

OIR: 2324/862

11 April 2024

[REDACTED]
[REDACTED]

Tēnā koe [REDACTED],

Request for Information under the Local Government Official Information and Meetings Act 1987 (the Act) (the LGOIMA)

Thank you for your email of **26 March 2024** requesting the following information:

To the best of your current knowledge and understanding, please can you answer the following questions:

1. When and how was the problem initially identified?

On 8 March 2024, Council staff were on site to collect Raupō and noticed what looked like waste at the stormwater inlet near the jetty. The Council Sewer team visited the site, ran a camera up the stormwater line and found a property with a sewer connection into the stormwater main.

2. If it was identified through sampling and testing of water in the pond, is there a regular schedule for this?

Council monitors water ways not stormwater ponds. The pond was not on a regular monitoring programme.

3. What was the primary cause of sewerage going into the stormwater system and then the pond?

The primary cause of the sewer spill was a cross connection between a household sewer lateral and the stormwater main.

4. How long do you think sewerage has been going into the stormwater system? Into the pond?

The cross connection has been in place since late 2018.

Please note that any information provided in response to your request may be published on the Council website, with your personal details removed.

5. If the cause was a faulty connection of pipes from a residence, should this have been picked up by the KCDC building inspectors during the construction phase?

The likely cause of the cross connection occurred at the time of the original services being installed at the subdivision stage. The developers built the subdivision over two stages but in stage one (completed 2006) they installed all the water, wastewater, and stormwater services for stage two. At the completion of stage one, the developers provided Council with an as-built plan showing all services installed. For the cross connected property, the lot had a lateral (pipe) to the stormwater main and another lateral to the wastewater main.

Unfortunately, the economic downturn meant stage two was only completed in 2017. The new as-built plan sent to Council for the cross connected lot only had the wastewater service. There was no mention of the stormwater lateral, and the updated GIS did not include it. The issue was compounded further as all new lots in stage two had installed curb outlets for all properties. A curb outlet is where the stormwater from a property discharge directly to the street. Please note that there was a policy change after installation of the original stormwater and sewer laterals and that another stormwater lateral pipe was added to cater for an additional soak pit. However, the presence of the additional stormwater pipe was not noted on any revised as-built plan.

Consequently, the drainlayer installed all the internal drainage but when it came to connecting to the sewer, what he thought was the sewer lateral (as shown on GIS) was the original now hidden stormwater lateral, presumably thinking that the available lateral was a sewer pipe as there was no record of a second stormwater lateral.

The building inspector usually doesn't confirm the laterals are installed correctly. The inspections are to confirm the connections between the new drains and lateral are watertight and sign off the drainage installed by the drainlayer.

Usually public or Council staff pick up a cross connection quickly with the "debris" seen and smelt. However, in this case, I believe the Raupō covering the stormwater inlet masked the signs of the cross connection from public or staff view. The hot dry weather of this summer caused the debris to smell and engendered resolving the issue.

Council believes the mixture of installing all infrastructure in stage one, an economic downturn delaying the completion of stage two and incorrectly capturing the assets in the ground caused this poor outcome.

6. If so, what steps are being taken within KCDC to ensure this doesn't happen again?

Council groups consisting of the Sewer Operations, Building Consents, Three Waters Asset and Development Controls staff met to debrief on the causes of the cross connection and measures to minimise chances of this happening again.

Furthermore, Council identified improvements in the subdivision and building processes to prevent cross-connections occurring. But due to unconsented work on private property, there could be chances of recurring cross-connection.

These may include:

- Making sewer cleaning eyes compulsory on all new connections (shown in Appendix one). Historically, a developer leaves a red peg showing location of the sewer lateral. Before a house gets installed, this peg may often get lost or removed. Council staff propose a surface cleaning eye provides a clear picture of where the drainlayer can find the sewer connection.
- A qualified plumber confirms the plumbing connected to the sewer by lifting lid of cleaning eye.
- For properties with a sewer and stormwater connection, install colour coded caps on the laterals to clearly show which is which.
- Investigating options around stormwater outlets into ponds that may prevent debris entering the water body of the pond and possibly into a watercourse public stormwater main.

7. Is it likely that the sewerage flow into the pond has contributed to rapid growth over the last couple of years of raupo (reeds) at the southern end of the pond, where the stormwater enters it?

