BEFORE A HEARINGS PANEL OF THE GREATER WELLINGTON REGIONAL COUNCIL AND MASTERTON DISTRICT COUNCIL

IN THE MATTER	of resource consent applications to Greater Wellington Regional Council pursuant to section 88 of the Resource Management Act 1991
AND	
IN THE MATTER	of a Notice of Requirement to Masterton District Council pursuant to section 168, 168A and 181 of the Resource Management Act 1991
BY	Masterton District Council
FOR	the proposed upgrade of the Masterton Wastewater Treatment Plant

CLOSING SUBMISSIONS ON BEHALF OF MASTERTON DISTRICT COUNCIL

30 March 2009

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1. OUTLINE

1.1 These submissions in reply follow the order set out below, which is based on a summary of the principal issues in contention:

(a) Introduction.

(b) Overview.

General Considerations

(c) Assessment of effects

- The starting point for assessment of effects
- A sense of proportion and risk
- Experts and lay people

(d) Considerations relating to applications for replacement consents

(e) General Issues

- Standards versus guidelines
- Application/Interpretation of guidelines
- Prescription versus adaptive management (up the pipe or end of pipe)
- Equity, low hanging cherries and integrated catch management
- Affordability
- Consultation

Application to this proposal

(f) Big picture issues:

- Term of consent (evidence)
- Providing for innovation (future proofing)
- Providing for the relationship of Maori to the river and taking into account kaitiakitanga
- Relevance of alternatives
- Centre pivot option
- Use of private land
- Infiltration and inflow

- Efficiency and beneficial reuse
- Use of borrow pits

(g) Issues in relation to discharge to the land treatment and disposal system:

- Whether the proposed rates of discharge to land can be sustained beyond 15 years from commencement
- **Claimed uncertainties** relating to the land treatment system
- The need for good management of the land treatment system
- **Issues associated with using the flood plain area** for land treatment
- Conclusion on land discharge

(h) Issues in relation to the river:

- The relationship of Maori to the river
- Health risk issues
- Effects on water clarity and trout foraging at winter flows below median
- Effects on the potential for nuisance algal growths at winter flows below median
- Effects on the potential for nuisance algal growths during sustained periods of moderate flows in summer, ie when there is sufficient flow for discharge but insufficient flow for flushing
- Effects on nuisance growths in Lake Onoke when it is closed and when that coincides with summer discharges
- Integrated catchment management
- Discharge rates during sensitive flows (summer recession flows and winter below median)
- Suggestion that DRP limit of 0.15 at Wardells is necessary and appropriate for times of no discharge

(i) Other matters raised by submitters.

(j) Designation conditions.

(k) Consent conditions.

(l) Conclusion

2. INTRODUCTION

2.1 You have listened to two weeks of evidence and submissions and by now have a full appreciation of the issues, concerns and evidence. I draw a deliberate distinction between real issues versus concerns, between facts, opinions and perceptions and between objective expert opinions and well intentioned subjective views.

2.2 There has been much debate and many strongly put views. Most of the submitters are passionate about their environment and some have put days of effort into meetings, submissions, research, preparation and time at this hearing. That is the sign of a healthy community.

2.3 It is right that there should be vigorous debate and rigorous scrutiny of the proposal, because this hearing (unlike the previous one) is about the long term. The proposal is innovative and therefore its potential effects and the risks of failure need to be properly assessed by the Applicant and by you. The Council welcomes the debate. It has spent years putting together a very robust proposal, assessing the effects of that proposal and putting together the evidence for this hearing.

2.4 However the feelings of submitters and the lack of submitters in support are not relevant to your inquiry. This is not a numbers game. People who support a proposal or who are not opposed to it seldom make a submission. The District Council has the role of determining what its community wants and what is best for its community. That is an entirely separate process from the present. If the community does not like its decisions the remedy is in the ballot box.

2.5 You might have the impression that there is overwhelming support in the community for zero discharge to the river. However in reality you have heard the views of only a very small but active part of the community. You need to remember that hardly any of the submitters you have heard are from the urban community that will be paying for the upgrade. Their views are important and should be respected, but they are not representative of the District community's views, let alone the views of those who will be paying for the upgrade and the add ons that some submitters seek.

2.6 It is important not to confuse healthy debate and genuine concerns with the facts. Listening to some submissions or reading the media, one would get the impression that the current discharge is having significant adverse effects. That is not the case at all. The current plant performs very well and its effects on the physical environment are not significant. There have been very few compliance issues and very few complaints.

2.7 You have evidence before you about the effects of the current discharge. That is the starting point for your consideration. There is no **cogent** evidence of the plant posing any significant risk to human health (see Mr Harding's and Mr Ball's evidence) nor that it is causing any significant adverse effects in terms of nuisance algal growths or algal problems in Lake Onoke, or any significant adverse ecological effects or on the habitat of trout and salmon (see the evidence of Hickey, Cooke, Ryder).

2.8 The principal effects of the current discharge are in terms of Maori relationships to the river, community perceptions, very localised amenity effects and increased (but not significant) health risk particularly at low flows.

2.9 It has been accepted by the Council for some years that these effects need to be addressed and with the exception of the first matter the other issues will be addressed in a very substantial way by the proposed upgrade. The mauri of the river will also be improved but not to the degree that tangata whenua seek.

2.10 The irony of this hearing, is that notwithstanding the significant improvements which will result, many submitters still want more. The officers seek more rigorous standards for the effluent and more rigorous river monitoring than at present. Public Health seek a very short term consent and more signage than exists at the moment.

2.11 The District Council is looking to your decision to acknowledge the significant steps which it has taken and to recognise the significant environmental improvements which will result. It is also looking to your decision to provide the certainty of term and conditions which it needs to proceed. A clear and strong decision will provide that certainty and might avoid the need for a further round of debate in front of the Environment Court.

2.12 The critical issues before you are in reality very narrow. There is no evidence before you which would justify you declining consent and in any event that is not an option which is available to you in terms of the discharge to the river. The issues for you are:

(a) *Are the claimed risks in relation to the irrigation such that it is plausible that the scheme may need to be decommissioned before the consent expires?*

(MDC say the risks are manageable by way of adaptive management and the consequences of failures would be minor and manageable)

(b) *Are the residual effects of the river discharge so significant that there should be only a short term consent for that discharge, so as to allow the Regional Council to review the sustainability of that discharge after a short to medium term?*

(MDC says the residual effects of the discharge to the river will be minor and the Regional Council should leave the District Council to weigh the costs and benefits of going further during the term of consent)

2.13 There are a great many ancillary issues, and some very peripheral issues, but in my submission your decision making will come down to the points above. Those are the points which the applicant's evidence has focussed on. In particular it has provided evidence to you that in my submission establishes that:

Discharge to land

(a) The risks associated with the land treatment and disposal system are not significant.

(b) Firstly there is a very low probability of problems that could not be remedied by way of adaptive management (adjustments by the consent holder and as a last resort intervention by the Regional Council via the enforcement process or review provisions).

(c) Secondly, there is no cogent evidence that any problems which can not be rectified by adaptive management would be sufficient to require the irrigation system to be decommissioned within the 35 year term of consent sought (let alone within 10 years of commissioning as suggested by Mr Lowe).

(d) If over time the rate of irrigation to land had to be decreased, the Council has at least three options. It would probably first seek to utilise the balance of the land. It could utilise nearby land as proposed by some submitters, or it could seek to increase the discharge to the river (which is an unlikely option).

(e) If there was some temporary problem with the land disposal system (say 3 successive floodings of the berm area followed by a long period of low flow where no discharge could occur) then the Council might have to seek consent to temporarily discharge to the river outside of the consented periods. The effects of that would be less than the current continuous discharge which has been in place for nearly 40 years without any significant adverse effects.

(f) In short, it is highly unlikely that there would be a need to decommission the plant for at least 30 years (ie 35 years after commencement).

(g) If it was necessary to do so, then the District Council would have years of warning of that and it would be up to it to apply for whatever new consents are required for other sites.

(h) The Regional Council does not need to reserve the ability to close the irrigation down within 35 years. It has that ability in any event utilising the enforcement provisions of the Act.

Discharge to water

(i) The effects of the current discharge are minor apart from effects on the relationship of Maori to the river. The discharge does not currently breach contact recreation standards and will not do so in the future.

(j) The future discharge will result in a continuation of health risk when it is occurring and immediately thereafter, but the risks are very low because of the very low levels of contact recreation which occur at these flows.

(k) The **period** of risk will reduce from currently about 70% of the time on average in the summer to about 10% of the summer in the future.

(l) The **magnitude** of the risk during that short period of time on the recession of freshes and immediately following discharge will be reduced from present.

(m) The future discharge will not cause nuisance algal growths at time when those would not otherwise occur.

