

Finding a Solution for the Future

Wastewater proposals for the Rotorua district

- A community-led Project Steering Committee is unanimous on the need to upgrade our wastewater treatment plant, but not yet unanimous regarding the point of discharge.
- We want your feedback to help the Steering Committee and Council in their decision-making later this year.
- The plant upgrade would cost \$29m which fits within council's existing wastewater targeted rate and debt envelope.
- Our wastewater treatment plant receives an average 20 million litres of wastewater per day.



- Wastewater going into the plant includes rainwater, sediment, sewage, industrial wastewater and stormwater.
- The nitrogen discharge from all land use within the Lake Rotorua catchment is 610 tonnes per year. The treatment plant contributes less than 5% of this load.
- Rotorua's current treatment plant has been the most successful initiative yet in reducing nitrogen going into Lake Rotorua.
- Our upgraded plant would produce the best-quality treated wastewater in Aotearoa New Zealand, with a multi-barrier approach to pathogen (germ) removal.

BACKGROUND

Ngāti Whakaue gifted a number of reserves for public purposes as part of the Fenton Agreement, signed in November 1880 by Te Arawa iwi and the Crown. It was negotiated to facilitate settlement of the district and provide for the establishment of the township of Rotorua.

Rotorua Lakes Council acknowledges the gifting by Ngāti Whakaue of the Sanatorium Reserve, on the eastern edges of Lake Rotorua, incorporating Te Arikiroa. The Rotorua wastewater treatment plant is located on the Sanatorium Reserve.

Rotorua has one of New Zealand's best wastewater treatment systems for nitrogen removal.

The key reason we treat wastewater is to protect the environment and public health. Currently two thirds of our wastewater goes through a 5-stage Bardenpho biological treatment process and one third through a Membrane Bio-Reactor process. Recovered water from the treatment plant is still high in phosphorus and pathogens (germs). It is currently sprayed in Whakarewarewa Forest.

Council and CNI Iwi Holdings Ltd (as land owner) have agreed to end forest spraying by December 2019.

In 2014, the Rotorua Project Steering Committee was formed to identify a solution, headed by an independent chair and made up of iwi and other key stakeholders, with support and advice from the district and regional councils, and independently chaired cultural and technical sub-committees.

WHAT'S HAPPENED SO FAR?

At a Lakeswater Quality Society workshop in 2014 it was suggested that Rotorua Lakes Council collaborate with the community to work together to find a suitable solution for the future, to first and foremost improve the mauri of the water and make it as clean as possible before returning it to the environment.

Council agreed, and with key stakeholders, including mandated hapū representatives, the Steering Committee was formed.

The Committee's goals were to find an alternative that would:

- Be life-sustaining and restore the mauri of the water
- Meet standards consistent with the National Policy Statement for Freshwater
- Satisfy regulatory requirements and secure resource consents in partnership with the community and tangata whenua
- Achieve a high level of public health and environmental protection
- Be the best practicable option for Rotorua's future wastewater management.

Once the Steering Committee had identified options, they were worked through and shortlisted, a suite of potential discharge options identified, and indicative costs estimated. The wider community was consulted and responses were fed back into the ongoing process.



HAVE YOUR SAY—HE AHA Ō WHAKAARO?

Find out about proposed treatment and discharge options for Rotorua district's treated wastewater and have your say.

MARAE HUI

Sat 7 May, 10am – 12noon

Te Papaïouru marae
Mataiawhea Street,
Ohinemutu.

PUBLIC MEETING

Wed 11 May, 7pm – 9pm

Sir Howard Morrison
Performing Arts Centre
(SHMPAC), Fenton Street.

SITE VISIT

Thurs 12 May, 4pm

Wastewater treatment
plant and Te Arikiroa
–Sanatorium Reserve.
Bookings required.

RSVP to info@rotorualc.nz
or call the Customer
Centre on 348 4199.

SITE VISIT

Sat 14 May, 10am

Wastewater treatment
plant and Te Arikiroa
–Sanatorium Reserve.
Bookings required.

