

BEFORE INDEPENDENT HEARING COMMISSIONERS

IN THE MATTER

of the Resource Management Act 1991

AND

IN THE MATTER

Proposed Waikato Regional Plan Change 1:
Waikato and Waipa River Catchment

**STATEMENT OF PRIMARY EVIDENCE OF JUSTINE YOUNG
FOR DAIRYNZ LIMITED**

5 July 2019

SUBMITTER 74050



Cnr Ruakura RD & SH26
Newstead
Hamilton 3286

Introduction

- 1 My full name is Justine Young. I am a senior policy advisor at DairyNZ and have the qualifications and experience set out in my statement of evidence I presented at the Block 1 hearing.

Code of Conduct

- 2 Although this is a Council hearing, I have read the Environment Court's Code of Conduct and agree to comply with it. My qualifications as an expert are set out in my statement of evidence I presented at the Block 1 hearing. I confirm that the issues addressed in this statement of evidence are within my area of expertise.

Scope of Evidence

- 3 I have been asked by DairyNZ to provide evidence to set the scene for DairyNZ's involvement in PC1 hearings, and submission matters related to topics in Block 3 of the hearings. I structure my evidence as follows:
 - a) Overview of DairyNZ's submission and evidence for Block 3.
 - b) Evidence relating to the following aspects:
 - Schedule 1
 - Non regulatory methods
 - Definitions
 - c) Where in this evidence I provide suggested redrafting of provisions:
 - i. Text in blue double underscored font is proposed by me, consistent with the DairyNZ submission.
 - ii. The underscored text is that proposed in the s42A Report.

Overview of DairyNZ evidence

- 1 In Block 1, DairyNZ expert evidence focused on setting out reasons for supporting the technical underpinning of PC1. In this, Dr Graeme Doole was able to draw on his previous role as a member of the Technical Leaders Group for PC1, and explain the Healthy Rivers Wai Ora economic model structure and how it was calibrated, including the use of regionally specific data such as historic land use for each sub-catchment (paragraphs 22 and 24 Doole Primary evidence Block1). DairyNZ economist Mr Mathew Newman's evidence drew on his involvement with some work

commissioned as part of a national initiative to understand implications of the 2014 National Policy Statement for Freshwater Management. He explained the background and findings of dairy farm mitigation modelling case studies in 2014, that became part of baseline information when the economic model was built. Water quality scientist Dr Craig Depree was asked by DairyNZ to assess the adequacy of the water quality approach in the development of PC1. His primary evidence to Block 1 also touched on aspects that will be part of Block 3 hearings, that is the whole of catchment versus sub catchment approach to managing water quality. Dr Depree was involved in the expert conferencing for Table 3.11-1 and was part of the sub-groups for nutrients and clarity.

- 2 Block 2 evidence for DairyNZ included five statements of expert evidence and an overview statement from Dr David Burger in Block 2 that set out DairyNZ's support for the overall intent of PC1 and getting the basic preparations right in the first plan change towards achieving the Vision and Strategy. The economics and farm systems expert evidence from Dr Graeme Doole and Dr Bruce Thorrold focused on the implications to dairy farmers of nitrogen reductions, and set out factors that support a gradual transition proposed in PC1, supported by evidence drawn from their research experience. In Dr Thorrold's case, his primary evidence and rebuttal evidence drew on his involvement in national research and strategy discussions that take into account proven versus promising innovation, with farmers needing to choose mitigations for water quality reasons, as well as animal welfare and greenhouse gas management. My planning evidence focused on PC1 provisions that assist the rate and scale of behaviour change needed to meet Objective 3 and then the longer term 2096 desired water quality attributes.
- 3 My primary evidence to Block 3 for DairyNZ continues themes raised in Block 2, focusing on how the provisions in PC1 provide clarity for farmers in terms of what is expected of them through FEPs, including nitrogen reductions for the highest nitrogen (N) leaching farms. There are some non regulatory methods that are directly relevant to these topics and assist PC1 implementation, which is the reason I request these methods be retained with some minor changes. Toward the end of my evidence I also briefly cover changes to one definition. Throughout I provide reasons for requests, and respond to some of the recommendations made by the Officers in the s42A report.

- 4 My evidence in Block 2 requested the Commissioners decline some of the Officers recommendations on Policies 1, 2 and 4, and Rules 3.11.5.2, 3.11.5.3 and 3.11.5.4 that I believed were inserted to try to increase public confidence that Objective 3 would be met. For instance, my opinion is that a Restricted Discretionary Activity for FEPs is has reduced efficiency as a regulatory method in a section 32 analysis, as it is likely to result in additional costs to farmers and council ratepayers for no additional benefit to the environment.
- 5 My evidence in Block 3 is to follow up on some themes in Block 2 evidence, in response to the s42A Officers Report and focusing on changes to Schedule 1.

Overview about Farm Environment Plans

- 6 In my Block 2 evidence I supported FEPs as essential to PC1. I support the use of Certified Farm Environment Planners (**CFEP**) as they bring additional rigour to the FEP process. In terms of Rules 3.11.5.3 and 3.11.5.4, my request of the Hearings Panel is that any changes to PC1 should enhance the effectiveness of the following process, where the farmer and CFEP:
 - a. meet on the farm, with WRC catchment profiles informing a basic understanding of water quality issues locally and in the context of the whole catchment
 - b. look at the existing farm practices through the lens of Good Farming Principles¹ and ask ‘where could we most make a difference on this farm to reduce risks to waterbodies?’
 - c. agree and then map a timeline for the practices and infrastructure. The resulting FEP has actions and evidence for each action. Farm maps and photographs will be important, as demonstrated by submitters in Block 2.
- 7 The CFEP and the certified industry scheme auditing is important in light of the permitted activity status of Rule 3.11.5.3. I set out reasons for supporting the permitted activity status in Block 2 evidence paragraph 54 b), including that the checks and balances in the certified scheme justify a different activity status for the rule (permitted rather than controlled activity). The council’s monitoring and enforcement roles are complemented by additional requirements of the scheme owner.

