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 submission by **WATERCARE SERVICES LIMITED** in relation to **BLOCK 2** topics

STATEMENT OF EVIDENCE OF CHRISTOPHER JAMES SCRAFTON

1. INTRODUCTION

Qualifications and experience

1.1 My name is Christopher James Scrafton. I am a Technical Director – Planning in the consultancy firm of Beca. I have over 18 years' experience in town planning.

1.2 I hold the qualifications of a Bachelor of Arts in Geography from the University of Hull (1999), and a Postgraduate Certificate and a Masters in Town Planning from the South Bank University, London (2002 and 2005 respectively). I am a full member of the New Zealand Planning Institute and I am an accredited Commissioner under the Ministry for the Environment and Local Government New Zealand "Making Good Decisions" 2006 Programme.

1.3 My experience of particular relevance to Plan Change 1 is set out in my primary statement of evidence for the Waikato Regional Plan Change 1 (**"PC1"**) Block 1 Hearings.

Involvement in Proposed Plan Change 1

1.4 Beca was engaged by Watercare Services Limited (**"Watercare"**) to provide planning services in relation to proposed plan change 1 (**PC1**) to the Waikato Regional Plan PC1 in 2018.

1.5 My involvement in PC1 has included the following:

(a) Co-author of the Watercare submission on PC1;

(b) Lead planner in the development of Watercare's further submission on PC1; and

(c) Providing expert planning evidence on the Block 1 Topics.

1.6 I have read the PC1 report, section 32 report and the statement of evidence of Mr Hall. I have also read all of the submissions I consider to be relevant to Watercare and the Council Officer's Block 2 section 42A report.

Purpose and scope of evidence

1.7 The purpose of this evidence is to provide planning evidence in support of Watercare's submission in relation to Block 2.

1.8 My evidence is structured as follows:

(a) Summary of evidence (Section 2).

(b) Development of policies to implement freshwater objectives (Section 3);

(c) Relationship of policies with Table 3.11-1 (Section 4)

(d) Need to provide for future growth (Section 5);

(e) Application of the best practicable option (Section 6);

(f) Offsetting (Section 7);

(g) Policy 12 (Section 8), in particular:

(i) Reasonable mixing;

(ii) Proportionality;

(iii) Protection versus restoration;

(iv) Measuring improvement for the renewal of a point source discharge consent;

(v) Benefits of amalgamation;

(vi) Seasonality;

(vii) Benefits of changing landuse;

(viii) Benefits of point source discharges.

(h) Approaches to consent duration (Section 8)

(i) Policy 17

Expert Witness Code of Conduct

1.9 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 Watercare is, in principle, supportive of PC1. However, there are several aspects of PC1 that Watercare is concerned about in relation to the plan change. I share those concerns and discuss these concerns in relation to Block 2 in more detail below. In summary, given the conclusions I have reached in preparing evidence for Blocks 1 and 2, I consider that there are a number of significant shortcomings of PC1 that need to be rectified to be able to conclude that it adequately gives effect to the National Policy Statement: Freshwater Management (**NPS:FM**) or the Vision and Strategy for the Waikato River.

Analysis of objectives and policies and relationship to Values

2.2 The NPS:FM defines a freshwater objective as "describing an intended environmental outcome in a freshwater management unit". To assist my own understanding of how the objectives of PC1 reflect the Values of PC1 and subsequently to understand what policies are required to implement the freshwater objectives, I have undertaken some analysis of how the objectives and policies of PC1 respond to the requirements of the Values of

PC1. A summary of my analysis is appended to this statement of evidence as **Appendix A**. My conclusions can be summarised as follows:

(a) In my view, Objective 1 as currently drafted is inconsistent with Policy A2 of the NPS:FM and, therefore does not constitute a freshwater objective. In this regard, it is difficult to consider the content of a policy to implement it.

(b) Accepting that Objective 1 does not constitute a freshwater objective, in my view, PC1 as currently proposed does not include any freshwater objectives.

(c) Whilst the NPS does not direct that all values must be formulated into freshwater objectives, through my review of PC1 and the supporting documents, I have not identified any reasoning or conclusions setting out why freshwater objectives have not been formulated for any given value.

(d) It is difficult to draw any direct connection between the majority of PC1 Values and the objectives and policies of PC1.

(e) There are a number of existing WRP objectives and policies more directly relevant to the PC1 Values than the objectives and policies of PC1. The introductory chapter of PC1 (page 11) notes that where there are any inconsistencies, Chapter 3.11 prevails. In my view, this is likely to create some uncertainty (e.g. broad provisions prevailing over specific provisions).

(f) There are insufficient objectives and policies to adequately "give effect to" the PC1 Value "Commercial, municipal and industrial use".

2.3 Notwithstanding these concerns and accepting that the scope of PC1 goes beyond just giving effect to the NPS:FM, I provide a number of recommendations for amendments to proposed policies at **Appendix B**. I also provide analysis of these proposed changes throughout the remainder of this statement of evidence. In addition, I also provide analysis of how policies I recommend through Block 2 implement objectives I have recommended through Block 1 and how the objectives and policies subsequently relate to the Values of PC1. This is provided as **Appendix C**.

Relationship of policies with Table 3.11-1

2.4 In my view, as currently proposed it is highly likely that the short-term numeric attribute states and long-term targets of PC1 will be applied by the

Waikato Regional Council **("WRC")** reporting officers in assessing consistency with the objectives and policies (specifically policies 12 and 13) of PC1.

2.5 I also note that there is outstanding uncertainty regarding the robustness of the science that has informed the long-term water quality targets and the short-term numeric attribute states in Table 3.11-1[1].

2.6 Given the uncertainty of the science underpinning the long-term water quality targets and the short-term numeric attribute states in Table 3.11-1 I consider that:

(a) Technical analysis is required to better validate the water quality targets / limits in Table 3.11-1;

(b) Analysis of the risk of acting or not acting is required in accordance with section 32AA of the RMA as there is clearly uncertainty and/or insufficient information about the subject matter of the provisions; and

(c) Once (a) and (b) above have been undertaken, further consideration of the interrelationship between the objectives and policies of PC1 and the long-term water quality targets and the short-term numeric attribute states in Table 3.11-1 should be undertaken having regard to the level of scientific confidence.

Need to provide for future growth

2.7 Through my primary statement of evidence for the Block 1 Hearings, I noted that significant growth is anticipated in the Waikato District and that this is reflected in the statutory framework.

2.8 I note that a decision was made through the process undertaken by the proponents of PC1 as required by Policy CA2, to modify the NPS:FM "other national value" "commercial and industrial use" to include "municipal". As such, I consider it to be appropriate that PC1 includes objectives and policies to implement the "municipal" part of the Value and that this should include providing for existing, upgraded and new regionally significant infrastructure.

[1] Paragraph 4.6, Statement of Rebuttal Evidence of Christopher James Scrafton – Block 1

Application of best practicable option

2.9 The RMA defines the best practicable option (BPO), in relation to a discharge of a contaminant, as being the best practicable method for preventing or minimising adverse effects having regard to:

(a) The nature of the discharge;

(b) The sensitivity of the receiving environment;

(c) Financial implications and the effects of the option when compared with other options; and

(d) The current state of technology and the likelihood that an option can be applied.

2.10 I note that the Reporting Officer recommends Policy 11 be amended to require the adoption of the BPO as a minimum noting that an applicant may need to choose to either pay these costs or undertake a different activity to achieve the Vision and Strategy[2]. I understand the concerns that the Reporting Officer is responding to is a scenario where the BPO is not consistent with the Vision and Strategy.

2.11 In my view, the position put forward by the Reporting Officer with regards to the BPO being a minimum requirement:

(a) Is inconsistent with the RMA;

(b) Does not reflect my experience of undertaking a BPO assessment in which the policy framework is a key component of understanding the sensitivity of the receiving environment;

(c) Appears to assume that utilising offsets to achieve positive outcomes cannot form part of the BPO; and

(d) Appears to assume that municipal providers (and ultimately the communities they service) are able to "pay those costs" in all circumstances or that an alternative option to a municipal discharge is always readily available.

2.12 Given the above, I do not agree with the proposed amendments to Policy 11 recommended by the Reporting Officer and recommend a number of amendments to Policy 11.

[2] Paragraph 1108, Section 42A Report – Block 2

Inappropriate merging of BPO and offsetting

2.13 Policy 11 as proposed by PC1 requires the adoption of the BPO to avoid or mitigate all adverse effects and where it is not practicable to avoid or mitigate all adverse effects, an applicant may propose offset measures to achieve a positive outcome. In my view, this approach both:

(a) Misinterprets the meaning of the BPO, which provides for the consideration of a range of factors to identify the best practicable option to prevent or minimise adverse effects; and

(b) Inappropriately merges two very different concepts, being the BPO and offsetting.

2.14 As such I recommend the development of two separate policies to address the adoption of the BPO and offsetting separately.

