

BEFORE THE HEARING PANEL

**IN THE MATTER of the Resource Management Act
1991**

**AND of applications for consents
(APP-1995014433.02, 2005011178.01,
2016200772.00, 2017201455.00) by the
TARARUA DISTRICT COUNCIL to the HORIZONS
REGIONAL COUNCIL for resource consents
associated with the operation of the Pahiatua
Wastewater Treatment Plant, including earthworks,
a discharge into Town Creek (initially), then to the
Mangatainoka River, a discharge to air (principally
odour), and discharges to land via seepage, Julia
Street, Pahiatua.**

REPORT TO THE COMMISSIONERS

DR. BRENT COWIE (CHAIR), MR. REGINALD PROFFIT, MR. PETER CALLENDER

STATEMENT OF EVIDENCE - BLAIR PHILLIP KING, CHIEF EXECUTIVE, TARARUA DISTRICT COUNCIL

22 May 2017

A. INTRODUCTION

- 1) My name is Blair Phillip King.
- 2) I am the Chief Executive of the Tararua District Council (TDC). I have held this role since November 2008. As Chief Executive I am responsible for ensuring all of the Tararua District's ("**the District**") functions, activities and infrastructure assets are prudently managed and delivered. One of TDC's functions is the operation of reticulated wastewater services in seven communities, including Pahiatua.
- 3) Prior to this role, I was the General Manager of a Queenstown Lakes District Council owned Consultancy responsible for that Council's three waters maintenance and roading for 12 months, and before that, the Assets Manager at Kaipara District Council for five years.
- 4) I hold Bachelor and Master Degrees in Engineering (Civil) from the University of Auckland, am a Member of the Institution of Professional Engineers New Zealand, and the Registration Board renewed my Chartered Professional Engineer status for six years (the maximum allowed) in April 2017).
- 5) My evidence is given in relation to TDC's applications for resource consents associated with the operation of the Pahiatua Wastewater Treatment Plant ("**WWTP**"). This includes resource consents for:
 - earthworks;
 - discharges of treated wastewater into the Mangatainoka River;
 - discharges to air (principally odour); and
 - discharges to land via seepage.

B. SCOPE OF EVIDENCE

6) My evidence will provide details of:

- the context of the wastewater discharge from the Pahiatua WWTP within the wider District;
- additional treatment upgrades undertaken at the WWTP over the past several years, and the process followed to determine the nature of these upgrades;
- TDC's commitment to meeting its obligations under the Resource Management Act 1991 ("RMA") and the Manawatu River Leaders Accord;
- TDC's responsibility for fiscal prudence within the context of the local, regional and national environment in which TDC functions;
- The approach to ensuring Iwi are involved in decision-making processes;
- TDC's commitment to optimising the performance of the various treatment components installed during the plant upgrades;
- TDC's reasons for changing the proposed location of the discharge point between the time of making the application and the hearing date;
- TDC's proposals for satisfying Policy 5-11 of the One Plan, which sets out the requirements for human sewage discharges entering a surface water body;
- TDC's plans for financing the acquisition of land and the construction of the proposed wetland treatment system, as part of the broader WWTP upgrades; and
- The consent term.

C. CONTEXT

7) The District covers a land area of some 4,360 km² and in the 2013 Census recorded a population of 16,854 residents. During the twelve year period to 2014 the District's population declined at a rate of approximately 0.5% per annum. With the decline due primarily to younger persons leaving the district, the population is aging which, in the long term, means less disposable income to meet essential costs such as rates.

- 8) Annual Council revenue from rates is of the order of \$21m. That means expenditure on any one item of \$210,000 represents a 1% increase in rates.
- 9) Although Council has submitted applications to renew these discharge consents prior to expiry, better information on potential impacts to the receiving environment, more stringent Regional Policies relating to receiving environments, along with improvements in treatment systems means the time taken to get to this hearing has not been wasted.
- 10) All of the wastewater schemes now managed by the District were developed at different times by the various borough or county council jurisdictions that existed prior to local government amalgamation in 1989. Thus, while the district did not construct or have control over the design of any of the schemes, it does now have an obligation to manage, maintain, operate and renew the assets while meeting increasing environmental legislative standards.

