

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of **PROPOSED PLAN CHANGE 1** to the Waikato Regional Plan – hearing of **BLOCK 2** topics

AND

IN THE MATTER of the hearing of the further submission by **WAIKATO REGION LOCAL AUTHORITIES COMPRISING THE WARTA GROUP** in relation to **BLOCK 2** topics

STATEMENT OF EVIDENCE OF MARY ELIZABETH O'CALLAHAN

1. INTRODUCTION

1.1 My name is Mary Elizabeth O'Callahan. Based in Wellington, I hold the position of Technical Director – Planning with GHD Ltd and have worked as a planning consultant with GHD for 13 years.

Qualifications and experience

1.2 I hold a Bachelor of Science degree from Victoria University of Wellington (1992) and a Bachelor of Planning degree from Auckland University (1994). I am a full member of the New Zealand Planning Institute (MNZPI).

1.3 I have 24 years of experience in my field of practice. Prior to joining GHD, I worked as a planner for several local authorities, including Wellington City Council, the London Boroughs of Hackney and Lambeth in the United Kingdom and Marlborough District Council.

Purpose and scope of evidence

1.4 In this evidence I consider the relevant submission points made by the councils that comprise the Waikato Region Territorial Authority Group ("WARTA") along with the further submissions that WARTA lodged in respect of the project on the topics included in Block 2 of the hearings from a planning perspective.

- 1.5 My evidence is structured as follows:
- (a) Rural policies and rules (Section 3).
 - (b) Outline of WARTA interests in point source discharge related policies - Policies 10, 11, 12, and 13 (Section 4).
 - (c) Recommended amendments to Policies 10, 11, 12, and 13 (Sections 5 to 8).
 - (d) Urban growth (Section 9).
 - (e) Conclusions (Section 10).
- 1.6 A summary of my evidence is contained in Section 2. My recommended amendments to the policies of PC1 are **attached** as **Appendix 1** I also set out my recommended amendments in sections 5 to 9 alongside the recommendations of the Reporting Officers.
- 1.7 I note that water quality conferencing has not been completed, so the content of Table 3.11-1 which the conferencing relates to is uncertain. The scope and nature of the Table is core to the plan change, so there is likely to be a need to review my evidence on both the objectives and policies once the outcome of the water quality conferencing is known. In which case, I understand that WARTA will seek the option to file supplementary planning evidence to address this, if needed.

Expert Witness Code of Conduct

- 1.8 I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Consolidated Practice Note (2014) and I agree to comply with it. I can confirm that the issues addressed in this statement are within my area of expertise and that in preparing my evidence I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

2. SUMMARY OF EVIDENCE

- 2.1 I support the overall outcome sought by PC1, which is to achieve restoration of water quality within the rivers.

Rural policies and rules

- 2.2 At a high level, I have considered the recommended amendments presented in the Officers' section 42A report and noted that they generally improve the structure and certainty of the diffuse discharge and rural land use policies and

rules. There are still some issues, but I have not considered these in detail as WARTA has not had the benefit of considering industry cases on alternatives to use of the Overseer-based grandparenting to allocation at this point in the hearing. Accordingly, I have not recommended any changes to this part of the plan change in this brief of evidence.

Policy 10 regionally significant infrastructure

- 2.3 I consider that Policy 10 as recommended by the reporting Officers' is too narrow in its focus on "continued operation of regionally significant infrastructure" and is inconsistent with the RPS. The RPS recognises both existing and planned regionally significant infrastructure, so my recommended amendment follows this higher order document.

Policy 11 BPO and offset mitigation

- 2.4 I recommend retaining Policy 1 as a single policy so that offset mitigation can form part of a BPO approach for a particular discharge. I suggest amendments to remedy the Officers' wording which seems to require offsetting of all contaminants to a nil effect level. My intention with the recommended rewording for Policy 11 for offset mitigation is to encourage offsetting of effects that are more than minor where they cannot be avoided or mitigated at the discharge point. I've also recommended amendments to provide flexibility on interchanging contaminants and offset location sites, in accordance with the evidence of Dr Zhuo Chen, drawing on the Cambridge WWTP case study.

Policy 12 matters to take into account in applying water quality targets to point source discharges

- 2.5 The key recommendation in relation to Policy 12 is an amendment to direct consideration of the water quality targets following the application of a reasonable mixing zone. I have also recommended some additional considerations be added to the policy relating to amalgamation of point source discharges (e.g. which might occur following regional amalgamation of wastewater treatment plants), the influence of seasonal climatic considerations on assimilative capacity and recognition of the benefits associated with point source discharges.

Policy 13 consent terms

- 2.6 I agree with the Officers that the inclusion of the reference to 25 years in the notified version of the policy could be construed as a default for consent terms. I agree with the Officers' rationale that the specific numeric reference to 25 years be removed. The key "effect" consideration for long term consent

durations is the extent that a proposal can assist with meeting the water quality targets, so I have largely adopted the Officers' wording for this policy.

Urban growth and stormwater

- 2.7 I think it is important for PC1 to either clearly state it does provide policy guidance on urban growth planning in the PC1 catchments and that none of the policies are directed to stormwater discharges, or alternatively, it takes the opportunity to provide some initial direction through inclusion of an urban growth policy. Given the complexity of developing a policy regime to adequately address stormwater which I understand was not intended to be captured by PC1 and which is a key part of the urban growth issue from a water quality perspective, I recommend an advice note or explanatory material to confirm that PC1 does not influence urban growth or stormwater, along with a more thought out method (to be addressed in Block 3), to illustrate the nature of the plan change work which is still to come on this topic.