Offsetting

2.15 Mr Hall notes that offsetting may be required for a range of reasons on wastewater discharge projects and that in some cases there may be greater environmental benefits achieved elsewhere in the catchment through offsetting interventions[3]. I concur with Mr Hall on this matter and subsequently recommend the following new policy identified at Appendix B.

Zone of reasonable mixing

2.16 The values of PC1 recognise the importance of the assimilative capacity of the Waikato and Waipa Rivers in the use values for commercial, municipal, and industrial use, whereas there is no reference in the objectives or policies of PC1 to the concept of the zone of reasonable mixing, which I understand to be a key function of the assimilative capacity of a waterbody with respect to point source discharges from municipal wastewater treatment plants. Consequently, I have recommended a new objective to recognise and provide for the importance of the assimilative capacity of the Waikato and Waipa Rivers. To implement that proposed objective, I also recommend amendments to Policy 12.

Proportionality

2.17 I consider that the most appropriate approach to moving towards the achievement of the short-term numeric attribute states and long-term water quality targets of PC1 is through an ongoing, progressive process in

[3] Paragraph 7.2, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.

which all applicants are required to contribute towards their achievement in a proportional manner.

2.18 I consider that, as currently drafted, PC1 provides no guidance as to how each individual application will be considered in terms of its own contribution towards the achievement of the short-term numeric attribute states and long-term water quality targets of PC1.

2.19 There is arguably a policy void in terms of identifying how much improvement is appropriate in any given resource consent process. From my experience, the level of improvement needs to be proportional to the impact of the proposal, but determining this proportionality is currently highly subjective.

2.20 Having regard to the above, I make recommendations to amend Policy 12 whilst signalling that, in my view, further work is also required in terms of the content of Table 3.11-1 to provide greater guidance as to the relative proportionality of improvement for a point source discharge consent application on a case by case basis.

Protection versus restoration

2.21 Mr Hall notes that Appendix D of the Section 32 Report for PC1 provides the rationale for each FMU and states the desired state for each site and whether the current 'high quality' of water will be maintained or whether an improvement in water quality is required to meet this desired state[4].

2.22 In my view, this rationale should be reflected in the policies of PC1 and I make recommendations to amend policies to reflect this.

Measuring improvement for the renewal of a point source discharge consent

2.23 In my view, a key concept that needs to be considered when having regard to or giving effect to the Vision and Strategy for the Waikato River is what constitutes the existing environment from which an assessment is measured from. In other words, what is the starting point from which the restoration and protection of the health and wellbeing of the Rivers should be measured. This is particularly important in the case of a renewal of an existing point source discharge consent process.

[4] Paragraph 8.1, Statement of Evidence of Garrett John Hall for the Block 2 Hearings

2.24 I consider that the Vision and Strategy for the Waikato River clearly recognises that the River is currently degraded[5] and in my view, this should be reflected in the interpretation of the existing environment from which restoration and protection of the Waikato River is measured through consideration of section 104(1)(b) of the RMA. However, in my experience, this interpretation is not currently occurring through resource consenting processes associated with point source discharges. I therefore recommend amendments to Policy 12.

Benefits of amalgamation

2.25 Through his statement of evidence, Mr Hall discusses the trend towards amalgamating or centralising wastewater discharges rather than upgrading numerous smaller Wastewater Treatment Plants (WWTP)[6] noting that, in his view, PC1 should enable the resource consent process to consider the overall effects of the change (i.e. considering the positive effects of the ceased discharges against adverse effects of the new discharge)[7].

2.26 I agree with Mr Hall in this regard and have recommended amendment to Policy 12.

Seasonality

2.27 Mr Hall discusses the importance of recognising seasonality when considering water quality targets in his statement of evidence[8], noting that there is a variation in seasonal effects of treated wastewater discharges between the summer and winter seasons due to greater flows during winter that are available to dilute contaminants compared to the summer low flows that significantly reduce the dilution factor.

2.28 I agree with this view and concur that the provisions of PC1 should recognise seasonality. In this regard, I recommend amendments to Policy 12.

Benefits of changing landuse

2.29 Mr Hall discusses the concept of nutrient accounting mechanisms in his statement of evidence, noting that where greenfield land is urbanised, rural land uses are replaced with urban land use, with a general reduction in

[5] For example, Issue 1 and Objective H of the Vision and Strategy for the Waikato River
[6] Primary Statement of Evidence, Garrett John Hall for the Block 2 hearings
[7] Paragraph 2.4, Statement of Evidence of Garrett John Hall for the Block 2 Hearings
[8] Paragraph 3.6, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.

losses of contaminants to groundwater, but with an increase in stormwater and wastewater discharges[9].

2.30 I concur with Mr Hall that this concept should be incorporated into PC1 in order to provide for the transition from rural to urban development in the Waikato River catchment to provide for growth and consequently recommend amendments to Policy 12.

Benefits of point source discharges

2.31 Mr Hall provides examples in his evidence of the benefits of point source changes in the context of "net takes," noting that:

(a) The concept of 'net take' is currently recognised and provided for in the Waikato Regional Plan ("WRP"), but not specifically within PC1[10].

(b) The concept of net take recognises the value, in terms of hydrological effects, of returning treated water (wastewater) to the same water body. However, net take is only referenced in Section 3.3 of the WRP (water takes) and is not recognised in Section 3.5 (discharges) or the PC1 provisions[11].

2.32 Mr Hall considers that the PC1 policy framework should recognise these potential beneficial effects of discharges of treated wastewater[12]. I agree with his view and, therefore, recommend amendments to Policy 12.

Approach to consent duration

2.33 With regard to the appropriate criteria to consider when considering consent duration for point source discharges consents, in my view the following criteria should be determinative factors:

(a) Case law / precedents;

(b) Good practice guidelines;

(c) Environmental risks e.g. the likelihood of an adverse effect occurring and the consequence of that effect;

[9] Paragraph 4.2, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.
[10] Paragraph 5.1, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.
[11] Paragraph 5.2, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.
[12] Paragraph 5.4, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.

(d) Uncertainty e.g. whether there are any known factors that could have an impact that would suggest a shorter duration is more appropriate;

(e) Significance of investment; and

(f) Where relevant (e.g. existing infrastructure) history of compliance or otherwise.

2.34 Having regard to the above, I therefore recommend amendments to Policy 13.

Policy 17

2.35 Given this policy is not discussed in the Block 2 section 42A Report and it is identified as part of a future recommendation, I assume that this recommendation relates to a matter to be addressed through Block 3 and, as such, proposed Policy 17 is not proposed to be a relevant consideration for a point source discharge consent to have regard to through a resource consent process. In my view, as currently recommended this is not clear and, as such, I consider that amendments to Policy 17 are required to make it clear that Policy 17 is not a policy to have regard to through a resource consent application for a point source discharge.

3. DEVELOPMENT OF POLICIES TO IMPLEMENT FRESHWATER OBJECTIVES

3.1 The NPS:FM defines a freshwater objective as "describing an intended environmental outcome in a freshwater management unit". Policy CA2 of the NPS:FM requires (amongst other things) that every regional council through discussion with their communities apply the following processes when developing freshwater objectives:

(a) Consider all national values and how they apply to local and regional circumstances;

(b) Identify the values for each freshwater management unit, including the compulsory national values – ecosystem health and human health for recreation;

(c) Identify the attributes that the regional council considers appropriate for each value; and

(d) Formulate freshwater objectives by reference to the attributes.

3.2 Section 67(1) of the RMA requires a regional plan to include:

(a) The objectives for the region; and

(b) The policies to implement the objectives; and

(c) The rules (if any) to implement the policies.

3.3 As such, policies are required to implement the freshwater objectives.

Analysis of objectives and policies and relationship to Values

3.4 To assist my own understanding of how the objectives of PC1 reflect the Values of PC1 and subsequently to understand what policies are required to implement the freshwater objectives, I have undertaken some analysis of how the objectives and policies of PC1 respond to the requirements of the Values of PC1. A summary of my analysis is appended to this statement as Appendix A. My conclusions can be summarised as follows:

(a) Objective 1 sets a "limit" that is required to be achieved within a specified timeframe meaning that the limit constitutes a "target" as defined by the NPS:FM. I do not consider that any methods proposed by PC1 provide sufficient certainty that the targets will be achieved within the timeframe proposed. This issue is perpetuated by the target setting a timeframe far beyond the likely lifespan of the provisions of PC1. As such, in my view, Objective 1 as currently drafted is inconsistent with Policy A2 of the NPS:FM and, therefore, it is difficult to consider the content of a policy to implement it.

(b) Accepting that Objective 1 does not constitute a freshwater objective, in my view, PC1 as currently proposed does not include any freshwater objectives and consequently does not adequately give effect to the NPS:FM.

(c) Whilst the NPS does not direct that all values must be formulated into freshwater objectives, through my review of PC1 and the supporting documents, I have not identified any reasoning or conclusions setting out why freshwater objectives have not been formulated for any given value.

