

GRANTING A CHALLENGING CONSENT FOR WATER

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ABSTRACT

Water for the townships of Matatoki, Omahu and Hikutaia in the Coromandel region is sourced from two small streams (Matatoki Stream and the Omahu Stream) located in the hinterland behind the townships. The majority of the water supplied is used for stock (predominately dairy) in the area with a smaller portion used for domestic supply. The schemes were originally developed in the 1930's and 1950's by the local farmers in the area for farm water supply and then taken over by Thames Coromandel District Council in the 1970's. Thames Coromandel District Council sought a renewal of the water take consents for these schemes and applied to the Waikato Regional Council for consent.

Waikato Regional Council opposed the granting of the consents due the volume requested and the effect the take was having on the stream. The proposed takes formed a significant portion (up to 100 percent at times) of the 5 year low flow for each stream, which doesn't meet the requirements of new Waikato Regional Council policy (Variation 6). In addition to this, a study undertaken by Environment Waikato in 2008 had indicated (particularly for Matatoki) that the takes were having adverse environmental effects during the summer low flow conditions. The take rate requested and the current effects on the environment from the takes made it challenging for Waikato Regional Council to be able to justify granting the consent.

Community support for the proposal was mixed with the majority of the community unwilling to pay for a new/alternative supply, but supportive of any moves to reduce the environmental impact of the takes. The community is highly reliant on the water supply for their economic wellbeing so any reduction in the takes, to a level that only supply domestic demand, would mean significant financial hardship for those currently serviced by the scheme.

The continued supply of the water at existing volumes and rates of take for the period sought by Thames Coromandel District Council was vital to the viability and wellbeing of the communities. Consideration of alternatives to the takes was undertaken but there was insufficient funding available from rates for this to occur immediately and complicating this is that water use is currently treated at point of entry to the properties, and the current New Zealand Drinking Water Standards does not provide for this. There is provision for a Rural Drinking Water classification to be included in the standards, but details of the provisions and implementation date are unknown, thus it is difficult to develop an alternative based on a Rural Classification that is yet to be defined. . Given the financial difficulties in a community with a small rating base, Thames Coromandel District Council struggled to balance the environmental impacts of the take (which have been occurring unchanged for the last 50 plus years) against economic impacts of alternatives.

Given the positions of both Waikato Regional Council and Thames Coromandel District Council this paper will discuss how consent was granted to the satisfaction of both parties, with environmental effects from the proposal minimised.

KEYWORDS

Water Consent, Water Take

1 INTRODUCTION

Matatoki, Puriri, Omahu and Hikutaia are small rural communities located to the south east of Thames. The water supplied to these communities comes from local streams in the area with minimum treatment, consisting of basic screening and in some cases chlorination.

These water supply schemes were initially developed by the local farming communities to supply water for stock drinking and have since been transferred to Thames Coromandel District Council (TCDC). The schemes were constructed in the 1930's and 1950's when the concerns regarding the environmental effects of the take and treatment standards required for drinking water were lower than current. Currently the water supplies are used for a mix of residential and stock drinking activities. TCDC require that the residential customers pre-treat the water by onsite treatment systems prior to use as potable water, but a number of customers do not follow this advice.

TCDC lodged the applications with Waikato Regional Council for the Matatoki and Omahu takes in 2005 and 2001 respectively to renew and legalise the existing activity. Due to the time lag between the lodging of the applications, public notification and the hearing there were changes to both the Resource Management Act and relevant Regional Plan provisions. This led to a more complicated consent framework in which to consider the applications.

Waikato Regional Council initially opposed the granting of the consents due the volume requested and the effect the take was having on the stream. The proposed takes formed a significant portion (up to 100 percent at times) of the 5 year low flow for each stream, which doesn't meet the requirements of new Waikato Regional Council policy (Variation 6). In addition to this, a study undertaken by Environment Waikato in 2008 had indicated (particularly for Matatoki) that the takes were having adverse environmental effects during the summer low flow conditions. The take rate requested and the current effects on the environment from the takes made it challenging for Waikato Regional Council to be able to justify granting the consent.

2 DESCRIPTION OF THE SCHEMES

2.1 MATATOKI SCHEME

Matatoki is a small rural community with a population of approximately 292 people. The service area is estimated to incorporate 108 residential properties covering an area of 1,685ha. The water supplied is from the Matatoki stream with the intake located adjacent to the Quarry. The water is treated with chlorine only and domestic consumers are required to install onsite systems to treat the water.