Overall conclusion

- 2.8 Overall, my evidence highlights a number of areas where PC1 could result in unsuitable policies being applied to a future point source discharge consenting process. This could in turn have unintended consequences for point source dischargers that might necessitate costly upgrades to municipal infrastructure, without offering any real improvement towards restoration of water quality within the rivers so that it is safe for people to swim and take food from. I recommend changes be made to ensure the policies of PC1 are clear as they relate to future point source discharge applications. I set out my recommended changes in **Appendix 1** to my evidence.

3. RURAL POLICIES AND RULES

- 3.1 The Block 2 hearing topics primarily relate to the proposed changes to the management of rural activities through the following provisions in PC1:
- (a) Policies 1-9.
 - (b) A range of permitted, controlled, discretionary and non-complying activity rules as set out under section 3.11.5 of PC1 to manage rural land use and diffuse discharges.
 - (c) A number of schedules which support and form part of the rules.
- 3.2 In my opinion, the recommended amendments presented in the Officers' section 42A report provide a much-improved set of provisions and rules to achieve an implementable and, therefore, workable regulatory framework for the Waikato and Waipa catchments. The provisions, as amended, provide

clearer articulation of the regulatory requirements and, therefore, greater certainty for plan users and rural communities.

- 3.3 I have not sought to comment on the substantive content of the regulatory controls in my evidence as this is beyond the scope of my input on behalf of WARTA. WARTA are interested in the impact of PC1 in terms of the social and economic burden on rural communities which form a key part of the districts represented by WARTA councils. However, the WARTA approach has deliberately been to review and be informed by the evidence of the rural sector industry groups in terms of whether the Overseer-based grandparenting approach which forms the basis of the regulatory regime is the best possible option available to reduce the impact of diffuse rural discharges on water quality in these catchments or if there is a better alternative regime available with lower social and economic costs.
- 3.4 Given the structure of the hearings, WARTA will not have the opportunity to consider the benefits of industry lead alternative regimes until after the Block 2 hearings as these matters form part of the Block 3 hearing topic. On this basis, I may need to provide an update to my high level evidence on the proposed rural policies and rules once I've had the chance to review the work of others specifically qualified and experienced in this area. My expertise is limited to that of a planner in assessing whether the provisions clearly communicate regulatory expectations in line with plan drafting best practice principles (e.g. certainty, effects based, etc).
- 3.5 Within the context above, there are some key changes recommended in the section 42A report which I think improve the clarity and certainty of the plan change, which I support at a general level. This includes the removal of the Overseer based nitrogen reference point (NRP) as consent trigger / compliance limit, as this improves regulatory certainty. Greater flexibility of management approaches is also positive (e.g. the incorporation of Good Farming Practices (GFP) in the policy framework) and an enhanced capacity for Farm Environment Plans (FEPs) to manage property-specific mitigation to promote reduced contaminant discharges.
- 3.6 The removal of the Policy 6 which was very directive in restricting land use change is supported. However, I note that retention of a non-complying activity rule for certain rural land use change seems to be at odds with this modification, and is an overly restrictive activity status.
- 3.7 I have not reviewed the detail of the diffuse discharge and rural land use provisions or obtained any specialist input in relation to their impact on rural land use. Accordingly, I have not commented beyond these high level observations.

4. **OUTLINE OF WARTA INTERESTS IN POINT SOURCE DISCHARGE RELATED POLICIES**

4.1 The direct interests of the WARTA group primarily relate to the potential effect of PC1 on municipal wastewater discharges, as the councils are responsible for managing these essential services on behalf of the community. The relevant policies affecting these point source discharges within the Waikato and Waipa catchments in PC1 are as follows:

- (a) Policy 10 concerning regionally significant infrastructure.
- (b) Policy 11 concerning the BPO and offset mitigation.
- (c) Policy 12 concerning matters to take into account in applying the water quality targets to point source discharges.
- (d) Policy 13 concerning consent terms.

4.2 I will address each of these policies in the following sections of my evidence. As noted in my EIC for the Block 1 hearing, it is unclear whether the PC1 water quality targets directly affect stormwater discharges but I understand it was not intended to¹ and I have recommended a note to Table 3.11-1 to clarify the water quality targets are not applicable to stormwater discharges in my Block 1 evidence.

4.3 Notwithstanding this, my colleagues are finding that the water quality targets and the policies are being deemed relevant by WRC consent officers to resource consent applications for both wastewater and stormwater discharges, so I have approached my evidence with this in mind.

5. **RECOMMENDED AMENDMENTS TO POLICY 10**

5.1 The table below sets out the notified version of Policy 10 and the recommended amendment to it from the section 42A report, along with my recommended wording. I will outline the reasons for my recommendation below.