(d) It is difficult to draw any direct connection between the majority of PC1 Values and the objectives and policies of PC1. Objectives 1 and 3 do include reference to numeric attribute states and targets by referencing Table 3.11-1 but in my view, this is not sufficient to

meet the requirements of a freshwater objective in accordance with the NPS:FM.

(e) I consider that there are a number of Values within PC1 that cannot reasonably be connected to an objective or a policy. For example:

(i) The narrative for ecosystem health refers to resilient freshwater ecosystems. The outcome of "resilient freshwater ecosystems" is not reflected in any proposed objective or policy of PC1. The closest connection that can be drawn to the achievement of resilient freshwater ecosystems is Objectives 1, 3 and policy 12 and their relationship with the targets and numeric attribute states in Table 3.11-1. In my view, this does not reflect good practice plan drafting nor meet the NPS:FM definition of what is a freshwater objective. This issue is relevant for a number of other Values including "human health for recreation".

(ii) There are no freshwater objectives or policies that readily cascade from the Values Geothermal, Primary Production, Mitigating Flood Hazard or Electricity Generation and there is no explanation as to why this is the case.

(f) There are a number of existing WRP objectives and policies that are more directly relevant to the PC1 Values than the objectives and policies of PC1. The introductory chapter of PC1 (page 11) notes that where there are any inconsistencies, Chapter 3.11 prevails. In my view, this is likely to create some uncertainty (e.g., broad provisions prevailing over specific provisions).

(g) There are insufficient objectives and polices to adequately "give effect to" the PC1 Value "Commercial, municipal and industrial use".

Formulation of objectives, policies, and rules

3.5 Having regard to the above, it is my view that:

(a) Freshwater objectives should be formulated that:

(i) Describe an environmental outcome in a freshwater management unit after considering the Values;

(ii) Reference numeric or narrative attributes as relevant; and

(iii) Adequately give effect to the PC1 Value "Commercial, municipal and industrial use".

(b) Policies should then be developed to implement those freshwater objectives; and

(c) Where appropriate, rules should be developed to implement the policies.

(d) The statement in the introductory chapter of PC1 (page 11) noting that where there are any inconsistencies between the WRP and Chapter 3.11, Chapter 3.11 prevails should be deleted and a more refined approach that identifies what does and doesn't get superseded by PC1 should be developed.

Need for clear cascade

3.6 In my view, there should be a clear "cascade" from the values to the freshwater objectives to the policies and finally to any rules. As I alluded to this through the Block 1 Hearings and, as outlined above, I consider that PC1 has not adequately undertaken the requirements of Policy CA2 of the NPS:FM and, subsequently, PC1 does not currently include any freshwater objectives that meet the requirements of the NPS:FM. I therefore consider it to be difficult to provide comment on, and/or provide recommendations for amendments to, policies required to implement freshwater objectives that do not currently exist.

Recommendations

3.7 Notwithstanding these concerns and accepting that the scope of PC1 goes beyond just giving effect to the NPS:FM, I provide a number of recommendations for amendments to proposed policies at Appendix B. I also provide analysis of these proposed changes throughout the remainder of this statement of evidence. In addition, I also provide analysis of how policies I recommend through Block 2 implement objectives I have recommended through Block 1 and how the objectives and policies subsequently relate to the Values of PC1 at Appendix C.

4. RELATIONSHIP OF POLICIES WITH TABLE 3.11-1

4.1 Through my primary and rebuttal statements of evidence for the PC1 Block 1 hearings, I noted that, in my view, as currently proposed it is highly likely that the short-term numeric attribute states and long-term targets of PC1 will be applied by the Waikato Regional Council **("WRC")** reporting

officers in assessing consistency with the objectives of PC1[13]. These concerns are equally relevant to assessing the policies of PC1, in particular policies 12 and 13.

4.2 I also note that there remains uncertainty regarding the robustness of the science that has informed the long-term water quality targets and the short-term numeric attribute states in Table 3.11-1[14].

4.3 Given the uncertainty of the science underpinning the long-term water quality targets and the short-term numeric attribute states in Table 3.11-1, I consider that:

(a) Technical analysis is required to better validate the water quality targets / limits in Table 3.11-1;

(b) Analysis of the risk of acting or not acting is required in accordance with section 32AA of the RMA as there is clearly uncertainty and/or insufficient information about the subject matter of the provisions; and

(c) Once (a) and (b) above has been undertaken, further consideration of the interrelationship between the objectives and policies of PC1 and the long-term water quality targets and the short-term numeric attribute states in Table 3.11-1 should be undertaken having regard to the level of scientific confidence.

5. NEED TO PROVIDE FOR FUTURE GROWTH

5.1 Through my primary statement of evidence for the Block 1 Hearings, I noted that significant growth is anticipated in the Waikato District and that this is reflected in the statutory framework. For example:

(a) The National Policy Statement for Urban Development Capacity (**NPS:UDC**) identifies the Waikato District as a high growth urban area;

(b) Policy 6.3(a)(iv) of the RPS requires that the nature, timing and sequencing of new development is co-ordinated with the development, funding, implementation and operation of transport and other infrastructure, in order to ensure new development does not occur until provision for appropriate infrastructure necessary to service the development is in place; and

[13] Paragraph 5.4, Primary Statement of Evidence of Christopher James Scrafton – Block 1
[14] Paragraph 4.6, Statement of Rebuttal Evidence of Christopher James Scrafton – Block 1

(c) Auckland Council's Future Urban Land Supply Strategy (FULSS) identifies the need for approximately 16,000 additional dwellings in Pukekohe and Paerata before 2046.

5.2 As a result of the above, the catchment of the Pukekohe Wastewater Treatment Plant ("**PWTTP"**) is anticipated to grow significantly in the next 30 years. In its primary submission, Watercare raised a number of concerns regarding the servicing of future growth in the Waikato Region. Specifically, Watercare noted that:

(a) PC1 recognises the importance of the continued operation of existing infrastructure but neither the WRP nor PC1 adequately recognise the obligation on Watercare and other municipal providers to service future growth; and

(b) in some cases, this is likely to require new infrastructure, discharges and water takes.

5.3 In this regard, I note that a decision was made through the process undertaken by the proponents of PC1, as required by Policy CA2, to modify the NPS:FM "other national value" "commercial and industrial use" to include "municipal". As such, I consider it to be appropriate that PC1 includes objectives to achieve and policies to implement the "municipal" part of the Value.

5.4 Having regard to the above, I recommend the following amendments to 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 regionally significant infrastructure´; ~~and~~

b) Upgrading of existing regionally significant infrastructure;

c) New regionally significant infrastructure; and

d) Continued operation of regionally significant industry´

6. APPLICATION OF BEST PRACTICABLE OPTION

6.1 The RMA defines the best practicable option **("BPO")**, in relation to a discharge of a contaminant, as being the best method for preventing or minimising adverse effects having regard to:

(a) The nature of the discharge;

(b) The sensitivity of the receiving environment;

(c) Financial implications and the effects of the option when compared with other options; and

(d) The current state of technology and the likelihood that an option can be applied.

6.2 Section 70(2) of the RMA notes that before a regional council includes a rule requiring the adoption of the BPO in a regional plan, the regional council must be satisfied that, having regard to the nature of the discharge and the receiving environment and other alternatives, the inclusion of that rule is the most efficient and effective means of preventing or minimising those adverse effects.

Policy 11 similar to a rule and insufficient analysis

6.3 Whilst I note that Policy 11 as proposed by PC1 is not a rule, given that a point source discharge is generally assessed as a discretionary activity, and Policy 11 currently requires the adoption of the BPO and noting the influence of the *King Salmon* factors, in my view the influence of Policy 11 is subsequently similar to or the same as including a rule requiring the adoption of the BPO.

6.4 In this regard, I do not consider that there has been sufficient analysis undertaken for Council to be satisfied that a requirement for the adoption of the BPO is the most efficient and effective means of preventing or minimising adverse effects in all situations for point source discharges. As such, I do not consider it appropriate to include a policy that requires the adoption of the BPO in all circumstances. In my view, whether the BPO should be applied should be considered on a case by case basis. Notwithstanding this, in my experience, the vast majority of point source discharge consent projects will look to adopt the BPO.

Position of Reporting Officer

6.5 I note that the Reporting Officer recommends Policy 11 be amended to require the adoption of the BPO as a minimum noting that an applicant may need to choose to either pay these costs or undertake a different activity to achieve the Vision and Strategy[15]. I understand the concerns that the Reporting Officer is responding to is a scenario in which the BPO is

[15] Paragraph 1108, Section 42A Report – Block 2

proposed to be adopted but is determined to be inconsistent with the Vision and Strategy.

6.6 In my view, the position put forward by the Reporting Officer with regard to the BPO being a minimum requirement:

(a) Is inconsistent with the RMA;

(b) Does not reflect my experience of undertaking a BPO assessment wherein the policy framework is a key component of understanding the sensitivity of the receiving environment;

(c) Appears to assume that utilising offsets to achieve positive outcomes cannot form part of the BPO; and

(d) Appears to assume that municipal providers (and ultimately the communities they service) are able to "pay those costs" in all circumstances or that a viable alternative option to a municipal discharge to water is always readily available.

