



MINUTES of the Raglan Wastewater Treatment Plant Discharge Consenting Process meeting (public) held on **WEDNESDAY 9 SEPTEMBER 2020** commencing 7.00pm through **ZOOM** Video Communications.

Present: Cr Aksel Bech (Chairperson), Cr Lisa Thomson, Ian Cathcart, Special Infrastructure Projects Manager (WDC), Carole Nutt, Waters Contract Relationship Manager (WDC), Teresa Hancock, Senior Communications & Engagement Advisor (WDC)

Steve Howard (Watercare)

Chris Rayner, Fred Lichtwark, John Lawson, Hugh Keane, Waikato Regional Council, Edward prince, Waikato Regional Council; Phil McCabe, Luke Hughes, Awhina Rooney, Wakerori Rooney

I. OPENING MEETING

1.1 Cr A Bech, Chairperson, opened the Raglan Wastewater Treatment Plant Discharge Consenting meeting (public) at 6.32pm.

The Chair outlined protocols for the Zoom meeting:

- The meeting would be recorded and posted on Council's web page.
- Chats can be seen by all meeting attendees. Use the chat function to record questions, and Steve would answer at the end of the presentation or offline at a later date if not appropriate to answer at the meeting.
- To get the Chair's attention, use electronic hand function.
- If asking a question, have camera on as courtesy to Steve.

1.2 The purpose of the meeting was to hear Steve Howard's presentation on the Raglan Wastewater Treatment Plant (WWT) Discharge Consent Application Project.

2. PRESENTATION/TOPICS - Steve Howard, Watercare

2.1 Matters to discuss:

- Work Stream Update
- Wrap Up/Questions

2.1 Slide 1 – Work Stream Updates (Snap Shot)

Stream	
A/B	Existing and extended outfall (TREATMENT: Pond/TSS Membrane/UV)
C	Stream Recharge (TREATMENT: MBR treatment)
D	Deep Bore Injection – No Project Team progression
E	Non-deficit irrigation with winter storage (TREATMENT: Pond/TSS Membrane/UV)
F	Non-deficit irrigation with winter alternative disposal (Marine) (TREATMENT: Pond/TSS Membrane/UV)
G	Re-use: Habitat (Nitro eel) and cropping
H	Bio solids Management

Updates to be provided on work streams A/B, C and E, showing what has happened since the last meeting.

2.2 Slide 2 – Existing and Extended Outfall (Work Stream A/B)



Notes:

- Geophysical testing is set for rock-bed establishment for late August;
- 2019 cost estimate for discharge soln: **\$7M** (NPV)

Time Line/Next Steps:
August Community Meeting:

- Provide advice on sonar results;
- Provide Lab testing results Emerging Organic Contaminant (EOC)