From the Matatoki Stream intake, a 150mm diameter gravity main feeds a 190m³ concrete reservoir which is then gravity fed to the reticulation. The existing treatment system is minimal, consisting of a rock filled gabion baskets for coarse filtration and disinfection with sodium hypochloride.

There are no other water takes on the Matatoki stream; however the TCDC take uses a large portion of the flow in summer. The take from the Matatoki stream is greater than the allocable level permitted by Waikato Regional Council's (WRC) variation 6 (5% of Q_5).



Figure 1: Matatoki Stream Directly Upstream of the Intake

Key issues for this scheme are:

- Very low residual flow downstream of the Matatoki take during summer;
- Take from stream is greater than permitted activity levels and has been found to be having an adverse effect , meaning that future consent at current levels is highly unlikely;
- Differing priorities under variation 6 of Environment Waikato’s Regional Plan for the rural and urban users of the scheme;
- Insufficient water storage in the existing reservoir (only 4 hours);
- Pressure is inadequate in terms of the requirements of the Fire Service Code of Practice;
- The system has old reticulation mains with high network losses that will likely need replacement in the foreseeable future.

2.1.1 THAMES VALLEY SCHEME

The Thames Valley Scheme includes the communities of Puriri, Omahu and Hikutaia and parts of the surrounding rural areas. The number of properties within the scheme area is 293 covering a total area of 3,275ha. The estimated population is 820. The village of Puriri and a portion surrounding the rural community is supplied from a Hauraki District Council owned take on the Apakura (which is a tributary to the Puriri stream).

Omahu, Hikutaia and the surrounding rural communities are supplied from an intake on the Omahu stream. The water is not treated and domestic consumers are required to install onsite systems to treat the water. The two reticulation systems that service Puriri and the Thames Valley are operated separately but can be connected by opening interconnecting valves.



Figure 2: Omahu Stream Directly Upstream of the Intake

The Thames Valley scheme consists of the following components:

- Stream intake located on the Omahu stream,
- 150mm diameter asbestos cement gravity main;
- Reticulation system consisting of 100mm (and smaller) diameter mains.

TCDC consider the supplies to be classified as rural supplies, and therefore have not graded them against the Ministry of Health grading guidelines.

The take from the Omahu stream is greater than the allocable level permitted by WRC's Variation 6 (5% of Q_5). There is also a permitted downstream water take for irrigation. Key issues for this scheme are:

- Differing priorities under Variation 6 of Environment Waikato's Regional Plan for the rural and urban users of the scheme;
- Take from stream is greater than permitted activity levels. There is little evidence of ecological stress downstream of the Omahu water take and this is likely to be due to the moderating effects of intact riparian cover and tributary inflows. Nevertheless there is likely to be reductions in habitat availability downstream of the Omahu Streams during low flow periods, meaning that future consent at current levels is highly unlikely;
- The system has old reticulation mains with high network losses that will likely need replacement in the foreseeable future.
- No water storage;
- Pressure is inadequate in terms of the requirements of the Fire Service Code of Practice;

3 KEY ISSUES

The key issues need to be resolved in order to provide sufficient information for Waikato Regional Council to assess the consent are as follows confirmation of demand, ecological effects, social wellbeing of the community policy and plans, and assessment of alternatives.

3.1 DEMAND ASSESSMENT

The water demand for the Thames Valley and Matatoki schemes consists of the following:

- Residential demand;
- Rural demand;
- Network losses.

The residential demand supplies non-potable water to the various communities. There is limited future growth expected in the community populations. TCDC is not aware of any irrigation use of the water supplied in the Matatoki, Puriri, Omahu or Hikutaia communities. The rural demand is only for stock use and wash down. This was confirmed further during community consultation.

There are no “as built” of the reticulation, due to the system being constructed by farmers over 60 years ago and therefore there is uncertainty surrounding the extent of the reticulation network and to some degree the properties receiving water from the schemes.

Waikato Regional Council queried the applied for takes as they were concerned water might be used for irrigation rather than domestic or agricultural use and the estimated use was a key figure in determining how much of the stream flow would be abstracted and how costly storage would be.