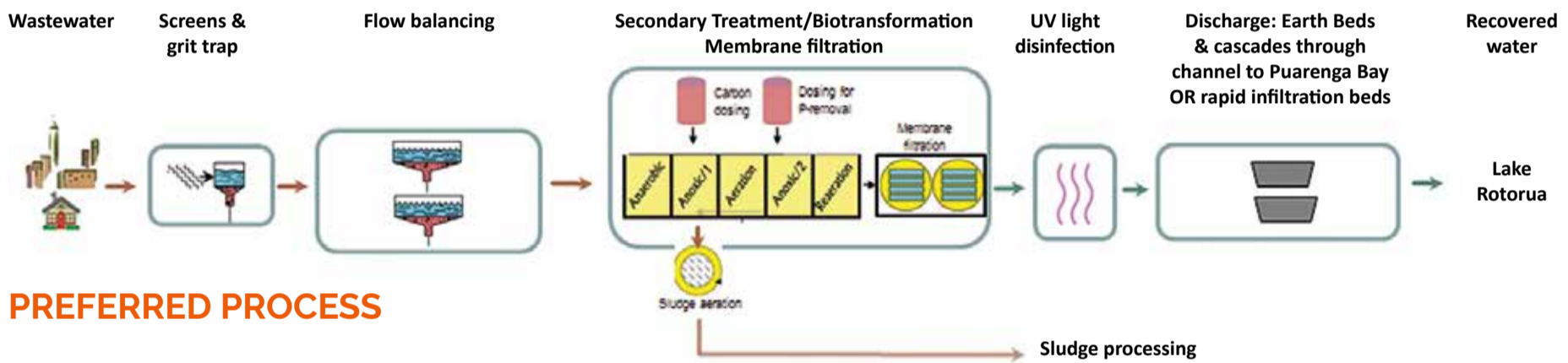
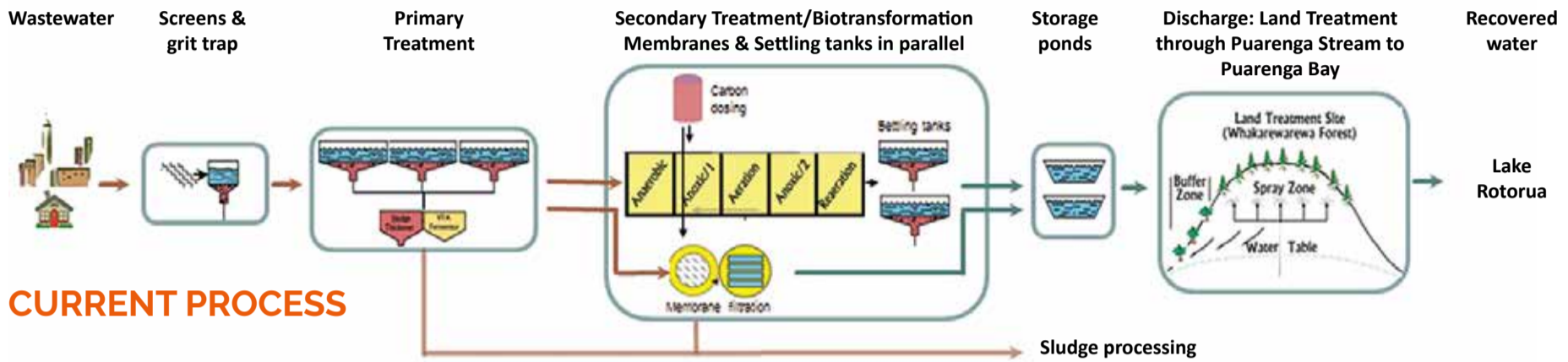
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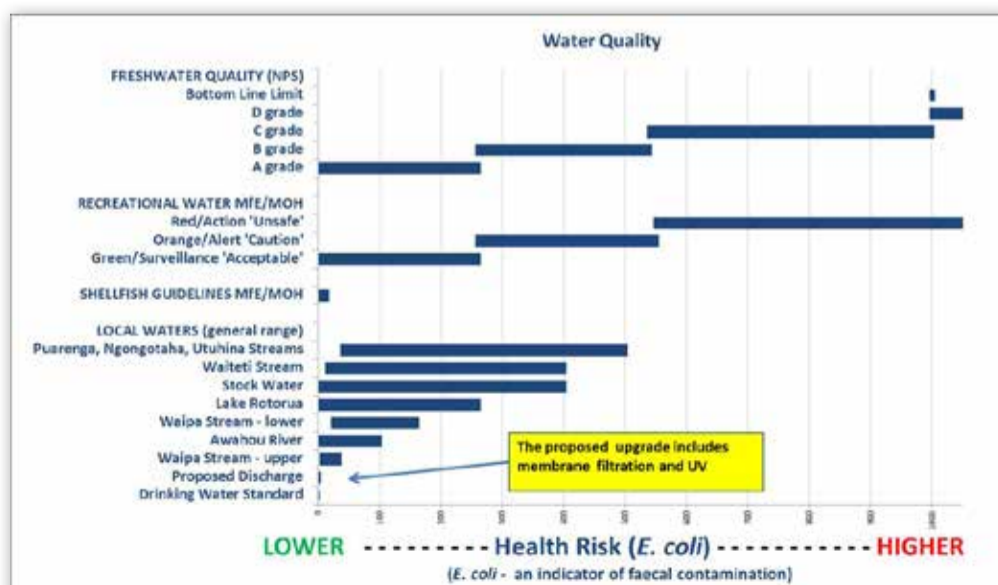
OUTCOME OF THE COMMUNITY ENGAGEMENT PROCESS