Policy – from PC1	S42A Recommendations	My Recommended Changes (WARTA)
Policy 10: When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment and microbial pathogens to water or onto or into land, provide for the:	Policy 10: No change to notified version.	Policy 10: When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment and microbial pathogens to water or onto or into land, provide for the:

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<p>a) Continued operation of regionally significant infrastructure; and</p> <p>b) Continued operation of regionally significant industry</p>		<p>a) Continued operation of <u>existing and planned</u> regionally significant infrastructure; and</p> <p>b) Continued operation <u>and development</u> of regionally significant industry</p>
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- 5.2 I disagree with the Officers’ recommended rejection of the submissions seeking acknowledgement of expansion or development of new regionally significant infrastructure.
- 5.3 Their reasons for this are noted on page 171 of the section 42A report, towards the end of paragraph 1065. Their concern is that including an express acknowledgement of new infrastructure (which they assume would automatically have adverse effects) would seem to be inappropriate to provide explicit policy support for, as additional adverse effects on the Waikato River are unacceptable.
- 5.4 This position conflicts with their argument at paragraph 1058, which says that Policy 10 does not “trump” other considerations and, specifically, does not trump Policies 11-13.
- 5.5 The same argument should be applied to expansion, upgrading, or development of new regionally significant infrastructure, as all policies need to be considered in the round in relation to a point source discharge application. In reality, it is likely to be the infrastructure serving older established urban areas that will struggle to meet more onerous water quality targets rather than new infrastructure.
- 5.6 On this basis, I recommend that the policy reference to regionally significant infrastructure be consistent with that included in the higher order Regional Policy Statement document, i.e. a reference to both existing and planned infrastructure. This does not create a license to pollute, it merely reflects the fact that regionally significant infrastructure is, by necessity, continually being developed, expanded, and upgraded to service growth. This is often to deal with greater environmental expectations (e.g. a larger wastewater treatment plant to remove a greater level of contaminants, regional amalgamation of treatment plants to better manage discharge quality, etc).

5.7 In my view, the notified and section 42A wording for Policy 10 is not consistent with Policy 4.4 of the RPS, which provides for the continued operation and development of regionally significant industry and Policy 6.6 of the RPS, which requires particular regard be given to existing and planned regionally significant infrastructure.

5.8 The Regional Plan must be consistent with the RPS in the way it recognises regionally significant infrastructure and industry and its clear that the higher order document is not limited to just operation of "existing" infrastructure.. Accordingly, Policy 10 of PC1 requires amendment as I have indicated in the table above.

6. RECOMMENDED AMENDMENTS TO POLICY 11

6.1 The table below sets out three versions of Policy 11 and I outline the reasons for my recommendation below.

Policy – from PC1	S42A Recommendations	My Recommended Changes (WARTA)
<p>Policy 11:</p> <p>Require any person undertaking a point source discharge of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments to adopt the Best Practicable Option* to avoid or mitigate the adverse effects of the discharge, at the time a resource consent application is decided. Where it is not practicable to avoid or mitigate all adverse effects, an offset measure may be proposed in an alternative location or locations to the point source discharge, for the purpose of ensuring positive effects on the environment to lessen any residual adverse effects of the discharge(s) that will or may result from allowing the activity provided that the:</p> <p>a. Primary discharge does not result in any</p>	<p>Policy 11:</p> <p>Require any person undertaking a point source discharge of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments to, <u>as a minimum</u>, adopt the Best Practicable Option* to avoid or mitigate the adverse effects of the discharge, at the time a resource consent application is decided.</p> <p>Where it is not practicable to avoid or mitigate all <u>any</u> adverse effects, <u>cannot be reasonably avoided, they should be mitigated, and where they cannot be reasonably mitigated, it is encouraged that</u> an offset measure may be proposed in an alternative location or locations to the point source discharge, for the purpose of ensuring positive effects on the environment to lessen any residual adverse effects of the</p>	<p>Policy 11:</p> <p>Require any person undertaking a point source discharge of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments to, <u>as a minimum</u>, adopt the Best Practicable Option* to avoid or mitigate the adverse effects of the discharge, at the time a resource consent application is decided.</p> <p>Where it is not practicable to avoid or mitigate all <u>such</u> adverse effects, <u>cannot be reasonably avoided or mitigated to a minor level,</u> an offset measures may be proposed in an alternative location or locations to the point source discharge, for the purpose of ensuring positive effects on the environment to lessen any residual adverse effects of the discharge(s) that will or may result from allowing the activity provided</p>

<p>significant toxic adverse effect at the point source discharge location; and</p> <p>b. Offset measure is for the same contaminant; and</p> <p>c. Offset measure occurs preferably within the same sub-catchment in which the primary discharge occurs and if this is not practicable, then within the same Freshwater Management Unit^ or a Freshwater Management Unit^ located upstream, and</p> <p>d. Offset measure remains in place for the duration of the consent and is secured by consent condition.</p>	<p>discharge(s) that will or may result from allowing the activity provided that the:</p> <p>a) Primary discharge does not result in any significant or toxic adverse effect at the point source discharge location; and</p> <p>b) Offset measure is for the same contaminant; and</p> <p>c) Offset measure occurs preferably within the same sub-catchment in which the primary discharge occurs and if this is not practicable, then within the same Freshwater Management Unit^ or a Freshwater Management Unit^ located upstream, and</p> <p>d) Offset measure remains in place for the duration of the consent and is secured by consent condition <u>or another legally binding mechanism.</u></p>	<p>that the:</p> <p>a) Primary discharge does not result in any significant toxic adverse <u>environmental</u> effect at the point source discharge location; and</p> <p>b) Offset measure is <u>preferably</u> for the same contaminant <u>or where this is not practicable, another contaminant or a broader cultural and/or ecological outcome</u>; and</p> <p>c) Offset measure occurs preferably within the same sub-catchment in which the primary discharge occurs <u>or otherwise an alternative location and if this is not practicable, then within the same Freshwater Management Unit^ or a Freshwater Management Unit^ located upstream,</u> and</p> <p>d) Offset measure remains in place for the duration of the consent and is secured by consent condition <u>or another legally binding mechanism.</u></p> <p><u>Allow the Best Practicable Option and any offset measures to be staged, where appropriate.</u></p>
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6.2 In respect of Policy 11, I have sought advice from Dr Zhuo Chen drawing on lessons from a recent Cambridge WWTP offset mitigation case study. He provides comments relevant to Policy 11 in his statement of evidence, which I will refer to in this section of my evidence.