JULY SLIDE

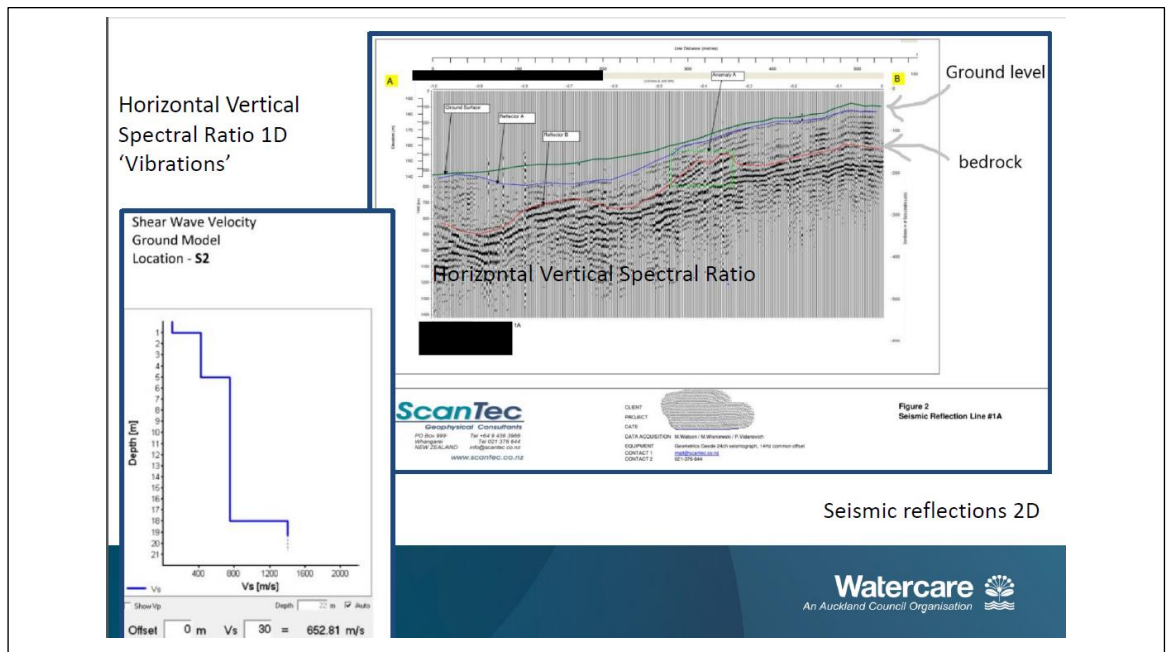


Recap: Rock bed establishment critical for any point source discharge option
Sept update: Testing conducted (last week Aug/Covid delay);
 - Additional location added (upper harbour for knowledge building);
 - Show movie

Recap: natural/manufactured chemicals, many of which are found in common household and personal care products, pharmaceuticals and agrichemicals
Update: (a)Deadline and (b)comparative information sought from Plant & Food Research NZ

- Work Stream A/B – extension of the existing outfall.
- This is not favourable to a lot of people, but it is important that a robust consent application process is undertaken.
- Currently an end ‘stub’ since consenting, outlet broke off because it was weighted down it was not fixed down.
- A study is being undertaken to see where the rock bed is, this is being done by Stantec.
- Samples were taken in March that need to be tested, results will be available at the next meeting.
- Test location was at the existing location (2 sites). With Scantec on site it became apparent that more testing needed to be done to understand what is happening on the coast, further tests were undertaken down by the camp.

2.3 Slide 3



Testing is happening this week (15 September 2020) to get a picture of where the rock layer is.

2.4 Slide 4 – Stream Recharge (MBR) (Work Stream C)

Notes:

- June/July site visits undertaken (Engineer /Ecologist) completed, with a draft report under preparation (90%).
- Draft 2020 cost estimate **\$24M** (NPV- including diffuser contingency)

Time Line/Next Steps:

Prior August Meeting:

- Distribution of reporting (upload to website);
- Greater face/face engagement needed on concept (Hapu/KSH), site visit ?

Status: Reports received –final tweaks

Status: Discharge: Stream recharge/sub surface discharge/earth-root contact engagement underway

Status: Engineering visit undertaken (Rotoiti MBR).

(a) Summary popn and flow/challenges/discharge

(b) Next steps Raglan

Membrane Bioreactor (MBR)

Wastewater → Aeration Bioreactor (A) → Membrane Filtration System (B) → Treated Effluent

Excess Sludge (C)

Vetiver (*Chloris polytrichoides*)