(n) The future discharge will meet the section 107 standards and will not cause contact recreation or aquatic ecosystem guidelines to be breached and does not at moment).

(o) The discharge will be a minor contributor to nutrient loading at Lake Onoke.

(p) The discharge will not have any more than a very minor and transient effect on the habitat of trout and native fish within the mixing zone and none beyond it.

(q) The discharge will result in a very significant improvement over the current continuous discharge for about 66% of the time on average in summer.

(r) For the remainder of the summer period its potential effects are minor.

(s) The discharge at winter flows between median and half median has the potential to affect clarity more than the summer discharge, but will still meet the section 107 standard of no conspicuous change after reasonable mixing.

(t) The mixing zone will however be much shorter than at present and amenity effects will be less than minor.

(u) There will be little if any impact on trout or native fish habitat or on fishing amenity.

(v) There will be a residual impact on the mauri of the river and therefore on the relationship of Maori to the river. However the mauri will be much improved from present (discharge removed from the river for 66% of the time in summer).

(w) Overall, the future discharge to the river will result in a significant improvement to the river and the residual effects are minor.

(x) Those residual impacts are not such as would justify you limiting the consent to a short term.

(y) The Council will continue to review options for reduced or zero discharge to the river, but there is no justification for the "big stick" approach which the officers and many submitters seek.

3. OVERVIEW

3.1 Your task is to assess whether the proposal before you is sustainable and to ensure that the principles of the Act are properly taken into account. You also need to ensure that the consents granted contain appropriate safeguards and adaptive management to ensure that adverse effects are adequately avoided remedied or mitigated whilst still providing the Council with the flexibility to adaptively manage the system.

3.2 Ultimately, what is required is an overall balancing, but what is it that you are balancing?

3.3 You are **not** weighing the positive effects against the negative effects.

3.4 You are **not** balancing Maori concerns against the affordability of zero discharge.

3.5 You are **not** assessing the cost or affordability of alternatives such as that proposed by Sustainable Wairarapa and others.

3.6 You are **not** balancing the views of those who support the proposal against those who oppose it.

3.7 The number of submitters for and against is irrelevant. It is for MDC to assess what its community wants. The submitters represent themselves not the community.

3.8 This process **is** about whether what has already been chosen by MDC for its community is sustainable for the term of consent sought.

3.9 You are **not** assessing whether this is the *best practicable option* for the Masterton District.

3.10 Your task is to assess the degree of likely residual effects of the proposal after mitigation. You should also assess the level of risk of adverse effects occurring beyond what has been predicted, the nature of such risks and potential effects associated with them, and the ability of such effects to be addressed by adaptive management should they occur.

3.11 You then need to weigh those residual effects and risks against the benefits achieved by the proposal and the costs of further minimizing those effects and/or risks. You then need to decide whether the proposal will represent sustainable management.

3.12 Your options are simple:

(a) Accept the proposal

(b) Reject it and grant further interim or short term consents so that the District is forced to go through the decision making and consenting process all over again.

3.13 You have been urged by a number of submitters to reject all or part of the proposal. (Sustainable Wairarapa for example wants the new ponds and diffuser but not border strip irrigation or discharge to the river except in emergencies.)

3.14 Declining the consents is not an option since the discharges to the river, both direct and indirect, must continue as they are until an upgrade is in place.

3.15 Nor is declining parts of the consent an option. The Council has advanced a proposal as a whole. It will not be investing in new ponds and a new diffuser if the long term disposal option is still in the air.

3.16 Some submitters would like what they perceive to be the best of both worlds. They would like Makoura stream cleaned up as soon as possible and therefore would like the diffuser operational as soon as possible. They would like the ponds decommissioned, but they do not want border strip irrigation. As explained in opening the proposal before you is an integrated scheme. Changes to the land discharge or the river discharge regime affect each other and affect storage. The Council can not proceed with building new ponds until it has certainty over the land discharge and the river discharge and therefore storage volumes.

4. ASSESSMENT OF EFFECTS

The starting point for assessment of effects

4.1 I addressed this point in my opening and supplementary submissions. The starting point for assessment of effects is the fact that there is an existing discharge to the river which will be reduced significantly by this proposal and at times when the river is most sensitive, the residual discharge will be a fraction of what currently occurs. The discharge will inevitably continue either to land or to water or to both.

4.2 This is a point which many of the submitters (and media) fail to acknowledge. Instead they focus on the claimed effects of the current discharge and/or the claimed effects of discharge to river versus no discharge to river.

4.3 You need to assess whether claimed potential effects raised by Fish and Game, DoC and others are supported by any proper evidence. You need to consider whether there is any good reason to prefer submitter's evidence over the opinions of the applicant’s experts.

4.4 You are considering a discharge to the river which has been occurring for nearly four decades. Much ink has been spent on reports on the effects of the discharge and the health of the river generally. What evidence is there of significant adverse effects from the current discharge? How much will those effects (eg colour and clarity) be reduced by the proposal?

4.5 The periphyton issue provides a good example. The evidence is that the current discharge seldom causes nuisance periphyton growth and that the potential for such nuisance growths to be caused by the discharge, will be greatly reduced and probably eliminated as a result of the upgrade.

4.6 Claimed effects on trout, fishing amenity, native fish, Lake Onoke etc all need to be assessed the same way:

(a) Is there currently a problem?

(b) What is the cause of the problem?

(c) Is the current discharge potentially a primary cause of that problem?

(d) If so, will that potential cause be adequately avoided or mitigated by the proposal?

4.7 You need to be careful to distinguish between unproven claims and expert opinion. The claims by Fish and Game that the current discharge is adversely affecting the existing good trout fishery are not based on any qualitative evidence. The quality of the discharge has not decreased over the last 40 years. There is no evidence that it is adversely affecting the fishery. There is however evidence that the rural run off has significantly increased over that time.

4.8 Similarly, with the claim that the future discharge will affect trout foraging in winter, you need to consider whether there is any evidence that the current discharge is causing such effects. You then need to look at the applicant's evidence as to effects on water clarity and decide whether it is plausible that such effects will occur, let alone be significant.

4.9 Before you assess the potential for an adverse effect, you need to be clear what the adverse effect is. For example, stimulation of periphyton growth is not of itself an adverse effect. There is only an adverse effect where the discharge would cause periphyton growth to reach nuisance levels when that would not otherwise have occurred.

A sense of proportion and risk

4.10 You need to consider the potential **cause**s of any claimed adverse effects. This is particularly relevant in terms of the impacts of nutrients on the lower river and Lake Onoke. Much has been made of the fact that the discharge from the plant will continue to contribute to the nutrient loads to the river and lake, however the relative contribution will be very low in summer.

4.11 Given the intermittent nature of the proposed discharge, you need to consider not only the areal extent of any potential effect but also the frequency and duration of such effects. For example any effects on water clarity and therefore trout foraging are in a limited area (300m) which is minute in comparison to the entire river. Effects on water clarity will largely only occur during the winter season.

4.12 Similarly, the residual health risk effects will affect only small part of the river for a very limited time. Both the extent and duration of such impacts will be significantly reduced from present.

4.13 In summary, in considering the significance or otherwise of an effect, you need to consider:

(a) the extent to which the effect is already present;

(b) the extent to which the effect might be caused by the discharge (as compared to other contributors;

(c) the probability of the effect occurring;

(d) how much of the river might it affect;

(e) to what degree;

(f) how often; and

(g) for how long.

4.14 In short, when assessing claimed effects you must look at those claims in the context of time, scale and relative cause as well as the magnitude of the effect. Many of the submissions you have heard ignore the first three dimensions (the nutrient debate being the best example).

Experts and lay people

4.15 In Court, only an expert witness is entitled to express an opinion. In the context of a hearing such as this, any submitter may express an opinion. However, you can not place much weight on opinions expressed by non experts or by experts going beyond their expertise.

4.16 Submitters are entitled to give both lay evidence and expert evidence in the same statement. However in relation to the latter they must qualify themselves as having relevant qualifications or experience in the field they express opinions on.

4.17 You can put weight on the local knowledge of submitters, but you need to distinguish opinions based on local knowledge from opinions which stray outside of areas of expertise. For example, Mr Forbe's views about the soils on his property and the frequency of flooding can be given weight. However he is not an expert in centre pivot or border strip irrigation. He did refer to his irrigation consultant but did not call him. Accordingly, you must necessarily prefer the views of the applicant's experts and Mr Lowe.

4.18 Other witnesses such as Mr Stewart, have sufficient qualifications to be able to raise concerns which are deserving of weight. The applicant has responded to such matters. It has not however spent time addressing every assertion of submitters. Thus for example it has not responded to Mr Duncan's submission because it considers the point he raises have already been addressed in it evidence or are personal view points which do not need to be responded to.

