

# News Update

## Mei Te Vai Ki Te Vai and Te Mato Vai



**Water is a universal resource provided by nature - owned by no-one, but valued by all.**

### At a glance

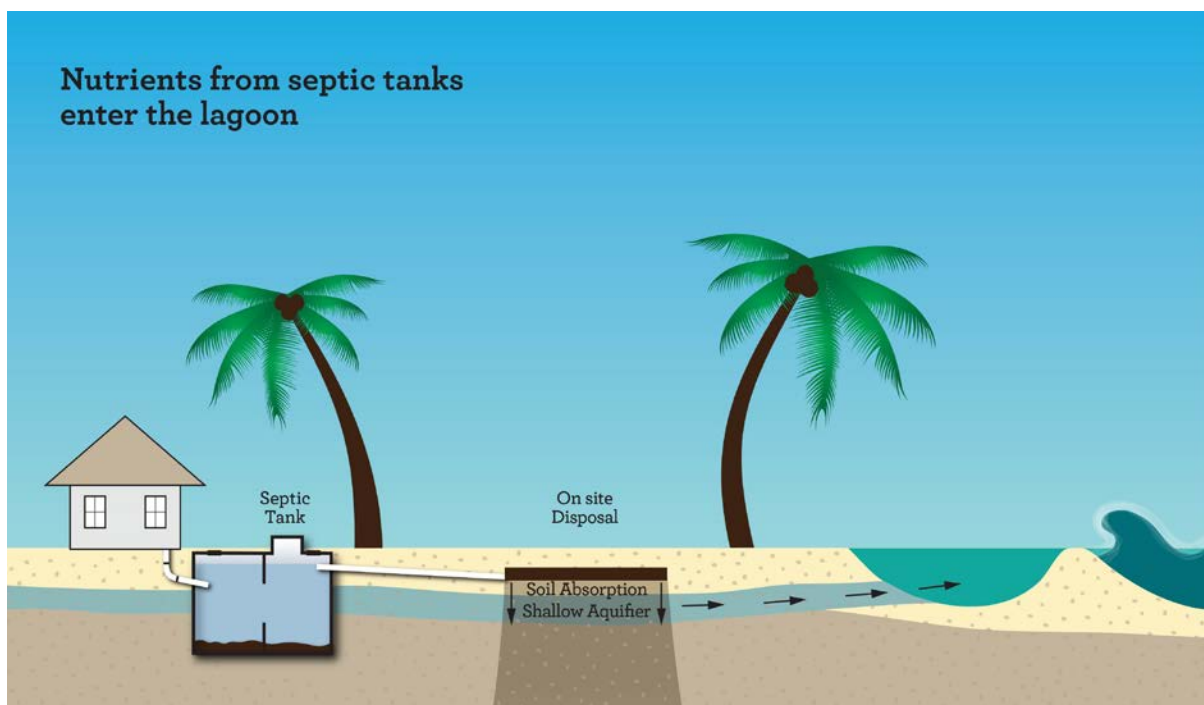
- Site investigations will help inform future wastewater system choices
- Offers of land needed to progress with land-based treatment option
- Muri meeting to discuss the upcoming environmental investigations
- Our response to key concerns about disinfection
- New water filter system tanks arrive

## Mei Te Vai Ki Te Vai - What's happening?

### Site investigations will help inform future wastewater system choices

The next stage of investigations for the Mei Te Vai Ki Te Vai project will provide additional, vital information to support the wastewater treatment plant design and Government's decision on either land-based or ocean outfall disposal options.