6.3 I consider the Officers' recommended rewording for Policy 11 is unclear and contradictory because the concept of avoid or mitigate any effects appears too many times in the policy. I think they are also somewhat unclear in their communication of the expectations around the BPO and offsetting. At paragraph 1079, they summarise submitter concerns that Policy 11 strays into requiring BPO to a no effects level. I think the Officers' recommended policy wording may be attempting to get to a no effects level, but I am not sure if this is intentional or not. In my view, the RMA doesn't require "no effects".

6.4 The problem with the Officers' recommended rewording of Policy 11 is that it has the same "avoid or mitigate any effects" requirement in both the primary

policy limb and in the alternative offset limb of the policy, which indicates an intention to require offsetting of all contaminants – e.g. reduce nitrogen to nil. So, logically, this would mean there would never be a point source discharge without an offset. This is because an applicant would either need to have nil contaminants in their discharge (in which case a consent is not needed) or they would have to offset, so offset would have to be part of every discharge consent. This is not likely to be the policy intent, as there has been a clear preference to manage effects at the source and only use offsets where absolutely necessary.

- 6.5 Accordingly, my amendment above to Policy 11 clarifies that it is not a nil effect expectation that triggers an offset. Rather, the first step is to attempt to avoid or mitigate effects to a minor level, and then offset, where needed to get to this level. This is consistent with the approach adopted in the Cambridge case study, as outlined in Dr Chen’s evidence.
- 6.6 From a review of Dr Chen’s evidence, it is clear that in the Cambridge offset case, the BPO and offset concept were very much melded and integrated as a single solution. On this basis, and while some submissions sought these be separated, I am comfortable with a combined policy, as per the Officers’ approach, as I expect any proposal for offset mitigation will invariably be part of an overall BPO solution.
- 6.7 I have also recommended the reference to “offset measure” in the second limb of the policy be changed to offset measures. I think the option to have more than one offset measure is intended in the use of the words location or locations in this sentence. The benefit of the suggested amendment is it makes this clearer.
- 6.8 With reference to sub-clause (a), Dr Chen recommends removal of reference to the word “toxic” in Policy 11 and I agree that this is uncertain and should be removed. Accordingly, I have adopted his suggested rewording above.
- 6.9 In terms of sub-clauses (b) and (c), Dr Chen recommends more flexibility in terms of interchanging contaminants and allowing for investment into improvement activities focused on cultural and/or biodiversity outcomes where this is not practicable, as well as broadening the location of acceptable offset mitigation locations. My suggested amendments to sub-clauses (b) and (c) provide for this.
- 6.10 Dr Chen also highlights the need for a robust offset methodology, with clear indication of objectives and principles, before the policy can reasonably be applied within the region. He suggests that the offset methodology should be based on a well-calibrated catchment nutrient release and impact model and it should provide a suite of acceptable offset options with the respective offset

capacity calculation formula to ensure that future nutrient offset schemes are developed with consistency and transparency. It is suggested that a suitable implementation method be included in the Officers’ report for Block 3, for inclusion under Section 3.11.4. The Block 3 hearing topic deals with the PC1 “implementation methods”. Alternatively, I will provide one in further evidence for Block 3, if it is not otherwise covered.

6.11 I agree with the Officers’ recommendation to sub-clause (d) of this policy on alternative legal mechanisms to consent conditions to secure offset mitigation measures.

6.12 Some of the WARTA council submissions (e.g. Hamilton City Council) identify that staged implementation of the Best Practicable Option and any offset measures is a sensible approach to managing an increasing contaminant load from growth. When a wastewater treatment plant is developed or upgraded, it is often undertaken in a staged manner, to deal with demand and the contaminant loads from the growing municipal area. It is a more efficient use of a community’s financial resources to delay providing additional treatment capacity, until the time it is actually required. As well as being a sensible approach to managing growth, staged implementation of the Best Practicable Option and any offset measures is consistent with the requirements of the Local Government Act 2002. Accordingly, it is appropriate and highly desirable to amend Policy 11 to allow the Best Practicable Option and any offset measures to be staged.

6.13 On the basis of Dr Chen’s advice and the lessons from the Cambridge offset mitigation case study, I consider my reworded Policy 11 will enable more effective use of offset measures to improve water quality.