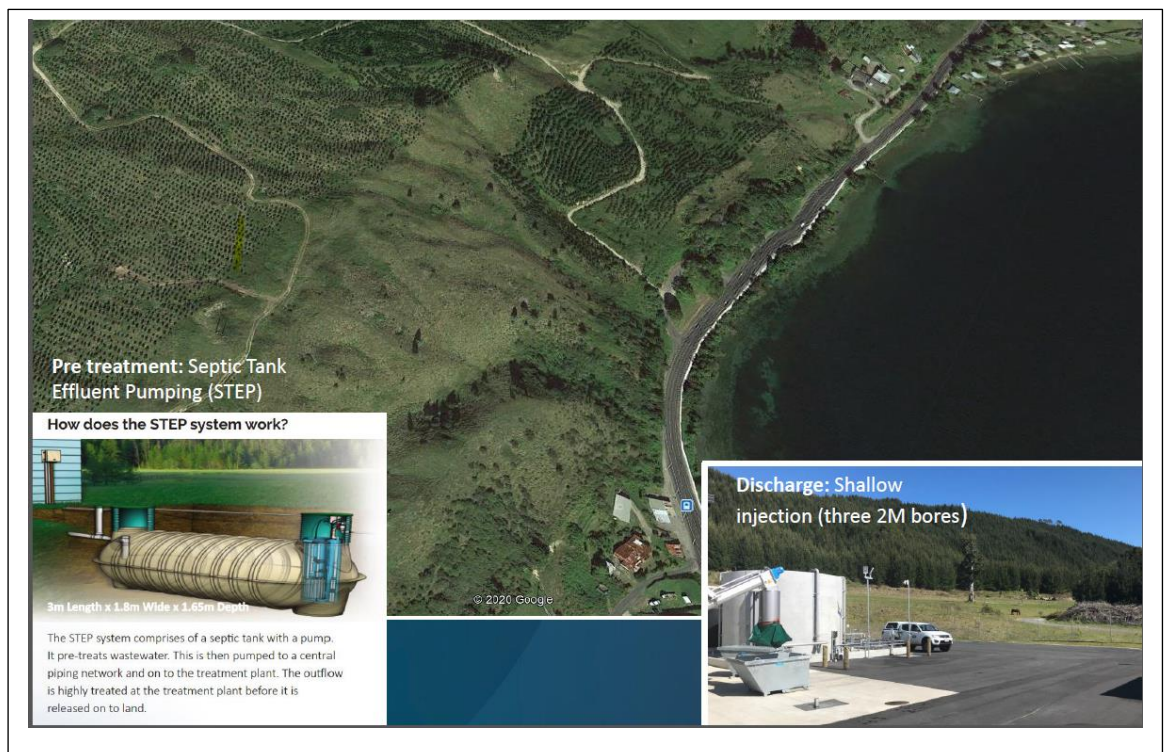
- Last month's slide showed how a MBR could work.
- Picture (bottom left) shows what a MBR could be. It doesn't take a large area. Old oxidation ponds not needed for this practice.
- Beca reports will be circulated once reviewed, which outline how this scenario would work and ecological study. Need to investigate this option.
- Vetiver is an exotic plant (sterile) with a big root area, which is used for post treatment (used up north). It is also used for erosion control.
- MBR treatment still needs to meet cultural needs but could work by using plants.
- A visit to Rotoiti will occur later in the month.

2.5 Slide 5



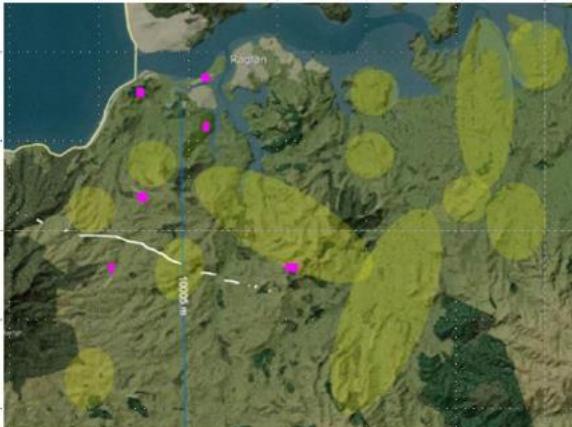
- A = Wastewater introduced to the bio reactor
- B = Cells (filtered)
- C = Sludge Remover

2.6 Slide 6



- Rotoiti plant use a STEP system.
- The challenge was to get the wastewater from the surrounding residential and rural areas to the plant.

2.7 Slide 7 – Non-Deficit Irrigation (to land) (Work Stream E and F)



Notes:

- Necessary landowner contact made (yellow blobs)
- Ability to proceed with testing at pink locations in July for knowledge building. Broadly (a) Allophanic soils near Karioi and (b) Granular orthic soils exist nearer plant;
- 2019 Costing estimate for Maungatawhiri Road (Summer only/excluding land purchase) **\$27M (NPV)**

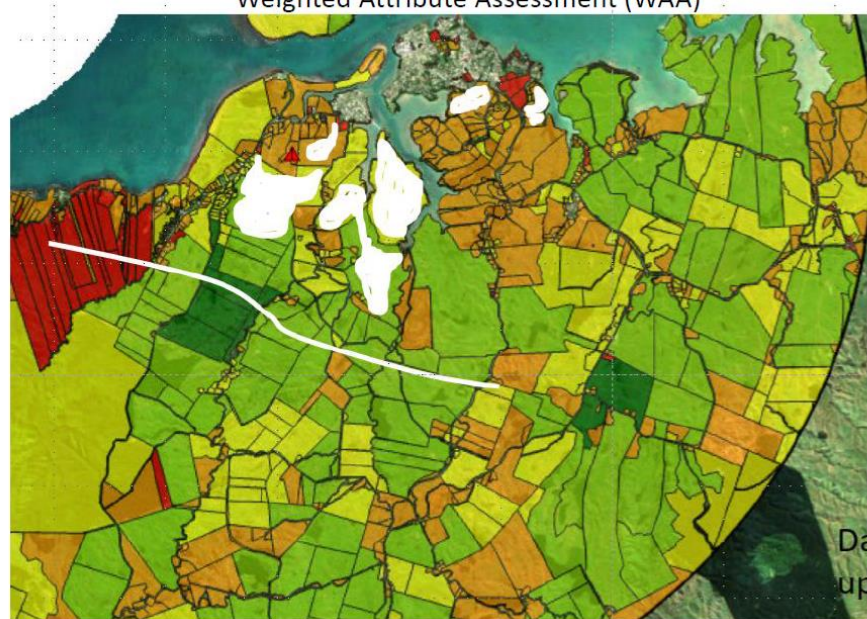
Time Line/Next Steps:
Prior August Meeting:

