consistently producing good quality effluent. The results expected from the worm farms are:

	Consent requirement	BioFiltro Results (from Kaka Point WWTP)
cBoD5, mg/L	20	5
Suspended Solids, mg/L	30	15
Total Ammoniacal Nitrogen, mg/L	6	4.5
Soluble Reactive Phosphorus, Mg/L	0.25	0.5 **
E.coli, cfu/100mL	800	5

** Note that BioFiltro has already achieved phosphorus levels of 0.5mg/L. Allowance has been made in the estimate for a commercial dosing plant to be installed to reach the required 0.25mg/L level as required in the 2008 consent.

BioFiltro has provided an updated cost estimate to treat the effluent from Waipukurau and Waipawa. The estimate to construct a system using the BioFiltro technology to meet the 2014 quality standards is:

- Capital cost \$6,350,000.
- Annual operating cost \$350,000.

Comparing the two projects described above based on the new costings.

	Forest Treatment option	BioFiltro option	LTP Budget
Capital cost	\$11,000,000	\$6,350,000	\$8,200,000
Annual operating cost	\$500,000	\$350,000	\$500,000

Forest Treatment option	BioFiltro option
More expensive to build	Cheaper to build
More complicated to operate and maintain	Simple to operate, maintain and amend
Higher monitoring requirements	No new monitoring requirements
Higher operating costs	Lower operating costs
Larger rating requirement than shown in draft LTP into the future	Lower rating requirement than shown in draft LTP into the future
New consent required. The conditions imposed in this consent may be different to what is expected and to what has been estimated for. Option is based on the premise "how can we produce a better environmental effect in the Tuki Tuki River system than the effects that would result if a new treatment plant producing higher quality effluent meeting the 2014 standards discharged into the rivers 24 hours a day, 7 days a week". This is yet to be approved through the resource consent hearing process.	No new consent required.
Needs day-to-day operation	Can be left to operate unattended for days
Expensive to alter	Can be altered easily
Takes 50% of effluent out of river, but discharges same quality as now	100% of effluent into river, but higher quality than now
Council has to buy land for enough effluent storage at Waipukurau.	Council owns the land upon which the plants would be built.
Regional Council has invested in the two forests on the basis of being commercial investments, which does not change if Council is not irrigating.	Council not dependent on Regional Council in the future to provide the forests.
	Some members of the public who live downstream of the District might object to the continuous discharge, even if it was of higher quality and met the 2008 resource consent requirements.

5.0 FINANCIAL

A comparison of the increase in the rate cost per property (based on the new costings over the existing wastewater rates) is:

	Forest Treatment	BioFiltro	LTP Budget
2012-13	\$58	\$45	\$41
2013-14	\$260	\$103	\$209
2014-15	\$328	\$192	\$262
2015-16	\$337	\$246	\$279
2016-17	\$373	\$246	\$309

This is based on the Waipawa worm farm being built in 2012-13 and the Waipukurau worm farm being built in 2014-15.

Leading up to the resource consent hearing in April, Council is spending an estimated \$30,000 each week for consent related work. In addition, design work in anticipation of the resource consent being granted, continues. Whilst budgeted for in the Annual Plan 2011-12, these costs are part of the loan that has to be paid off.

6.0 OPTIONS

Option 1

Council put on hold the work on the resource consent and design for the project for irrigation of treated sewage from Waipukurau and Waipawa to forest blocks.

Council review the latest cost estimates provided by the consultants for the project for irrigation of treated sewerage from Waipukurau and Waipawa to forest blocks.

Council relook at the BioFiltro option to treat sewage from Waipukurau and Waipawa and include as part of the Long Term Plan consultation.

That Council staff report back to Council with a recommended option by 26 April 2012 for inclusion in the final Long Term Plan.

Option 2

Continue with resource consenting process and construction the forest treatment option.

(The estimated costs of this project now considerably exceed the budget included in the draft LTP. Extra funds would need to be included in the draft LTP to complete this project. This would require a further consultation process with the community, rewriting and re-auditing of the draft LTP)

The recommended option is Option 1.

7.0 RISKS

Without finalised resource consents for the forest treatment project, there is a large risk that the conditions included in the final consents could require an increase in the cost of constructing this project.

By putting on hold the resource consent process for the forest treatment project pending further evaluation of options, there is a risk that if the forest treatment option was the option finally agreed upon, that Council may not meet the 2014 time line for improved effluent treatment at Waipukurau and Waipawa plants.

Refer also to section 4 – Consideration of Alternatives.

8.0 STATUTORY IMPLICATIONS

A decision to proceed with an option for treating sewage for Waipukurau and Waipawa is needed in order for Council to comply with its resource consents for these treatment plants.

9.0 CONSULTATION

6.1 External

Consultants

6.2 Internal

Elected Members

Staff

10.0 STRATEGIC LINKS

- Draft Long Term Plan

11.0 DELEGATION

The delegations for expenditure given by Council to the Chief Executive are limited to the expenditure approved in the Long Term Plan/Annual Plan. The forest treatment project would exceed the budget shown in the draft LTP. If the forest project proceeds, Council would need to approve an increase in those budgets before work can be committed.

The BioFiltro option can be constructed within the budget shown in the draft LTP.

Steve Thrush
Technical Services Manager