4.19 The other requirement of an expert when expressing opinions is to do so objectively after taking into account all material within their knowledge (ie not to be selective or to push an agenda).

4.20 You have heard many opinions expressed by submitters. You need to work out how much weight to give to such views. The key questions which relate to that are as follows:

(a) Is the opinion provided as expert evidence or a lay view?

(b) If the former, is the expert appropriately qualified and/or experienced in the particular matter he or she expresses an opinion on?

(c) Are they keeping within their field of expertise?

(d) Are they being objective in their approach or are they being an advocate? (if their evidence is tainted with advocacy then their opinions can be given little weight)

(e) Has the witness (lay or expert) taken into account all relevant information or been selective?

(f) Is the opinion based on reliable evidence rather than speculation?

(g) Are the assumptions and sources identified?

(h) Does the person expressing the opinion have ulterior motives or conflicts which may detract from their opinion?

4.21 Many submitters have raised valid concerns which the applicant has done its best to address either before or during the hearing. I am certainly not suggesting that you should not give weight to these concerns. However, you do need to assess whether the concerns are well founded after weighing all the evidence. You also need to carefully assess whether the views are subjective or objective views.

4.22 Submitters undoubtedly have relevant expertise in some of the areas where they express opinions. However, in some instances, opinions stray outside areas of

expertise and at least in the case of some submitters became somewhat adversarial. It is for you to assess how that affects the weight to be given to those views.

4.23 You need to consider whether opinions are based on objective expert analysis, well meant speculation, or advocacy.

4.24 The difference between objective opinion and advocacy also relates to the submissions of statutory bodies. The Department of Conservation, Fish and Game and Public Health all have an advocacy role. You need to distinguish between expert evidence and advocacy. Thus Dr Aussiel's evidence was objective expert evidence but with respect the rest of the Fish and Game submission was more in the nature of advocacy. The Public Health submission contained advocacy about the merits of Health Impact Assessment, affordability and term of consent and expert evidence about health risk and the application of guidelines.

4.25 Mr Forbes has been up front with the Council about his desire to continue farming the property he leases from the Council for as long as possible and about wanting productive capacity of the farm maximised. That is perfectly understandable, but necessarily impacts on the weight you give to his views about centre pivot irrigation and his views as to the merits of requiring the Council being forced to going to zero discharge to the river as soon as possible.

4.26 He and Councillor Holmes have also been up front about their joint business venture and their desire to utilise so called “waste” water on their property over the river, so that it does not go to waste. Zero discharge is an admirable objective shared by others in the community and indeed the Council, however you must consider their expertise to assess the costs and benefits of such an option and distinguish passion from expert evidence.

5. CONSIDERATIONS APPLYING TO APPLICATIONS FOR REPLACEMENT CONSENTS

5.1 The application for discharge to river is for replacement of the existing consent and there are therefore additional considerations which apply.

5.2 Section 104(2A) provides that:

> *When considering an application affected by section 124, the consent authority must have regard to the value of the investment of the existing consent holder*

5.3 This provision is relevant to the term of consent for the discharge to river. When considering the term of the consent for discharge to river you must have regard to the value of the Council's investment in the site and in the consenting process to date.

5.4 Section 124B also relates to *Applications by existing holders of resource consents*. It provides in subsection (4) that:

> ***The consent authority must determine an application described in subsection (1)(b) by applying all the relevant provisions of this Act and the following criteria:***
>
> ***(a) the efficiency of the person's use of the resource; and***
>
> *(b) the use of industry good practice by the person; and*
>
> *(c) if the person has been served with an enforcement order not later cancelled under section 321, or has been convicted of an offence under section 338,—*
>
> *(i) how many enforcement orders were served or convictions entered; and*
>
> *(ii) how serious the enforcement orders or convictions were; and*
>
> *(iii) how recently the enforcement orders were served or the convictions entered.*

5.5 The resource which the applicant is seeking to use is the river not the waste. The efficiency to be considered in this case is the efficiency of continuing to use the river as a receiving environment, not the efficiency of use of effluent for irrigation. The applicant has adopted best practice industry practice in terms of both the land disposal and the discharge to river. There have been no non compliance issues that have resulted in prosecutions or enforcement orders or even abatement notices or infringement notices.

6. GENERAL ISSUES

Standards versus guidelines

6.1 The plan contains guidelines not standards. The guidelines in the plan in fact provide little guidance. The plan does not incorporate by reference any particular guidelines. Thus for example, when it comes to nutrient standards and contact recreation standards/ guidelines the plan is silent.

6.2 There may well be good reason for the Plan to be amended to include some standards. However, there is a danger of applying a broad brush approach to water quality standards. What will often be more appropriate is to incorporate guidelines into the plan and leave a discretion as to how those should be applied in particular cases.

6.3 If the plan is amended to include standards then those can be enforced against existing consent holders. You should not pre judge what those standards should be now. If they end up being higher than the scheme can achieve then the Council can require upgrade of the scheme via section128 (1) (b) review. If they end up being lower than what is imposed in a consent condition, then that would be unfair on the consent holder unless the higher standard was properly justified during the consent process.

6.4 It the consent is to incorporate in stream standards then the justification for those needs to be very soundly based. In the case of the proposed DRP and DIN standards, in my submission the basis for the particular values sought by officers has not been justified. More importantly the need for such standards as well as effluent standards has not been justified.

6.5 There is a case for in stream standards in a consent, where effluent standards are insufficient to achieve desired outcomes. Here there is no need for in stream standards to apply to the river discharge because the effluent standards are sufficient. You can safely rely on the predicted dilutions in the river to ascertain what will occur in the river. Even if the mixing calculation proved to be optimistic the dilutions are not so critical as to result in any greater effects (ie whether it is 60% or 70% mixing at 300m is neither here nor there). The applicant agrees however that the mixing study should be verified.

6.6 It is accepted that there is a need for monitoring of upstream and downstream nutrients at times of no discharge to verify that the land treatment area is working properly and is being managed properly. If monitoring detects higher than expected nutrient concentrations in comparison with upstream and if that coincides with nuisance algal blooms, that will be a basis for informal action or if necessary consent review (adaptive management).

6.7 One of the justifications advanced for in stream standards for DIN and DRP is that they will ensure that the land treatment system achieves what it has been predicted to achieve. That is not the role of conditions. Conditions should be addressed at avoiding, remedying or mitigating adverse effects.

6.8 It is no answer to say that if the applicant's predictions are correct then there will be no non compliance. That is not an effects based approach. Conditions are not imposed to "keep the applicant honest"; they can only be imposed to achieve a resource management purpose and they must be reasonable.

6.9 If there are to be standards then they either need to be based on standards in the plan (which do not exist), or they need to be properly justified. The proposed standard of 0.15 has not been shown to be necessary to avoid the non point source discharge from causing nuisance algal blooms.

6.10 There is little agreement amongst experts as to what the appropriate standard should be. It is clear that the standard depends upon the hydrology of the river or stream in question.

6.11 There is an ability to review the conditions to impose such a standard if it proves to be necessary or if the plan is amended to provide for such a standard.

6.12 Clearly MDC will want to have input into the plan standards to ensure that they have been justified and are necessary. One of the key issues will be whether having in stream standards is the most efficient mechanism for managing the problem. There is a strong argument that when the major source of a contaminant is non point source discharges, an in stream standard is not an effective or efficient tool.

6.13 The other danger of in stream standards is that they may apply too much of a broad brush to a problem. In the case of nuisance algal growths one size does not fit all rivers and streams.

6.14 These are debates for another day. You should ensure that you do not impose standards on this consent which will pre empt or pre judge the outcome of such debates. (Section 128 (1) (b) is the mechanism to impose standards on existing consents.)

6.15 The purpose of the suggested DRP and DIN standards is presumably to avoid the discharge causing nuisance or toxic growths when those would not otherwise be caused.

6.16 The condition as currently drafted is not linked to effects. The Council could be prosecuted by the Regional Council or privately for non compliance, or other enforcement action could be taken even if the non compliance results in no adverse effects.

6.17 Finally, if you do impose an in stream standard for DRP it should be based on the best available knowledge, which is the applicant's evidence. Dr Hickey remains of the view that 0.03 is a more than adequate standard for this particular situation. If you were persuaded that 0.015 is appropriate then it would be essential to link that and the DIN standards to the targeted adverse effects (ie there should be no non compliance unless the standard is being breached in situations where there are nuisance growths downstream which are worse than upstream).

Application/interpretation of guidelines

6.18 Guidelines by definition are there to provide guidance and flexibility. Unlike a standard they can not be universally applied. One needs to exercise common sense both in interpreting and applying the guidelines.

6.19 In the present case that is well illustrated by the debate around how to apply the bathing water guidelines. Policy 5.2.9 of the WRFP provides that the management of the river should enhance water quality for the purposes of contact recreation. This proposal will result in a very significant enhancement of water quality for that purpose.