D. BACKGROUND

- 11) The population of Pahiatua, as stated in the Council's 2014 wastewater asset management plan, is 2,412 persons. The Pahiatua reticulation network is comprised of:
 - 17.8 km of sewerage pipeline, including 3 rising mains.
 - 112 manholes.
 - 3 valves.
- 12) The first wastewater pipelines in Pahiatua were installed in the 1930s. Consequently the system is relatively old in asset management terms where the useful life of a pipeline is often considered to be approximately 100 years.
- 13) Prior to the recent upgrades, wastewater currently passed through three ponds with a combined surface area of approximately 4 ha prior to being discharged first to Town Creek and then to the Mangatainoka River. The ponds were first installed in 1974. In 2002/03 the ponds were reconfigured to establish a three pond system. The ponds were totally rehabilitated and lined with imported clay aggregate to provide reduced seepage capacity though the base.

- 14) The ponds were lined with clay to a thickness of approximately 300 mm in 2002/03. The physical work was completed by what was at the time a Council Local Authority Trading Enterprise (LATE). The LATE was subsequently purchased by a contractor that has since been liquidated.
- 15) The extent of assets associated with each of the District's seven wastewater schemes is tabulated below (2014 Wastewater Asset Management Plan):

Location	Property Connections	Pipe length (km)	No of pump stations	Treatment plant	Gross replacement cost (\$) June 2014
Dannevirke	2,661	37.5	7	3 ponds , 9.2 ha	23.844m
Pahiatua	1,123	17.8	3	3 ponds, 4.1 ha	10.476m
Woodville	675	13.1	1	2 ponds , 2.9 ha	8.799m
Eketahuna	220	6.5	2	2 ponds, 0.4 ha	3.752m
Norsewood	70	3.2	2	2 ponds, 0.06 ha	1.090m
Pongaroa	69	3.4	2	2 ponds, 0.32 ha	1.093m
Ormondville	39	3.5	3	2 ponds, 0.22 ha	0.925m
Total	4,857	85.0	20	16 ponds	\$49,980,925

- 16) I acknowledge that individual consent renewals must be treated consistently to others, both within the Horizons region and across the country. However, Council as a signatory to the Manawatu River Accord concentrated on upgrading water and wastewater schemes that had the greatest benefit to the receiving environment. Financial impacts are exacerbated by diseconomies of scale applying to the District's seven separate wastewater schemes with a combined gross renewal cost (2014 Wastewater Asset Management Plan) of almost \$50m, which is nearly 2.5 times the annual rate take across the entire district of \$21m.
- 17) TDC charges a Targeted Rate to each property connected to one of its wastewater schemes. In an attempt to spread the costs uniformly, and on the basis that each connected property receives the same level of service, an equalisation policy applies whereby the Targeted Rate is the same for each connected property irrespective of which scheme it is connected to.

E. UPGRADES

- 18) Analysis of phosphorus loads to the upper Manawatu catchment in 2010, indicated that the discharge from the Pahiatua WWTP was a significant contributor to DRP in the river. The contributions from the Pahiatua discharge were above One Plan targets.
- 19) As a result of those findings TDC worked closely with Horizons Officers in preparing an application for funding under the Fresh Start for Freshwater Clean Up Fund that had been made available through the Ministry for the Environment (MfE). The funding was made available by MfE to assist in meeting the goals of the Manawatu River Leaders Accord. These goals required parties to improve the receiving environment through, for example, harvesting drinking water in good stream flows to reduce impacts when streams were in low flows, reducing phosphorus and nitrogen loadings to prevent algal growth especially in low flows, and reducing sediment loadings where feasible.
- 20) An application and project plan for upgrading the Pahiatua Wastewater Treatment Plant was lodged to Horizons Regional Council in September 2013. The following is an extract from the application:

“What’s been done already?”