It may have had a positive effect on growth rates but with an estimated 2000 cubic metres of water in the pond being diluted with stormwater runoff, the impact would be minimal in a normal year.

Also, based on information from Manaaki Whenu (Land Care Research), the Raupō may have had a positive role in treating the water:

Water purification – a modern use Rapid growth of raupō, stimulated by its fertile habitat and continual supply of moisture, results in annual biomass production that is among the highest of any habitat in the world. Rapid decomposition nearly balances this so that only about 6.5% ends up entering peat reserves in the wetland substrate. Dense productive stands enable raupō to be an effective purifier. Water flow is restricted allowing sediments to fall out of the water column, and the high demands of rapid growth absorb large quantities of nutrients and pollutants. Raupō roots also provide sites for microbes to attach to, which break down organic wastes and neutralise their toxicity. Along with other herbaceous aquatic species, raupō is being used in constructed wetlands, built specifically for water purification purposes. Stormwater, sewage, and effluent from mining sites and farm animals can be effectively treated this way. Where toxic residues build up, they can be dug out for further dryland treatment.

If you look at the sample results from the recent sampling in Appendix One, note the difference in E. Coli between the inlet and the northern end of the pond. Despite untreated sewage in the pond, the E.Coli never exceeded the trigger for sanitary survey (to track the source of the contamination).

8. Does KCDC intend to take steps to remove or reduce some of the raupo, which threatens in time to completely take over the pond?

Council currently has no plans to reduce the Raupō in the pond. The stormwater asset group believes there is enough capacity within the pond with the Raupō.

9. How often is the pond water currently being sampled and assessed?

We are currently sampling and assessing the pond weekly. Please see the results in Appendix One.

10. Has there been a downstream impact on the Mangapouri Stream, and is the water quality of that also being assessed and warned of if necessary?

Council monitors upstream and downstream of the pond outlet into the Mangapouri Stream. The Mangapouri downstream seems to follow the same E. Coli numbers as the pond inlet. The water quality is improving.

11. Does KCDC intend to take steps to somehow “flush out” the pond to restore its water quality, or will this be a matter of letting nature take its course during rainfall events?

Council will wait for the next storm to flush out the pond.

12. If the answer is to leave it to nature, roughly when do you expect the water quality will have recovered sufficiently for the pond to no longer be a health risk? Roughly how much accumulated future rain will need to fall?

Council will continue testing the water, particularly at the inlet, until water quality in the pond consistently falls below 1,000 cfu/100ml. With bird life in the pond, 1,000 E. Coli is a typical water quality for a pond.