6.20 Policy 5.2.4 provides that consents should not be granted if they result in water being rendered unsuitable for bathing by the presence of contaminants. This policy will be achieved. The discharge will not cause the river to be unsuitable for bathing at flows when it would otherwise have been suitable for bathing.

6.21 The Plan does not incorporate the MFE/MoH guidelines and accordingly there is no standard or even policy requiring any particular standard in the guidelines to be achieved.

6.22 The relationship between the guidelines and Regional Plans should ideally be clarified. Currently it is not clear what is meant in this plan (or other plans) by managing a river for contact recreation purposes nor what is meant by phrases such as: shall not be *rendered unsuitable for bathing by the presence of contaminants.*

6.23 The MFE/MoH guidelines are not incorporated into the WRFP but it is accepted that they provide some guidance as to whether the discharge would render water unsuitable for bathing.

6.24 Neither the WRFP or the guidelines provide a direct measure of when bathing waters are unsuitable for primary contact recreation. Thus a site which is graded as "fair" is still suitable for bathing but requires surveillance. It is reasonable to conclude that if a discharge causes action levels to be exceeded when they would not otherwise be exceeded then the discharge is causing the site to be unsuitable for bathing at those times.

6.25 As far as I am aware, the guidelines have no statutory force under the Health Act. Certainly they have not yet been incorporated into the RMA and I am unsure as to whether that is proposed. The guidelines do not set out a clear process for grading a bathing beach, nor do they specify who decides on a grading. It is clear that the Medical Officer of Health has a role, but there is no formalised decision making power. It seems that what is required is a consensus judgement by the Regional Council and the MoH. What is surprising given the prominence which this issue has been accorded by Public Health is that neither it or the Regional Council have graded the Cliffs site.

6.26 The guidelines appear to be a tool to assist public authorities to manage the river and to assist with monitoring and communication protocols. It does not seem that the guidelines were intended to be a compliance tool. For example there is no edict in the RMA or the WRFP or indeed in the guidelines themselves as to what would amount to "non compliance" with the guidelines. That is consistent with them being a management tool not a "standard".

6.27 The guidelines have not been drafted with an intermittent discharge in mind and there is debate as to how they should be applied to what has been proposed here.

6.28 I suggest that a common sense approach which seems to reflect the guidelines (see Mr Harding's response) is to only apply the guidelines to flows when people are likely to engage in swimming. It seems nonsensical to grade a site based on 95 percentiles which incorporate monitoring results from flows when no swimming is likely. In any event these are all issues for later and the applicant has proposed a mechanism for sorting out the grading and the stand down period.

6.29 The evidence is that the current discharge does not cause the nearest recognised swimming site at the Cliffs to exceed action levels when that would not otherwise have occurred. In the future at the flows and times when most contact recreation occurs the discharge will not be occurring and the grading of the Cliffs site should increase from an assumed poor or fair (assumed because the site has not been graded by Public Health) to good or very good according to Mr Harding.

6.30 Finally, I note that the guidelines are not of great assistance to you in the present case. They are not intended to be a tool for consent decisions. Your focus should be on comparing the current health risks attributable to the discharge with health risk following the upgrade. The key issue is how significant will the residual health risk be. The evidence suggests that it will be less than minor. Indeed, the monitoring results from the Cliffs suggest that the current discharge is having only minor effects.

6.31 Whilst Mr Ball and Dr Palmer have agreed that the guidelines provide a good starting point for risk assessment, I would submit that a better starting point is the applicant's evidence about current and predicted pathogen levels downstream of the site at different flows (I return to this below).

Prescription versus adaptive management (up the pipe or end of pipe)

Belts and braces and double whammies

6.32 It is not the Regional Council's role to go "up the pipe" and impose standards relating to the method of operation of the scheme. This was a point which the Court noted in the *McKenzie* decision cited in the DoC submission. That proposal was in effect a "black box" system as was the Hutt Treatment Plant when consented. That is, the final form of treatment was unknown.

6.33 Generally with a discharge to water, the consent authority should not go further up the pipe than imposing effluent standards. In the case of a discharge to land where the effectiveness of land treatment can only be modelled there is a little more justification for either taking a greater interest in the management of the scheme or imposing downstream standards.

6.34 In the present case the form of the land treatment is known and you have plenty of detail in front of you. It is accepted that it is important to ensure that all aspects of the scheme are properly managed, however that can be achieved without prescriptive conditions.

6.35 Prescription is the antithesis of adaptive management. The best approach is to impose appropriate bottom lines by way of effluent standards, restrictions on run off, and if needs be ground water quality standards and then to leave the rest to monitoring and adaptive management.

6.36 In the present case whilst considerable progress has been made in relation to conditions there is still an element of "belts and braces".

6.37 Prescriptive standards + management conditions + monitoring + provision for informal adaptive management + provision for review of conditions + a suggested short term consent (just in case!).

6.38 The officer's comments regarding the need to keep the applicant to what it says can be achieved illustrate an "up the pipe" approach which in my submission is inappropriate and unnecessary.

6.39 What is proposed by the applicant here is as follows:

(a) A *shall be carried out generally in accordance with the application and plans* condition.

(b) An operational management plan with the objectives and contents specified.

(c) A requirement to act in accordance with that.

(d) Rigorous monitoring.

(e) The ability to adjust the management plan to address any problems.

(f) More monitoring to assess the effectiveness of that.

(g) The potential for further adjustments.

(h) An ability for the Regional Council to review the conditions of the consent to address adverse effects.

(i) The fall back if the land treatment does not allow as much discharge as has been predicted is for the Council to apply for additional land or greater discharge to the river (in either event it would be a public process).

6.40 You need to assess whether it is necessary to overlay that adaptive management approach with compliance standards and a short term consent. In my submission it is not.

Equity, low hanging cherries and integrated catchment management

6.41 The Masterton discharge is the biggest of three low hanging cherries. There are a an awful lot of small cherries which the Regional Council will require a taller ladder to pick.

6.42 Mr Gunn, who wearing his other hat is involved in integrated catchment management, spoke of equity. In terms of DRP Masterton currently contributes

around 10.3% of the annual load to the river and that will reduce by 40% to around 6 %. The summer contribution will be even less (see the evidence of Dr Cooke, the joint statement from him and Drs Hickey and Ryder in response and Mr ten Hove's response).

6.43 Undoubtedly Carterton and Featherston will also need to do their bit. That still leaves all those high cherries.

6.44 If one is talking equity (which is not a principle of the Act) then it is quite clear that the urban ratepayers of Masterton are doing their bit and more.

6.45 One of the ironies of this hearing is that almost without exception the submitters who you have heard from who want zero discharge, are not urban rate payers and will not be funding this project.

6.46 To date the rural community has not been required to meet the costs of rural run off.

6.47 It is reasonable to expect the town to do something about its part of the problem; it is not reasonable to expect it to bear a disproportionate share of the costs of cleaning up the catchment. Mr ten Hove addresses this issue further in his response.

Affordability

6.48 Mr ten Hove addressed affordability in his initial evidence. In his response, he responds to Dr Palmer's comparison of Masterton to Kapiti, Wellington, Porirua and the Hutt. He points out that the Social Deprivation Index indicates that many Masterton urban ratepayers are not well placed to cope with the rates increases needed to put in this upgrade let alone to go to more expensive options in the short to medium term.

6.49 Dr Palmer makes the suggestion that the much reduced discharge may have an impact on Maori health. The applicant has not assessed the health impacts of the continued diminished mauri of the river on Maori. Indeed it is not clear how one could objectively assess that. It has assessed health risk to river users, rather than health risk to any particular part of the community.

6.50 Mr ten Hove points out that the majority of Masterton District's Maori live in the town and many are not well off. If there was to be a further assessment of zero discharge options then the Council would need to assess the impact of further rates rises on those in the community who can least afford that.

6.51 Fortunately you do not need to weigh the health benefits of further enhancing the mauri of the river against the health impacts for Maori and others of the increased rates which would be needed to achieve that. That is a question for the District Council.

Claims of lack of consultation

6.52 I have already discussed the role of consultation under the RMA.

6.53 The Council does not accept that there has been any failure to consult properly. Consultation does not require consensus. It is also a two way street.

6.54 The debate around the health risk assessment is an example of this.

6.55 Mr Andrew Ball will give evidence that he had several discussions with Rebecca Fox (Wairarapa Public Health) during the preparation of the report and explained the conclusions from the report to her. She did not raise any concerns at the time.

6.56 The report was not copied directly to WPH however all the technical reports including the HIA were supplied with the AEE in both 2007 and 2008.