In order to verify that the applied for flows were justified TCDC undertook the following activities:

- Water Questionnaire Survey (targeted at assessing what the actual water usage was at each property)
- Calculation of estimated demand. The estimated peak water demand is based on typical water usages for residential (indoor and outdoor use) and dairy farming operations, including an estimate for typical reticulation network losses
- Review of historical water take figures. Although the takes had been operational for over 60 years recorded flow data was only available for up to 10 years.
- Portion of the individual properties meter reading survey.
- Bulk meter readings (to assess night-time flows and therefore network losses either in the public or private network)

Estimated peak water demand has been compared with historical water usage as recorded at the take and with individual property water meters. This comparison assists in establishing what the current water demand is and whether it is reasonable. It was found that the estimated demand based on the land area serviced and the assumed usage correlated well with the actual demand once network losses (both public and private) were added in.

3.2 ECOLOGICAL

3.2.1 WAIKATO REGIONAL COUNCIL ASSESSMENTS

Waikato Regional Council conducted their own assessment of the stream in 2008 as part of an assessment of the influence of water abstractions on the invertebrate communities of ten small, permanent, stony streams in the Waikato Region.

The study found that there were a number of control-impact differences at Matatoki, suggesting that the water abstractions have an effect on the streams, not only during the low flow period. At this site the percent EPT, MCI and QMCI metrics tended to decrease downstream of water takes. Matatoki had some of the largest volumes of water removed indicating there may be some critical threshold of water removal that will result in detectable changes to the macroinvertebrate community. However, quarrying operations were impacting Matatoki Stream downstream of the water take, thus the impacts observed here may not have been solely due to abstraction.

Overall the study found that *“there were no strong relationships between the amount of water abstracted and the percent change in any of the invertebrate community metrics or upstream-downstream community percent similarity within samples, however at the reach-scale the decrease in wetted area would imply that there is an overall decrease in invertebrate abundance. Whilst the removal of large amounts of water may influence macroinvertebrate communities, such changes are not universal indicating that other factors (e.g. floods, periphyton composition) may play a greater role. The impact of water removal may often be site specific, thus it is hard to predict its effects on benthic macroinvertebrates based solely on abstraction volume.”*

This study however did highlight to Waikato Regional Council that the Matatoki take in particular was having an adverse effect on the environment.

3.2.2 TCDC ECOLOGICAL ASSESSMENTS

TCDC commissioned a survey of the Matatoki and Omahu streams in March and July of 2010. These surveys were timed to target the low flows post summer (March) and the higher winter flows (July). The results of these surveys were used to assess the effects of the takes on the aquatic habitat and biota.

The findings of this assessment were that both streams were found to have relatively high values with respect to water quality, Macroinvertebrates, fish and native frogs. The volume of water abstracted from both takes is relatively large and all flow may be removed from the Matatoki stream at very low flows. The section of stream below the water take in Matatoki Stream showed significant signs of ecological stress in March 2010 survey but appeared to have recovered by the time the surveys were repeated in July 2010. The effects of the water take in the Omahu Stream appear limited to reductions in habitat availability over the low flow period.

3.3 SOCIAL WELLBEING

The predominant economic activity in the Matatoki, Omahu, and Hikutaia areas is dairy farming. This activity is a significant consumer of water, which is a vital input to dairy farming output and is a direct determinant of the value and quantum of dairy farming output.

It is estimated that the total economic output (GDP) from dairying activity in relation to the Matatoki area is between \$7,721,618 and \$9,932,654, and that there is estimated direct employment in the dairy industry of 33 people and an estimated 123 FTE positions. In relation to the Omahu and Hikutaia communities, the total economic output (GDP) from dairying activity is between \$10,814,848 and \$13,911,610, and there is estimated direct employment in the dairy industry of 46 people and an estimated 172 FTE positions.

A 10% and 50% reduction in the peak water demands was used to determine the potential effects on dairy farming related GDP and FTE positions. The results show that:

- (a) A 10% reduction in peak water abstraction equates to a decrease in GDP of \$772,162 in relation to Matatoki and \$1,081,485 in relation to Omahu/Hikutaia, and decreases in FTE positions of 12 (Matatoki) and 16 (Omahu/Hikutaia).
- (b) A 50% reduction in peak water abstraction equates to a decrease in GDP of \$3,860,809 in relation to Matatoki and \$5,407,424 in relation to Omahu/Hikutaia, and decreases in FTE positions of 65 (Matatoki) and 85 (Omahu/Hikutaia).