7. RECOMMENDED AMENDMENTS TO POLICY 12

7.1 The table below sets out three versions of Policy 12 and I outline the reasons for my recommendation below.

Policy – from PC1	S42A Recommendations	My Recommended Changes (WARTA)
<p>Policy 12:</p> <p>Consider the contribution made by a point source discharge to the nitrogen, phosphorus, sediment and microbial pathogen catchment loads and the impact of that contribution on the likely achievement of the short term targets^ in Objective 3 or the</p>	<p>Policy 12:</p> <p><u>When deciding a resource consent application,</u> consider the contribution made by a point source discharge to the nitrogen, phosphorus, sediment and microbial pathogen catchment loads and the impact of that contribution on the likely achievement of</p>	<p>Policy 12:</p> <p>Consider the contribution made by a point source discharge <u>after the application of reasonable mixing in accordance with Policy 3.2.3.8,</u> to the nitrogen, phosphorus, sediment and microbial pathogen catchment loads and the impact of that contribution on the likely achievement of the</p>

<p>progression towards the 80-year targets[^] in Objective 1, taking into account:</p> <ul style="list-style-type: none"> a. The relative proportion of nitrogen, phosphorus, sediment or microbial pathogens that the particular point source discharge contributes to the catchment load; and b. Past technology upgrades undertaken to model, monitor and reduce the discharge of nitrogen, phosphorus, sediment or microbial pathogens within the previous consent term; and c. The ability to stage future mitigation actions to allow investment costs to be spread over time and meet the water quality targets[^] specified above; and d. The diminishing return on investment in treatment plant upgrades in respect of any resultant reduction in nitrogen, phosphorus, sediment or microbial pathogens when treatment plant processes are already achieving a high level of contaminant reduction through the 	<p>the short term <u>water quality attribute states targets</u> in <u>Table 3.11-1</u> Objective 3 or the progression towards the 80-year <u>water quality attribute states targets</u> in <u>Objective 1</u> <u>Table 3.11-1</u>, taking into account:</p> <ul style="list-style-type: none"> a) The relative proportion of nitrogen, phosphorus, sediment or microbial pathogens that the particular point source discharge contributes to the catchment load; and b) Past technology upgrades undertaken to model, monitor and reduce the discharge of nitrogen, phosphorus, sediment or microbial pathogens within the previous consent term; and e) The ability <u>Whether it is appropriate</u> to stage future mitigation actions to allow investment costs to be spread over time and to meet the water quality <u>attribute states targets</u> specified above,; and d) The diminishing return on investment in treatment plant upgrades in respect of any resultant reduction in nitrogen, phosphorus, sediment or microbial pathogens when treatment plant 	<p>short term targets[^] in Objective 3 or the progression towards the 80-year targets[^] in Objective 1, taking into account:</p> <ul style="list-style-type: none"> a) The relative proportional contribution of nitrogen, phosphorus, sediment or microbial pathogens that the particular point source discharge contributes to the catchment load and the likely impact of that contribution on the progressive achievement of: <ul style="list-style-type: none"> i. <u>The short-term water quality goals in Table 3.11-1</u> ii. <u>The 80-year numeric attribute states in Table 3.11-1.</u> b) <u>Where relevant, the extent of improvement to discharge quality and Ppast technology upgrades undertaken to model, monitor and reduce the discharge of nitrogen, phosphorus, sediment or microbial pathogens within the previous consent term; and</u>
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<p>application of the Best Practicable Option*.</p>	<p>processes are already achieving a high level of contaminant reduction through the application of the Best Practicable Option*.77</p>	<p>c) <u>The ability Whether it is appropriate to stage future mitigation actions to allow investment costs to be spread over time and meet the water quality targets numeric attribute states specified above; and</u></p> <p>d) The diminishing return on investment in treatment plant upgrades in respect of any resultant reduction in nitrogen, phosphorus, sediment or microbial pathogens when treatment plant processes are already achieving a high level of contaminant reduction through the application of the Best Practicable Option*.</p> <p>e) <u>Where discharges for activities are being amalgamated, the overall effects on water quality.</u></p> <p>f) <u>The influence of seasonal climatic conditions and other natural processes that affect assimilative capacity and water quality.</u></p> <p>g) <u>The beneficial social, economic and environmental effects of the point source</u></p>
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		<u>discharge.</u>
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- 7.2 For the reasons outlined in my EIC for the Block 1 hearing, it is important to include a reference to “after reasonable mixing” at the start of this policy that references the attribute states and Table 3.11-1. This is so that these targets, and the other considerations which follow from this point on, are subject to a zone of reasonable mixing and are not measured at the immediate discharge point.
- 7.3 The reference to Table 3.11-1 has been incorporated into sub-clause (a) in my recommended wording, making it clearer that it is a collective responsibility in achieving the short term goals and long-term water quality targets of PC1. Accordingly, and in the context of point source discharges, it is important to consider the proportional impact of a specific point source discharge in the catchment overall, rather than a simple application of the numeric provisions to each and every point-source discharge application. This is the intention of the policy, but it is useful to make it clearer in the manner I have outlined.
- 7.4 A comparison of the discharge quality of any past and current point source discharges is important to take into account during consenting, in order to not only demonstrate an improvement, but, also, to not necessarily require upgrades each time if there has been progress in the previous consent term. The policy revisions I have suggested make this sub-clause clearer.
- 7.5 Sub-clause (e) deals with potential regional amalgamation. Amalgamation of existing point source discharges is a real prospect in the Waikato and Waipa catchments. I understand that a regional amalgamation of WWTPs is an option for south of Hamilton, so it is an option to be considered for the long term upgrade solution for the Cambridge WWTP as part of the business case process that is underway for this.
- 7.6 In some regional amalgamation scenarios, this approach to managing WWTPs could, for example, lead to a significant improvement in water quality in one location and a minor decline in another, through the reduction of the number of point source discharges and addressing the quality of the wastewater being discharged from amalgamated wastewater treatment plants. In this situation, it is important that the overall water quality outcome is able to be considered, rather than a strict numeric approach at the new discharge location. My suggested sub-clause (e) allows for this.
- 7.7 Recognising the importance of seasonality effects is important when considering water quality targets. I have relied on the statement of evidence of Garrett Hall for Watercare Services Ltd, where he advises that there is a

variation in seasonal effects of treated wastewater discharges between the summer and winter seasons due to cooler temperatures and the greater flows that are available during winter to dilute contaminants compared to the summer low flows that significantly reduce the dilution factor. Accordingly, I have recommended this matter be included in Policy 12, as outlined.