6.57 The Wairarapa Public Health (WPH) submission dated 1/08/2007 doesn't mention the HIA at all.

6.58 The WPH Submission dated 14/10/2008 mentions the HIA but does not criticise it:

> *"Wairarapa Public Health notes the health impact assessment undertaken by Environmental Science and Research Limited which concludes that under the proposed discharge regime that the estimated risk to swimmers emanating from pathogens in the wastewater treatment plan effluent will reduce significantly following the upgrade to levels that are not excessive as gauged by the Recreational Water Quality Guidelines."*

6.59 It is accepted that the Council should have made it clearer that it did not agree with WPH that a HIA was required or indeed that such a study would be helpful to this hearing. It should have made it clearer to WPH that what it was proposing was a QHRA not a HIA. However, the QHRA has been available to WPH since 2007 and the door has been open at Masterton District and with its consultants to discuss the methodology and conclusions. There has been some discussions at a local level. However it is fair to say that over the last two weeks both parties have benefitted from the more focussed discussions which have now taken place.

6.60 Similarly, the (useful) evidence of Dr Aussiel raised issues with conditions and methodology which could have been discussed and largely resolved before the hearing. (Presumably Fish and Game has had Dr Aussiel's review for some time.)

6.61 So far as centre pivot irrigation, options for use of private land, and other such matters are concerned, in my submission there has been more than ample consultation but not consensus.

6.62 The Council has been responsive to consultation. Examples include:

(a) Removing the discharge from the river at the times of most concern.

(b) Deciding to build new ponds.

(c) Deciding not to put in river works that were a concern to those on the opposite side of the river.

(d) Carrying out additional assessment of the potential for bore contamination.

(e) Having a further look at centre pivot irrigation.

(f) Developing a policy around private use of waste water.

7. BIG PICTURE ISSUES

Term of consent

7.1 Some submitters seek that all the consents be granted for a short term. Others seem to seek that the term of the discharge to water consent be limited so as to force the Council to reconsider zero discharge options.

7.2 In my submission you should only entertain these options and grant a short term consent if that is required to ensure sustainable management. Such an approach would only be justified if you reached the conclusion that there is a need for you to require MDC to re evaluate the proposal within the term of the consent which it seeks. I come back to my opening comments, in essence the term of consent comes down to one issue in relation to the term of the land disposal consent and one in terms of the discharge to the river:

> ***For land disposal**: Are the claimed risks in relation to the irrigation such that it is plausible that the scheme may need to be decommissioned before the consent expires?*
>
> **For the discharge to river**: *Are the residual effects of the river discharge so significant, that there should be only a short term consent for that discharge, so as to require the District Council and the Regional Council to review the sustainability of that discharge after a short to medium term?*

7.3 In terms of the land treatment and disposal consents MDC say the risks are all manageable by way of adaptive management and the consequences of failures would be minor and manageable.

7.4 In terms of the discharge to the river, *MDC says the residual effects of the discharge to the river will be minor and the Regional Council should leave the District Council to weigh the costs and benefits of going further during the term of consent.*

7.5 In my submission there is no evidence which suggests that there are adverse physical effects which may not be able to be addressed by way consent conditions and if need be by review of the consent.

7.6 So far as the discharge to the river is concerned, it is accepted, that there are cultural impacts which will not be fully addressed by way of conditions. However in my submission whilst that is a matter of national importance, it does not of itself justify a short term of consent. If that were the case, almost every wastewater discharge consent, would have to be granted for a short term. Clearly that is not the case.

7.7 You will need to weigh tangata whenua concerns against the needs of the community for certainty and the affordability issues addressed in Mr ten Hove's evidence.

7.8 The Council may be reluctant to proceed with any aspect of the scheme if it has the uncertainty of a short term consent hanging over it. Full time land disposal, would require more storage, so if that option remains a possibility at the end of this hearing then the Council would be ill advised to commence construction of new ponds and a diffuser. It would need to review whether the money involved in those options would be better spent on all of the costs associated with zero discharge.

7.9 If you had any doubt about the relationship between the term of consent and affordability, Mr Lowe resolved those for you. The officers seek a 15 year term of consent because they believe that there is a real possibility that by the end of 15 years it may be necessary to decline further consents for the land disposal scheme. It is also very clear that if the Council has not already gone to zero discharge by then it would be under significant pressure to do so.

7.10 Clearly, the Council could not justify spreading the rates burden over a period which is longer than the term of the consent with those possibilities hanging over it. That then brings us back to Mr ten Hove's evidence which explains the relationship of term to affordability and puts the affordability issue into the context of the socio economic status of the community that will bear the cost.

7.11 I have set out the relevant case law relating to the assessment of an appropriate term of consent. The Department of Conservation, has referred to the recent *McKenzie* decision. That case is distinguishable in a number of respects.

(a) There is a Water Conservation Order on the river which includes water quality conditions. (A WCO prevails over consents and regional plans and its restrictions must be met).

(b) The scale of the proposal and the investment involved was considerably less than what is involved here.

(c) The proposal was a "black box" proposal where the final details of the proposal were not provided to the Court. Rather, two alternatives were advanced.

(d) One of those options was a pond based system with no UV disinfection other than by sunlight.

(e) The other was a worm based degradation system, (untried in NZ).

(f) Both options involved continued full time discharge to the river.

(g) The discharge would mix with the Fonterra Edendale discharge.

(h) Cumulative effects of the combined discharges in the context of the WCO were an issue.

(i) The guidelines for dissolved inorganic nitrogen in the river are grossly exceeded and would continue to be exceeded.

(j) The appeal was seeking a better treatment system rather than directly challenging the term of consent;

(k) The reduced term of consent was in essence a means of mitigating the appellant's wider concerns.

7.12 What was similar was that the provisions of the RPS and plan encouraged land based disposal and there were similar policies dealing with Maori issues as in the present case. As in the present case there was an acknowledgement that the objectives and policies of the plan were not fully met in that respect. That was a factor in the term of consent, but must also be seen in the context of the other matters set out above.

7.13 There is no extensive discussion of the term of the consent or legal principles in the decision which was written by the two commissioners. That does not detract from the decision, but with respect the decision has no precedent value. Precedent relates to legal matters not the weighing of evidence and policy in a totally different context.

7.14 The DoC submission also referred to a paper I have written regarding the management of cumulative effects. I do not intend to quote my own paper, however the point which was made in the paper was that term of consent is one of the means of addressing cumulative effects. In particular where the decision maker does not have confidence in the ability of adaptive management and review conditions so address all potential effects or where there is a high degree of uncertainty around the potential for effects. In my submission neither of those factors are present here. The uncertainties raised by Mr Lowe regarding the land treatment system have been addressed in evidence and in my submission these were overstated to an extent. In my submission, there are no uncertainties over the effects of discharge to the river.

7.15 This is in stark contrast to the situation which the commissioners were faced with in the case of the Rakaia Selwyn ground water consents which the article was in large part based upon. There the consents were to a large extent granted on a short term “try it and see” basis. There was much debate around the potential for effects.

7.16 I have already referred you to *Tainui Hapu v Waikato RC* (A063/2004): This was an appeal by hapu against duration of permit to discharge treated wastewater to Raglan harbour. The appeal was not allowed and the duration of the permit was confirmed. It allowed the WDC to dispose of effluent from the Raglan sewage treatment plant in the Raglan harbour for a duration of **15 years**, and subject to an "elaborate suite" of other conditions. There the discharge was for a full time discharge to a very sensitive coastal environment.

7.17 *Genesis Power Ltd v Manawatu-Wanganui RC* (2006) 12 ELRNZ 241 concerned consents for the Tongariro power scheme. The High Court overruled The Environment Court's decision to reduce the term of the consents from **35 years to 10** rather than to impose a review provision. In essence the Environment Court had imposed a 10 year term so as to allow the concerns of Maori to be reassessed in a short term. The High Court rejected that approach and found that the effects on Maori had already been assessed by the Council and the Court and it was not fair on the applicant to have to go through the process again in a short term. If found that a review condition would allow effects on Maori to be reassessed if need be. In my submission the same applies in the present case. The time for a short term consent was when the interim consents were granted. Now a long term consent is required and any residual issues can be dealt with by adaptive management and review.

7.18 In *Te Maru O Ngati Rangiwewehi v Bay of Plenty RC* (2008) 14 ELRNZ 331 Rotorua DC applied for resource consent, to replace the expiring permit, to take water from Taniwha springs. The Court reduced the term of the consent from 25 years to **10 years** in order to provide sufficient time for the council to investigate alternative water supply options. In the present case the council has spent much of the last decade considering alternatives. It will continue to do without the need of a short term consent to force that (there is also no taniwha involved!).

7.19 I could put in front of you many other consents which have been granted for much longer periods than 15 years for full time discharge to the rivers or the ocean. However, I accept that they have no precedent value, at most they can provide some guidance as to how others have weighed similar or dissimilar issues elsewhere.

