

Before Independent Hearing Commissioners appointed by Environment Southland

In the matter of Application APP-20181129 by Southland District Council for resource consent to discharge treated wastewater to land and water, and to use land for construction of an effluent storage facility, for the Tokanui township sewage treatment system at 118 McEwan Street, Tokanui

Evidence of Bevan McKenzie

1 May 2019

Applicant's solicitor:

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Qualifications and experience

- 1 My name is Bevan McKenzie.
- 2 I am a Senior Water and Waste Engineer with the Southland District Council for the past 13 years.
- 3 I hold a Bachelor of Engineering in Civil Engineering from the University of Canterbury, New Zealand. I have 26 years' experience in water and waste engineering and land development.

Scope of evidence

- 4 My evidence includes:
 - (a) Scheme back ground and scheme operation
 - (b) Cost to install a liner in the ponds
 - (c) Priority of scheme upgrades

Scheme Background

- 5 The Tokanui wastewater scheme was built in 1972. There are 61 properties connected to the scheme and there are 77 rate-able units. This serves a resident population of approximately 162 persons. The Replacement Cost valuation of the scheme is \$1,112,226 ex GST (\$1,279,060 incl GST).

Operation of the Scheme

- 6 The township wastewater reticulation gravitates to a single pump station. This pump station pumps the wastewater over to the oxidation ponds.
- 7 The wastewater circulates and is retained in the ponds prior to discharge to ground, to the stream and evaporation. There is a retention time in the ponds of at least 80 days at normal dry weather flows.
- 8 The operator visits the ponds at least weekly and the pump station is set up with SCADA and is monitored with alarms.
- 9 The scheme operates well with very few issues, which is an advantage given its remote location.

Cost Implications for Lining of the Ponds

- 10 The ES staff report recommends one of the reasons the consent could be declined is due to the leakage rate from the base of the ponds.

- 11 While lining of the ponds would mitigate this leakage, the cost of lining the ponds is a considerable sum of money, as the ponds are operated all year round.
- 12 The cost for lining the ponds is estimated to cost \$500,000 ex GST. (\$575,000 incl GST)
- 13 There are 61 properties and 77 rateable units on the scheme, this amounts to a cost per rateable unit of \$7,467 incl GST.
- 14 If this amount is funded by loan over 15 years, at Council's current interest rate on loans of 4.65%, the rates increase per ratepayer is \$697 inclusive GST per year. The current 18/19 wastewater rate is per household is \$449.25 incl GST. Therefore the new waster rate would be $\$449 + \$697 = \$ 1146$ (incl) GST per year, if the wastewater scheme was still locally funded. This would be equivalent to a 255 percent increase in the local wastewater rate.
- 15 Council has 18 wastewater schemes. To help fund the upgrades to each of these plants, pipe work and pump station renewals, Council has "clubbed" together these 18 wastewater schemes to smooth these large rate increases. But if each of these schemes is required to upgrade these treatment plants over a short timeframe (ie, over a 10 - 15 year period), then the net effect is still an extreme increase in the wastewater rate.
- 16 It is probable that Council has 16 wastewater schemes to be upgraded in the next 15 years.
- 17 Council has funding to line the embankments of the ponds to protect the banks from wave action.

Location of Monitoring Bores

- 18 Council has recently installed 6 monitoring bores around the Oxidation pond site to measure the effects on the ground water.
- 19 Three of these bores (Bores 2, 3, and 4) will be on land that council own. Bore 4 is on the land that Council intend to Purchase. The other three Bores are on the neighbouring farm land. Bore 5 is in centre of one of the farm paddocks. The farm owner does not want this bore to be at this location long term. He is prepared to have it in this location for two years and then it is to be removed. Council would be able to undertake monitoring for two years at this location but no further monitoring beyond that timeframe.

Priority of scheme upgrades

- 20 Because the current operation of the scheme is having a low impact on the environment it is Council's preference that Council's major schemes (eg Te Anau, Winton and Riversdale) are upgraded in the first instance as a priority.
- 21 The Te Anau upgrade is about to start, followed by Riversdale and Winton.
- 22 Council has committed \$35.1 million dollars in approved funding in the Long Term Plan (LTP) to upgrade these three schemes.

Alternative options considered for treatment and discharge

- 23 Council considered the option of pumping effluent to a nearby forest block and irrigation to ground within the block.
- 24 The forestry block is in private ownership. Council approached the company that owns the block and the manager indicated that the company would consider the proposal, but the company was proposing to cut the trees down in the next five to 10 years and would probably replant the trees.
- 25 As the soils appear to be clay silts, it is likely that irrigation could only occur over the summer months (December – March).
- 26 Irrigation may be able to occur in the winter if very low application rates are applied to the land given the area is planted in trees.
- 27 Council did not proceed with this option as the trees are to be cut down and replanted and the disposal field would need to be removed while this occurred. Council would also need to secure a long term easement to use the land for irrigation and an easement for the pipeline up to the forestry block. Also there is a significant cost (\$462,000 ex GST) to proceed with this option and as pointed out above Council believes other schemes should take priority with upgrades to those plants.
- 28 When the trees have been cut down and replanted, this may be an option for Council to reconsider in the future along with any other options.

Term of the Consent and Conditions

- 29 Council requests that a 15 year term is granted for the Consent. This is reduced from the 25 year term sought in the application. This reduced term has been adopted by Council to be consistent with the agreed position reached with Iwi. This also enables future technologies to be assessed at the time of re-consenting. Further the infiltration trench is designed to meander, rather than go direct to the stream. This is to ensure it is as long as possible lengthening

the contact time with land, and maximise its ability to provide further land treatment of the wastewater. It is to be planted with native species. These proposals are all to implement the agreed position with Iwi. The 15 year term also provides the Council on behalf of the community a reasonable period of time to utilise the infrastructure and realise value from the existing asset, as well as form the cost of the new infiltration trench.

- 30 Council is in agreement with the proposed conditions recommended by Mr Dunning, and adopts them as part of this application.

B. McKenzie

Bevan McKenzie

1 May 2019