

Additional Comments:

- related to Kaipara District Proposed Private Plan Change PPC 78
- by John Dickie (BE(Civil), M.Env.Sc
- Dated 21 January 2021

(Original submission Number John Dickie 138)

I made an original submission, a "Further Submission" and attended most of, and presented at, the Hearing.

Following this Hearing The Commissioners requested further information from the KDC (mostly in respect to sewerage) and from the Applicant (mostly in respect to water supply).

As the KDC and Applicant have provided the additional information, and as those two issues were the focus of my original submission and presentation I would like to present my thoughts for consideration by The Commissioners.

Having seen the Agenda for the reconvened Hearing to be held on 03 February I understand that there will be no opportunity for me to present these additional thoughts. Nevertheless I will be attending the Hearing and prepared to answer any questions The Commissioners may have prior to or at the Hearing.

### **KDC's Response in relation to Sewerage.**

It is plainly obvious that the KDC does not have any approved plans for sewerage upgrading in terms of technical works, costings therefore and cost recovery from existing and / or new developments. Therefore it is not possible to assess any effects on the community, nor the environment.

Separately, and because of a long standing interest in sewerage at Mangawhai, I have had to date one meeting I called "for anyone interested in the aspect of medium-long term sewerage effluent disposal for Mangawhai". There were 8 attendees, including a local Councillor and a representative of the local Golf Club (of which I am a member) who advised of discussions that have started on the progressive use of sewerage effluent disposal to the Golf Course, with a view to dry season / weather irrigation of the fairways. The meeting generally agreed with the concept of reuse of effluent for such purposes.

However both the KDC Councillor and the Golf Course representative noted and emphasised that the discussions were preliminary and still had a long way to go before anything could be put to the public for the necessary public consultation and funding mechanisms. I was advised (after the meeting) that effectively "still a long way to go" with respect to issues such as:

- what treatment (and costs thereof) would be necessary to enable irrigation of the Golf Course.
- acceptance by Golf Club members of the concept of use of treated effluent for fairway watering, and what costs may be expended by the Golf Club.

- cost sharing (capital and operating) between Golf Club and KDC for installation, operating and replacement / maintenance of components.
- arrangements for “wet weather” on a seasonal basis.

Interestingly during this public meeting information provided by an individual suggests that the current “disposal farm” has had, but less so now, a history of not being able to mitigate off site effects – and hence one would have to question KDC’s statement that the farm has adequate capacity to service the growing population of Mangawhai generally, Mangawhai Central and PP78 for the next decade. There also seemed to be agreement that the scheme has a history of wet weather “un-consented discharges” and while there is a contractual requirement for the current operator to prevent these, the operator is naturally constrained by the physical infrastructure provided.

Having read the various documents available from Council and it’s consultants I have not seen any detailed analysis of performance of the overall sewerage system (reticulation, treatment, effluent disposal) “as is” and “planned” for average conditions and for design extremes – especially wet weather but also dry weather.

Hence I maintain that KDC is not in a position now to provide a firm decision on what will be involved in future sewerage treatment and disposal, nor the funding required for same.

Furthermore, in their “additional information” provided to The Commissioners KDC cite the CURRENT contribution required for providing sewerage services. This is based on current conditions, presumably does not allow for the cited additional balancing and definitely does not allow for future upgrades to the overall system. I have particular concerns that:

- The Applicant’s internal financing modelling assumptions may be based on what they have been advised by KDC would apply to “new connections”.
- There could be pressure on KDC to strike a confidential “special deal” with the Applicant in respect of sewerage connection contributions. Historically KDC has almost always claimed that similar situations are “Commercial in Confidence”. I still have reservations about the Development Contributions levied in respect to the “Commercial” development part of Mangawhai Central.
- The information from Mangawhai Central includes a 200 unit “retirement centre” and as far as I can ascertain such a use does not have a specific “development contribution” or annual charge within the KDC funding policy for the Mangawhai Sewerage. Would these be based on full charges “per unit” or some other (presumably reduced) rate? [There is a very jarring example in Mangawhai of a development complex of multiple (50+) individual units that was approved by KDC where there would be a single development contribution were it to be connected to the Mangawhai Sewerage.]