7.8 Finally, it is important to enable consideration of the positive environmental effects of the point source discharge, so I have included in this in Policy 12, as it is a key policy, which is comparable to a set of assessment criteria for consideration of point source discharges. Accordingly, it is important to include social and economic benefits as these are not covered elsewhere in PC1 at a policy level.

8. **RECOMMENDED AMENDMENTS TO POLICY 13**

8.1 The table below sets out three versions of Policy 13 and I outline the reasons for my recommendation below.

Policy – from PC1	S42A Recommendations	My Recommended Changes (WARTA)
<p>Policy 13:</p> <p>When determining an appropriate duration for any consent granted consider the following matters:</p> <p>e. A consent term exceeding 25 years; where the applicant demonstrates the approaches set out in Policies 11 and 12 will be met; and</p> <p>f. The magnitude and significance of the investment made or proposed to be made in contaminant reduction measures and any resultant improvements in the receiving water quality; and</p> <p>g. The need to provide appropriate certainty of investment</p>	<p>Policy 13:</p> <p>When determining an appropriate duration for any <u>point source discharge</u> consent granted consider the following matters:</p> <p>a) <u>The appropriateness of a longer consent duration</u> A consent term exceeding 25 years, where the applicant demonstrates <u>that the discharge is consistent with achieving the water quality attribute states set out in Table 3.11-1 the approaches set out in Policies 11 and 12 will be met; and</u></p> <p>b) The magnitude and significance of the investment made or proposed to be made in contaminant</p>	<p>Policy 13:</p> <p><u>In addition to the matters set out in Policy 1.2.4.6,</u> When determining an appropriate duration for any <u>point source discharge</u> consent granted consider the following matters:</p> <p>a) A consent term exceeding 25 years; <u>The appropriateness of a long consent term</u> where the applicant demonstrates <u>that the discharge is consistent with achieving the water quality attribute states set out in Table 3.11-1 the approaches set out in Policies 11 and 12 will be met; and</u></p> <p>b) The magnitude and significance of the investment made or proposed to be</p>

<p>where contaminant reduction measures are proposed (including investment in treatment plant upgrades or land based application technology).</p>	<p>reduction measures and any resultant improvements in the receiving water quality; and The need to provide appropriate certainty of investment where contaminant reduction measures are proposed (including investment in treatment plant upgrades or land based application technology).</p>	<p>made in contaminant reduction measures and any resultant improvements in the receiving water quality; and c) The need to provide appropriate certainty of investment where contaminant reduction measures are proposed (including investment in treatment plant upgrades, or land based application technology, <u>or offsets</u>).</p>
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- 8.2 I am largely in agreement with the Officers’ recommended revisions to Policy 13 concerning consent duration. My minor recommended changes are firstly to link this policy with the policy referred to in the Officers’ report at paragraph 1176 which sets out a presumption for the consent term sought by the applicant. This assists with avoiding any possible conflict or uncertainty around which consent duration policy takes precedence.
- 8.3 I agree with the Officers that the inclusion of the reference to 25 years in the notified version of the policy could be construed as a starting point for consent terms. In reality, there are many reasons why a shorter consent duration may be more appropriate and other situations where a term of 35 years might be suitable, so the reference to 25 years might not adequately support this. So a presumption towards the consent term sought by applicants is most likely to best suit WARTA council point source discharge applications and I agree with the Officers’ rationale that the specific numeric reference to 25 years be removed.
- 8.4 The key “effect” consideration for long term consent durations is the extent that a proposal can assist with meeting the water quality targets, so I have adopted the Officers’ wording in this regard for sub-clause (a).
- 8.5 In terms of sub-clause (c), I’ve added a reference to offsets, as these solutions are also likely to involve significant investment, as is demonstrated by the Cambridge case study referred to in Dr Chen’s evidence. Thus, long consent terms could be necessary to secure investment for offset mitigation also.