The decreases are likely to be conservative because in many cases simple linear reductions in output are not economically feasible. If, for example, a 50% loss of water availability implies reducing herd size by half it is

likely that an uneconomic farm would result. The effect then, could be total loss of dairy output with land use reverting to a lesser valued activity. In such cases the viability of the community – at least in its current form – would likely be threatened.

In the absence of alternative water sources, declining the applications would be likely to result in collapse of the dairying industry in the communities with a (combined) loss of 80 jobs and 295 FTE positions, the loss of approximately \$24.0M per annum from the economy, and land use reverting to a lesser valued use with resulting reductions in the value of land. Flow on effects on the communities would be likely to include loss of industries which derive significant levels of revenue from servicing the dairy industry, further loss of jobs, loss of households from the communities, and adjustment downward in the value of land, buildings, and businesses. The overall economic impact on the communities is likely to be substantial.

While attempting to predict outcomes with certainty is difficult, it is not an exaggeration to point to the likelihood of very significant changes in efficiency (greatly increased costs and lowering of productivity as well as output from the economies) and equity (change and increased costs will affect those in the community who are of lesser means than most).

The costs of obtaining water (both direct and indirect) have a significant impact on residential budgets, economic activity and land values. In particular, residential users are typically prepared to spend significant amounts of both capital and operating funds to obtain adequate water supply. If the effect of declining or modifying the consents applied for is to reduce the availability of water or induce residential users to switch to costly alternatives, the overall economic impact is likely to be considerable. These impacts are likely to take the form of:

- (a) An increase in household costs of living as households employ substitutes such as imported water or other like alternatives;
- (b) Possible increases in household capital costs as households look over the longer term to alternatives such as rainwater capture via tanks or like systems; and
- (c) Commensurate drops in property values as land and house prices come to reflect any newly increased costs of water supply, with resulting reductions in rates revenue if property values declined.

3.4 POLICY/PLANS

Due to the respective dates that applications were lodged, (Omahu June 2001, Matatoki July 2005), the provisions of the RMA prior to the 2003 amendments apply to the Omahu application, and prior to the 2005 amendments apply to the Matatoki application.

The Matatoki application was lodged after the consents for the Matatoki take and dam had expired. As a result, the take and the dam were not presently authorised under the RMA. The Omahu take and dam has never been authorised under the RMA. At the time that the applications were made, the activity status of both water takes was discretionary pursuant to Rule 3.3.4.11 of the then Proposed Waikato Regional Plan (“Proposed Plan”).

Appeals were subsequently lodged in respect of Chapters 3.3 and 3.4 of the Proposed Plan which dealt with water allocation and efficient use matters. Accordingly, the Transitional Plan was still operative in terms of provisions relating to water allocation and use. The Transitional Plan does not provide any rules or guidance in terms of applications of this nature and therefore the status of all the applications under the Transitional Plan is innominate (meaning that it has no specific rules attached to this activity). Essentially, this means that the applications are considered as if they are for discretionary activities.

Subsequently EW has prepared a Plan Variation (RPV6) to the Proposed Plan specifically to address water allocation issues. RPV6 was notified in October 2006 and concurrently EW withdrew the previous chapters (3.3 and 3.4) of the Proposed Plan relating to the allocation and use of water.

Section 88A of the RMA requires that where applications for resource consent have been lodged prior to a plan change/variation being notified (as was the case with the subject applications and RPV6) then the application continues to be processed, considered and decided as an application for the type of activity that it was for, at the time the application was first lodged.

The Waikato Regional Plan has since become operative in part. RPV6 to the Regional Plan has been notified, hearings undertaken, and decisions released. RPV6 is currently subject to appeals.

Although the provisions of section 88A(1) of the RMA apply, the provisions of RPV6 must also be had regard to (pursuant to sections 88A(2) and 104(1) of the RMA). Therefore these would also need be considered by the Waikato Regional Council officer assessing the application and the hearing committee.

3.4.1 WAIKATO REGIONAL PLAN

When RPV6 was publicly notified on 20 October 2006, EW withdrew Chapters 3.3 and 3.4 of the Proposed Plan, which contained the policies and rules specifically relating to the allocation and use of water. These provisions were subject to appeals to the Environment Court at the time. The provisions in the Transitional Regional Plan “(TRP)” relating to the taking and use of water remain operative (but it has otherwise ceased to be in force).

The TRP has no policies regarding the taking and use of water but contains general authorisations which provided for individual property owners to take up to 15 cubic metres of water per day in accordance with conditions.