¹ Good Farming Practice: Action Plan for water quality 2018. Downloaded from Federated Farmers website April 2019.

- 8 In any discussion of rule status, my core concern is that the FEP rules have to be effective in changing behaviour on farm. Long after the RMA first Schedule process is finished, farmers will continue to adjust what they are doing on their farms to meet limits. Method 3.11.4.10 (Accounting Systems and Monitoring) will assist public confidence (including farmer confidence that their changes are achieving something). The method should ensure information such as FEP actions, is gathered and reported within an overall accounting framework.
- 9 Schedule 1 for Rule 3.11.5.3 requires some discretionary judgement about mitigation actions on-farm, and this needs to be addressed because permitted activity rules cannot contain a standard that the FEP is approved. Confusingly, that term 'approve' is referred to in Rule 3.11.5.3 with reference to the role of the CFEP. It is more accurate to say the CFEP *reviews* the FEP, and this is what the Officers have concluded.² Since presenting my Block 2 evidence, I have considered questions put to me and other parties by the Hearings Panel and discussed with representatives of other submitters, in particular Miraka, Fonterra, Federated Farmers, and WRC as submitter. I have also considered aspects of the soon to be released government Essential Freshwater Package, and work underway by DairyNZ and Fonterra and others on what will be required of dairy farmers within a new Dairying and Clean Streams Accord. The key questions for me in those discussions were:
- a. Whether it is possible to draft a FEP permitted activity that translates Good Farming Principles into a list of on-farm actions. The task is to produce a permitted activity rule that minimises discretionary judgement calls about on-farm actions, which as a package, will demonstrate the farm is operating at good farming practice. The resulting set of compulsory actions in the permitted activity must allow at least some farmers to operate within it, and should achieve equivalent environmental outcomes as PC1 controlled activity 3.11.5.4.
 - b. Whether the changes to Schedule 1 as recommended by the Officers report³, improve the likelihood of the FEP implementation at a rate and scale of change sufficient to meet PC1 Objective 3.

² "Proposed revisions to Schedule 1 to incorporate Good Farming Practice into Farm Environment Plans" authored by Mr Rob Dragten Page 5 under the heading 'overview of the FEP process'.

³ Particularly the sections headed up "Proposed revisions to Schedule 1 to incorporate Good Farming Practice into Farm Environment Plans" that follows a meeting I attended that was arranged by WRC as submitter, and an earlier version of the above report in Block 2 entitled "An approach to reducing contaminants losses from farms in the Waikato and Waipa Catchment Under PPC1" both authored by Mr Rob Dragten

10 In short, my answers to a) and b) above, are that I generally agree with the changes to Schedule 1 in the Officers report, and that it **is** possible to draft a permitted activity with less discretion than permitted activity Rule 3.11.5.3 as notified. I cover this further in paragraphs 15-17 below. I do not believe it is possible to eliminate *all* discretion and it may not be essential to do so, but on the latter point I defer to legal experts.

Farm Environment Plans and Rule 3.11.5.4

11 The outcome I am seeking in my evidence, is that this controlled activity FEP Rule 3.11.5.4 and the supporting policies, provide a balance between flexibility for farmers to choose actions that suit their farm, and public certainty that farmers must do what they commit to in their FEP, In general I support the changes to Farm Environment Plans and Officers report proposal to make changes to Rule 3.11.5.4 for the following matters;

- a. Changes to PC1 to set out a clear pathway that eventually results in council being able to prove a breach of the consent.
- b. Explicit reference of Good Farming Principles (**GFP**) that draws on national work done as part of the 2018 Action Plan for Good Farming Practice.
- c. More reliance on implementation effort by requiring every FEP to be audited by a certified auditor as to whether the actions demonstrate GFP for that farm
- d. Consent conditions being limited to the existence of an up to date FEP, timeframes for audits, and a review clause.
- e. Changes to Schedule 1 including more detailed mapping requirements but less text about practices, allowing for detailed guidance being in an external council document.
- f. When audit results show practices are being undertaken in accordance with GFP, longer gaps between audits are appropriate.
- g. When audit results show the farm is not on a pathway to GFP or to achieving N reductions if they are above the N leaching threshold, then council should exercise the consent condition that gave 'fair warning' about consequences. A s127 consent review in this situation is likely to result in contaminant mitigation actions that are more inflexible from the farmers point of view, but more straightforward for the council to take a prosecution for a breach of consent if needed.

12 In my opinion the capability and availability of CFEPs is critical, as are moderation processes to improve consistency across CFEPs. The resulting FEP must have actions and evidence for each action. In my opinion, this is analogous to the skill I took a while to learn in writing key indicators of success as a project manager. The early days of DairyNZ's Sustainable Milk Plan programme⁴, required some coaching of farm consultants to help them write clear actions about what was expected on-farm, and what evidence was required of farmers. I understand the amount of individuals with this skill set has increased considerably with support from industry organisations.