Pahiatua oxidation ponds were redesigned and reformed to a three-pond system with new wave bands etc. in 2003 at a cost of \$1.6 million.

Project proposal and milestones

An upgrade to the wastewater treatment process over and above resource consent requirements is planned. The results from the Eketahuna trial plant (currently being tested) will be used to inform the solution design for Pahiatua. Upgrades envisaged include a new screen, clarifier, and UV disinfection and rock filter as a minimum. Costs for this project have been estimated at \$1.125 million. Investigation of land disposal on neighbouring farmland during low flows will be carried out.”

The application was submitted to and approved by Horizons Regional Council. A subsidy of 49% of the total costs was approved for the upgrades.

- 21) An extract from the TDC capitalisation schedule is tabulated below which shows, in general terms, the apportionment of approximately \$965,000 that has been expended on the process upgrades.

Capitalisation item	Expenditure (\$)
Aerators	97,692
Baffles	21,432
Building	10,514
Civil work	255,940
Clarifier	149,105
DO Probes	82,806
Dose Pump	4,750
Electrical	13,434
Floc Tank	17,022
Hazsure tanks	9,681
Manholes	10,551
Pre Screen control	11,322
Pump	6,142
Screen	74,470
Screen - Micro Drum filter	23,929
Step Screen	59,749
Stirrer - Sludge tank	4,908
Tanks	3,976
Telemetry	53,089
UV Unit	46,526
Water Meter	8,206
Total	965,252

22) In his evidence John Crawford describes further details and dates of installation of the actual additional tertiary treatment equipment at the plant. The treatment items consist of:

- 2014: Two x 3kW Reliant supplementary aeration devices were added in 2015. One each to Ponds 1 and 2. One cage aerator was removed and the other left in place in Pond 1.
- 2014: Filtec Lamella Clarifier and associated chemical storage, dosing and coagulation facility installed.
- 2015: In-Eko Tertiary Micro-filter installed downstream of Lamella clarifier.
- 2015: UV disinfection system installed between In-Eko filter and point of discharge.

23) The clarifier, micro-filter and UV disinfection systems have all been installed downstream of the existing ponds. The general layout of the additional treatment items in relation to the ponds and various effluent sampling points is shown in Figure 1.



Figure 1 - Layout of Treatment Plant Upgrades

- 24) A photograph of the new plant upgrades as installed is shown in Figure 2.



Figure 2- Lamella Filter, Coagulant Tank, uv Micro-filter and Sludge Tank

- 25) It is clear from Mr. Crawford's assessment that the system has yet to be tuned to provide optimal performance. He recommends a formal process of optimising the performance of each plant item - particularly the lamella clarifier - in order to minimise any effects on the Mangatainoka River.
- 26) TDC is willing to commit to such an optimisation programme and thus supports the new effluent standards coming into effect after the consent is granted. Progress towards optimisation of the plant has been made in the past month which, for example, has highlighted phosphorus reductions from 2 grams/1000 litres, down to 0.07 grams/1000 litres. More work is required to ensure these results are repeatable given the variable inflows present throughout the year, and differing temperatures of the ponds.

F. CHANGE OF DISCHARGE LOCATION

- 27) The original application sought consent for discharge from a gravel area adjacent to the Mangatainoka River from which the Pahiatua water supply had been sourced for many years.