6.7 Given the above, I do not agree with the proposed amendments to Policy 11 recommended by the Reporting Officer.

Inappropriate merging of BPO and offsetting

6.8 Policy 11 as proposed by PC1 requires the adoption of the BPO to avoid or mitigate all adverse effects and where it is not practicable to avoid or mitigate all adverse effects an applicant may propose offset measures to achieve a positive outcome. In my view, this approach both:

(a) Misinterprets the meaning of the BPO, which provides for the consideration of a range of factors to identify the BPO to prevent or minimise adverse effects; and

(b) Inappropriately merges two very different concepts, being the BPO and offsetting.

6.9 As such I recommend the development of two separate policies to address the adoption of the BPO and offsetting separately.

6.10 Having regard to the above, I recommend the following alternative to Policy 11, noting that the offset elements of the notified version of Policy 11 are discussed in detail below.

When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments, have regard to whether the proposed discharge represents the best practicable option at the time resource consent is being considered.

7. OFFSETTING

7.1 Mr Hall notes that offsetting may be required for a range of reasons on wastewater discharge projects and that in some cases there may be greater environmental benefits achieved elsewhere in the catchment through offsetting interventions. I concur with Mr Hall on this matter and therefore recommend the following new policy identified at Appendix B as Policy 11A:

Recognise that to achieve sufficient contribution towards the protection and restoration of the health and wellbeing of the Waikato and Waipa Rivers. offset measures may be proposed:

(a) In alternative locations to the point source discharge; and

(b) Preferably within the same sub-catchment in which the primary discharge occurs but:

(c) If this is not practicable, then within the same Freshwater Management Unit or a Freshwater Management Unit located upstream; or

(d) If better water quality outcomes can be achieved, then outside of the sub-catchment but within the same freshwater management unit or a Freshwater Management Unit located upstream.

8. POLICY 12

8.1 In my view, Policy 12 is a key policy within PC1 relevant to point source discharges which covers a range of criteria to consider. The following section of my evidence discusses each criteria and additional criteria that I consider should be included within Policy 12.

Zone of reasonable mixing

8.2 In my primary statement of evidence for Block 1, I noted that the value narrative of PC1 recognise the importance of the assimilative capacity of the Waikato and Waipa Rivers in the use values for commercial, municipal, and industrial use, whereas there is no reference in the objectives or policies of PC1 to the concept of the zone of reasonable mixing, which I

understand to be a key function of the assimilative capacity of a waterbody with respect to point source discharges from municipal wastewater treatment plants[16]. Consequently, I have recommended a new objective to recognise and provide for the importance of the assimilative capacity of the Waikato and Waipa Rivers. To implement that proposed objective, I also recommend the following amendments to Policy 12:

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 short-term targets^ in Objective 3 or the progression towards the 80-year targets^ in Objective 1,~~ taking into account:

…

Proportionality

8.3 Through my primary and rebuttal statements of evidence for the PC1 Block 1 hearings I noted that I consider that:

(a) The most appropriate approach to moving towards the achievement of the short-term numeric attribute states and long-term water quality targets of PC1 is through an ongoing, progressive process in which all applicants are required to contribute towards their achievement in a proportional manner[17].

(b) As currently drafted, PC1 provides no guidance as to how each individual application will be considered in terms of its own contribution towards the achievement of the short-term numeric attribute states and long-term water quality targets of PC1[18].

(c) There is no policy void regarding the principle of improving water quality and there are several examples of resource consent decisions made by WRC that reflect a requirement to improve water quality[19]. There is, however, arguably a policy void in terms of identifying how much improvement is appropriate in any given resource consent process. From my experience, the level of improvement needs to be proportional to the impact of the

[16] Paragraphs 2.10 – 2.12, Statement of Evidence of Christopher James Scrafton for Block 1
[17] Paragraph 5.7, Statement of Evidence of Christopher James Scrafton for Block 1
[18] Paragraph 5.8, Statement of Evidence of Christopher James Scrafton for Block 1
[19] Paragraph 3.5, Statement of Evidence of Christopher James Scrafton for Block 1

proposal, but determining this proportionality is currently highly subjective[20].

8.4 In my view, the points above are equally relevant to Block 2. Having regard to the above, I make the following recommendations to amend Policy 12 whilst signalling that, in my view, further work is also required in terms of the content of Table 3.11-1 to provide greater guidance as to the relative proportionality of improvement for a point source discharge consent application on a case by case basis:

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 to:

i. The achievement of the short-term numeric attribute states in Table 3.11-1; and

ii. Progression towards the achievement of the 80-year targets in Table 3.11-1.

Protection versus restoration

Mr Hall notes that Appendix D of the Section 32 Report for PC1 provides the rationale for each FMU and states the desired state for each site and whether the current 'high quality' of water will be maintained or whether an improvement in water quality is required to meet this desired state[21].

In my view this rationale should be reflected in the policies of PC1 and therefore, I recommend the following amendments to 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:

[20] Paragraph 3.5, Statement of Evidence of Christopher James Scrafton for Block 1
[21] Paragraph 8.1, Statement of Evidence of Garrett John Hall for the Block 2 Hearings

...

(b) The water quality of the receiving environment and whether the proposed discharge will contribute to:

i. The protection of water quality where the receiving environment is of high water quality; or

ii. The restoration of water quality in a manner proportional to the impact of the discharge where the receiving environment is less than high quality.

Measuring improvement for the renewal of a point source discharge consent

8.5 In my view, a key concept that needs to be considered when having regard to or giving effect to the Vision and Strategy for the Waikato River is what constitutes the existing environment from which an assessment is measured from. In other words, what is the starting point from which the restoration and protection of the health and wellbeing of the Rivers should be measured. This is particularly important in the case of a renewal of an existing point source discharge consent process.

8.6 Section 104(1)(a) of the RMA requires a consent authority to (subject to Part 2) have regard to the actual and potential effects on the environment of allowing the activities to which the application for consent relates. In the context of a resource consent for a point source discharge, in my view, the environmental baseline normally applied to an assessment in accordance with section 104(1)(a) of the RMA is without the discharge occurring. This point is particularly important in the case of a renewal of an existing discharge where, in my experience, an assessment of effects in the context of the existing environment generally requires an assessment of the effects of the discharge against the "upstream environment".

8.7 Section 104(1)(b) of the RMA requires a consent authority to (subject to Part 2) have regard to any relevant provisions of a regional policy statement and as per section 11(1) of the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act, the Vision and Strategy in its entirety is deemed to be part of the Waikato Regional Policy Statement.

8.8 The Vision for the Waikato River is for a future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come.

8.9 The Vision for the Waikato River clearly anticipates the protection and restoration of the Waikato River; however, from my experience there is some uncertainty, in the context of section 104(1) of the RMA, what the

existing environment from which protection and restoration should be measured from.

8.10 In my view, the Vision and Strategy for the Waikato River clearly recognises that the River is currently degraded[22]. I consider that this should be reflected in the interpretation of the existing environment from which restoration and protection of the Waikato River should be measured through consideration of section 104(1)(b) of the RMA. However, in my experience, this interpretation is not currently occurring through resource consenting processes associated with point source discharges. I therefore recommend the following amendments to 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:

…

(c) Where relevant, the extent of improvement of discharge quality when compared to the current point source discharges from the same regionally significant infrastructure.

Benefits of amalgamation

8.11 Through his statement of evidence, Mr Hall discusses the trend towards amalgamating or centralising wastewater discharges rather than upgrading numerous smaller Wastewater Treatment Plants (WWTP)[23], noting that, in his view, PC1 should enable the resource consent process to consider the overall effects of the change (i.e. considering the positive effects of the ceased discharges against adverse effects of the new discharge)[24].

8.12 I agree with Mr Hall in this regard and have recommended the following amendment to 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~~

[22] For example, Issue 1 and Objective H of the Vision and Strategy for the Waikato River
[23] Paragraph 3.1, Primary Statement of Evidence, Garrett John Hall for the Block 2 hearings
[24] Paragraph 2.4, Statement of Evidence of Garrett John Hall for the Block 2 Hearings

~~*targets^ in Objective 3 or the progression towards the 80-year targets^ in Objective 1,* taking into account:~~

…

(g) Where existing point source discharge locations are being amalgamated, the overall effects on water quality when comparing the effects of the proposed discharge/s to the existing discharges.

Seasonality

8.13 Mr Hall discusses the importance of recognising seasonality when considering water quality targets in his statement of evidence noting that seasonality effects of discharges are recognised in several discharge consents in the Waikato River catchment[25]. Mr Hall notes that there is a variation in seasonal effects of treated wastewater discharges between the summer and winter seasons due to greater flows during winter that are available to dilute contaminants compared to the summer low flows that significantly reduce the dilution factor.