Overseer and mitigations to reduce N

- 13 I generally support the continued use of Overseer to;
- a. Define the Nitrogen Reference Point (**NRP**) as a baseline N leaching for every farm. I note in passing that although there are no DairyNZ submission points on commercial vegetable growing, that using the same tool to get a comparable N leaching assessment, for all farms in this first plan change may be invaluable later as baseline information, moving toward achievement of Vision and Strategy.
 - b. Assist farmers and CFEP when they run scenarios for potential changes to farm operations, so that as farm operations change, N leaching does not increase in the life of PC1
 - c. For those farms which are above the 75th percentile, to use Overseer to decide what combination of farm-specific actions should be undertaken to ensure N is reduced to that value
 - d. The same amount of implementation effort should apply to nitrogen as to the other three contaminants.

Rule 3.11.5.4 and Schedule 1 and successful implementation of FEPs

- 14 Care has to be taken so that incremental changes made to PC1 do not inadvertently place more barriers in the way of what I see as a reasonable balance between flexibility and certainty. I did a check for my own benefit on aspects where small changes could have a large impact on rule effectiveness, and these are:
- a. The CFEP remains as the core expert advisor in the consent process. This will assist to streamline the consent process, giving public confidence that a

⁴ Young Block 2 primary evidence paragraph 16.

FEP that has been reviewed as appropriate for that farm, and should not require another whole process of scrutiny by council officers.

- b. Ability for landowners to replace one mitigation with another as long as the CFEP has reviewed it as being equivalent in terms of effectiveness
- c. Where farms are on a pathway to reduce N in the life of PC1, the same ability to substitute one mitigation action for another is as appropriate for N as it is for P, sediment and E.coli.
- d. Steering away from absolute N leaching numbers as consent conditions
- e. Activity status of Rule 3.11.5.4 remaining as controlled activity status.

Permitted Activity Status of Rules that require a FEP

15 The permitted activity FEP rule 3.11.5.3 has been described as a 'mirror' rule to Rule 3.11.5.4 in terms of the farm-level process to determine mitigation actions. If the FEP Schedule associated with this rule can be re-drafted to meet concerns raised in paragraph 9 of my evidence, (implementation results in equivalent environmental outcome as Rule 3.11.5.4), then in my opinion it will be both effective and an efficient method in PC1 to achieve Objectives and Policies.

16 My evidence about existing permitted activity rules 3.11.5.2 and 3.11.5.3 is that:

- a. Permitted activity rules for farming activities in PC1 should be drafted with clear thresholds for whether a landowner can operate within it.
- b. Permitted activity rules should not rely on discretionary judgements, and terms such as 'where appropriate' immediately raise red flags, and are unhelpful for plan users and council monitoring officers.
- c. In general, the least ambiguous conditions are 'activity-based' conditions that set out observable and measurable aspects that any third party can replicate when checking the activity. In a FEP these might include existence of infrastructure such as a bridge and fences. Examples such as cultivation set back distances from water bodies are straightforward to assess but their location on the farm may change from one year to another as different paddocks are chosen for pasture renewal and cropping.
- d. Some activity based conditions that reduce diffuse discharges across a farm are hard to assess but can be very effective. Overland flow from critical source areas (CSAs), tracks and races and actively eroding hillslopes are very important to focus on in a FEP. To support that statement I refer to Mr Richard Parkes evidence for B+LNZ in Block 2, and Dr Bruce Thorrold for DairyNZ in his rebuttal evidence for Block 2, where he set out key findings

from the Whatawhata Hill Country Research Station. In my experience with council staff implementing diffuse discharges on farm “identifying critical source areas is an art”. Photographs supplied by Dr Hannah Mueller for Fish and Game in Block 2 evidence, illustrate that CSAs are easy to spot in wet weather after intensive grazing. For the same reason, grazing management of those areas to avoid overland flow of contaminants to waterbodies is less easy to monitor if the visit is one day per year. A farm map and an experienced and independent auditor will be two essential components.

- e. Some permitted activity rules that have effects based conditions are not ambiguous in that they do not require a discretionary judgment, but are difficult for plan users and council monitoring officers to assess, such as Waikato Regional Plan Dairy shed effluent rule pond sealing condition.⁵ For this reason, councils tend to provide operational guidelines that translate effects-based conditions so that plan users can be confident that are complying. An effluent pond ‘drop test’ is an example where a certified effluent engineer measures the holding pond level over 24 hours to assess leakage and therefore compliance with the pond sealing requirement.
- f. The Commissioners have asked submitters whether they believe it is possible to define a set of conditions for a permitted activity that does not send the plan user off to a process where the outcome could vary.
- g. I have considered this in terms of a set of conditions in a permitted activity that could be applied to the same farm by different people, and the council monitoring officer would see the same result.
- h. This is different from a controlled activity, where it is not necessary to know in advance by reading the rule, what practices would result from applying principles or risk in a FEP process.

17 My overall conclusion is that it is possible to define a relatively inflexible permitted activity rule that requires a FEP, through a list of mitigation practices. If the 21 Principles in the Action Plan for GFP can be translated successfully into on-farm actions in a new Schedule for PC1, this assists with concerns about too much discretion in a permitted activity. I believe concerns about RMA s70 can also be set aside with the Officers recommendations to insert a new changes to Rule 3.11.5.8 Section 2a)-d). Many farmers could choose to join a certified industry scheme and

⁵ Rule 3.5.5.1 condition c. All effluent treatment or storage facilities (e.g. sumps or ponds) shall be sealed so as to restrict seepage of effluent. The permeability of the sealing layer shall not exceed 1×10^{-9} metres per second.