- 28) A new water bore was constructed to serve the water supply needs of Pahiatua in 2013. The new bore was considered to have secure status and thus the water abstracted from the ground did not require treatment prior to its distribution to residential and other users in the town. Changing the source of the township's water supply to a bore allowed the former infiltration gallery to be de-commissioned. The intention was that the former infiltration gallery would be re-commissioned as the discharge point for the town's treated wastewater. As a consequence the discharge would no longer be via Town Creek.
- 29) At the hearing for the resource consent application in respect of the Eketahuna WWTP ("The Eketahuna hearing"), the fact that the Pahiatua water intake is situated downstream of the Eketahuna wastewater discharge was discussed. During the hearing Mr. Brown clarified that the distance from the Eketahuna discharge to the Pahiatua intake is approximately 33 kilometres. Pahiatua has drawn its drinking water from the infiltration gallery downstream of the existing discharge from Eketahuna for many years. The water is fully chlorinated to meet New Zealand Drinking Water Standards before it is distributed to consumers in the town.
- 30) In my evidence at the Eketahuna hearing I discussed details of two major events that diverted TDC resources from typical daily duties.
- 31) Firstly, the Eketahuna earthquake occurred in January 2013. As I explained during the Eketahuna hearing, a substantial amount of time and money had to be diverted to deal with the aftermath of the earthquake.
- 32) The second event that has diverted resources was the contamination of the Pahiatua water supply, which occurred in 2015. Routine water testing under the Drinking Water Standards detected the presence of E-coli in the water supply from the new bore source. A boil water notice was subsequently issued and was in effect until three clear tests over the following week found no E-coli. This incident resulted in the bore losing its secure status as a drinking water source, requiring Council to build a treatment plant to provide additional barriers to pathogens and public health risks, regardless whether bore water or river water was used.
- 33) Monitoring of the bore over two summers has shown the yield from the bore is insufficient on its own to meet peak summer water demands. As of Friday 19 May, the bore pump failed, and Council is using the river intake as the sole raw water supply until the new pump is commissioned, which requires two days with a well driller.

- 34) For these reasons the infiltration gallery adjacent to the Mangatainoka River, just upstream of the Pahiatua WWTP, has continued to be used for the town's water supply.
- 35) As explained above, the water source for Pahiatua, which had historically been via an intake gallery adjacent to the Mangatainoka River, immediately upstream of the Pahiatua WWTP, had recently been changed to an underground bore located in the township. The objective in changing the water source to a bore was to enable the infiltration gallery from the Mangatainoka River to be transitioned from its use as a drinking water source, to use as a discharge point for treated wastewater from the Pahiatua WWTP.
- 36) The contamination incident and high summer demand has required that the system be re-configured to re-utilise the intake gallery in the Mangatainoka River as a water source for Pahiatua. Re-configuration back to using the river source rather than the bore as the source of Pahiatua's water supply, has led to further re-consideration of a suitable discharge point for the Pahiatua wastewater discharge, which has led to the decision to construct a wetland and diffuse discharge along a stretch of the river lying between the infiltration gallery and the current Town Creek discharge location.

G. WETLAND – FINANCIAL CONSIDERATIONS

- 37) An application for the construction of a wetland with a diffuse discharge through a dry river bed to the Mangatainoka River is now before the Panel for consideration along with the other consent applications. The section 42A reports from Horizons Officers and the expert evidence on behalf of TDC from, in particular, Mr. MacGibbon, and Dr. Ausseil, set out the details of the wetland proposal and the proposed monitoring of effects in the river.
- 38) A rough order of cost for construction of the wetland has been provided to me by Mr. MacGibbon. This order shows \$90,000 plus GST is required, excluding the cost of a clay liner. A further \$40,000 should be allowed for installation of a clay liner at 300 mm thickness.
- 39) Formal agreement has yet to be reached to purchase the land upon which the proposed wetland would be constructed. The existing owner has expressed a willingness to sell the land should TDC require it for a wetland. If agreement with the landowner is not able to be reached the Council has the option of acquiring the land compulsorily under the Public Works Act 1981, although we consider the use of compulsory acquisition powers a last resort.

- 40) Our initial assessment is that TDC would need to purchase either one of or both of the lots adjacent to the Pahiatua WWTP (shown in Figure 3 below). The respective land areas are 7.7 ha and 5.4 ha.