**A new reticulated wastewater system is needed to help restore Muri Lagoon's health**

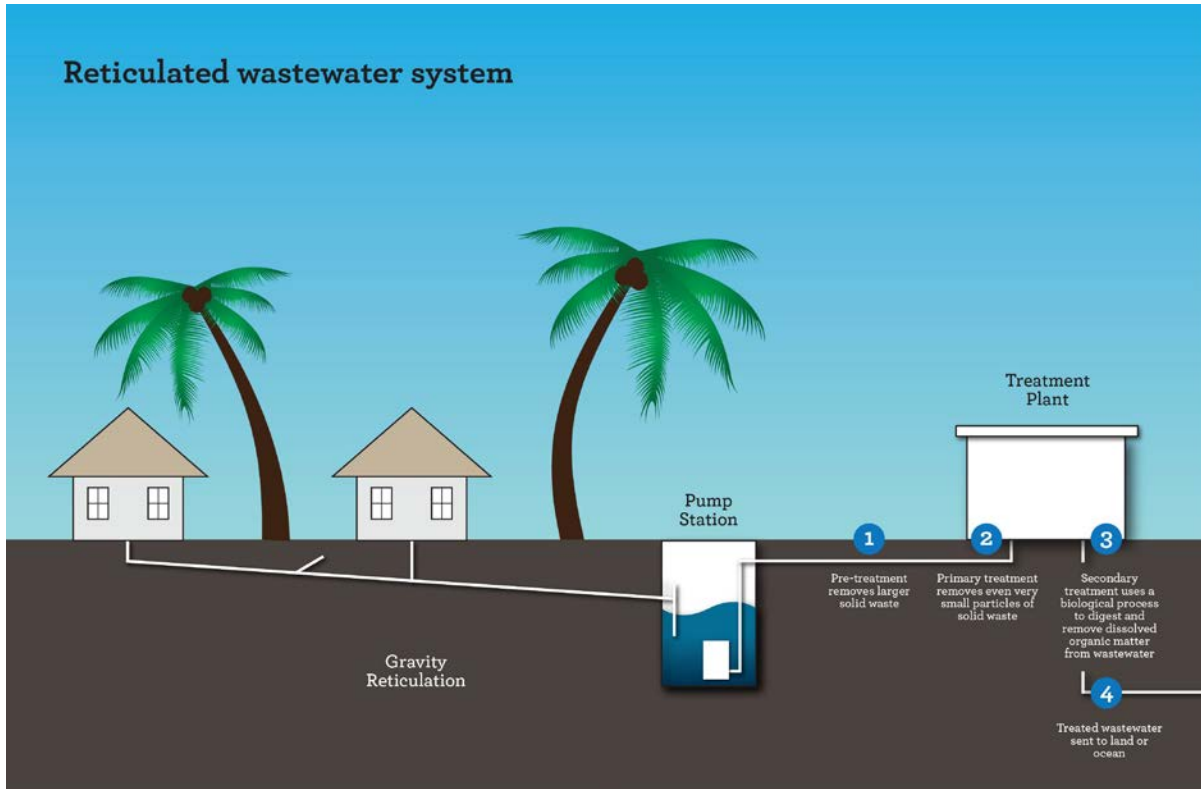


Current system in Muri

In 2018, the Mei Te Vai Ki Te Vai Project Management Unit (PMU) confirmed that nutrients from both household and commercial wastewater treated in septic tanks enter the lagoon. This key finding has highlighted the need for a new reticulated wastewater system to service Muri's coastal area.

The new system will divert wastewater from households and businesses to a central treatment plant, where it will be treated to a much higher level than septic tanks and then disposed of more appropriately.

Septic tanks can remain in use in less sensitive and less developed areas, where the wastewater nutrients don't overload the land capacity and compromise the lagoon's health.