- follow a permitted activity pathway. For that purpose, I have attached a new Schedule 1a that contains the list of actions that must be completed as part of a FEP. I worked with Federated Farmers who drafted the initial Schedule 1a based on the Officers report, and I reviewed and amended this with assistance from farm systems experts at DairyNZ. The key difference between the Federated Farmers and DairyNZ versions of Schedule 1a, relates to Part B. I do not believe it is necessary to set out objectives for a FEP done as part of a permitted activity, that relate to aspects that are off-farm. That is, what other sectors are or are not doing within a sub-catchment.
- 18 Schedule 1a could be improved through expert conferencing that is tightly defined as set out in paragraph 9b) above. I am mindful that this has to include experts with farm systems and farm mitigation actions expertise. The result would be changes to Rule 3.11.5.3 that make it a relatively inflexible FEP, through a list of mitigation practices.

Non regulatory methods related to FEPs

- 19 The Officers report recommends deleting all the non regulatory methods in PC1. The DairyNZ submission supported some methods with amendments, and in light of other changes recommended in the Officers report, I agree that Method 3.11.4.7 (future allocation) can be deleted. However I do not support deleting methods that still add considerable value to PC1. These are Methods 3.11.4.10 (freshwater accounting and monitoring) and 3.11.4.11. (evaluating implementation).and Method 3.11.4.12 (guidelines of practices to reduce diffuse discharges). In my opinion, it is important for plan users to be able to track implementation of PC1. The NPS-FM directs council to set up freshwater accounting and monitoring but a method that sets out how the council will approach the task of reporting on individual landowners and businesses reducing environmental footprint, is an important reference for plan users. For similar reasons, Method 3.11.4.11 assures the council is preparing for the next Plan Change.
- 20 In addition to existing methods, my Block 2 evidence gave reasons in paragraph 32-39 to support the DairyNZ submission for a new method that builds on Method 3.11.4.12 and requires WRC to work with research agencies and industry bodies to develop a robust and peer reviewed guide on mitigations. The wording requested in the submission was:

[Method 3.11.4.13 Research and dissemination of edge of field mitigations that reduce diffuse contaminants/Te reo version](#)

Waikato Regional Council will research and disseminate a guideline to assist Certified Farm Environment Planners, WRC and landowners choose effective edge of field mitigations that address the risk of discharges from an individual farm context and will reduce the diffuse discharge of nitrogen, phosphorus, sediment and microbial contaminants, by:

- a. Evaluating existing general guidelines
- b. Involving technical experts in soil conservation, riparian and wetland management, nutrient management and OVERSEER from council, industry and research organisations in the development of solutions
- c. Develop a schedule that is linked to Rule 3.11.5.4 that describes acceptable mitigations such as constructed or natural wetlands that are not accounted for currently in OVERSEER.

Setting up processes to facilitate mutual understanding between landowners and technical experts

21 In my opinion this new method is needed to refer to an up to date, 'proven mitigation guide' that covers all four contaminants and their effectiveness across a range of conditions is preferable to imposing a more onerous rule category and case-by-case proof of mitigations such as constructed wetlands and plantain.

Definitions related to FEPs

22 My evidence has made much of the important role of the CFEP, in preparing FEPs and also take part in independent review or auditing of FEPs. The DairyNZ submission focused on concerns around the available pool of rural professionals and therefore capability and capacity for FEP provision and checking. On balance, I believe that capability is more important than the current numbers of advisors, and some of that capability only comes with years of experience. Therefore, after discussion with DairyNZ farmer extension staff and others working for agricultural industry groups and farmers in Hawkes Bay and Canterbury, I do not agree with the Officers recommendations to change the requirement in the definition from five years to three years. The CFEP should have a minimum of five years experience. I agree with other changes made in the Officers report to the definition of a CFEP, for instance that a CFEP requires a certificate of completion of the advanced nutrient management course or equivalent.

Summary of FEP provisions

23 In my evidence above, I have set out why I believe a permitted activity for certified industry scheme is the most appropriate method of achieving PC1 objectives and

Policy 1, 2 and 3A, and included a new Schedule 1A that could provide a starting point for conferencing. I have also set out the key aspects I wish to see retained in PC1 that will support a FEP as a controlled activity. In summary, a tailored approach may be preferred by many farmers. In my evidence in Block 2, I said the reason for this is that the farmers can choose the most cost effective way to meet outcomes, in discussion with certified expert(s), and support from organisations such as DairyNZ in terms of effectiveness and profitability impact of environmental mitigation.

A handwritten signature in black ink, appearing to read 'J. Young', with a stylized, cursive script.

Justine Young

5 July 2019

References

Brocksopp A, Burger D, Bramley M, McHaffie N & Scarsbrook M. 2015. Upper Waikato Sustainable Milk Final Report 2014/15 Published DairyNZ report.

DairyNZ. 2016. Good Management Practices: A guide to good environmental management on dairy farms.

Good Farming Practice: Action Plan for Water Quality. 2018. Downloaded from Federated Farmers Website April 2019

DairyNZ 5 July 2019 Attachment to Justine Young Primary evidence

Note: the following schedule has been developed in consultation with Federated Farmers policy staff, and the key difference is in text for Part B.

Schedule 1A - Requirements for Farm Environment Plans for permitted activity

The Farm Environment Plan (FEP) will be prepared in accordance with Parts A, ~~B~~ and ~~B C~~ below, reviewed in accordance with Part ~~C D~~, and changed in accordance with Part ~~D E and~~ disputes managed in accordance with Part F.