Figure 3 - Potential Land to be purchased for Wetland Site

- 41) A copy of an email exchange between TDC Officers and the owners of the land parcels, Mr and Mrs. Morrison is attached. The final email from the Morrisons expresses a willingness to sell the land to TDC should it be required for construction of a wetland.
- 42) Although the sites have not been valued, we understand that land sales indicate a value of approximately \$40,000 to \$50,000 per hectare for land of this type. TDC recently obtained a valuer's report in respect of land being purchased for a reservoir. The report indicated that recent sales of farm land of reasonably flat contour had occurred for around \$40,000-\$50,000/hectare. Thus TDC might expect to pay up to \$600,000 for the land upon which the proposed wetland might be situated. The overall cost in relation to construction of the wetland, including land purchase, is likely to be of the order of \$750,000 plus GST.

- 43) While the land can be secured either by direct negotiation with the Morrises on a willing buyer and willing seller basis, or via acquisition using the Public Works Act 1981, no provision currently has been made in the TDC Annual Planning documents that are already out for public consultation for the 2017/18 financial year.
- 44) Expenditures of this amount fall well outside my delegations as Chief Executive, and generally can only be approved through the Annual Plan process after following the consultation procedures prescribed in the Local Government Act.

H. IWI PARTICIPATION IN DECISION-MAKING PROCESSES

- 45) TDC has sought the views of the two recognised Iwi authorities within Tararua, and has also ensured they have both been on-site with managers to be able to provide direct input and ideas.
- 46) TDC has through meetings involving the leaders of each Iwi, our Mayor, and myself, sought to engage with tangata whenua regarding the District's need to upgrade each plant, understand cultural values at play, and actively investigate options to address these values.
- 47) While TDC understand the strong desire of tangata whenua to avoid discharge of wastewater to the river, TDC has determined that the cost of a full land application/irrigation system is prohibitive and does not meet the Best Practicable Option test, or could be sustained by the rate-paying communities of the District.
- 48) What we are proposing is to build a system that combines meeting the tangible discharge regime tests and cultural values through having a highly efficient wastewater treatment system, followed by a mixing with the land through a wetland 'polishing' system. This recognises the area of productive land that would be needed to fully absorb the volumes with no long term impacts, compared to a wetland that ensures contact of the wastewater with land, is most likely to meet the requirements of the One Plan and recognise potential cultural uses downstream
- 49) TDC's resources have been dedicated to upgrading the WWTP to improve the quality of the effluent by reducing the nutrients and contaminants, recognising that the flows from infiltration are the main driver of treatment volumes.
- 50) TDC is keen to involve tangata whenua in the detailed design of the wetland proposed.

J. CONCLUDING COMMENTS

- 51) In conclusion, I re-iterate my Council has demonstrated its commitment to meeting its obligations under the Manawatu River Leaders Accord through using the Best Practicable Option for upgrading of the Pahiatua Wastewater Treatment Plant. This includes looking at the feasibility of land based discharge, investment in plant and optimisation of treatment systems to meet the Discharge Targets in the One Plan, and consulting with Iwi in our District over options to preserve Mauri of the water.
- 52) I note that the evidence on actual effects on water quality in the Mangatainoka River, based on the pre-upgrade monitoring, indicate that the discharge in its current form does not create significant adverse effects and once optimised, including use of the proposed wetland, is well positioned to meets the One Plan targets.
- 53) In my view there is now certainty regarding the location of the discharge; proposed conditions for a monitoring regime allowing assessments of upstream and downstream water quality; and further improvements to river water quality occurring once the clarifier is optimised. Accordingly, I support Ms. Manderson's contention that a 15 year term is warranted.
- 54) Fiona Morton in her section 42A report suggests there is a level of uncertainty with regard to dissolved oxygen levels in the discharge which, she suggests, justifies a shorter term of 10 years. My understanding, from the expert evidence, is that there may be a problem with dissolved oxygen levels upstream, but there has been no evidence produced about dissolved oxygen levels in the vicinity of the discharge.
- 55) Section 104(2) of the RMA states the consent authority must have regard to the value of the investment of the existing consent holder in situations where the consent holder has submitted an application under s 124 for renewal of its consent within 6 months of expiry of the previous consent. In my view the circumstances laid out in s124 apply and as a consequence the consent authority must take into account the value of the TDC investment in the wastewater treatment facilities serving Pahiatua. The application provided an estimate of the value of the assets at the Pahiatua Wastewater Treatment Plant.