After 18 months, the Steering Committee, in conjunction with the supporting advisory panels (Technical Advisory Group, Cultural Assessment Sub-Committee, Council's team, and engineering advisors), came to a unanimous decision to consult on a preferred treatment process and narrowed the discharge down to two options.



WATER QUALITY AND HEALTH RISKS

The quality of the recovered water from this treatment process will be as low in nutrients as practicable, and safe to return to the environment.



BENEFITS OF THE PREFERRED TREATMENT PROCESS

- ✓ The recovered water is very high quality with nutrients as low as practicable.
- ✓ A precautionary approach to health protection with additional barriers to pathogens – which means the quality of the recovered water is safe to return to the environment.
- ✓ Well-known, proven, modern day technology.
- ✓ Streamlined process providing improved operability and reduced risk of operator error.
- ✓ Proposed upgraded process would be less impacted by weather events.
- ✓ Better control of both nitrogen and phosphorus than most other systems.
- ✓ Allows for more efficient use of carbon than other systems; the carbon is required for the biological treatment.
- ✓ The treatment process is streamlined, easier to operate and carries fewer risks than other systems.

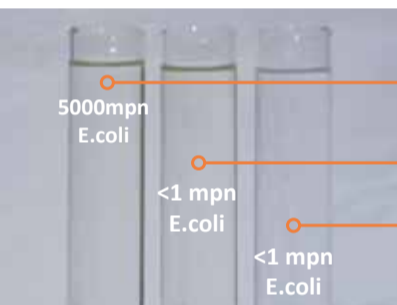
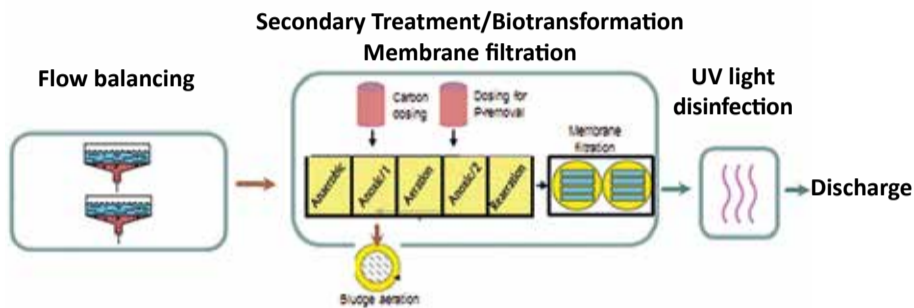
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THE PROPOSED TREATMENT PROCESS

The Steering Committee agrees the recovered water should be as clean as practicable before discharging it to the environment.

Members agreed unanimously on proposing an upgrade of the existing wastewater treatment plant to a full Membrane Bio-Reactor process with extra phosphorus removal and ultra-violet (UV) light treatment. Micro filtration plus UV provides additional barriers to pathogens.



- Recovered water from the existing Bardenpho process.
- Recovered water from the Membrane Bio-Reactor process.
- Tap water.

PREFERRED DISCHARGE OPTION

The preferred, but not unanimously agreed, option is to discharge to earth contact beds on the Sanatorium Reserve near the treatment plant.

The recovered water would flow through the beds, cascade into a channel and flow overland into Lake Rotorua at Puarenga Bay.



An example of what the cascade would look like.