PART A – PROVISION OF FEP

~~A~~ FEP, certified by a CFEP, must be submitted to Waikato Regional Council (the council) using either:

1. A council digital FEP tool including the matters set out in Part ~~B-C~~ below to the extent relevant; OR
2. The manner specified in a Certified Industry Scheme agreement with the Waikato Regional Council.
- ~~3. An industry prepared FEP that:~~
 - ~~a) includes the following minimum components:~~
 - ~~i. the matters set out in Parts B below to the extent relevant; and~~
 - ~~ii. performance measures that are capable of being reviewed as set out in Part C below~~
 - ~~b) has been approved by the Chief Executive of Waikato Regional Council as meeting the criteria in (a) and capable of providing FEPs in a digital format, consistent with the council data exchange specifications.~~

The Waikato Regional Council data exchange specifications will set out the standards and detail of the data exchange process to be used by external industry parties in the provision of FEPs.

PART B – PURPOSE OF A FARM ENVIRONMENT PLAN

The purpose of a Farm Environment Plan under Schedule 1A is to set out a set of compulsory actions that must be completed in order for the farming activity to remain a permitted activity in Rule 3.11.5.3. In completing the actions listed, the farming activity will be consistent with Good Farming Principles, and will reduce the risk to waterbodies of diffuse discharges of nitrogen, phosphorous, sediment and microbial pathogens.

PART BC – FEP CONTENT

The FEP shall contain:

1. The property or enterprise details:
 - a) Full name, address and contact details (including email addresses and telephone numbers) of the person responsible for the land use activities, and if different, the farm owner(s) and manager;
 - b) Legal description of the land and any relevant farm identifiers such as dairy supply number.

2. A map(s) at a scale that clearly shows:
 - a) The boundaries of the property or land areas being farmed;
 - b) The boundaries of the main land management units or land uses on the property or within the farm enterprise;
 - c) The location of any Schedule C waterbodies;
 - d) The location of riparian vegetation and fences adjacent to Schedule C water bodies;
 - e) The location on any Schedule C waterbodies waterways where stock have access or there are stock crossings;
 - f) The location of any critical source areas and hotspots for contaminant loss to groundwater or surface water; and
 - g) The location(s) of described actions and practices to be undertaken.

3. All land that may be cultivated and land to be cultivated over the next 12-month period.The map will visually show the overall risks to water quality associated with the major farming activities, by highlighting areas on the farm where overland flow of diffuse contaminants or hotspots of nutrient leaching may occur.

4. An assessment of whether farming practices are consistent with each of the objectives, ~~and~~ principles and practices; and

- a) A description of those farming practices that will continue to be undertaken in a manner consistent with the objectives, ~~and~~ principles and practices;
- b) A description of those farming practices that are not consistent with the objectives, ~~and~~ principles and practices, and a description of the time bound actions or practices that will be adopted to ensure the objectives, ~~and~~ principles and practices are met by the deadline for priority sub-catchments set out in policy 5.

1. The FEP shall include for each ~~objective and principle~~ practice in section 3 ~~above~~ below:

- a) Detail and content that reflects the scale of environmental risk posed by the activity;
- b) A defined and auditable description of the actions and practices to be undertaken to farm in accordance with the ~~objectives and principles~~ practices in Part B below;
- c) The records and evidence that must be kept that demonstrate performance and the achievement of ~~an objective or principle~~ practice listed ~~in Part B~~ below.

3a – Management Area: Whole farm

Objective 1

To manage farming activities according to good farming practice, and in a way that manages and/or reduces ~~minimises~~ the loss of contaminants from the farm.

Principles:

1. Identify the characteristics of the farm system, the risks that the farm system poses to water quality, and the good farming practices that ~~minimise~~ manage and/or reduce the losses of sediment, microbial pathogens, phosphorus and nitrogen.
2. Maintain accurate and auditable records of annual farm inputs, outputs and management practices.
3. Manage farming operations to ~~minimise~~ manage and/or reduce losses of sediment, microbial pathogens, phosphorus and nitrogen to water, and maintain or enhance soil structure where agronomically appropriate.

Principles 1 and 2: Actions / practices

1. Prepare and maintain a map at a scale clearly shows the matters listed in paragraph 2 above.	<table border="1"> <tr> <td data-bbox="1098 268 1193 320"><u>Yes</u></td> <td data-bbox="1193 268 1289 320"><u>No</u></td> <td data-bbox="1289 268 1372 320"><u>N/a</u></td> </tr> </table>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
<u>Yes</u>	<u>No</u>	<u>N/a</u>		
2. Identify the key characteristics of the farm system, as shown on the map, and list them below:	<table border="1"> <tr> <td data-bbox="1098 421 1193 472"><u>Yes</u></td> <td data-bbox="1193 421 1289 472"><u>No</u></td> <td data-bbox="1289 421 1372 472"><u>N/a</u></td> </tr> </table>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
<u>Yes</u>	<u>No</u>	<u>N/a</u>		
3. Identify the location(s) of any required actions to support the achievement of the objectives, principles and practices listed in section 3, as shown on the map, and list them below (or in the actions box at the end of the FEP).	<table border="1"> <tr> <td data-bbox="1098 573 1193 624"><u>Yes</u></td> <td data-bbox="1193 573 1289 624"><u>No</u></td> <td data-bbox="1289 573 1372 624"><u>N/a</u></td> </tr> </table>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
<u>Yes</u>	<u>No</u>	<u>N/a</u>		
4. Maintain accurate and auditable records of annual farm inputs [to be specified, for example bought in feed, fertiliser], outputs and management practices and have this information available to provide to council on request.	<table border="1"> <tr> <td data-bbox="1098 831 1193 882"><u>Yes</u></td> <td data-bbox="1193 831 1289 882"><u>No</u></td> <td data-bbox="1289 831 1372 882"><u>N/a</u></td> </tr> </table>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
<u>Yes</u>	<u>No</u>	<u>N/a</u>		

