



Answers on Napier's waste-water saga sought.

The saga of Napier's wastewater treatment system continues; the following is part of the Councils web page dealing with the confused progress to date:

“The Napier City Council is proposing to construct a Biological Trickling Filter System (BTF) to further treat the city's sewage and wastewater. This ‘new’ technology [it's not new! see-Note 1.] is being investigated as an alternative to the previously approved primary sewage treatment plant that was to be built because it offers an effective, environmentally acceptable solution at a lower cost.”

What has not been publicised is the lack of co-operation between Napier and Hastings Councils. Napier will not pay what the Hastings Council wants for technical information on the BTF system. It appears the Napier council is repeating, unnecessary trials on their own BTF system. Perhaps this is another reason for local body amalgamation?

The brief history is: [source; Napier City Council Draft LTCCP –volume 3.]

- Napier Council looked ahead in the early 1990's because the resource consent to discharge sewage into Hawke Bay was due to expire in **2002**.
- Public consultation supported **advanced secondary sewage** treatment, despite the cost.
- Council applied for resource consent to discharge **'treated'** effluent, based on a staged treatment plant at Awatoto. Details in: *“Our wastes”, planning for the 21st century”, prepared by Beca Steven consultants in September 1995.*
- Notice was given on 24 May 2000 that resource consent with conditions were different to those applied for, had been recommended.
- An appeal was lodged with the Environment court in regard to the requirement to treat all discharged wastewater to the level of **secondary treatment**. This appeal was successful.
- Napier council was now required to treat all wastewater to a level equivalent of **advanced primary** (stage 1) by **July 2005**, and to treat wastewater of domestic and non-separated industrial origin to **secondary treatment** (stage 2) by 1 July **2015**.
- In **2005** an application was made to delay advanced primary treatment by 30 months to the 31 December **2007**. This was successful.
- Construction started on stage one in 2005/6 [the big hole at Awatoto]. Equipment was purchased including ultra-violet disinfection system. Much of the material & equipment has now been sold off, at a loss, while the rest languishes in storage.

Napier's new waste water discharge [**advanced primary treatment**] was supposed to be operational on **31st December 2007**. Surprisingly the Napier consent was changed on the **8th of March 2007** as follows:

“Extension of deadline for Stage 1. ” From a date no later than 31 December 2010 all discharged wastewater shall be treated to a level equivalent to ‘advanced primary treatment’. See ref.:5.

This will be news to many people in Napier as it now gives the council another 3 years to get their act together or even perhaps a chance to get yet another time extension!

The ‘fly in the ointment’ in this sad saga came when the Hastings Council decided to investigate a biological trickling filter system- [minus a clarifier to remove suspended solids –see Ref.: 6.]. the resource consent conditions were changed to allow them to use an inferior modified system. [See note 2.] This can only be regarded as basic primary treatment-at best!

The Napier Council then decided, after having spent as least \$1 million, to cancel contract work on the Awatoto site and await progress on the Hastings system. Contract cancellation must have cost a significant undisclosed compensation sum.

What happened to the system Napier ratepayers voted for and what happened to the \$48 levy on rates introduced; during Alan Dick’s time as Napier Mayor; to fund the original project? After contracts were let and site work had started according to Council the approved system, was more expensive and would cost more to run than was originally forecast. By then Hastings Council had found an alternative way to treat waste water at a lower cost & effectiveness than Napier’s planned system. Some experts believe this is this form of treatment is unproven at higher Municipal loadings. Napier’s originally planned system would have eventually resulted in the treated waste water being of a standard suitable for discharge to a wet-land area at Awatoto.

What is believed to have happened by informed commentators, outside of the ‘official storyline is:

At least 3 Napier City Council staff had reservations about the viability of the planned system-before it was started. The planned system is not a continuous flow system but is a system whereby ‘batches’ of wastewater would be fed into a treatment holding pond. [The hole we now have at Awatoto]. The pond treatment was to settle the sludge and then treat the fluids with UV light to kill pathogens prior to interim discharge into the ocean and later to the planned wetland after the final stage of the secondary advanced system was built. As work progressed it became apparent this was not going to work because there was too much volume of liquid for the plant to handle.

There are indications the crunch came when it was found there was ground water infiltration of into the sewerage system because of old and damaged delivery pipes in the existing city system. In order to treat Napier’s waste the treatment plant had to be enlarged to carry the volume OR the existing pipes would have to be replaced; or perhaps both. The cost of this exercise [millions] is an indictment on those involved in the project.

Council appears to have formulated a damage control strategy rather than be faced with an embarrassing situation. Hastings Council has inadvertently provided a face saving way out.