7.20 It is however relevant what has been done elsewhere in the Region. The officers can put before you the details of the terms of other consents which have been granted in the region and the panel will be aware of the term of the Palmerston North consent and the Waipukarau and Waipawa consents in Hawkes Bay.

7.21 It is relevant that the Department of Conservation settled for much longer terms in relation to the recent Hutt WWTP discharge renewal and the Moa Point renewal.

Providing for innovation (future proofing)

7.22 The main reasons put forward by the Department for a shorter term consent is that it would allow a review of technology. In the case of the Hutt discharge permit and I think Moa point, the Department agreed to technology review clauses. The district council has no objection to such a provision in the discharge to river consent . This would be a review or reviews by the District rather than a review of consent conditions by the Regional Council.

7.23 The Council has indicated that it will continue to look at the possibility of zero discharge in the future. The issues revolve around affordability not technology, so any such requirement would need to be a requirement for it to reassess the cost benefits and affordability of such options in say 10 years time. It should be a condition requiring the District Council to reconsider that option in consultation with the community (which is how the Hutt condition works). In practice the condition is unnecessary since the Council will do this in any event. However if you feel that you need such a condition to justify a long term consent then the Council is agreeable to that.

Providing for the relationship of Maori to the river and taking into account kaitiakitanga

7.24 I refer you to my supplementary submission as to how Maori issues should be addressed.

7.25 The Council accepts that only Maori can speak for Maori. It has not called any expert evidence on the effects of the discharge on the mauri of the river. It is appropriate for such evidence to come from tangata whenua as it has.

7.26 The Council does not accept that it should have carried out a cultural impact assessment or that it should carry one out in the future. The views of Maori are already well known to the Council and have been recognised and are being provided for to the extent that the community can afford. The Council is committed to keeping zero discharge to the river options under review.

Relevance of alternatives

7.27 In my opening and supplementary submissions I explained the relevance of alternatives to your decision making process. In summary, the law is clear. It is not your role to assess alternatives, nor to compare the proposal against alternatives .

7.28 If and only if you reach the conclusion that the evidence establishes a significant risk of significant adverse effects being caused by discharges, would alternatives be relevant. You have no expert evidence before you to support such a conclusion. Even if you could reach such a conclusion, all you would be assessing is whether the applicant has arbitrarily dismissed a plausible alternative. You would not be assessing the merits of that alternative.

7.29 You have only had three alternatives advanced by the submitters.

(a) Centre pivot irrigation

(b) Supplement the land treatment on the Homebush site with irrigation of private

(c) Increase expenditure on I/I in conjunction with further land disposal

Centre pivot

7.30 So far as centre pivot is concerned, that option has been considered by the MDC and rejected. You have no expert evidence before you to support Mr Forbes views that Centre Pivot would treat the same volumes of waste water, let alone greater volumes. Mr Lowe agrees that even if such a system could work it would not treat or dispose as much of the liquid gold as would a border strip system.

7.31 Mr Forbes complains that what the Council has assessed is not what he proposed. However the reality is that he has not proposed any particular scheme. He refers to the views of his “irrigation consultant” and an Australian expert, neither of whom have been called. The suggestion that a centre pivot system could discharge more than the border strip system is unsupported by any expert assessment and is contrary to expert evidence you have before you.

7.32 Mr Forbes has a different objective in mind, which is maximizing the value of the waste for productive purposes. That is a good objective but it not consistent with the Council's objectives nor what the community expects (minimizing discharge to the river).

7.33 This option would require more storage or more discharge to the river or the use of private land to supplement on site discharge.

7.34 You would need very good reason to decline consent for the border strip irrigation proposed by the applicant. You would need to be satisfied that it poses significant risk to the environment. You have no such evidence before you.

7.35 With respect to my learned friend Mr Rennie, even if you were satisfied that border strip is unsustainable, you could not simply require the applicant to switch to center pivot and cut and paste the Environment Waikato conditions. You have before you a proposal for border strip. If you were to decline consent for that then the Council would need to reassess its options. It would need to carry out an assessment of the effects of centre pivot and lodge new applications. It would need to re assess storage requirements.

Use of private land

7.36 Sustainable Wairarapa, Councillor Holmes, Mr Forbes and others seek that you grant only short term consents for the discharge to land so as to force MDC into reconsidering the use of private land for further land treatment in conjunction with centre pivot irrigation on the WWTP site. Mr Forbes and Councillor Holmes say that their land is available for this purpose.

7.37 MDC has considered the affordability of a zero discharge option. It has decided that it is not affordable to purchase more land, but has not ruled out the use of private land. It is not your role to revisit the MDC decision regarding the zero discharge option. What you can confidently conclude is that it is not an option which has not been dismissed, let alone arbitrarily. That is all you need to do.

7.38 You do not have a proposal before you for use of private land. You have what at first sight may seem a good idea. However, as explained by Mr Archer there would be significant costs associated with that option (even more if there was centre pivot

on the WWTP site). Those costs relate to the costs of leasing the land (Mr Forbes has not suggested he would make the land available for nothing), the costs of additional treatment to Fonterra standards (if that it is required for dairy production), very significant costs for additional storage, the costs of reticulation to the storage site, the costs of reticulation from their to the irrigation area, and the costs of on site irrigation unless the land owner bears those.

7.39 Consents would be required for the storage facility and for the discharge to land of treated effluent.

7.40 **If** you were to conclude that long term discharge to the river is *unsustainable* **and** if you thought that the use of private land has not been properly considered, you could grant short term consents for the discharge to the river and thereby force the Council to go through the process of reconsidering the private land option. In my submission you have no evidence before you which would justify you adopting such an approach.

7.41 You have no cogent expert evidence to suggest that the river discharge will cause any more than minor adverse effects on the ecological health of the river or Lake Onoke, or that it will have any more than minor affect on health risk, fish, or fishing amenity. You have clear expert evidence before you that the upgrade will **improve** the current situation in terms of health risk, colour and clarity, recreational amenity, periphyton growth, and ecological values.

7.42 You do have the evidence of tangata whenua as to their concerns. I have addressed the role of the Maori cultural issues in my supplementary submissions and do not need to repeat that here.

7.43 The Council will continue to consider zero discharge options. **If** they are as cost effective as Mr Forbes and others believe then it is quite possible that the Council will adopt them. Why wouldn't it? It accepts that zero discharge is preferable and that beneficial reuse of what would otherwise be waste water is desirable. It is for MDC to assess the costs benefits and affordability of these options. A short term consent will hinder not help with that process.

7.44 If as Mr Archer suggests, the option is costly, what will it achieve to force the Council back into the current process in 5, 10 or 15 years time?

Infiltration and inflows

7.45 You have evidence from Mr Franklin and Mr Hopman on this issue. It is not the golden bullet, however it is a very costly bullet and one which will take many years to implement.

Efficiency and beneficial re use

7.46 You are required by section 7 to have particular regard to the efficient use of natural and physical resources. There is case law to the effect that this does not require an applicant to establish that its proposal is more efficient than possible alternatives.

7.47 The main resources in issue in the present case are the land disposal area and the river. It is accepted that treated effluent is also a resource. However, section 7 does not require an applicant for discharge to demonstrate that the effluent could not be used more efficiently.

7.48 In any event you have no evidence as to the efficiency of re using the effluent for further irrigation. The costs and benefits of that option and therefore its efficiency have not been assessed. Mr Archer's response suggests that it may well be an inefficient option. That is the costs may greatly exceed the marginal benefits to the river (the low hanging cheery is about to be picked).

Use of borrow pits

7.49 These issues have been addressed in the original evidence and responses. In particular you have been provided with a draft borrow pit management plan by Mr Archer.

8. LAND TREATMENT AND DISPOSAL SYSTEM ISSUES

Whether the proposed rates of discharge to land can be sustained beyond 15 years from commencement

8.1 You have sufficient evidence upon which you can conclude that the proposed rates of irrigation can be sustained beyond 30 years. If that does not prove to be the case then there are other options available to MDC.

Claimed uncertainties relating to the land treatment system

8.2 These have been comprehensively addressed in the applicant's evidence and response.

The need for good management of the land treatment system

8.3 This is accepted and will be provided. However, Mr Lowes Ferrari analogy is not apt. This is not a high tech race car and it will not be driven by an appropriately qualified manager. The car has not been designed to go around corners at high speed and will certainly not be allowed to do so. So far as the recipe is concerned, the Council asks you to keep it simple and to allow the cook to adapt to suit the ingredients at hand.

Issues associated with using the flood plain area for land treatment

8.4 There have been addressed in the applicant' evidence and Mr Archer had responded further in his reply.

Conclusion on land discharge

8.5 This is a tried and tested system. There are limitations with the site and these have been fully addressed by the applicant. There are no risks which can not be addressed by way of adaptive management.