Principles 1 and 2: Records to be maintained

1. Maintain accurate records of annual farm inputs, outputs and management practices	<table border="1"> <tr> <td data-bbox="1098 1196 1193 1247"><u>Yes</u></td> <td data-bbox="1193 1196 1289 1247"><u>No</u></td> <td data-bbox="1289 1196 1372 1247"><u>N/a</u></td> </tr> </table>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
<u>Yes</u>	<u>No</u>	<u>N/a</u>		
2. Identify critical source areas and required actions on farm map.	<table border="1"> <tr> <td data-bbox="1098 1294 1193 1346"><u>Yes</u></td> <td data-bbox="1193 1294 1289 1346"><u>No</u></td> <td data-bbox="1289 1294 1372 1346"><u>N/a</u></td> </tr> </table>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
<u>Yes</u>	<u>No</u>	<u>N/a</u>		
3. Maintain a plan that describes the annual timing of actions and practices to be undertaken, or the timeline by which actions will be completed, that will control the losses of sediment, microbial pathogens, phosphorus and nitrogen.	<table border="1"> <tr> <td data-bbox="1098 1393 1193 1444"><u>Yes</u></td> <td data-bbox="1193 1393 1289 1444"><u>No</u></td> <td data-bbox="1289 1393 1372 1444"><u>N/a</u></td> </tr> </table>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
<u>Yes</u>	<u>No</u>	<u>N/a</u>		
4. Maintain records and evidence that demonstrate the actions and practices are being undertaken.	<table border="1"> <tr> <td data-bbox="1098 1599 1193 1650"><u>Yes</u></td> <td data-bbox="1193 1599 1289 1650"><u>No</u></td> <td data-bbox="1289 1599 1372 1650"><u>N/a</u></td> </tr> </table>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
<u>Yes</u>	<u>No</u>	<u>N/a</u>		

Principle 3: Actions / Practices

1. Identify areas of pugging and compaction of soils and manage in accordance with the protocols prescribed below:	<table border="1"> <tr> <td data-bbox="1098 1861 1193 1912"><u>Yes</u></td> <td data-bbox="1193 1861 1289 1912"><u>No</u></td> <td data-bbox="1289 1861 1372 1912"><u>N/a</u></td> </tr> </table>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
<u>Yes</u>	<u>No</u>	<u>N/a</u>		

2.	If cultivating, describe choice of cultivation techniques, including low impact cultivation methods and timing and buffer strips on [to be specified] slopes:	<u>Yes</u>	<u>No</u>	<u>N/a</u>
3.	Where paddocks are used as supplement feed-out areas, the supplement is not placed in critical source areas or directly connected to waterways	<u>Yes</u>	<u>No</u>	<u>N/a</u>
4.		<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 3: Records to be maintained

1.		<u>Yes</u>	<u>No</u>	<u>N/a</u>
2.	Maintain cropping / pasture renewal policies and procedures.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
3.	Identify retired, riparian planted and fenced and erosion-planted areas on map.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
4.	Maintain records and evidence that demonstrate the actions and practices are being undertaken.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

3b – Management Area: nutrient management

Objective 2

To minimise nutrient losses to water while maximising nutrient use efficiency.

Principles

4. Monitor soil phosphorus levels and maintain them at or below the agronomic optimum for the farm system.
5. Manage the amount and timing of fertiliser inputs, taking account of all sources of nitrogen and phosphorus, to match plant requirements and minimise risk of losses.
6. Store and load fertiliser to minimise manage and/or reduce risk of spillage, leaching and loss into waterbodies.
7. Ensure equipment for spreading fertilisers is well maintained and calibrated.

8. Store, transport and distribute feed to minimise manage and/or reduce wastage, leachate and soil damage.

Principle 4: Actions / Practices

1. Monitor soil P levels and maintain them at agronomic optimum as set out in the Nutrient Management Code of Practice.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
2. Where soil P levels are above optimum, develop a managed reduction plan to achieve compliance with the Code of Practice and follow that plan.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
3. Crop nutrient requirements are determined in a nutrient budget for fertiliser prepared by a suitably qualified person.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
4. Nutrient requirements for the rest of the farm are determined in a nutrient budget for fertiliser prepared by a suitably qualified person.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 4: Records

5. Maintain accurate and auditable records of annual soil-test results.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
6. Maintain an accurate and auditable nutrient budget for fertiliser use decisions.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
7. Maintain a nutrient management plan.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
8. Maintain and record fertiliser inputs and invoices.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principles 5, 6 and 7: Practices / Actions

9.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
10. Soil temperature, moisture levels and the weather forecast are assessed before applying fertiliser. No N fertiliser is applied during [specified months, potentially May-June] no P fertiliser is applied during [specified months, potentially June-July] .	<u>Yes</u>	<u>No</u>	<u>N/a</u>
11. Nitrogen fertiliser application rate is not greater than	<u>Yes</u>	<u>No</u>	<u>N/a</u>

[specified amount, potentially 50 kgN/ha] per dressing			
12. Storage of fertiliser is covered and in a way that ensures no leaching (i.e. covered/sealed surface) and no runoff from storage site (i.e. walled/bunded) to a Schedule C waterway occurs.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
13. Equipment for spreading fertiliser is calibrated [more detail to be specified in terms of a farm-relevant method] and maintained at least annually and a record of that calibration/maintenance is kept.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
14. If contractors are used to spread fertiliser, they are Spreadmark accredited	<u>Yes</u>	<u>No</u>	<u>N/a</u>
15.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principles 5, 6 and 7: Records

16. Maintain records of all fertiliser applications including the product, rate, date, location, and contractor or equipment used for spreading fertiliser.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
17. Where appropriate, maintain records of pasture walk / feed wedge data and link to Nitrogen Management Plan	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 8: Practices / Actions