8.14 I agree with this view and concur that the provisions of PC1 should recognise seasonality. In this regard, I recommend the following amendments to 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:

…

(h) The influence of seasonal climatic conditions and other natural processes that affect the assimilative capacity of waterbodies and resultant water quality effects.

Benefits of changing land use

8.15 Mr Hall discusses the concept of nutrient accounting mechanisms in his statement of evidence, noting that where greenfield land is urbanised, rural land uses are replaced with urban land use, with a general reduction in

[25] Paragraph 3.6, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.

losses of contaminants to groundwater, but with an increase in stormwater and wastewater discharges[26]

8.16 I concur with Mr Hall that this concept should be incorporated into PC1 in order to provide for the transition from rural to urban development in the Waikato River catchment to provide for growth and subsequently recommend the following amendments to Policy 12.

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 short term targets^ in Objective 3 or the progression towards the 80-year targets^ in Objective 1,~~ taking into account:

…

<u>(i) That in some cases changing land use can result in positive effects on water quality when compared to previous land uses.</u>

Benefits of point source discharges

8.17 Mr Hall provides examples in his evidence of the benefits of point source discharges in the context of "net takes," noting that:

(a) The concept of 'net take' is currently recognised and provided for in the Waikato Regional Plan ("WRP"), but not specifically within PC1[27].

(b) The concept of net take recognises the value, in terms of hydrological effects, of returning treated water (wastewater) to the same water body. However, net take is only referenced in Section 3.3 of the WRP (water takes) and is not recognised in Section 3.5 (discharges) or the PC1 provisions[28].

8.18 Mr Hall considers that the PC1 policy framework should recognise these potential beneficial effects of discharges of treated wastewater[29]. I agree with his view and, therefore, recommend the following amendments to Policy 12:

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

[26] Paragraph 5.2, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.
[27] Paragraph 6.1, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.
[28] Paragraph 6.2, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.
[29] Paragraph 6.4, Statement of Evidence of Garrett John Hall for the Block 2 Hearings.

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:

…

(j) The beneficial social, economic and environmental effects of the point source discharge.

9. APPROACH TO CONSENT DURATION

9.1 In accordance with section 123 of the RMA, the maximum term of a discharge consent is 35 years, however, I note that it is uncommon for a point source discharge to be approved within the Waikato Region with a consent duration greater than 25 years.

9.2 To provide guidance in determining what is an appropriate consent duration for a point source discharge, Policy 1.2.3.6 of the WRP states that:

When determining consent duration, there will be a presumption for the duration applied for unless an analysis of the case indicates that a different duration is more appropriate having had regard to case law, good practice guidelines, the potential environmental risks and any uncertainty in granting the consent.

9.3 As currently proposed, and assuming a conclusion that there is an inconsistency between Policy 1.2.3.6 of the WRP and Policy 13 of PC1[30], PC1 seeks to replace Policy 1.2.3.6 within the Waikato and Waipa River catchments with Policy 13. As notified, Policy 13 requires consideration of the following when determining an appropriate consent duration:

(a) Consent terms exceeding 25 years where the approaches set out in Policies 11 and 12 are met;

(b) The magnitude and significance of investment made to reduce contaminants and resultant improvements in water quality; and

(c) The need to provide appropriate certainty of investment.

[30] Introductory Chapter of PC1 (page 11) notes that were there are any inconsistencies, Chapter 3.11 prevails.

9.4 I note that the reporting officer recommends amendments to Policy 13(a) to[31]:

(a) Emphasise it relates to point source discharges;

(b) Replace the reference to "exceeding 25 years" with reference to "longer consent duration"; and

(c) Replace references to "the approaches set out in Policies 11 and 12" with reference to being "consistent with achieving the water quality attribute states set out in Table 3.11-1".

9.5 I agree with the Reporting Officer that reference to exceedance of 25 years should be deleted as, in my view, the consideration of appropriateness of a consent duration should be undertaken with no assumption of a duration without consideration of appropriate criteria. I consider that including a duration within the Policy is likely to inadvertently set either a starting point or a cap for the consideration of an appropriate consent duration. I discuss the appropriateness of criteria in more detail below.

9.6 I also agree with the Reporting Officer that reference to "the approaches set out in Policies 11 and 12" should be deleted as Policies 11 and 12 do not set out "approaches that can be met". In addition to this, I suggest a number of amendments to Policies 11 and 12 above which make cross-references with Policy 13 unnecessary in my view.

9.7 With regards to the appropriate criteria to consider when considering consent duration for point source discharges consents, in my view the following criteria should be determinative factors:

(a) Case law / precedents;

(b) Good practice guidelines;

(c) Environmental risks e.g. the likelihood of an adverse effect occurring and the consequence of that effect;

(d) Uncertainty e.g. are there any known factors that could have an impact that would suggest a shorter duration is more appropriate;

(e) Significance of investment; and

[31] Page 35, Officers Block 2 Tracked Change Recommendations

(f) Where relevant (e.g. existing infrastructure) history of compliance or otherwise.

9.8 Having regard to the above, I therefore recommend the following amendments to Policy 13:

In addition to having regard to the matters set out in Policy 1.2.4.6, when determining an appropriate duration for any consent granted ~~consider~~ for a point source discharge have regard to the following matters:

(a) *~~A consent term exceeding 25 years, where the applicant demonstrates 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 or predicted 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)~~.; and~~*

(d) *Where relevant (e.g. existing infrastructure) history of compliance or otherwise.*

10. **POLICY 17**

10.1 The Reporting Officer recommends the addition of Policy 17 as "part of a future recommendation."[32] Given this policy is not discussed in the Block 2 section 42A Report and it is identified as part of a future recommendation, I assume this recommendation relates to a matter to be addressed through Block 3 and, as such, proposed Policy 17 is not proposed to be a relevant consideration for a point source discharge consent to have regard to through a resource consent process. In my view, as currently recommended this is not clear and, as such, I consider that amendments to Policy 17 are required to make it clear that Policy 17 is not a Policy to have regard to through a resource consent application for a point source discharge.

10.2 If this is not the case and Policy 17 is recommended to be relevant for a point source discharge consent process, I consider that the section 42A

[32] Page 35, Officers Block 2 Tracked Changes Recommendations

Reporting Officer's recommendation is without any justification and/or context and that it is unclear which proposed objective the policy is proposed to implement. In this scenario, I recommend the deletion of Policy 17 subject to the Reporting Officer providing justification and context for its inclusion in PC1 and the subsequent opportunity to consider the merits of the Policy.

Chris Scrafton
3 May 2019

Appendix A – Analysis of Policies implementing Objectives and Objectives formulated to reflect Values

3.11.1.1 – Mana Atua – Intrinsic Values

History Policy CA2(b)(ii) other values[33]

PC1 Value	PC1 Objective	PC1 Policy
"Value" – History: Each River Iwi has their own unique and intergenerational relationship with the rivers. **"Matters to take into account"** • The rivers have always been seen as taonga (treasures) to all River Iwi. • The rivers have always given River Iwi a strong sense of identity and connection with the land and water. • Rivers were used holistically; River Iwi understood the functional relationships with and between all parts of the rivers, spiritually and physically. • Iwi strive to maintain and restore these relationships despite the modification and destruction that has occurred through different types of development along the rivers.	Tangata whenua values are integrated into the co-management of the rivers and other water bodies within the catchment such that: a) tangata whenua have the ability to: i. manage their own lands and resources, by exercising mana whakahaere, for the benefit of their people; and ii. actively sustain a relationship with ancestral land and with the rivers and other water bodies in the catchment; and b) new impediments to the flexibility of the use of tangata whenua ancestral lands are minimised; and c) improvement in the rivers' water quality and the exercise of kaitiakitanga increase the spiritual and physical wellbeing of iwi and their tribal and cultural identity.[34]	For the purposes of considering land use change applications under Rule 3.11.5.7, land use change that enables the development of tangata whenua ancestral lands shall be managed in a way that recognises and provides for: a) The relationship of tangata whenua with their ancestral lands; and b) The exercise of kaitiakitanga; and c) The creation of positive economic, social and cultural benefits for tangata whenua now and into the future; Taking into account: i. Best management practice actions for nitrogen, phosphorus, sediment and microbial pathogens for the proposed new type of land use; and ii. The suitability of the land for development into the proposed new type of land use, reflecting the principles for future allocation as contained in Policy 7, including the risk of contaminant discharge from that land and the sensitivity of the receiving water body; and iii. The short term targets^ to be achieved in Objective 3.[35]

[33] Not a compulsory national value or other national value in NPS:FM
[34] Objective 5, Proposed Change 1 to the Waikato Regional Plan
[35] Policy 16, Plan Change 1 to the Waikato Regional Plan

Ecosystem Health - Policy CA2(b)(i) Compulsory National Value (ecosystem health)