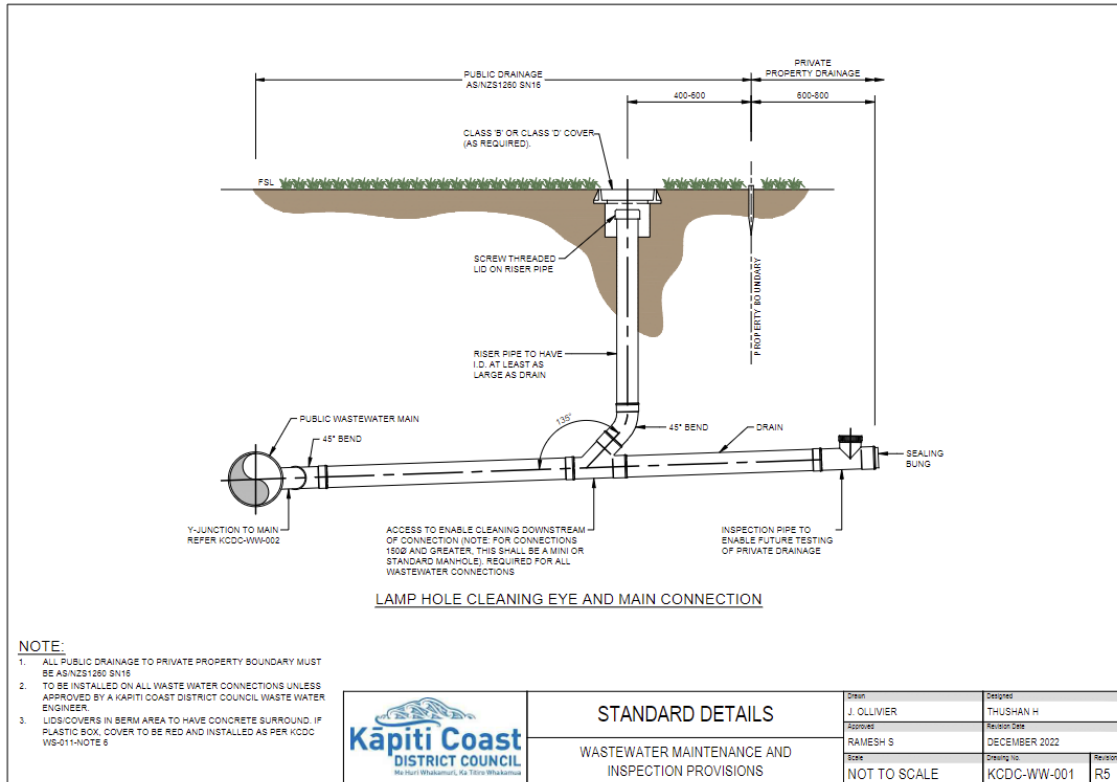
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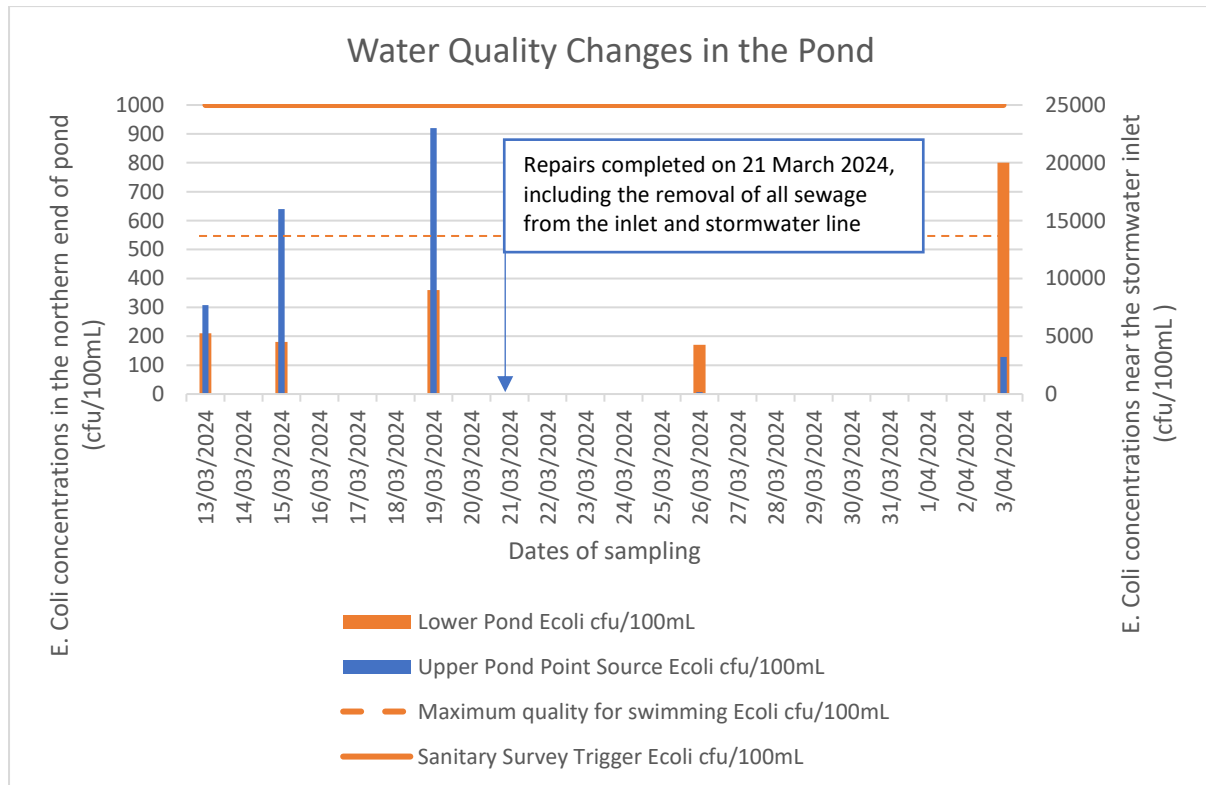
Sean Mallon

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Kaiwhakahaere Rōpū Anga me te Whakahaere Rawa

Appendix one



Original Sheet Size A3 [297x420]



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