18. Feed storage areas are managed so that silage and other feeds are stored in a way that ensures no leaching and no runoff from the storage site to Schedule C waterways.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
19. Overland flow and rainwater is diverted away from feed storage area.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
20. Feedpads or other facilities that contain Permanent feed-out areas facilities are sealed and effluent is collected in accordance with the relevant Waikato Regional Plan rules.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 8 Records

21. Identify storage of feed and permanent facilities used to feed out on farm map.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
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22. If new infrastructure is built or replaced, design plans for permanent feed out areas and permanent feed storage areas are kept as records.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

3b – Management Area: Nutrient management

Objective 3

To farm in accordance with the nitrogen management requirements of PC1

Principle 9

Either, where the property's NRP is \leq 75th percentile:

Farm in a manner that does not result in farm nitrogen losses exceeding the farm's NRP;

Or, where the property's NRP is > than the 75th percentile

Farm in a manner that does not result in farm nitrogen losses exceeding the 75th%ile for the FMU [from 1 July 2026](#)

Principle 9: Actions / Practices

1. Obtain a Nitrogen Reference Point (NRP) in conformance with Schedule B.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
2. Either, 2a or 2b. 2a. If the farm is below the 75 th percentile for the FMU, then farm in a manner that does not result in farm nitrogen losses exceeding the farm's NRP; or 2b. If NRP exceeds the 75 th percentile for the FMU, then farm in a manner to reduce the NRP to below the 75 th percentile by 1 July 2026.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
3. Identify any opportunities to increase nitrogen use efficiency and describe actions and timeframes to achieve that.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 9 Records

1. Maintain records in compliance with Schedule B.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
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3c – Management Area: Waterways

Objective 4

To minimise-manage and/or reduce losses of sediment, microbial pathogens, phosphorus and nitrogen to waterways.

Principles

10. Identify risk of overland flow of phosphorus, sediment and microbial pathogens on the property and implement measures to minimise manage and/or reduce losses transport of these to waterbodies.

11. Locate and manage farm tracks, gateways, water troughs, self-feeding areas, stock camps, wallows and other sources of run-off to minimise manage and/or reduce risks to water quality.

Principle 10 Actions / practices

4. Identify risk areas where surface runoff may enter Schedule C waterways and mark them on the farm map.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
5. If cultivating paddocks with slopes of less than 15 degrees leave an uncultivated buffer strip between cultivation and Schedule C waterway of at least 2m.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
6. If cultivating paddocks with slopes of more than 15 degrees leave an uncultivated buffer strip between cultivation and Schedule C waterway of at least 2m and establish in-field grass buffer strips of at least 2m.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

7. Ensure bridges and culverts have raised sides or mounds to stop runoff entering waterway.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
8. If the track is beside a waterway, slope the track in the opposite direction so that surface flow is directed toward land infiltration zones	<u>Yes</u>	<u>No</u>	<u>N/a</u>
9. Maintain track cut outs and culverts to appropriately direct track runoff.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
10. Describe and maps priority areas of the farm actions to reduce overland flow of phosphorus, sediment and microbial pathogens to waterbodies.and evidence to demonstrate the measures are being undertaken.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 10: Records

Identify risk areas on farm map	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Identify any riparian fencing, planting or buffer strips on farm map	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Retain culvert and bridge design plan			
Plan describing measures to control losses in accordance with practice 10 above and associated records	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 11 Actions / practices

11. Prepare and retain a management plan describing the location and actions to minimise the runoff to Schedule C waterways from farm tracks, gateways, water troughs, self-feeding areas, supplementary feed areas, stock camps and wallows.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
12. Feed out supplements away from Schedule C waterways.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
13. Locate water troughs away from Schedule C waterways in a dry area of paddock.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
14. Ensure gateways are in a dry point and are wide enough for good stock flow to reduce pugging.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

15. If the track is beside a waterway, slope the track in the opposite direction to avoid effluent and sediment flowing into the waterway.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
16. Maintain track cut outs to appropriately direct track runoff.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 11 Records

Identify tracks, feed areas and troughs on farm map	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Develop and maintain management plan in accordance with practice 11 above	<u>Yes</u>	<u>No</u>	<u>N/a</u>

3c – Management Area: Waterways

Objective 5

To exclude stock from waterbodies and minimise-manage and/or reduce stock damage to the beds and margins of wetlands and riparian areas.

Principle

- 12. Exclude stock from waterbodies to the extent that it is compatible with land form, stock class and stock intensity. Where exclusion is not possible practicable, mitigate impacts on waterways.
- 13. Exclude stock in a manner consistent with the requirements of Schedule C.

Principles 12 and 13: Actions / practices

17. Exclude stock in a manner consistent with the requirements of schedule C.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
18. Mark areas where stock cross Schedule C waterways on farm map	<u>Yes</u>	<u>No</u>	<u>N/a</u>
19. Where stock cross Schedule C waterways once per week or less, ensure they are supervised and actively driven across	<u>Yes</u>	<u>No</u>	<u>N/a</u>

the waterway in one continuous movement.			
20. Install bridge or culvert across regular stock crossings where stock cross Schedule C waterways more than once per week.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
21. Mark drains and riparian planting on farm map and develop and retain management plan for maintaining these areas.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principles 12 and 13: Records

Identify areas of fencing and stock crossings on farm map	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Retain a drain and riparian management plan	<u>Yes</u>	<u>No</u>	<u>N/a</u>

3d – Management Area: Land and soil

Objective 6

To minimise-manage and/or reduce contaminant losses to waterways from soil disturbance and erosion.