PC1 Value	PC1 Objective	PC1 Policy	Recommended Policies
"Value" – Ecosystem Health The Waikato and Waipa catchments support resilient freshwater ecosystems and healthy freshwater populations of indigenous plants and animals. **"Matters to take into account"** • Clean fresh water restores and protects aquatic native vegetation to provide habitat and food for native aquatic species and for human activities or needs, including swimming and drinking. • Clean fresh water restores and protects macroinvertebrate communities for their intrinsic value and as	By 2096, discharges of nitrogen, phosphorus, sediment and microbial pathogens to land and water result in achievement of the restoration and protection of the 80-year water quality attribute^ targets^ in Table 3.11-1[36] **[NOTE: Table 3.11-1 includes numerical attribute targets for ammonia, total nitrogen, total phosphorus and chlorophyll a. These are all water quality attributes that can affect aquatic life and ecology]** Actions put in place and implemented by 2026 to reduce discharges of nitrogen, phosphorus, sediment and microbial pathogens, are sufficient to achieve ten percent of the required change between current water quality and the 80-year water quality attribute^targets^ in Table 3.11-1. A ten percent change towards the long term water quality improvements is indicated by the short term water quality attribute^targets^ in Table 3.11-1[37]	Policies 1 - 9	NA
		Policy 11, Policy 12	Policy 11: When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments, have regard to whether the proposed discharge represents the best practicable option at the time resource consent is being considered. Policy 11A: Recognise that to achieve sufficient contribution towards the protection and restoration of the Waikato and Waipa Rivers. offset measures may be proposed: a) In alternative locations to the point source discharge; and b) Preferably within the same sub-catchment in which the primary discharge occurs but: c) If this is not practicable, then within the same Freshwater Management Unit or a Freshwater Management Unit located upstream; or d) If better water quality outcomes can be achieved, then outside of the sub-catchment but within the same freshwater management unit or a Freshwater Management Unit located upstream. 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~~

[36] Objective 1, Proposed Change 1 to the Waikato Regional Plan
[37] Objective 3, Proposed Change 1 to the Waikato Regional Plan

PC1 Value	PC1 Objective	PC1 Policy	Recommended Policies
a food source for native fish, native birds and introduced game species. • Clean fresh water supports native freshwater fish species. • Wetlands and floodplains provide water purification, refuge, feeding and breeding habitat for aquatic species, habitat for water fowl and other ecosystem services such as flood attenuation. • Fresh water contributes to unique habitats including peat lakes, shallow riverine lakes and karst formations which all support unique biodiversity. • Rivers and adjacent riparian margins have value as ecological corridors.	**[NOTE: Table 3.11-1 includes numerical attribute targets for ammonia, total nitrogen, total phosphorus and chlorophylla. These are all water quality attributes that can affect aquatic life and ecology]**		~~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~~ the likely impact of that contribution to: i. The achievement of the short-term numeric attribute states in Table 3.11-1; and ii. Progression towards the achievement of the 80-year targets in Table 3.11-1. (b) The water quality of the receiving environment and whether the proposed discharge will contribute to: i. The protection of water quality where the receiving environment is of high water quality; or ii. The restoration of water quality in a manner proportional to the impact of the discharge where the receiving environment is less than high quality. (c) Where relevant, the extent of improvement of discharge quality when compared to the current point source discharges from the same regionally significant infrastructure. (d) 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 to stage future mitigation actions to allow investment costs to be spread over time and meet the water quality ~~targets~~

PC1 Value	PC1 Objective	PC1 Policy	Recommended Policies
			numeric attribute states specified above; and (f) 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*~~. (g) Where existing point source discharge locations are being amalgamated, the overall effects on water quality when comparing the effects of the proposed discharge/s to the existing discharges. (h) The influence of seasonal climatic conditions and other natural processes that affect the assimilative capacity of waterbodies and resultant water quality effects. (i) That in some cases changing landuse can result in positive effects on water quality when compared to previous landuses. (j) The beneficial social, economic and environmental effects of the point source discharge.
		Policy 14	NA

Natural Form and Character - Policy CA2(b)(ii) other national values (natural form and character)

PC1 Value	PC1 Objective	PC1 Policy
"Value" – Natural form and character Retain the integrity of the rivers within the landscape and its aesthetic features and natural qualities for people to enjoy. **"Matters to take into account"** • The rivers have amenity and naturalness values, including native vegetation, undeveloped stretches, and significant sites. • People are able to enjoy the natural environment; it contributes to their health and wellbeing. • The rivers are an ecological and cultural corridor. • The rivers as a whole living entity.	NA	NA

3.11.1.2 – Mana Tangata – Use Values

Wai tapu - Policy CA2(b)(ii) other national values (Wai Tapu)

PC1 Value	PC1 Objective	PC1 Policy
"Value" – Wai Tapu Area of water body set aside for spiritual activities that support spiritual, cultural and physical wellbeing. **"Matters to take into account"** • The rivers are a place for sacred rituals, wairua, healing, spiritual nurturing and cleansing. • The rivers provide for cultural and heritage practices and cultural wellbeing, particularly at significant sites.	Tangata whenua values are integrated into the co-management of the rivers and other water bodies within the catchment such that: a. tangata whenua have the ability to: i. manage their own lands and resources, by exercising mana whakahaere, for the benefit of their people; and ii. actively sustain a relationship with ancestral land and with the rivers and other water bodies in the catchment; and b. new impediments to the flexibility of the use of tangata whenua ancestral lands are minimised; and c. improvement in the rivers' water quality and the exercise of kaitiakitanga increase the spiritual and physical wellbeing of iwi and their tribal and cultural identity.[38]	For the purposes of considering land use change applications under Rule 3.11.5.7, land use change that enables the development of tangata whenua ancestral lands shall be managed in a way that recognises and provides for: a) The relationship of tangata whenua with their ancestral lands; and b) The exercise of kaitiakitanga; and c) c. The creation of positive economic, social and cultural benefits for tangata whenua now and into the future; Taking into account: i. Best management practice actions for nitrogen, phosphorus, sediment and microbial pathogens for the proposed new type of land use; and ii. The suitability of the land for development into the proposed new type of land use, reflecting the principles for future allocation as contained in Policy 7, including the risk of contaminant discharge from that land and the sensitivity of the receiving water body; and iii. The short term targets^ to be achieved in Objective 3.[39]

[38] Objective 5, Plan Change 1 to the Waikato Regional Plan
[39] Policy 16, Plan Change 1 to the Waikato Regional Plan

Geothermal - Policy CA2(b)(ii) other values[40]

PC1 Value	PC1 Objective	PC1 Policy
"Value" – Geothermal A valued resource that is naturally gifted to sustain certain activities (meeting spiritual and physical needs). **"Matters to take into account"** • Geothermal areas and their various resources were prized by tūpuna (ancestors) for their many uses and are still valued and used today. • Geothermal areas of the river have natural form and character, and unique flora found only in the geothermal environment. • Geothermal areas are a special microclimate.	NA	NA

[40] Not a compulsory national value or other national value in NPS:FM

Mahinga Kai - Policy CA2(b)(ii) other national values (Mahinga kai)

PC1 Value	PC1 Objective	PC1 Policy
"Value" – Mahinga Kai The ability to access the Waikato and Waipa and their tributaries to gather sufficient quantities of kai (food) that is safe to eat and meets the social and spiritual needs of their stakeholders. **"Matters to take into account"** • The rivers provide for freshwater native species, native vegetation, and habitat for native animals. • The rivers provide for freshwater game and introduced kai species. • The rivers provide for cultural wellbeing, knowledge transfer, intergenerational harvest, obligations of manaakitanga (to give hospitality to, respect, generosity and care for others) and cultural opportunities, particularly at significant sites. • The rivers should be safe to take food from, both fisheries and kai. • The rivers support aquatic life, healthy biodiversity, ecosystem services, flora and fauna and biodiversity benefits for all. • The rivers are a corridor. The rivers provide resources available for use which could be managed in a sustainable way. • The rivers provide for recreation needs and for social wellbeing.	By 2096, discharges of nitrogen, phosphorus, sediment and microbial pathogens to land and water result in achievement of the restoration and protection of the 80-year water quality attribute^ targets^ in Table 3.11-1[41] **[NOTE: Table 3.11-1 includes numerical attribute targets for ammonia, total nitrogen, total phosphorus and chlorophyll a. These are all water quality attributes that can affect aquatic life and ecology** Actions put in place and implemented by 2026 to reduce discharges of nitrogen, phosphorus, sediment and microbial pathogens, are sufficient to achieve ten percent of the required change between current water quality and the 80-year water quality attribute^targets^ in Table 3.11-1. A ten percent change towards the long term water quality improvements is indicated by the short term water quality attribute^ targets^ in Table 3.11-1[42] Tangata whenua values are integrated into the co-management of the rivers and other water bodies within the catchment such that: a. tangata whenua have the ability to: i. manage their own lands and resources, by exercising mana whakahaere, for the benefit of their people; and ii. actively sustain a relationship with ancestral land and with the rivers and other water bodies in the catchment; and b. new impediments to the flexibility of the use of tangata whenua ancestral lands are minimised; and improvement in the rivers' water quality and the exercise of kaitiakitanga increase the spiritual and physical wellbeing of iwi and their tribal and cultural identity.	Policy 1, Policy 2, Policy 3, Policy 5, Policy 6, Policy 8, Policy 12, Policy 13 Policy 14