9. **URBAN GROWTH**

- 9.1 In my view, PC1 should have been developed to provide a policy regime that provides clear guidance on how to accommodate urban growth from a water quality perspective. This is needed to deal with the conflict between the NPS FM and the NPS UDC, particularly in the context of the Waikato, where options for land based disposal of treated wastewater from sizeable urban areas are generally not practicable in most of the PC1 catchments as there is limited access to affordable land (e.g. marginal farmland) and treated wastewater is unable to be accommodated within the predominant dairy land use, because of Fonterra exclusion rules.
- 9.2 Urban stormwater must discharge to water and can generally, only be managed to minimise contaminants.
- 9.3 Ideally a policy or policies should be included in this chapter to provide guidance on the navigating the conflict between the NPS FM and the NPS UDC. I understand the intended relationship between these two drivers at a national level is to generally direct urban growth to locations where water quality targets have been set such that it is acceptable for water quality to be maintained (i.e. Attribute State A or B). In these types of catchments, the development of the new urban area can proceed in a straightforward manner, provided wastewater can be discharged in a manner which does not exacerbate water quality maintenance and the stormwater the design is aligned with the concept of stormwater neutrality and water sensitive design, etc. I.e don't plan new urban areas in locations where they will exacerbate degraded catchment areas that need to be improved under the NPS FM. Unless perhaps a particular existing rural use is so intensive that a change to urban land use can be shown to improve catchment water quality.
- 9.4 I understand that greenfield and infill developments inevitably result in an increase in the overall contaminant load and changes to in-stream peak flows, particularly through stormwater generated from impervious surfaces. However, brownfield redevelopment sites offer opportunities to reduce the current impacts, thus potentially offsetting increases from greenfield and residential infill development. Put simply, greenfield development will always increase the contaminant load although this can be minimised. Contaminant load reductions in urban catchments can only come from changes of practice, infrastructure and land use within the existing urban areas.
- 9.5 Urban-related water quality policy needs to address both existing and new land-use activities and development. It needs to ensure that future urban development can meet housing capacity needs, is well planned and the residual contaminant load from all new development is strictly controlled to minimise

any increase in load from greenfield and infill developments and to maximise load reductions from brownfield redevelopment. In general, there is a move to reliance on best practice in water-sensitive urban design and source control to achieve these outcomes.

- 9.6 Zinc and copper are the typical proxies for the key urban stormwater contaminants. These contaminants are not included in PC1, which reflects my understanding that the PC1 water quality targets in Table 3.11-1 were not intended to apply to stormwater discharges. I note though, it is my understanding that the content of Table 3.11-1, including the range and nature of contaminant types, has potentially opened up through the current expert conferencing for the Block 1 hearing. I understand the experts may be also be suggesting that Table 3.11-1 may not be relevant to point source discharges².
- 9.7 It is the role of the RPS to provide high level policy guidance on where urban growth should go, in a manner which addresses both NPS's. I.e. urban growth areas that can be served in line with the NPS FM water quality expectation for improvement in degraded catchments, maintenance in others. However, the RPS is just policy, it doesn't have any consent requirements and so in relation to water quality, the only regulatory tool in respect of water quality is regional plans. I understand a number of regional plans are looking at options for rules to have more direct control on where urban growth is allowed to manage water quality issues.
- 9.8 District Plans currently control the area of land available for greenfield development through a policy and rule framework that enables urban development within urban zoned areas and prevents it in those areas not intended for urban development such as rural zoned areas. Periodically, plan changes are undertaken to rezone rural land to urban. The plan change process allows for the effects of the greenfield development area to be assessed. There is typically no equivalent planning process for the consideration of greenfield development land at the regional level. The approach now being considered in other regions is to introduce rules to manage the creation of greenfield development areas in respect of their impacts on water quality and quantity. The 'identified urban area' within the regional plan could include areas currently zoned urban and future areas that have been deemed appropriate to be rezoned urban, along with a policy and rule framework that identifies the urban area and sets a more stringent rule activity status for discharges from new urban development outside of the agreed suitable urban area. That way there is alignment between district and regional planning, which is critical to the success of urban water quality management.

² I note that given the scope of Table 3.11-1 is still to be confirmed, it is very difficult to confirm the scope and impact of the objectives, and therefore the policies necessary to give effect to the objectives.

- 9.9 While Officers have summarised the submissions concerning urban growth at paragraphs 1035 – 1036, they haven't really considered the issues raised. Neither PC1, nor the Officers', in response to submissions, have considered urban growth planning and its impact on water quality. The main urban matter in PC1 is in respect of point discharges from wastewater and industrial processes. The key stormwater contaminants are not included in Table 3.11-1 of PC1 at present.
- 9.10 Accordingly, I while I would ordinarily recommend a policy to make it clear that the ability of the catchment to accommodate the expected urban contaminants associated with growth needs to be considered early and that in degraded catchments, there may be a need to remediate existing development areas, propose offsets, or similar, in order to avoid over-allocation of contaminants, which would prevent the water quality targets being reached in an urban growth scenario. Some regions, such as the Porirua catchment in Wellington have considered the role of offsets to do this, but have rejected this tool in favour of a policy framework that incentivises brownfield redevelopment, over greenfield, as this approach is thought to provide the necessary water quality improvement to accommodate urban growth. None of this thinking has been included in PC1. Accordingly, I think it is important for the plan change to make it clear that either PC1 does not influence urban growth planning and stormwater discharges, or alternatively, it takes the opportunity to provide some initial direction through inclusion of an urban growth policy. Given the complexity of developing a policy regime to adequately address stormwater which is a key part of the urban growth issue, I recommend the former option, along with a more thought out method, to illustrate what work is still to come.
- 9.11 The methods section of the plan change is 3.11.4.9 "Managing the effects of urban development", which is part of the future Block 3 hearing round. The current commitments in this method fall short of what is needed for the Waikato region to progress to robust catchment planning approach for urban growth. And the risk is, in the absence of this, consent planners at the Regional Council will attempt to apply other PC1 policies which have been developed to deal with rural diffuse discharges and point source wastewater discharges, to stormwater.
- 9.12 An option for a clause which makes it clear that PC1 does not deal with urban growth and stormwater is provided below, in order to avoid consent planners attempting to apply less suitable provisions, until such time as a comprehensive suite of urban growth and stormwater management provisions are developed to give effect to the NPS UDC and NPS FM."