The blue line in this aerial photo shows where the recovered water would flow from the Wastewater Treatment Plant at the top of the image.

ALTERNATIVE DISCHARGE OPTION

The alternative discharge option is to pipe to a location somewhere in the catchment and discharge to rapid infiltration beds, where the water would flow as groundwater before entering the lake. This and other discharge options would require additional piping, further investigation and land.

ECONOMIC

- Allows for Rotorua to grow – the process capacity is not constrained
- Lower operational costs than other options that reduce nutrients sufficiently
- No increase in the council targeted annual rate for wastewater for the proposed upgrade and preferred discharge option.

CULTURAL

- Addresses iwi concerns about the use of the land at Whakarewarewa Forest
- Addresses iwi concerns about discharge in the Puarenga Stream catchment
- A Cultural Advisory Sub-Committee supports the plant upgrade and a cultural impact assessment is well underway.

Impacts of the proposed treatment upgrade and discharge options

ENVIRONMENTAL

- A new discharge location that can cope with increasing volumes
- Improves Puarenga Stream water quality – no more discharging to Puarenga catchment
- Insignificant change in lake water quality and nutrient load to the lake.
- Reduced environmental risk through better process that carries fewer operational risks
- Reduced ethanol dosing costs
- Reduced energy use and costs
- Reduced sludge production
- Reduces footprint of the process.

SOCIAL

- Reduced risk to human health associated with irrigation in the forest
- Reduced risk to human health through improved water quality in Puarenga Stream
- Reduced discharge of pathogens to Lake Rotorua.

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CULTURAL ASSESSMENT

A Cultural Assessment Sub-Committee was established to oversee a cultural impact assessment of the wastewater treatment upgrade options and potential discharge locations.

This assessment is well underway following the completion of three workshops with local hapū and iwi members, site visits and consideration of a large number of reports, research and technical advice.

A draft assessment and the conclusions and recommendations of the report will be incorporated in the development of Rotorua Lakes Council's proposals.

The sub-committee has supported the proposal to significantly upgrade the wastewater treatment plant to a Membrane Bio-Reactor plus ultra-violet light treatment. It is envisaged the plant has the potential to produce the best quality treated water in New Zealand.

A range of discharge location options are being investigated due to Whakarewarewa Forest being unavailable post-2019.



WE WANT TO KNOW WHAT YOU THINK ...

The public meetings are an opportunity to understand why we're doing this, learn about what's proposed and the process being undertaken to find a sustainable and responsible solution for the future.

You will have the opportunity to ask questions and give feedback. You will also be able to give feedback via email, letter, or through Council's social media channels.



THE COST

- Budget in Rotorua Lakes Council's Long-term Plan (LTP) is \$18.6m
- Both options are a higher capital cost than the LTP estimate and will impact council's debt retirement programme over the 10-year period of the Plan
- It is not practical to stage the upgrade over time.

The plant upgrade and preferred discharge option

- The proposed wastewater treatment plant upgrade and the preferred discharge option to Puarenga Bay is very close to the plant, therefore financial costs and impacts are low
- It would cost an estimated \$29m and would cost less to operate than spraying in the forest
- Council's debt level will increase by \$11m over the LTP period but will remain within the debt cap
- No impact on forecast long-term operational costs or targeted rates due to operational savings compared to the existing forest disposal system.

The plant upgrade and alternative discharge option

- The proposed wastewater treatment plant upgrade and the alternative discharge to rapid infiltration beds require identification of a location
- The initial cost of piping and the ongoing cost of pumping and maintenance of irrigation disposal are high and would cost an estimated \$25m extra, bringing the total cost to about \$54m
- Council's debt level would increase by \$36m over the LTP period and will exceed the debt cap which would affect Council's credit rating and could lead to an increase in the cost of borrowing
- Increase in the wastewater targeted rate of \$74 per year.

HOW TO HAVE YOUR SAY THESE OPTIONS ARE AVAILABLE TO YOU

Attend a meeting (see front page)



Email us: info@rotorualc.nz

Send us a letter:

"wastewater options for Rotorua District"
Rotorua Lakes Council
Private Bag 3029
Rotorua Mail Centre
Rotorua 3046



Drop your feedback in to our customer centre at 1061 Haupapa Street

Go to our website rotorualakescouncil.nz and click on "Have your say" on the homepage