## **Relationship between Water Supply and Sewerage**

These two aspects are being treated separately, with KDC effectively saying “Water Supply is the responsibility of the Applicant” and the Applicant saying “KDC will supply sewerage at a development contribution (inferring current charges)”

Notwithstanding the costs (and see above) there are important technical relationships and costs that flow therefrom:

- If there are to be water conservation measures (see below) there are reduced hydraulic loadings of the treatment plant, but nevertheless the same organic etc loads, and the treatment plant must be designed and operated to accommodate these.
- Does a claimed “reduced hydraulic loading” give rise to a claim for reduced development contribution and annual cost – and if so how can this be equitably applied to the balance of those connected to Mangawhai Sewerage. [I carefully monitored my own water usage this summer and it was some 1000 litres household use per week for 2 people during the dry parts of December and January.]

## **Water Supply – Applicants additional information**

### “Communal water harvesting”

There is a lot of technical discussion about the feasibility of harvesting from watercourses in either catchments fully within the land of PP78 / Mangawhai Central) or external catchments with suggestions that “Mangawhai Central” has purchased, or is the process of purchasing, land within these catchments.

Taking both cases, there are no details of what would be done, nor whether “Mangawhai Central” would be able to obtain necessary approvals for the water harvesting – and importantly the environmental implications of such harvesting and in the case of “external catchments” what would be the implications for other landholders within those catchments. [As the KDC additional information notes:

*In response to the deterioration of our streams and rivers in New Zealand, Central Government has also produced documents like the National Policy Statement(NPS) Fresh Water and the corresponding National Environmental Standards(NES) of the same, Regional council has started to adopt these outcome based guidelines within the regional plan as required by Central Government, the outcome of these combined documents are already making the ability to draw water from streams and rivers in Northland more and more difficult.” ]*

I also have serious technical reservations whether there could be sufficient water harvested from internal catchments. My property at Mangawhai Heads is on a small catchment (approximately 500m \* 300m – low medium density housing, sandy soils) and careful observations over my living here are that flows are very peaky. During the current dry season while there are very, very small base flows, I doubt that there would have been a total of some 10 hours over the last 6 weeks when there could have been any harvesting. Even during winter, flows rise rapidly during

most rain, and typically go back to quite small flows a couple of hours after the rain stops. No flow monitoring or observations of the internal catchments within the Mangawhai Central area support their claims of ability to harvest adequate water. See also above comments made by KDC in relation to compliance with current policies for Freshwater Streams.

#### “Individual household water harvesting”

Again based on my personal experience I have a large roof catchment (>200m<sup>2</sup>) and storage tank of some 18,000 litres. Even with this my wife and I have to be very careful to ensure we do not run out of water during summer months – and we both have a lifetime experience of living in situations of limited water supply. Given the small size of proposed lots, and area available for a house given site coverage restrictions I do not envisage that individual household water harvesting could be relied on. The Mangawhai Weather Station records show:

- a period of 60+ days during Jan-February 2020 with total rainfall of less than 10mm
- a period of 50 days during November-December 2020 with a total rainfall of about 20mm

#### “Water conservation measures”

The Applicant identifies many water conservation measures that could be applied. Whilst I agree that technically they could be used:

- What mechanism would exist to ensure that they are actually implemented during house construction and sign-off?
- What would stop a householder “after sign off” from replacing a water efficient shower head with a high water use shower head, or replacing a water efficient clothes washer with a top loading washing machine (typically much cheaper)? Or is consideration being given to a mechanism that KDC is now applying to at least one subdivision in relation to landscaping requirements whereby the individual householder is committed to a twice yearly inspection of the landscaping plants at a cost of over \$200 per inspection for several years? - at least this only involves an external inspection, for water conservation devices it would require a detailed internal inspection of the house.
- How could Mangawhai Central, or KDC, stop a person taking a 20 minute shower, or a large bath, or washing towels every day, or any one of the many ways that individuals use excessive water even with “water reducing” facilities in place? It is amazing how often one hears local residents complain about an out-of-town person who cannot restrict showers to less than 15-20 minutes.

Hence in relation to “Water Supply” I consider that Mangawhai Central

- have not demonstrated technically how adequate water can be supplied to the development,

- have not considered the environmental nor effects on other persons (should they extract water from external catchments) of “communal water harvesting”,
- have not shown any evidence of necessary approvals for “community water harvesting”,
- provide information of what Mangawhai Central believes “could be done” but no mechanism for ensuring that it would be done.

***As previously, I consider that in the absence of concrete information regarding sewerage and water supply and the potential effects on the wider community and the environment the application should be declined.***

Submitted electronically  
John Dickie  
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