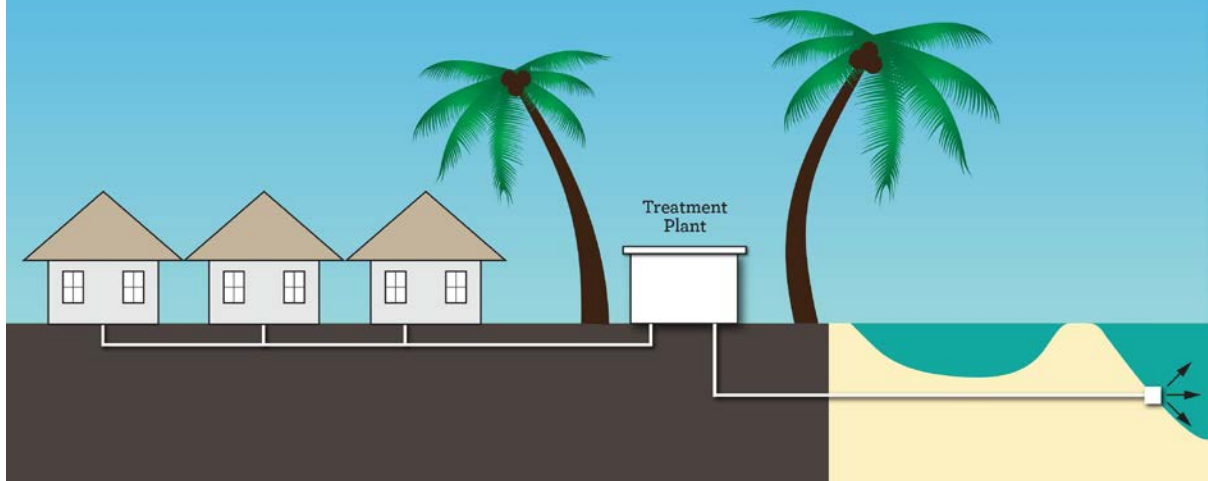


#### Proposed new system for Muri

1. Pre-treatment removes larger solid waste
2. Primary treatment removes even very small particles of solid waste
3. Secondary treatment uses a biological process to digest and remove dissolved organic matter from wastewater.
4. Treated wastewater is sent to land or ocean for disposal

More information is also needed before determining the best disposal option for treated wastewater. Both land-based and ocean outfall options would need to meet stringent public health and environmental guidelines, and require ongoing monitoring and reporting once operating.

### Ocean outfall option for treated wastewater disposal

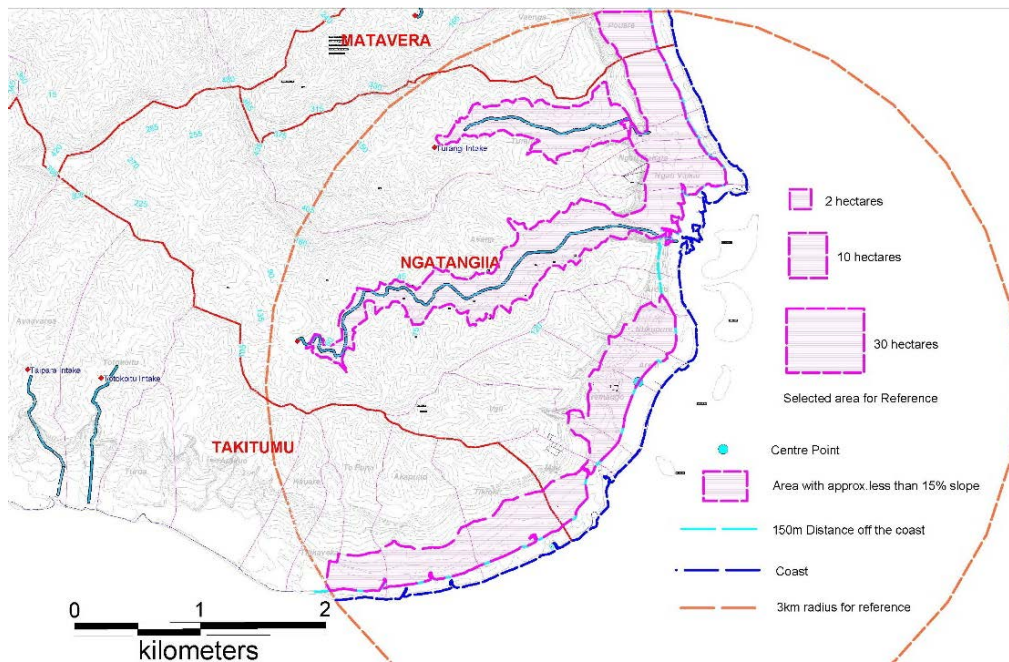


### Land-based option for treated wastewater disposal



The PMU is assessing both options, looking at topography and soil types to identify suitable land. The PMU will also engage experts to lead oceanographic and marine ecological studies, together with the Ministry of Marine Resources, to see how an ocean outfall can meet the standards and guidelines. Locals and visitors may notice some activity in the Ngatangia area while these investigations are being done.

## Offers of land needed to progress with land-based treatment option



Left: Suitable land for land-based wastewater treatment to service Muri

The PMU are still looking for suitable land in the Muri area for land-based disposal of treated wastewater. The PMU wants to investigate both land-based disposal and ocean outfall equally, however there is currently no suitable land offered for the land-based option.