In all other instances, the taking and use of water in the Waikato Region is an innominate activity under the TRP.

Although Chapters 3.3 and 3.4 of the Proposed Plan were withdrawn the remainder of the Plan was not. The Proposed Plan has subsequently become Operative in part (excluding water allocation section). The Operative Regional Plan does contain provisions which are not affected by RPV6 which are relevant for the consideration of the subject applications.

3.4.2 RPV6 TO THE PROPOSED WAIKATO REGIONAL PLAN

RPV6 effectively replaces the withdrawn Chapters 3.3 and 3.4 of the Proposed Plan. It was publicly notified on 20 October 2006 and decisions publicly notified on 14 November 2008. At the stage that the TCDC consents went to hearing the appeals had not yet to be heard by the Environment Court.

However, although still subject to appeal, the RPV6 Decisions Version was relevant to the applications as it provides provisions on which to base an assessment on the current applications. Of particular note is that RPV6 recognises the importance of ensuring that water is available to communities and seeks to protect existing takes for domestic and municipal purposes from competition from other less essential uses.

RPV6 does, however, require municipal supply authorities to demonstrate the need for the water sought, that the water will be used efficiently and that the operation of the water network is in accordance with good practice. The main tool for implementing the above is through the preparation and implementation of a water conservation and demand management plan “(WCDMP)”.

It is important to note that the final version of RPV6 is likely to be significantly different and more favourable to municipal supply than the current decisions version. In particular, uncertainty in relation to the activity status of takes such as that sought is proposed to be rectified. It is noted that the revised version of the variation has made progress in this regard, although there are still issues such as in regard to the definition of “domestic and municipal supply” and related provisions which are still being refined. Of particular importance is that “agricultural” use has been included in the definition of domestic and municipal supply.

3.5 LOCAL GOVERNMENT ACT

TCDC is responsible for supplying water to the communities and is required by section 130(2) of the Local Government Act 2002 (“LGA 02”) to continue to provide water supply services to the communities and to maintain those water supply services. TCDC also has a responsibility to ratepayers to provide an adequate water supply to meet the needs of the communities, both now and in the future.

3.6 DRINKING WATER STANDARDS

The drinking water standards are applicable to water intended for drinking by the public irrespective of the water’s source, treatment or distribution system, whether it’s from a public or private supply, or where it is used. The drinking water standards do not apply for water used for industrial or agricultural purposes.

The Health (Drinking Water) Amendment Act 2007 outlines supplier’s categories that under the drinking water standards have differing compliance requirements. For the Matatoki and Thames Valley takes these would either fall under the Small Drinking Water Supplies or the new class Rural Agricultural Drinking Water Supplies.

3.6.1 SMALL WATER SUPPLIES

Under the current drinking water standards small water supplies includes the following supply categories:

Small drinking water supply. This is defined as a drinking-water supply that:

- a) is used to supply drinking water to between 101 and 500 people (inclusive) for at least 60 days per year; and
- b) is not a drinking-water supply to which paragraph a) or b) of the definition of neighbourhood drinking-water supply applies

The drinking water standards for Small Water Supplies require that the water source is treated to remove potential protozoa and bacteriological contaminants. Protozoa standards can be achieved either by use of a secure groundwater source or treatment (i.e conventional, membrane or UV) to achieve 3-5 log removal. Bacteriological standards are demonstrated to be met, through use of an appropriate disinfection method (i.e chlorination/UV) and/or consistent monitoring.

3.6.2 RURAL AGRICULTURAL SUPPLIES

The Health (Drinking Water) Amendment Act includes a new category for supplies that provide water for both agricultural and drinking water purposes, to ensure that they are not required to make fit for humans water that is only used by animals or crops. These supplies are categorised as “rural agricultural drinking water supply”. Supplies in this category are not required to comply with the drinking water standards until 1 July 2016. However it is possible that in the future the drinking-water standards will be amended to allow a lower quality supply with point of entry (POE) treatment for these supplies.

A RADWS can include a large water supply, however if there is a township of 50 people or more, then that township must be taken out of the supply and treated separately. Interpretation on whether a group of 50 people is close enough to be considered a village/town etc will need the input of the Drinking Water Assessor for the area.