[41] Objective 1, Waikato Regional Plan
[42] Objective 3, Proposed Change 1 to the Waikato Regional Plan

Human Health for Recreation - Policy CA2(b)(ii) compulsory national value (human health for recreation and fishing)

PC1 Value	PC1 Objective	PC1 Policy
"Value" - Human health for recreation The rivers are a place to swim and undertake recreation activities in an environment that poses minimal risk to health. **"Matters to take into account"** • The rivers provide for recreational use, social needs and social wellbeing, are widely used by the community, and are a place to relax, play, exercise and have an active lifestyle. • An important value for the rivers is cleanliness; the rivers should be safe for people to swim in. • The rivers provide resources available for use which could be managed in a sustainable way.	By 2096, discharges of nitrogen, phosphorus, sediment and microbial pathogens to land and water result in achievement of the restoration and protection of the 80-year water quality attribute^ targets^ in Table 3.11-1[43] **[NOTE: Table 3.11-1 includes numerical attribute targets for E. coli and clarity. These are both water quality attributes that can affect swimability]** Actions put in place and implemented by 2026 to reduce discharges of nitrogen, phosphorus, sediment and microbial pathogens, are sufficient to achieve ten percent of the required change between current water quality and the 80-year water quality attribute^targets^ in Table 3.11-1. A ten percent change towards the long term water quality improvements is indicated by the short term water quality attribute^targets^ in Table 3.11-1[44] **[NOTE: Table 3.11-1 includes numerical attribute targets for E. coli and clarity. These are both water quality attributes that can affect swimability]**	NA

[43] Objective 1, Proposed Change 1 to the Waikato Regional Plan
[44] Objective 3, Proposed Change 1 to the Waikato Regional Plan

Transport and Tauranga waka - Policy CA2(b)(ii) other national values (transport and tauranga waka)

PC1 Value	PC1 Objective	PC1 Policy
"Value" – Transport and Tauranga waka All communities can use the rivers to pilot their vehicles and waka and navigate to their destinations. **"Matters to take into account"** • The rivers provide for recreational use (navigation), and sporting opportunities. • The rivers are a corridor, mode of transport and mode of communication. • The rivers provide for culture and heritage, cultural wellbeing, and social wellbeing, particularly at significant sites.	NA	NA

Primary production - Policy CA2(b)(ii) other national values (irrigation, cultivation and food production)

PC1 Value	PC1 Objective	PC1 Policy
"Value" – Primary production The rivers support regionally and nationally significant primary production in the catchment (agricultural, horticultural, forestry). These industries contribute to the economic, social and cultural wellbeing of people and communities, and are the major component of wealth creation within the region. These industries and associated primary production also support other industries and communities within rural and urban settings. **"Matters to take into account"** • The rivers support a wide variety of primary production in the catchment, including dairy, meat, wool, horticulture and forestry. • Due to the economies of scale of these industries, other service sectors, such as agritech, aviation and manufacturing, are able to operate. • These industries combined contribute significantly to regional and national GDP, exports, food production and employment. • The rivers and the surrounding land offer unique opportunities for many communities and industries to operate, contributing to the lifestyle and sense of community, pride and culture in rural Waikato.	NA	NA

Water supply - Policy CA2(b)(ii) other national values (Water supply, Animal drinking water)

PC1 Value	PC1 Objective	PC1 Policy
"Value" – Water supply The rivers provide for community water supply, municipal supply, drinkable water supply and health. **"Matters to take into account"** • The catchments' surface and subsurface water is of a quality that can be effectively treated to meet appropriate health standards for both potable and non-potable uses.	Waikato and Waipa communities and their economy benefit from the restoration and protection of water quality in the Waikato River catchment, which enables the people and communities to continue to provide for their social, economic and cultural wellbeing[45]	NA

[45] Objective 2, Proposed Change 1 to the Waikato Regional Plan

Commercial, municipal and industrial use - Policy CA2(b)(ii) other values[46] (Commercial and industrial use,

PC1 Value	PC1 Objective	PC1 Policy	Recommended Policy
"Value" – Commercial, municipal and industrial use The rivers provide economic opportunities to people, businesses and industries **Matters to take into account:** Fresh water is used for industrial and municipal processes, which rely on the assimilative capacity for discharges to surface water bodies. In addition: • The rivers provide economic opportunities to people, businesses and industries. • The rivers provide for economic wellbeing, financial and economic contribution, individual	Waikato and Waipa communities and their economy benefit from the restoration and protection of water quality in the Waikato River catchment, which enables the people and communities to continue to provide for their social, economic and cultural wellbeing[47]. A staged approach to change enables people and communities to undertake adaptive management to continue to provide for their social, economic and cultural wellbeing in the short term while: a) considering the values and uses when taking action to achieve the attribute^ targets^ for the Waikato and Waipa Rivers in Table 3.11-1; and	Policy 10, Policy 11, Policy 12,	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 regionally significant infrastructure´; ~~and~~ b) Upgrading of existing regionally significant infrastructure; c) New regionally significant infrastructure; and d) Continued operation of regionally significant industry; Policy 11: When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments, have regard to whether the proposed discharge represents the best practicable option at the time resource consent is being considered. Policy 11A: Recognise that to achieve sufficient contribution towards the protection and restoration of the Waikato and Waipa Rivers. offset measures may be proposed: a) In alternative locations to the point source discharge; and b) Preferably within the same sub-catchment in which the primary discharge occurs but: c) If this is not practicable, then within the same Freshwater Management Unit or a Freshwater Management Unit located upstream; or d) If better water quality outcomes can be achieved, then outside of the sub-catchment but within the same freshwater management unit or a

[46] Not a compulsory national value or other national value in NPS:FM
[47] Objective 2, Proposed Change 1 to the Waikato Regional Plan

PC1 Value	PC1 Objective	PC1 Policy	Recommended Policy
businesses and the community and the vibrancy of small towns. They are working rivers; they create wealth. • Those industries are important to the monetary economy of Waikato region, enabling a positive brand to promote to overseas markets. • The rivers provide for domestic and international tourism. Promotion of a clean, green image attracts international and domestic visitors. • The rivers provide assimilative capacity for wastewater disposal, flood and stormwater, and ecosystem services through community schemes or on site disposal.	b) recognising that further contaminant reductions will be required by subsequent regional plans and signalling anticipated future management approaches that will be needed to meet Objective 1[48]		Freshwater Management Unit located upstream. 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 to: i. The achievement of the short-term numeric attribute states in Table 3.11-1; and ii. Progression towards the achievement of the 80-year targets in Table 3.11-1. (b) The water quality of the receiving environment and whether the proposed discharge will contribute to: i. The protection of water quality where the receiving environment is of high water quality; or ii. The restoration of water quality in a manner proportional to the impact of the discharge where the receiving environment is less than high quality. (c) Where relevant, the extent of improvement of discharge quality when compared to the current point source discharges from the same regionally significant infrastructure.

[48] Objective 4, Proposed Change 1 to the Waikato Regional Plan

PC1 Value	PC1 Objective	PC1 Policy	Recommended Policy
			(d) 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 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 (f) 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*~~. (g) Where existing point source discharge locations are being amalgamated, the overall effects on water quality when comparing the effects of the proposed discharge/s to the existing discharges. (h) The influence of seasonal climatic conditions and other natural processes that affect the assimilative capacity of waterbodies and resultant water quality effects. (i) That in some cases changing landuse can result in positive effects on water quality when compared to previous landuses. (j) The beneficial social, economic and environmental effects of the point source discharge.

Electricity Generation - Policy CA2(b)(ii) other national values (Hydro-electric power generation,

PC1 Value	PC1 Objective	PC1 Policy
"Value" – Electricity generation The river provides for reliable, renewable hydro and geothermal energy sources and thermal generation, securing national self-reliance and resilience. New Zealand's social and economic wellbeing are dependent on a secure, cost-effective electricity supply system. Renewable energy contributes to our international competitive advantage. Electricity also contributes to the health and safety of people and communities. **Matters to take into account:** • Waikato hydro scheme extends over 186km, comprising Lake Taupō storage, dams, lakes, and power stations. Tongariro Power scheme adds 20 per cent to natural inflows to Lake Taupō. • Huntly Power Station's role in the New Zealand electricity system is pivotal, particularly when weather dependent renewable generation is not available. Fresh water is used for cooling and process water. • Geothermal power stations located on multiple geothermal systems use fresh water for cooling, process water and drilling.	NA	NA

Mitigating flood hazards - Policy CA2(b)(ii) other values[49]

PC1 Value	PC1 Objective	PC1 Policy
"Value" – Mitigating flood hazard Flood management systems protect land used and inhabited by people. **Matters to take into account:** • River engineering, including stopbanks and diversions, protect land and infrastructure from damage by flooding	NA	NA

[49] Not a compulsory national value or other national value in NPS:FM

Appendix B - Recommended Amendments to Policies of PC1 compared with Section 42A recommendations

Recommended changes are shown with underlining for additions and ~~strikethrough~~ for deletions.