- Thank land owners for opportunity to visit sites for knowledge building, then engage further on viable scenarios. No land MOU's in place
- Distribution of background report with maps should occur (be uploaded to website)

JULY SLIDE (RECAP)

2.8 Slide 8 – Heat Map – Considering Criteria

Weighted Attribute Assessment (WAA)



Key:
 Dark green: ranked highly for non-deficit irrigation suitability;
 Red: ranked lowly

Watercare
 An Auckland Council Organisation

- White = Waikato 2070 growth

2.9 Slide 9 – Heat Map – Considering Criteria


Table 1: WAA Criteria and Weightings	
Criteria	Weighting
Useable Land	23%
Slope	18%
Drainage	14%
Distance to WWTP	9%
District Zone	14%
Existing Land Use	14%
Land Ownership	9%

Notes:

1. At this stage of the assessment, capital and operational costs have not been incorporated. This is apart from the recognition that distance between the land treatment area and the treatment plant will relate to capital and operational costs.

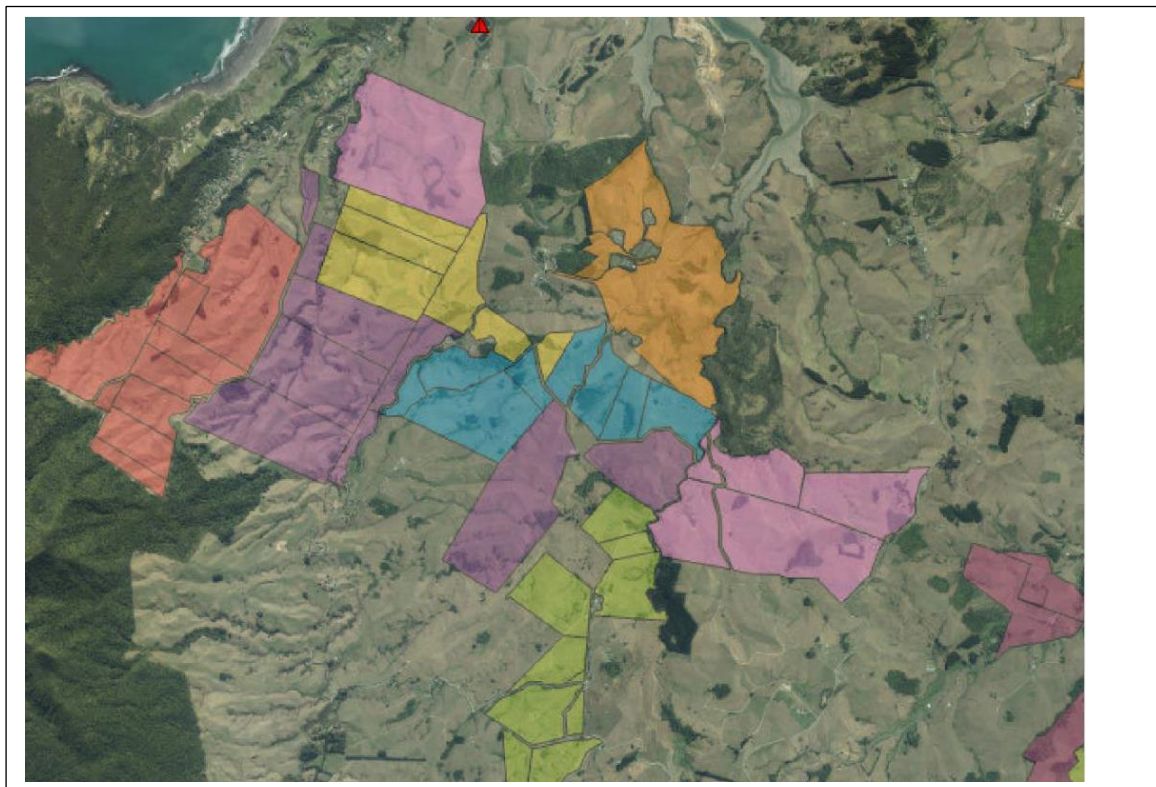
NEXT STEPS

- (1) Update needed: adjacent parcel ownership (multiple titles as a working farm increases theoretical suitability)
- (2) Methodology explanation needed (to be posted on webpage – PDP Ltd -10 min video)