The Ministry of Health was working on a public discussion document for a Rural Agricultural Drinking Water Supplies Standard but the Government has ordered a review of drinking water policy. With the extension of the timelines set out in the Health Act, such a standard cannot now be in place until 1 July 2016 or a later date if the standard is not ready.

3.6.3 CURRENT STATUS

Contact was made with the ministry of health to find out the status of the Rural Agricultural Drinking Water Supplies standard and the following comment was made:

“1. No further work on the RADWS is being carried out until the Government has completed the review of drinking water and announced its decisions so that we know what effect any changes would have on a RADWS. I cannot advise a time frame for the completion of the review and Government decisions.

2. If the RADWS is delayed or does not eventuate, the position with the Standards would be as before a RADWS was proposed. The compliance would relate to the size of the community that is served by the supply.”

The Matatoki and Thames Valley water supplies would likely be classified as RADWS but would still need to provide treatment at source by 2016 under the current drinking water standards. The Ministry of Health have indicated a general preference for not supporting POE.

3.7 ALTERNATIVES

The alternatives considered prior to the hearing for the Matatoki and Omahu takes are discussed below.

3.7.1 TAKE REDUCTION

If the take can be reduced to less than 5% of Q5 (the likely maximum allocable flow) then it is likely any adverse effects from the withdrawal of water from the stream would be minimised. The reduction in take could be achieved through one or a combination of the following options:

- Public information campaign;
- Constant flow devices. A constant flow system would mean that each property was feed with a set flow continuously thus reducing the instantaneous peak demand on the system. The flow rate to individual lots could be determined either based on the number of connections or area of flow. That is the allocable flow would be divided by either the number or connections or the connected area. Peak demand at properties would need to be met by onsite storage
- A leakage and illegal connection campaign. It is difficult to estimate how much leakage there is in the existing network, and how many illegal connections there are due to the lack of information on the existing network. A leak detection program could potentially address any significant areas of wastage. For mains reticulation this could involve locating bulk meters at various places in the network and assessing the flow. For consumer reticulation the installation of individual property meters and regular reading of these would quickly address if there are any properties with excessive water usage.

Whilst the above measures may reduce water take, even in combination they will not achieve reductions in take that will meet the 5% allocable flow. A leak detection and illegal connection program is likely to result in a reduction in the take but this is unlikely to be sufficient to meet allocable flows alone.

3.7.2 GROUNDWATER SOURCES

Potentially there could be groundwater sources in the area with sufficient capacity to maintain the supply. However an existing bore 4km away this has issues with poor quality water with high levels of iron and manganese. The quality of this groundwater in the Matatoki and Thames Valley areas is unknown but if it is high in iron and manganese then it will require local treatment of oxidation, filtration and disinfection with associated costs likely to be significant. Anecdotal evidence provided during community consultation also indicated that local groundwater yields were minimal and high in Iron and Manganese.

3.7.3 THAMES WATER TREATMENT PLANT

TCDC also evaluated supplying all or some of the communities from the Thames Water Treatment Plant. The treatment system is limited by the capacity of the chemical systems, clarifier and pressure filtration system. The treatment plant overall has a maximum output of 62l/s (5400m³/d). Any daily peaks higher than this can be catered for by the capacity from the reservoir.

Supplying over 1,000m³/d to the Matatoki and Thames Valley area could restrict the capacity available for supply in other areas that TCDC may be considering supplying from the Thames WTP, so while this option may be cost effective this could restrict growth in other areas.

3.7.4 KEREPEHI WATER TREATMENT PLANT

The Kerepehi water treatment plant is located on the Hauraki Plains, is owned and operated by Hauraki District Council (HDC) and is currently in the design stage for upgrade. The upgraded Kerepehi WTP will have the capacity to provide 12,500m³/d and has resource consent for 15,000m³/d abstraction.

Hauraki District Council has also indicated that they would prefer TCDC to gain consent from WRC for any additional flows to supply to TCDC consumers, to enable HDC to maximise the consent limits they have applied for. In addition to gaining consent, TCDC would have to fund the upgrade of the Kerepehi Water Treatment Plant to provide additional capacity.

3.7.5 NEW RIVER INTAKE

There are a number of rivers in the area that could potentially sustain a new and increased take. There are a large number of other interested parties though (farmers, other Council's) which could mean that one or more new intakes would be required to meet the demand.

This option would require the construction of a new intake, potentially a new water treatment plant, new reservoir and reticulation from the Water Treatment Plant to the network. Two options for the water treatment plant have been considered, one with chlorine dosing which would not meeting drinking water standards and one with full treatment to meet the drinking water standards.