"Note: None of the policies in this chapter are intended to apply to stormwater or provide guidance on suitable locations for urban growth."

The best place for the above clause is likely to be at the beginning of the policy section or at the end, after Policy 17.

10. **CONCLUSION**

- 10.1 The PC1 rural provisions (policies and rules) have been improved in terms of certainty and clarity as a result of the Officers' recommended amendments. However, further review will be required during the Block 3 hearing, once alternative assessment and allocation regimes are understood.
- 10.2 The PC1 point source discharge policies require some specific amendment to provide better guidance and direction to future consent processes. In addition, it is important that PC1 does not result in unintended consequences for point source dischargers (particularly municipal authorities) that could necessitate costly upgrades to municipal infrastructure without resulting in any real improvement towards restoration of water quality within the rivers so that it is safe for people to swim and take food from.
- 10.3 PC1 is uncertain in terms of its relevance to urban growth planning and its intended non-application to stormwater. A clarifying statement is recommended in this regard.
- 10.4 Appendix 1 sets out my recommendations that will assist with avoiding unintended consequences. Further amendments may be required, which will be addressed in subsequent briefs of evidence.

Mary O'Callahan

3 May 2019

Appendix 1 - My recommended changes Plan Change 1 policies

After the heading "3.11.3 Policies/Nga Kaupapa Here" add:

Note: None of the policies in this chapter are intended to apply to stormwater or provide guidance on suitable locations for urban growth.

Amend the notified PC1 policies 10-13 as indicated below with underlining and ~~strike out~~:

Policy 10

When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment and microbial pathogens to water or onto or into land, provide for the:

- a) ~~Continued~~ operation of existing and planned regionally significant infrastructure; and
- b) ~~Continued~~ operation and development of regionally significant industry

Policy 11

Require any person undertaking a point source discharge of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments to, as a minimum, adopt the Best Practicable Option* to avoid or mitigate the adverse effects of the discharge, ~~at the time a resource consent application is decided.~~

~~Where it is not practicable to avoid or mitigate all such adverse effects, cannot be reasonably avoided or mitigated to a minor level, an~~ offset measures may be proposed in an alternative location or locations to the point source discharge, for the purpose of ensuring positive effects on the environment to lessen any residual adverse effects of the discharge(s) that will or may result from allowing the activity provided that the:

- a) Primary discharge does not result in any significant ~~toxic~~ adverse environmental effect at the point source discharge location; and
- b) Offset measure is preferably for the same contaminant or where this is not practicable, another contaminant or a broader cultural and/or ecological outcome; and
- c) Offset measure occurs preferably within the same sub-catchment in which the primary discharge occurs or otherwise an alternative location and if this is not practicable, then within the same Freshwater Management Unit[^] or a Freshwater Management Unit[^] located upstream, and
- d) Offset measure remains in place for the duration of the consent and is secured by consent condition or another legally binding mechanism.

Allow the Best Practicable Option and any offset measures to be staged, where appropriate.

Policy 12

Consider the contribution made by a point source discharge after the application of reasonable mixing in accordance with Policy 3.2.3.8, to the nitrogen, phosphorus, sediment and microbial pathogen catchment loads ~~and the impact of that contribution on the likely achievement of the short term targets[^] in Objective 3 or the progression towards the 80-year targets[^] in Objective 1~~, taking into account:

- a) The relative proportional contribution of nitrogen, phosphorus, sediment or microbial pathogens that the particular point source discharge contributes to the catchment load and the likely impact of that contribution on the progressive achievement of:
 - i. The short-term water quality goals in Table 3.11-1

- ii. The 80-year numeric attribute states in Table 3.11-1.
- b) Where relevant, the extent of improvement to discharge quality and Ppast technology-upgrades undertaken to model, monitor and reduce the discharge of nitrogen, phosphorus, sediment or microbial pathogens within the previous consent term; and
- c) The ability Whether it is appropriate to stage future mitigation actions to allow investment costs to be spread over time and meet the water quality targets numeric attribute states specified above; and
- d) The diminishing return on investment in treatment plant upgrades in respect of any resultant reduction in nitrogen, phosphorus, sediment or microbial pathogens when treatment plant processes are already achieving a high level of contaminant reduction through the application of the Best Practicable Option*.
- e) Where discharges for activities are being amalgamated, the overall effects on water quality.
- f) The influence of seasonal climatic conditions and other natural processes that affect assimilative capacity and water quality.
- g) The beneficial social, economic and environmental effects of the point source discharge.

Policy 13

In addition to the matters set out in Policy 1.2.4.6, Wwhen determining an appropriate duration for any point source discharge consent granted consider the following matters:

- a) A consent term exceeding 25 years, The appropriateness of a long consent term where the applicant demonstrates that the discharge is consistent with achieving the water quality attribute states set out in Table 3.11-1 the approaches set out in Policies 11 and 12 will be met; and
- b) The magnitude and significance of the investment made or proposed to be made in contaminant reduction measures and any resultant improvements in the receiving water quality; and
- c) The need to provide appropriate certainty of investment where contaminant reduction measures are proposed (including investment in treatment plant upgrades, or land based application technology, or offsets).