9. RIVER ISSUES

The relationship of Maori to the river

9.1 The relationship has been recognised and provided for, albeit not to the extent that tangata whenua representatives would like. Tangata whenua/kaitiaki have been consulted and their views have been acknowledged.

Health risk issues

9.2 You have before you the evidence of Mr Ball and Mr Harding and Dr Hickey all of which touch upon predicted pathogen levels and health risk. You now have a joint

statement from Mr Ball and Dr Palmer which clarifies their points of agreement and indeed there is not much that they are not agreed on.

9.3 They are agreed that the quantitative risk assessment or QHRA was appropriate and is useful.

9.4 They are agreed that it was not a Health Impact Assessment (HIA) and should not have been titled such.

9.5 They are agreed that the grading of the Cliffs in the future will be at least fair if not better ("fair" being suitable for swimming).

9.6 They are agreed that the upgrade will result in a significant reduction in health risk during the flows when most people swim.

9.7 They agreed that during the period immediately following a discharge (and increased run off) it will be inadvisable to swim.

9.8 They are agreed on the need for a risk communication strategy.

9.9 They are agreed that at higher flows when the discharge is occurring there is also a high level of background contamination and this would continue even if there was no discharge.

9.10 They are agreed that human pathogens pose a greater risk than animal sourced pathogens (which is why Mr Ball has modelled adnovirus).

9.11 They are agreed that the MFE/MoH guidelines provide a good starting point for assessing risk.

9.12 They are agreed however that the guidelines were not designed with an intermittent discharge in mind and that is why Mr Ball has applied a quantitative approach which differentiates between discharge and not discharge scenarios.

9.13 They are agreed that E.Coli is only and indicator (and that is why Mr Ball modelled adnovirus).

9.14 None of this probably means much to the man in the street. I suggest that Mr Hardings evidence provides a very useful overview of the health risk evidence and the role and limitations of the guidelines.

9.15 I will try and bring all of this back to some simple propositions:

(a) Currently the discharge occurs for 100% of the time but does not cause action levels to be exceeded at the Cliffs (I can not tell you what the grading is at the Cliffs because it has not been graded).

(b) Currently Wardells Bridge is located within the mixing zone but in the future the discharge will be fully mixed by that point.

(c) So far as the future is concerned, one can consider summer flows as falling in 4 categories:

- Flows below median (12.3) occur on average for 66% of the time, presently there is a full time discharge during those flows and in the future there will be no discharge.

- Flows above median occur on average for 33% of the time and at these flows the health risk will be similar to present.

- At flows just above median (say 12.3 to 20 cumecs) there will still be a health risk similar to present and a small number of brave souls may indulge in contact recreation. Background contaminant levels will be lower at these flows and so the relative impact of the discharge will be higher.

- At flows just below median there will be no discharge but for a short period of time after the discharge ceases it will be inadvisable to swim. However it would be inadvisable to swim after a freshe in any event because of urban and farm run off.

(d) In summary then the effect of the discharge on health risk will be for a small proportion of the time when flows are just above median and for a small proportion of time just after the discharge has ceased.

(e) That risk however coincides with periods of low recreation use.

(f) All of this must be seen in the context of the current monitoring results at the Cliffs which suggest that the existing discharge is not having a significant impact on health risk.

9.16 The inevitable conclusion is that the discharge will have a minor impact on health risk and the upgrade is a very significant improvement on the current situation which is not nearly as bad as some would have you believe.

9.17 Whilst it is accepted that the risks associated with human pathogens are greater than those associated with farm run off, the health risk during and immediately following a freshe will be in part from the discharge and in part from rural and urban run off.

9.18 The current discharge does not render the Cliffs site unsuitable for bathing and is therefore not contrary to the WRFP.

9.19 The future discharge will have even less impact and is consistent with the objective of the WRFP to make the river more suitable for contact recreation.

9.20 The Cliffs site is not currently graded but if graded may be poor. Dr Palmer and Mr Ball say it would go to at least fair post upgrade and possibly good. Mr Harding believes that it will go to good or very good.

9.21 This issue is not well understood by the public or the media. It is important that your decision focuses on both the magnitude of the risk and its frequency so that public misconceptions are allayed.

Effects on water clarity and trout foraging at winter flows below median

9.22 Ms Jordan suggests that a change in 50% in clarity in the area up to 300m downstream of the discharge would cause significant adverse effects on trout foraging ability.

9.23 The applicant has proposed a no more than 33% change standard. Higher clarity changes will only be permitted in the 300 m RMZ.

9.24 During summer the discharges will not be occurring at flows below median and will only cause more than minor change to clarity for a brief duration (minutes) on the rising hydrograph and hours on the falling hydrograph. In short, such changes will be brief, infrequent and will affect only a short reach of the river. There is no cogent evidence that these transient changes will have any adverse effect on trout or trout fishing, let alone a more than minor effect.

9.25 For the majority of time in summer there will be no effect on colour and clarity, which is a vast improvement on the current situation.

9.26 Fish and Game opposes the "winter" discharges at between half median and median flow and again raise concerns regarding clarity and trout foraging. During winter at flows between half median and median (which occur for much of the time) there is greater potential for an up to 33% change to occur.

9.27 It is accepted, that trout forage in winter. It is accepted that the river is relatively clear at these flows. What is not accepted, is the suggestion that it follows that this would have a significant adverse effect on trout foraging ability. Firstly, this claim is not supported by reference to any studies which relate to the level of clarity changes predicted by the applicant. Secondly the length of river affected is minute compared to the length of the overall river and is not dominated by pools. Presumably if the trout have a problem with spotting prey they will move upstream or downstream. Thirdly, the winter discharge will be reduced from present because there will still be discharge to land during the winter. Fourthly, the length required for mixing will be much reduced. Finally, I note Ms Jordan fails to mention that anglers prefer a degree of turbidity, as opposed to a clear river.

9.28 Dr Hickey addresses this issue in his response and he and Jim Cooke deal with clarity their initial evidence.

9.29 Finally, I note that the applicant has proposed a discharge protocol which aims to minimise winter discharges at below median flow.

Effects on the potential for nuisance algal growths at winter flows below median

9.30 Currently algal growths do not reach nuisance levels in the designated winter period. Discharge volumes in the future will be a little less than present, (there will still be some discharge to land) so there is no reason the discharge should start to cause nuisance growths.

Effects on the potential for nuisance algal growths during sustained periods of moderate flows in summer, ie when there is sufficient flow for discharge but insufficient flow for flushing

9.31 Fish and Game suggest that there is still potential for the discharge to cause nuisance growths at least in winter. That is contrary to the applicant's evidence. The applicant is however agreeable to a condition which prohibits discharge after reasonable mixing and for monitoring to verify that. It is also proposing a greater dilution rate in winter at flows between half median and median.

9.32 Dr Hickey addresses the potential for "pulses of discharge" during summer to stimulate algal growth to reach nuisance levels when that would not otherwise have occurred. He is of the view that this will not occur.

Effects on Lake Onoke when it is closed and when that coincides with summer discharges

9.33 Much has been made of the fact that the discharge from the plant will continue to contribute to the nutrient loads to the river and lake. For most of the time, the direct discharge will occur when the flows are high and most of the time there is a high degree of flushing of the nutrients to the sea.

9.34 A number of submitters suggest that the residual nutrient loading, even though significantly reduced from present, will cause adverse effects in Lake Onoke, particularly when it is blocked.

9.35 Dr Aussiel does not suggest that there is necessarily a problem with the lake or that if there was that the reduced discharge would likely exacerbate the problem. Rather, he concludes that the potential for the discharge to contribute to the nuisance algal growth *"can not be fully discounted"*, but he accepts that there is insufficient information upon which to base consent conditions. He recommends monitoring of the lake to assess whether there is a problem and the cause of any

such problem. Fairly, he resists the temptation to suggest that such monitoring should be the responsibility of MDC.

9.36 The key evidence is:

(a) During summer at flows below median, discharge of nutrients from the site to land via the river will be minimal and orders of magnitude below current direct discharge levels.

(b) These flows occur for the majority of the time during summer.

(c) Dr Cooke has estimated that the discharges will contribute less than 5% of DRP to Lake Onoke during the summer.

(d) He estimates that during periods of closure the discharge would contribute less than 10% of the DRP load to the lake.

9.37 The joint statement in response from Hickey, Cooke and Ryder addresses the issue of lake closure.

9.38 I must say that having listened to a couple of weeks of evidence, it is not clear to me what the nature and extent of the problem is with the Lake, nor the frequency, timing and duration of the problem, let alone the cause.