3.7.6 BANKSIDE STORAGE

WRC are concerned that both the Omahu and Matatoki takes do not provide sufficient residual flow for aquatic life and invertebrates, particularly in late summer when water demand is high and river flows are low. As the river flows are significantly greater in winter there is the potential to store the water in winter in bankside storage, which then can be used to supplement the summer flow. In the absence of flow data and a conjunctive use model we have based the bank side storage on 90 day useable capacity.

3.7.7 PREFERRED ALTERNATIVES

The selection of the most appropriate Water Supply Strategy will ultimately depends on the outcome of the MOH review of the RADWS, which is currently on hold. This provides considerable uncertainty to TCDC.

At this stage, subject to further investigation, the most affordable scheme is based on providing bankside storage at the Matatoki and Omahu streams with point of use treatment in accordance with the proposed RADWS with an indicative cost estimate of \$9.3million.

However, if TCDC pursue and invest upwards of \$9.3million on bankside storage before the outcome of the DWS review is known, the risk is that the RADWS is not adopted or POE devices are not acceptable if a centrally treated system can be provided, as per the recommendation from the Ministry of Health. At that point, TCDC would have to walk away from the investment in bankside storage, or invest upwards of a further \$9.9M to comply with the standards. Thus Council will have initially perused the lowest cost scheme and ended up with one of the most expensive schemes.

Based on the risk that POE won't be allowed and the high cost of multiple treatment plants for options that include more than one source, it is likely that a preferred option would be a water source for all communities that could be staged to allow Council to provide the water untreated up to the 2016 date. Council are continuing to investigate this option.

4 CONFLICTING VIEWS

4.1 THAMES COROMANDEL DISTRICT COUNCIL

The continued supply of water at the existing volumes and rates of take for at least a 5 to 8 year period is vital to the viability and wellbeing of these communities. TCDC has statutory obligations (under the local government act) to continue to provide water to these communities as well as delivering its commitment to avoid or mitigate adverse effects on the physical environment.

TCDC acknowledge that the dams and takes are having some adverse ecological effects. However TCDC consider that in the context of meeting the sustainable management purpose of the Resource Management Act 1991 the key issue is how to provide for the ongoing viability and therefore economic and social wellbeing of these communities (by providing adequate supplies of water) while appropriately addressing the adverse effects of these takes.

Therefore the key issues for TCDC are that while they want to do their best for the environment and their ratepayers they are constrained by the following factors:

- Funding for any new/upgraded scheme under TCDC policy is funded on a community basis. Therefore due to the small number of ratepayers serviced by the scheme the cost per ratepayer is significant.
- Uncertainty over what standards will apply in the future due to the lack of clarity on the drinking water standards mean that TCDC could potentially invest significantly in a scheme only to find it doesn't meet new requirements.
- Significant financial hardship for the community if the water take is reduced as the community is very dependent on the water for their economic wellbeing.

4.2 WAIKATO REGIONAL COUNCIL

The officer's report submitted as part of the hearing noted that "there is a large amount of common ground between the applicant and Regional Council staff" but reflects the reporting officer has reservations about the volumes and rates of take sought by TCDC.

4.3 COMMUNITY

The community was notified as part of the consent application process and then consulted again prior to the hearing with regard to alternatives. While the community was concerned with the effects on the environment the underlying concern was the future cost of the scheme and the quality of water. In addition, rural ratepayers did not want to have to pay significant cost to upgrade the system to drinking water quality as a large portion of their usage is for stock drinking. And conversely the residential users wanted an increase in quality but did not want a significant increase in rates.

5 WAY FORWARD

TCDC, Waikato Regional Council and the submitters had a number of discussions / pre hearing meetings to attempt to come to agreement on the pathway forward to gaining consent. TCDC committed to a Joint Memorandum with Waikato Regional Council to provide a pathway to remedying, mitigating and ultimately avoiding the detrimental effects of the water takes, while enabling the communities to meet their social and economic needs. The activities listed in this joint memorandum are as follows:

- (a) Leak Detection and Minimisation Plan and Programme;
- (b) Water Conservation and Demand Management Plans;
- (c) Commitment to meter the network;

- (d) Continued investigation of alternative water sources and implementation of best option prior to consent ending.
- (e) Provision of telemetry of the stream flows at the Matatoki take.
- (g) Riparian planting on the Matatoki Stream
- (h) Installation of intake screens and spat ropes to enhance fish passage.