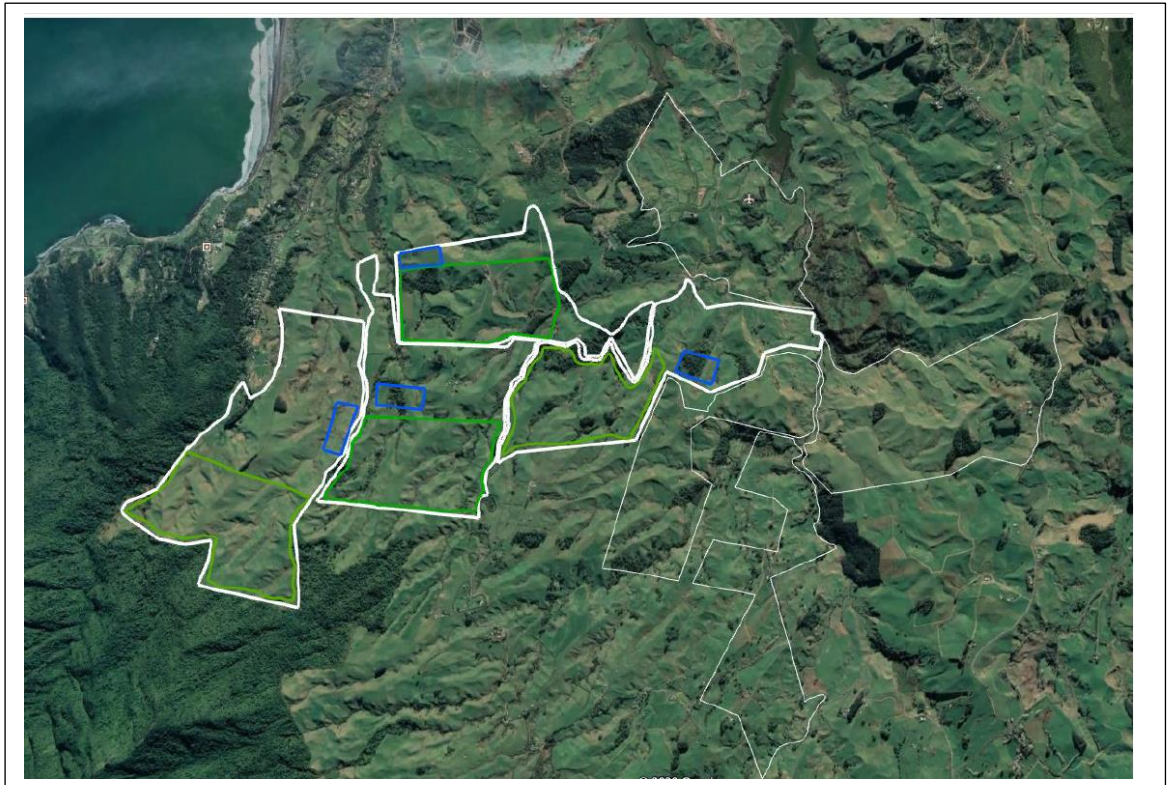
- Steve to upload a recorded zoom to website from PDP expert for information.

2.10 Slide 10



- Revised map.
- Large areas needed for this option.

2.11 Slide 11



- Need 70 plus hectares for non-deficit irrigation (discharge), which would need to be spread over suitable area.

2.11 Slide 11



- Example above from Google Earth.

Key FAQs regarding Irrigation (Winter Storage)

- This is just theoretical – next steps?
- Winter storage effects?
- Dual purpose potential?

End of presentation

- Zoom recap (21st Sept 5:30 -6:30);
- Webpage updates – Historical Folder:
 - 1999 WDC Bulletin;
 - Waitangi Tribunal Summary – WWTP

- Next steps is an approach to landowners.
- Winter storage effects – what happens to the treated wastewater over the winter? Winter months - it is colder, it is treated wastewater that would have gone through the ponds tertiary membrane UV. It might go a little bit green but won't create any adverse effects.
- Land suitable for irrigation and solar panels are likely identical (flat etc), discounting multiple uses. Any landowner engagement must consider core purpose of the project (discharge).