9.39 What is clear is that after nearly 40 years of discharge, there is no evidence that the current discharge, let alone the future reduced discharge is the cause or even the primary cause of any problem. You have evidence before you as to the relative contribution of the MDC discharge, other sewage discharges and non point source discharges. If these consents are granted the total contribution of DRP from the MDC discharge will be about 6-7% of the overall load to the lake. (currently 10.3% according to the Chrystall 2007 report.) Integrated catchment management as advocated by Mr Gunn and indeed by the applicant requires that basic fact to be acknowledged.

Integrated catchment management

9.40 It is accepted that MDC may be a contributor to any problem which exists. By reducing its discharge by 40% it will significantly mitigate its contribution to the problem from around 10% of the problem to less than 7% of the problem. (I say less because of the timing of the discharge).

9.41 Clearly the MDC discharge is a tempting low hanging cherry. MDC intends to take a large bite from the cherry. There is still a whole tree which is beyond its control. It is all very well for Mr Gunn and others to speak of equity. The reality is that the people of Masterton town, will be bearing an inequitable share of fixing the nutrient problem (whatever that problem is).

9.42 There is certainly a need for an integrated catchment management approach. The first step in that task is to identify what the adverse effects of nutrients are, when and where they occur, most likely causes and best practicable measures to avoid or mitigate such effects. There may be non regulatory mechanisms to address the necessary management. There may also need for unpalatable regulatory mechanisms such as those proposed for Lake Taupo and the Manawatu.

9.43 If Greater Wellington chooses to implement higher standards for nutrients, then it can do that via the WRFP. Section 128 (1) (b) of the Act then allows those standards to be applied to existing consent holders including MDC (after taking into account the costs and benefits of that approach). The Regional Council would of course also have to deal with currently permitted rural run off.

9.44 The Council is willing to contribute to a working party on water quality in the catchment. The focus of that should be on the causes of problems rather than the on the sources of discharge.

Discharge rates during sensitive flows (summer recession flows and winter below median)

9.45 I have already discussed health risk issues, water clarity and nuisance algal growths. In my submission the evidence is compelling that the discharge will have no more than minor effects on any of these. Nevertheless it has always been accepted by the applicant that the greatest potential for adverse effects exists at winter flows between half median and median and summer flows just above

median. It is for this reason that it modelled what has been described as “threshold flows”.

9.46 It has modelled effects based on a worst case dilution of 30:1. However it was never its intention to discharge at that rate all of the time. There is sufficient storage in the system to increase dilution rates at more sensitive times and to minimise the occurrence of winter discharges at low flows.

9.47 The applicant has proposed a discharge protocol for inclusion in the operational plan. Under this protocol it would whenever practical, increase dilution to 50:1 at summer flows between 12.3 and 15, and to 40:1 at flows between 15 and 20 cumecs. It would also minimise the frequency and duration of winter discharges at below median flow (refer to condition).

Suggestion that the DRP limit of 0.15 at Wardells is necessary and appropriate for times of no discharge

9.48 This point is addressed in Dr Hickey’s response and in the joint ecological response. Dr Hickey is an expert in this particular area and his views on this matter are endorsed by Dr Ryder.

9.49 In the current absence of a DRP standard or guideline in the plan there is a need for the officers to properly justify the need for a standard and appropriateness of the proposed value. In my submission the proposal has not been justified by the officers either in terms of necessity or in terms of using 0.15 rather than 0.30. The 0.15 standard may well appear in the review of the WRFP, but that does not mean that it is suitable for this river and this discharge regime.

9.50 As discussed earlier, the consent condition should not pre empt the debate as to whether their should be a generic standard in the Plan and if so what value should be used.

9.51 The applicant is agreeable to monitoring for nuisance algal growths. The officers say they are happy for DRP and DIN standards to only be enforced if nuisance growths are occurring downstream but not upstream. The question which remains, is why it is necessary to have anything more than a requirement that the discharge not cause nuisance growths. What more will a standard achieve?

9.52 I submit that the more appropriate approach is to monitor both DIN and DRP and nuisance growths and then if there appears to be a problem (which on the evidence is unlikely) apply adaptive management.

9.53 The other difficulty with DRP and DIN standards directed at the discharge to land is the lag time. Mr Proffitt says that it will be years before nutrients approach predicted levels. By that time presumably, the plan will include a standard or a guideline which can if necessary be applied to the consent.

9.54 With respect, I think this whole issue requires a little more sense of proportion. Currently there is seldom a problem with nuisance growths and when there is, there is often a problem upstream as well. In the future the direct discharge will be removed during the times when there is the greatest risk of nuisance and toxic growths. The pond discharge will also be significantly reduced. *Is there really a significant potential for a more than minor adverse effect such as to require the imposition of DRP and DIN standards?*

10. RESPONSE TO OTHER SUBMITTER ISSUES

10.1 It is not necessary for me to respond to every issue which has been raised. Where those issues were considered to warrant a response hopefully you have had a response from the relevant witness. Matters which were already addressed in the AEE and in initial evidence have not been re traversed unless there was a need for further clarification. There are matters which have been raised which are of marginal if any relevance. I do not need to traverse such points.

10.2 It may be that we have missed something off the list which is relevant and which you consider has not been adequately addressed. With that in mind I would ask you not to close the hearing yet in case you wish to request further information.

10.3 There is one peripheral issues which I will briefly discuss.

10.4 Mr Gunn raised claimed compliance issues. What is relevant to you is the documented history of compliance and any action which the Regional Council has taken, rather than Mr Gunn's views on compliance. That history is good as are the monitoring reports.

10.5 The suggestion that infiltration to the sewer system is unlawful is Mr Gunn's personal view and not one which has ever been expressed by the Regional Council to the District Council. Nor is it a view which is consistent with the law. The Environment Court has recently declined to rule that what emanates from the rear end of a cow to land and thence to water is a discharge. The difficulty is that it is not a person which is discharging and the farmer can not prevent the discharge. Similarly, in my submission, one takes water when that is deliberate not when it occurs against your wishes.

11. DESIGNATION CONDITIONS

11.1 The requiring authority accepts the conditions proposed by Ms Southey. She has engaged with Mr Schofield to ensure that the conditions address issues raised by neighbours.

12. CONSENT CONDITIONS

12.1 Many issues have been resolved in discussions with council officers and consultants. The applicant is appreciative of the efforts made by officers over the last week or so. There is still a point of difference over term of consent. Ultimately that is an issue for you to weigh up the competing arguments. I do not need to say anymore on this topic.

12.2 There are some other residual points of difference and those are highlighted on the conditions table. The relevant witnesses have in most cases addressed those points in their response. I will address the main issues and any legal or policy issues orally and by reference to the table. The table has been shaded. Blue shading is intended to indicate the more significant points of difference and yellow shading lesser matters.

12.3 Mr Archer has done somewhat of a mop up exercise in his response and covers many of the points of difference. Others are addressed by the relevant witness and some are left to me.

12.4 There is one addition which the applicant has proposed to the conditions. That is the discharge protocol.

12.5 There are a number of other proposals which have been developed over the course of the last two weeks but which are not reflected in conditions.

12.6 Mr Harding in his response sets out a strategy for grading of the river in accordance with the guidelines and for developing a risk communication protocol as requested by Dr Palmer. The applicant has discussed the proposal with Dr Palmer and he has seen a draft of it. There have been some minor changes to the draft since then. You may wish to ask Dr Palmer his views on the strategy/protocol. The document is not really in a form which can be readily incorporated into a consent condition. However if you think that is necessary then it can be achieved.

12.7 The council is happy to contribute to a working party on water quality issues within the catchment. That could perhaps be captured by a condition but that is probably unnecessary. Its view is that such a group would be more beneficial than a narrowly focussed Community Liaison Group.

12.8 Finally, the Council is agreeable to a condition which obliges it to carry out periodic reviews of zero discharge options. I have had a first attempt at drafting such a condition, but it is work in progress and would need some refinement.

12.9 It has been my experience in a number of hearings recently that conditions have been issued without a final review by the applicant. That has necessitated the applicant lodging an appeal to fix up relatively trivial matters. I suggest that it may be useful for both the officers and the applicant to have an opportunity to review the conditions. The purpose of that would not be to seek to persuade you to change your mind but to make sure there are no minor glitches (by way of example I think that there may still need to be some further discussion between Mr Proffitt and the officers around some of the monitoring conditions.) The alternative approach would be for you to come back to the applicant if there is anything which you have any doubts about.

13. CONCLUSION

13.1 In my submission you have more than ample evidence to grant the long term consents sought by the Council. This will allow it to get on with the project and bring about the environmental benefits which the upgrade will achieve. It will also allow

the community to move on. However, the Council will continue to be responsive for opportunities to avoid remedy or mitigate the effects of waste water disposal.

Philip Milne
Counsel for Masterton District Council
30 March 2009