5.1 LEAK DETECTION AND MINIMISATION PLAN

Given the estimated network losses (35 percent) and the estimated system losses from the point of supply (29 percent), TCDC generated a leak detection and minimisation plan within six months of any consents commencing. The leak detection and minimisation plan would provide for the following actions:

- (a) Network losses in the Matatoki and Thames Valley reticulation networks will be identified and remedied as much as reasonably possible within one year of consent being granted, with TCDC providing a report to Environment Waikato in relation to the degree of the network losses, any actions taken to reduce network losses, the outcome of any actions taken, and any actions proposed to be taken.
- (b) System losses from the point of supply in relation to the Matatoki water supply will be identified within one year of consent commencing, with TCDC providing a report to Environment Waikato in relation to the degree of the system losses, any actions taken to reduce system losses (including with respect to implementation of the Smart Water Use on Dairy Farms programme), the outcome of any actions taken, and any actions proposed to be taken in accordance with TCDC's powers under the LGA 02 and its Bylaw to reduce system losses from the point of supply.
- (c) System losses from the point of supply in relation to the Thames Valley water supply are identified within two years of consent commencing, with TCDC providing a report to Environment Waikato in relation to the degree of the system losses, any actions taken to reduce system losses (including with respect to implementation of the Smart Water Use on Dairy Farms programme), the outcome of any actions taken, and any actions proposed to be taken in accordance with TCDC's powers under the LGA 02 and its Bylaw to reduce system losses from the point of supply.

The reason for system losses in relation to Matatoki having a one year time frame and the system losses for Thames Valley having a two year time frame is that all properties in Matatoki are presently metered and the time frame for metering of all properties in Thames Valley (Omahu and Hikutaia) is by no later than the beginning of 2012.

5.2 WATER DEMAND AND CONSERVATION MANAGEMENT PLANS

The plan will be used by Thames Coromandel District Council (TCDC) for the purpose of managing the municipal water supply to the Matatoki and Thames Valley communities. The Water Conservation and Demand Management Plan is a living document and will be modified as operational data is collected and interpreted and emerging technology is evaluated and adopted.

The purpose of this Water Conservation and Demand Management Plan is to ensure that:

- The water source will be used in a sustainable manner;
- Infrastructure will be planned, constructed and managed;
- Growth, consumption and water quality trends will be monitored.

This plan represents Phase 1 of the development of a water conservation and management plan for the Matatoki and Thames Valley Water Supply. This will set the scene for the water supply system, illustrate initial water conservation practices and highlight potential areas for improvement. Phase 1 provides the foundations

for the Phase 2 plan by the collection and analysis of data. This WCDMP will be revised prior to the implementation of Phase 2.

Phase 2 of the Water Conservation Demand Management Plan will follow completion of Phase 1 actions and will involve the implementation of water conservation and demand strategies to meet future targets, established in Phase 1.

5.3 COMMITMENT TO METERING

TCDC have committed to metering all connections to the water network. This will allow more detailed analysis of property water usage and network leakage in the future.

5.4 ALTERNATIVES

TCDC are continuing to progress the investigations of alternatives and are working towards implementing an alternative supply prior to the expiry of the granted consent.

5.5 PROVISION OF TELEMETRY

TCDC have agreed to provide telemetry from the Matatoki intake on the levels in the stream upstream of the take. This will enable better analysis of the low flows and better management of the take and water restrictions as required.

5.6 RIPARIAN PLANTING

TCDC proposed riparian planting on the Matatoki stream below the intake to the value of \$50,000 over a 5 year period. The purpose of this planting was to shade the stream to mitigate temperature increases from the reduction of take. TCDC will liaise with the neighbour and DOC regarding the location of this planting.

5.7 SPAT ROPES

Spat ropes have been installed at both dams to enhance the passage of climbing fish species.

6 CONCLUSIONS

Through negotiations with the submitters and Waikato Regional Council, TCDC was able provide a programme of works to which enable them continue to supply water to the community but required them to provide a specific timeframe to restore stream flows and required the community to use their water efficiently through leak detection, identification of specific use, metering and drought management. Through this programme of works TCDC were able to remedy, mitigate and ultimately avoid the detrimental effects of the water takes, while enabling the communities to meet their social and economic needs.

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