3. **QUESTIONS/DISCUSSION**

3.1 Phil McCabe

How often are outflow samples taken and from where exactly in relation to the pipe?

- The outflow samples are taken as part of the consent requirements. They are understood to be taken monthly at the plant (day pond) as per WRC consent conditions.
- Another method of testing is “dye testing” that shows what is happening.

In relation to using sloping land, have you considered effects of swales on contour for slowing water down?

Methodology considers avoidance of sheet flow off steeper areas. The amount of flow, and the challenge of waterlogged clay soils would mean that overflow of swales would be likely. Winter storage becomes the feasible option during the wettest months

3.2 Chris Rayner

The MBR work stream could be for many different discharges not just stream recharge but could also be good for reuse and or overflow out current discharge location? Or used as a clean irrigation water? (Cabbage trees work better. Cabbage trees are and have been used to treat leachate from the old land-fill since it was capped.)

Could we seriously look at MBR with improved tidal outflow, with culturally acceptable polishing treatments like man-made wetland before going out on the out going tide?

Why have different treatment methods been tied to specific discharge options?

- 1. What level of treatment do we want?**
- 2. What type of discharge do we want?**

(Stream re-charge is a kind of discharge, MBR is a kind of treatment and there is no reason why we can't do land discharge with MBR treated water that would give better environmental outcomes. This could mean we don't have to buy the land that people may actually want MBR treated water, it may be a cheaper alternative than their current irrigation option. Moving forward it would be good if we could separate the treatment and discharge questions. Could we give the MBR treated wastewater to farmers, golf course to use as irrigation?)

Two parts to the question above:

1. Is there an opportunity to have an MBR treatment to a high level treated wastewater?
2. Consider the high-level irrigation to land option?
 - The reticulation and pumping to get land irrigation to sites is a big cost.
 - With regards to farmers possibly wanting it for irrigation, there has to be certainty with the consent, we have to know where the water is going in the winter when water is everywhere and it is hard to discharge it.
 - In terms of uses for the highly treated wastewater – there are definite uses for third parties/cut and carry in the summer time when there is water scarcity.
 - There are many uses. There is a paper nearly completed about what it can be used for, for business cases if someone wants that would accompany the MBR water, and also the pond tertiary water could be used to grow crops, hemp etc.

If we had an MBR system the water we put back in the environment would be much better quality than if we don't have an MBR and we pump half treated wastewater up on to land.

We need to get the cultural acceptance of it.

Would there be three empty ponds able to be used, whether it be eels, grasses or wetlands with an MBR?

Yes – dependent on onsite storage calculations

Are you currently in talks with the two hapū groups?

Yes.

3.3 Hugh Keene

Has the golf course been considered for some sub-surface irrigation, like Pauanui and Whitianga? Have you looked at the options for diverting some of the treated wastewater to the golf course?

Yes, this has been discussed with the golf club and we have carried out some testing there. Did some testing in July and could hardly get a sample out of the ground, it is very tight clay there. There would need to be a business case with the golf club, and Steve needs to get results back to them.

In terms of a discharge solution it isn't, it would take 1/2% during the summer – the soil wouldn't take it. In terms of reuse option it definitely would be but because it is just a reuse option, the cost of getting it to that it would be better spent, the gains wouldn't be there. You could get rid of a little bit of treated wastewater over summer but where does it go in winter.

3.4 Fred Litchwark

With land irrigation, why are you ignoring the long-term underground flow of nutrients to harbour that will have long lasting negative impacts in the future like what is happening to Lake Taupo?

The nutrients to waterways would create an adverse effect. The experts are looking into this, we are trying to avoid any adverse effects going into waterways.

The lower estuary (the stream recharge) – problem is where does the water go? MBR highly treated water and all the nutrients are stripped out of it, but you get the dilution effect. At the moment it goes out on the tide.

Ed Prince

I think Taupo is suffering from some very high historical amounts of fertiliser over applications and the new Raglan high quality effluent should be much less of a problem

3.5 John Lawson

Is the aim still for a November resource consent application?

November was the aspirational 2019 time given, with the short term consent application lodged. Matariki was the next aspirational time frame offered. Parts of application work have proven to have a non-determinable timeframe (ie common to many/all complex applications)

5. Closing of Meeting

Cr Bech thanked everybody for their attendance at this Zoom meeting.

Meeting closed at 8.00pm.