The parcel of land needed is about 16 hectares/39.5 acres of flat to rolling land. The PMU will need to conduct investigations on any land offered to test whether it would be suitable for the land-based option.

**If you think you may have an area of land suitable and would like to offer it for the disposal site, please contact the PMU on 28851.**

## Muri meeting to discuss the upcoming environmental investigations

**On 22<sup>nd</sup> May we held a meeting to discuss the next stage of environmental investigations. These investigations are provide additional, vital information to support the wastewater treatment plant design and Government's decision on either land-based or ocean outfall disposal options.**

Over 50 people came to the presentation led by PMU Environmental Scientist, Dr Murray Wallis, Dr Matt Blacka from UNSW and Tangianau Taoro from the PMU. The main points of the presentation were:

- Why we need new wastewater infrastructure
- What is the current system?
- What are we proposing?
- The two options – land-based disposal and ocean outfall
- The next steps – investigations, government decision and detailed design

To see the full presentation, click [here](#).

# Te Mato Vai - What's happening?

## Our response to key concerns about disinfection

Following public consultation on the disinfection method for Rarotonga's water supply, Cook Islands News conducted a poll on the preferred disinfection method. Results from this poll revealed a majority of respondents preferred no disinfection of the water supply at all.

We would like to clarify some key facts to correct some misunderstandings we're hearing from the community, and reflected in the CI News poll on water disinfection. These are:

### 1. Anolyte is simply another method of chlorination, not an alternative to it.

Envirolyte representatives have provided us technical information that confirms their system involves manufacturing a weak chlorine solution (anolyte, which is hypochlorous acid) using salt.

Regardless of the type of chlorine used (anolyte or other), there is a minimum level of chlorine that needs to be in the water to make it safe. WHO recommends maintaining a minimum chlorine concentration of 0.2 milligrams per litre and maximum of 0.5 milligrams per litre, at the point when it reaches the tap.

### 2. Not disinfecting the public water supply is not an option, because Rarotonga's water intakes do not currently provide safe drinking water.

The Ministry of Health has shared their water safety test results with us – the results prove our water supply contains dangerous levels of faecal coliform bacteria. The test results clearly show our water is unsafe for drinking, bathing and food preparation.

### 3. Not every person infected from contaminated water falls ill, but young children, the elderly and unwell are more vulnerable because they have a lower resistance to disease.

The odds of infection from contaminated water depend upon a number of things, including the type of bacteria or virus, and the resistance of the infected person.

### 4. Even if the Government chooses an alternative disinfection method to chlorine (for example UV) chlorine will still be added to the water to disinfect the pipes.

This is necessary to ensure the water network remains safe from contamination. Chlorine is the only method that can achieve this.

### 5. The Te Mato Vai project management unit has recommended chlorination as the most suitable disinfection option for Rarotonga, but the Government will make the final decision.

Our disinfection options assessment included safety, complexity, reliability, capital cost, and ongoing operational and maintenance costs. Based on this assessment, chlorination is the safest, most cost-effective and reliable disinfection system for Rarotonga.

### 6. Chlorine is a naturally occurring substance added to water supplies in very small amounts – two litres of chlorine solution is enough to disinfect 10 million litres of water.

Chlorinated water is safe to drink, and won't harm the land or marine environment.

## New water filter system tanks arrive



At the start of April, we delivered five water filter tanks to various intake sites around the island; the rest were delivered at the end of May. The filter tanks form a critical part of the new public water supply treatment system the Te Mato Vai project is tasked with delivering.

Te Mato Vai Project Management Unit (PMU) Engineer David Sloan says delivery of the tanks marks a key project milestone: “Multiple treatment steps are needed to get water clean and safe for drinking, bathing and food preparation. The filter tanks play an important role in this, as they will help remove even very small particles and organisms from the stream water. The new multi-step water treatment process will be a significant upgrade from the current system, and will enable us to achieve our goal to deliver a safe and reliable water supply for the people of Rarotonga.”

## Keep in touch with us:

Follow us on Facebook: [Te Mato Vai](#) and [Mei Te Vai Ki Te Vai](#)

Call us on 28851

Email us at [tematovai@cookislands.gov.ck](mailto:tematovai@cookislands.gov.ck) or [vaikitevai@cookislands.gov.ck](mailto:vaikitevai@cookislands.gov.ck)