- 56) In her section 42A report Ms Morton dedicates a number of pages to assessing the effects of the discharge on the environment as is required under section 104(a). However, there is no discussion of the value of the investment in wastewater infrastructure serving Pahiatua that was included in both the consent application and my previous evidence in the Eketahuna hearing, and is available in public documents published annually by TDC. As indicated above it is my understanding that as the consent application was made under the auspices of section 124, then under section 104(b) the value of the TDC investment in wastewater infrastructure at Pahiatua must be taken into account alongside the other relevant matters under s104.
- 57) By the time this consent process is concluded the TDC is likely to have spent in excess of \$1.5m in upgrading the plant (serving approximately 1123 properties), installing a new wetland, and securing the consent. This represents a significant cost for TDC. In addition, over \$1.0m was invested in 2002/03 in upgrading, desludging and lining the ponds with clay.
- 58) In addition I respectfully refer the Panel to the purpose of local government as set out in Section 10 of the Local Government Act 2002 (as amended):

“10) Purpose of local government

(1) The purpose of local government is—

- (a) to enable democratic local decision-making and action by, and on behalf of, communities; and*
- (b) to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.*

*(2) In this Act, **good-quality**, in relation to local infrastructure, local public services, and performance of regulatory functions, means infrastructure, services, and performance that are—*

- (a) efficient; and*
- (b) effective; and*
- (c) appropriate to present and anticipated future circumstances.”*

The above section of the Act requires TDC to ensure its provision of good quality infrastructure is achieved in a way that is most cost effective for households and businesses, i.e. ratepayers.

Blair King
May 2017

Email exchange with the Morrisons (owners of land on which the wetland is to be situated)

From: Dave Watson
Sent: Friday, 27 January 2017 9:46 AM
To: 'Philip Morrison'
Cc: Blair King
Subject: RE: Boundary Rd Land purchase

Thank you Philip & Anna
I will keep in touch with Councils progress and come back to you with further developments.

Cheers Dave

Dave Watson | Water & Waste Manager

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From: Philip Morrison [<mailto:lovatflats@gmail.com>]
Sent: Friday, 27 January 2017 9:44 AM
To: Dave Watson
Subject: Re: Boundary Rd Land purchase

Hi Dave,

Anna and I are keen to help out the Tararua District Council by making available for sale the indicated area as shown as an attachment.

We are certainly happy to discuss further details.

Regards,

Philip

On Fri, Jan 27, 2017 at 9:00 AM, Dave Watson <Dave.Watson@tararua.govt.nz> wrote:
Hi Phillip

Thank you for our discussion the other day regarding your land surrounding the Pahiatua oxidation ponds on Boundary Rd.

I have followed up our conversation with the CE and Council would be interested in purchasing both pieces of land if possible.

Assessment 28250 Val Ref 17390/21200 Lot 1 & Assessment 28250 Val Ref 17570/05000A as per map attachments.

We have a little bit of work to with our Resource Consent process but it does involve communication with Horizons that TDC are investigating further wastewater treatment proposal in the form of a wetland area.

Council will follow up with paperwork if you can indicate your willingness to sell and your proposed value.

Are you able to email us back that you are happy with this and I can proceed with additional information.

We can then discuss in more detail.

Thanks once again

Cheers Dave

Dave Watson | Water & Waste Manager

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