Section 42A Policy 10	Watercare Recommended amendments to 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 regionally significant infrastructure´; and b) Continued operation of regionally significant industry´	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 regionally significant infrastructure´; ~~and~~ b) Upgrading of existing regionally significant infrastructure; c) New regionally significant infrastructure; and d) Continued operation of regionally significant industry´

Section 42A Policy 11	Watercare Recommended amendments to 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~~.	When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments, have regard to whether the proposed discharge represents the best practicable option at the time resource consent is being considered. ~~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:~~ ~~a) Primary discharge does not result in any significant toxic adverse effect at the point source discharge location; and~~ ~~b) Offset measure is for the same contaminant; and~~ ~~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~~ ~~d) Offset measure remains in place for the duration of the consent and is secured by consent condition.~~

Section 42A Policy 11	Watercare Recommended amendments to Policy 11
~~Where it is not practicable to avoid or mitigate all~~ any adverse effects, cannot be reasonably avoided, they should be mitigated, and where they cannot be reasonably mitigated, it is encouraged that 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: a) Primary discharge does not result in any significant or toxic adverse effect at the point source discharge location; and b) Offset measure is for the same contaminant; and 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 d) Offset measure remains in place for the duration of the consent and is secured by consent condition or another legally binding mechanism.	Policy 11A Recognise that to achieve sufficient contribution towards the protection and restoration of the health and wellbeing of the Waikato and Waipa Rivers. offset measures may be proposed: (e) In alternative locations to the point source discharge; and (f) Preferably within the same sub-catchment in which the primary discharge occurs but: (g) If this is not practicable, then within the same Freshwater Management Unit or a Freshwater Management Unit located upstream; or (h) If better water quality outcomes can be achieved, then outside of the sub-catchment but within the same freshwater management unit or a Freshwater Management Unit located upstream.

Section 42A Policy 12	Watercare Recommended amendments to Policy 12
When deciding a resource consent application, 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 water quality attribute states ~~targets~~ in Table 3.11-1 ~~Objective 3~~ or the progression towards the 80-year water quality attribute states ~~targets~~ in ~~Objective 1~~ Table 3.11-1, taking into account: 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~~ Whether it is appropriate to stage future mitigation actions to allow investment costs to be spread over time ~~and~~ to meet the water quality attribute states ~~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 application of the Best Practicable Option*.77~~	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: (c) 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 to: i. The achievement of the short-term numeric attribute states in Table 3.11-1; and ii. Progression towards the achievement of the 80-year targets in Table 3.11-1. (d) The water quality of the receiving environment and whether the proposed discharge will contribute to: iii. The protection of water quality where the receiving environment is of high water quality; or iv. The restoration of water quality in a manner proportional to the impact of the discharge where the receiving environment is less than high quality. (e) Where relevant, the extent of improvement of discharge quality when compared to the current point source discharges from the same regionally significant infrastructure. (f) Past ~~technology~~ upgrades undertaken to model, monitor and reduce the discharge of nitrogen, phosphorus, sediment or microbial pathogens within the previous consent term; ~~and~~ (g) The ability 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 (h) 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*~~. (i) Where existing point source discharge locations are being amalgamated, the overall effects on water quality when comparing the effects of the proposed discharge/s to the existing discharges. (j) The influence of seasonal climatic conditions and other natural processes that affect the assimilative capacity of waterbodies and resultant water quality effects. (k) That in some cases changing landuse can result in positive effects on water quality when compared to previous landuses. (l) The beneficial social, economic and environmental effects of the point source discharge.

Section 42A Policy 13	Watercare Recommended amendments to Policy 13
When determining an appropriate duration for any point source discharge consent granted consider the following matters: a) The appropriateness of a longer consent duration ~~A consent term exceeding 25 years~~, 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).	In addition to having regard to the matters set out in Policy 1.2.4.6, when determining an appropriate duration for any consent granted for a point source discharge ~~consider~~ have regard to the ~~-~~following matters: a) ~~A consent term exceeding 25 years, where the applicant demonstrates 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 or predicted 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)~~.; and~~ d) Where relevant (e.g. existing infrastructure) history of compliance or otherwise.

Appendix C - Cascade from Value through to Policies (Clean version of my recommendations)

Recommended Changes to Values[50]	Recommended Changes to Objectives[51]	Recommended Changes to Policies
Use values - Commercial, municipal and industrial use The rivers, lakes and wetlands provide: a) Economic opportunities to people, businesses and industries; and b) For existing and future municipal wastewater discharges. Fresh water is used for industrial and municipal processes, which rely on the assimilative capacity for discharges to surface water bodies. In addition: • Lakes, rivers and wetlands provide for economic wellbeing, financial and economic contribution, individual businesses and the community and the vibrancy of small towns. They are working lakes, rivers and wetlands; they create wealth. • Those industries are important to the monetary economy of Waikato region, enabling a positive brand to promote to overseas markets. • Lakes, rivers and wetlands provide for domestic and international tourism. Promotion of a clean, green image attracts international and domestic visitors. • Lakes, rivers and wetlands provide assimilative capacity for wastewater disposal, flood and stormwater	Objective 1: The progressive reduction of Diffuse and Point Source discharges of nitrogen, phosphorus, sediment and microbial pathogens to land and water with the aim of achieving the aspirational water quality attribute states in Table 3.11-1 by 2096 as measured at the identified state of the environment monitoring sites. Objective 7: The achievement of the restoration and protection of the Waikato and Waipa Rivers recognises the importance of the assimilative capacity of rivers. Objective 8: The achievement of the restoration and protection of the Waikato and Waipa Rivers recognises the importance of existing and future regionally significant infrastructure and associated discharges and water takes in providing for the health and wellbeing of communities.	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 regionally significant infrastructure´; b) Upgrading of existing regionally significant infrastructure; c) New regionally significant infrastructure; and d) Continued operation of regionally significant industry; Policy 11: When deciding resource consent applications for point source discharges of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments, have regard to whether the proposed discharge represents the best practicable option at the time resource consent is being considered. Policy 11A: Recognise that to achieve sufficient contribution towards the protection and restoration of the health and wellbeing of the Waikato and Waipa Rivers. offset measures may be proposed: a) In alternative locations to the point source discharge; and b) Preferably within the same sub-catchment in which the primary discharge occurs but: c) If this is not practicable, then within the same Freshwater Management Unit or a Freshwater Management Unit located upstream; or d) If better water quality outcomes can be achieved, then outside of the sub-catchment but within the same freshwater management unit or a Freshwater Management Unit located upstream. 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 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 to: i. The achievement of the short-term numeric

[50] Refer to the Statement of Evidence of Christopher James Scrafton for the Block 1 Hearings
[51] Refer to the Statement of Evidence of Christopher James Scrafton for the Block 1 Hearings

Recommended Changes to Values[50]	Recommended Changes to Objectives[51]	Recommended Changes to Policies
		attribute states in Table 3.11-1; and ii. Progression towards the achievement of the 80-year targets in Table 3.11-1. (b) The water quality of the receiving environment and whether the proposed discharge will contribute to: i. The protection of water quality where the receiving environment is of high water quality; or ii. The restoration of water quality in a manner proportional to the impact of the discharge where the receiving environment is less than high quality. (c) Where relevant, the extent of improvement of discharge quality when compared to the current point source discharges from the same regionally significant infrastructure. (d) Past upgrades undertaken to model, monitor and reduce the discharge of nitrogen, phosphorus, sediment or microbial pathogens within the previous consent term; (e) The ability to stage future mitigation actions to allow investment costs to be spread over time and meet the water quality numeric attribute states specified above; and (f) 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. (g) Where existing point source discharge locations are being amalgamated, the overall effects on water quality when comparing the effects of the proposed discharge/s to the existing discharges. (h) The influence of seasonal climatic conditions and other natural processes that affect the assimilative capacity of waterbodies and resultant water quality effects. (i) That in some cases changing landuse can result in positive effects on water quality when compared to previous landuses. (j) The beneficial social, economic and environmental effects of the point source discharge.

Recommended Changes to Values[50]	Recommended Changes to Objectives[51]	Recommended Changes to Policies
		Policy 13: In addition to having regard to the matters set out in Policy 1.2.4.6, when determining an appropriate duration for any consent granted for a point source discharge have regard to the following matters: a) The magnitude and significance of the investment made or proposed to be made in contaminant reduction measures and any resultant or predicted improvements in the receiving water quality; ~~and~~ b) 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); and c) Where relevant (e.g. existing infrastructure) history of compliance or otherwise.