The Trickling Filter System (BTF), as designed by the Hastings District Council, is not complete treatment system. Will their treated wastewaters as suitable to discharge to recreational waters – the answer is no. Perhaps a more scientific question would be – how much the biological treatment actually treats the wastewater stream before it is discharged into the ocean? Then there is the question of removing suspended solids. After having caused these suspended solids to accumulate; for what one would assume would be for removal; they then plan to reintroduce them into the water stream. In similar systems that use the BTF system a ‘clarifier’ is used to collect suspended solids.[see note 4] These ‘solids’ are then used in a variety of ways to produce electrical power from the gas produced and/or compost [after killing off all the bacteria and pathogens]. The Hastings system appears to be an inferior pointless exercise and is a sop to iwi’s requirement to pass human waste over ‘rock’! Many Tangata Whenua disagree with this exercise.

Then there was the problem of sludge disposal or further treatment; it appears ‘*someone*’ did not want it at the landfill and utilising it was just too darn hard to contemplate-despite other councils in New Zealand doing just this at great advantage. [See Ref.: 3.]

It’s long overdue that the entire city’s wastewater, including the septic tank serviced areas were upgraded to National and international Standards. **To do otherwise compromises New Zealand’s “clean-Green” image** upon which our tourism & primary product industries rely on. It is also in clear violation of the Napier’s public’s referendum results, to say nothing of us continuing to swim in, and eat kaimoana from polluted waters!

An explanation to the people at large should be provided by Napier Council. A request for information has gone unanswered! The response should include how much has been spent to date with nothing to show for it other than an abandoned hole and what was spent on equipment for the plant. What has happened to that equipment, most of which has reportedly been sold at a loss. The people should be told how bad a state Napier’s sewerage system in? The answers are eagerly awaited.....

Hamilton City reports on its upgraded system, thus-***“The ultimate service to Hamilton, and the one this plant was designed for, is dealing with this city’s wastewater. And it does this with excellent results. We are removing 97 per cent of solids, where before we were only able to take out about 60 per cent. The new ultra-violet lamps kill the bugs before entering the river. The result is treated water that meets bathing water standards when mixed.”***

Rotorua reports similar results, with wastewater ultimately suitable to irrigate forest areas and compost being sold..

If others can do the job right- why can’t we?

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Notes:

Ref.:1. a. Reference “new” technology; the trickling filter is one of the **oldest** forms of biological wastewater treatment, having been applied to sewage treatment in Salford, England in **1893**.

Ref.:1. b. The trickling filter at Milford Sound was constructed in **1995**. Sewage passes through a septic tank system before being pumped to the trickling filter, and then a clarifier with an UV unit was constructed. **Ref.: Trickling filters-Dr Dave Stewart MWH.**

Ref.:2. Media trickling filters are tanks of uniform size gravel or crushed rock, or plastic-spoked wheels (or other plastic shapes, including corrugated sheets), on which grow the aerobic bacterial slimes responsible for cleansing the settled wastewater, and through which air circulates continuously as settled effluent trickles slowly down through stone or plastic media. The slime growths slough from the system continuously, forming a biological sludge for collection and removal from the secondary settling tank.

Ref.: Sustainable Wastewater Management p93 Authors-Dr Gael Fergusson, Andrew Dakers, Ian Gunn. Published June 2003 by MFE.

Ref.: 3. The [Hamilton] plant will produce (from its solid waste) 4,700 cubic metres of methane gas each day. This gas will produce almost 400kw of power – enough to satisfy the needs of 320 households]. **Ref.: Environment Waikato brochure on Tertiary Treatment (new).**

Ref.:4. Primary treatment (settling tanks) with a minimum of 3 hours retention time. “At average dry weather flows the treatment facilities will be designed to give a minimum of 3 hours detention time of the incoming wastewater. With typical domestic sewage this type will achieve a removal of 60% or more of the suspended solids, and 90% or more of settled solids”. **Ref.: J W Bradely MWH evidence for HDC 2.6.**

Ref.: 5.

Recent CONSENT HISTORY-NAPIER CITY COUNCIL.

Consent No. (Version)	Date	Event	Relevant Rule Number	Plan
CD990400W	8 Sept 2003	Consent initially granted by Minister of Conservation following resolution of appeals.	11.4.11	Regional Coastal Plan (June 1999)
CD990400Wa	2 Sept 2005	Extension of deadline for Stage 1. Changes to Conditions 4, 7, 9(a), 10, 12 & 25 (s127)	11.4.11	Regional Coastal Plan (June 1999)
CD990400Wa	8 March 2007	Extension of deadline for Stage 1. Changes to Conditions 4, 7, 9(a), 10, 12 & 25 (s127)	11.4.11	Regional Coastal Plan (June 1999) & Proposed Regional Coastal Environment Plan

Ref.: 6.

A simplified layout showing a settler [clarifier] tank/pond. - Or secondary settling pond, the primary one being on the in-coming side. Hastings plans do not include either a primary or secondary sludge removal.