Principles

- 14. Manage periods of exposed soil between crops/pasture to reduce risk of erosion, overland flow and leaching.
- 15. Manage or retire erosion-prone land to minimise-manage and/or reduce soil losses through appropriate measures and practices.
- 16. Select appropriate paddocks for growing crops and intensive grazing, recognising and mitigating possible nitrogen and phosphorus, faecal, and sediment loss from critical source areas.
- 17. Manage grazing and crops to minimise-manage and/or reduce losses from critical source areas.

Principle 14: Actions / Practices

22.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
23. Rest and re-sow erosion damaged areas and identify them on the farm map.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
24.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
25. Use cover crops (e.g. oats, mustard) to reduce losses and increase soil organic matter.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 14: Records

Cropping /pasture renewal policies and procedures.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Sowing and grazing dates recorded in farm diary.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 15: Actions / Practices

26. Identify areas of active erosion risk land on the property and mark it on the farm map.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
27. Develop a management plan to manage and/or reduce soil losses from areas of active erosion risk.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
28. Plant areas to protect from erosion if practical and identify these areas on the farm map.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
29. Use cover crops (e.g. oats, mustard) to reduce the amount of bare ground	<u>Yes</u>	<u>No</u>	<u>N/a</u>
30. Manage periods of exposed soil between crops/pasture to reduce risk of erosion, overland flow and leaching.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 15 Records

Record areas of existing erosion slumps and slips, and retired, fenced and planted erosion-risk areas on farm map.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
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Principles 16 and 17: Actions / Practices

31. Identify paddocks for intensive grazing; identify risk areas of soil loss and overland flow including critical source areas and	<u>Yes</u>	<u>No</u>	<u>N/a</u>
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[specified slope] and document risk management actions to reduce hillslope erosion that includes trees planted at a density of [to be specified of numbers of poles per hectare] And maintain records and evidence that demonstrate the measures are being undertaken.	
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Principles 16 and 17: Records

Maintain grazing management records	<u>Yes</u>	<u>No</u>	<u>N/a</u>
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3e – Management Area: Effluent

Objective 7

To ~~minimise~~ manage and/or reduce contaminant losses to waterways from farm animal effluent.

Principles

- 18. Ensure the effluent system meets industry-specific Code of Practice or equivalent standard.
- 19. Have sufficient storage available for farm effluent and wastewater and actively manage effluent storage levels.
- 20. Ensure equipment for spreading effluent and other organic manures is well maintained and calibrated.
- 21. Apply effluent to pasture and crops at depths, rates and times to match plant requirements and soil water holding capacity.

Principle 18: Actions / Practices

32. Comply with effluent consent conditions and regional rules.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
33. Have an effluent management plan.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
34. Record all effluent applications.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

35. Train staff on how to operate and maintain the effluent system.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
36. Effluent is collected from dairy shed, yards, sealed feed pads.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
37.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
38. For new systems: use an accredited designer.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 18: Records

Regional Council compliance records	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Effluent management plan	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Effluent application records	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Staff training records	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Operations manual	<u>Yes</u>	<u>No</u>	<u>N/a</u>
	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Effluent system design plans as systems are upgraded or replaced	<u>Yes</u>	<u>No</u>	<u>N/a</u>
	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 19: Actions/practices

39. Calculate the effluent storage volume needs using the Dairy Effluent Storage Calculator	<u>Yes</u>	<u>No</u>	<u>N/a</u>
40. If building new storage, use an accredited effluent designer.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
41.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
42. Ensure storage facilities are sealed	<u>Yes</u>	<u>No</u>	<u>N/a</u>
43. Routinely remove effluent solids that accumulate	<u>Yes</u>	<u>No</u>	<u>N/a</u>
44. Have safety barriers, equipment and signage	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 19: Records

Keep and maintain the Dairy Effluent Storage Calculator report or recommendations of the storage volume from a suitability qualified person.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Keep storage design plans	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Keep pond or tank liner specifications and warranties	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Retain compaction/seepage test data	<u>Yes</u>	<u>No</u>	<u>N/a</u>
	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 20: Actions / Practices

45. Calibrate effluent irrigator / spreading equipment	<u>Yes</u>	<u>No</u>	<u>N/a</u>
46. Inspect and maintain effluent equipment regularly	<u>Yes</u>	<u>No</u>	<u>N/a</u>
47. Service effluent pumping equipment routinely	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 20: Records

Effluent calibration results – bucket test	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Maintenance schedule/records	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Servicing invoice	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 21: Actions / Practices

48. Adjust effluent application timing and rates based on soil moisture levels	<u>Yes</u>	<u>No</u>	<u>N/a</u>
49. Spread nutrient load evenly across the largest area practical	<u>Yes</u>	<u>No</u>	<u>N/a</u>
50. Test for high potassium (K) levels on effluent block to avoid animal health issues	<u>Yes</u>	<u>No</u>	<u>N/a</u>
51. Adjust fertilizer application to effluent areas based on soil tests.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
52. Identify and record risk areas for effluent application on map	<u>Yes</u>	<u>No</u>	<u>N/a</u>
53. Consider odour impact during application	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 21: Records

	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Nutrient budget –effluent report	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Effluent application area risk map	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Rainfall/soil moisture records	<u>Yes</u>	<u>No</u>	<u>N/a</u>

3f – Management Area: Water and irrigation

Objective 8

To operate irrigation systems efficiently and ensuring that the actual use of water is monitored and is efficient.

Principles

22. Manage the amount and timing of irrigation inputs to meet plant demands and minimise risk of leaching and run off.
23. Design, check and operate irrigation systems to minimise the amount of water needed to meet production objectives.

Principle 22: Actions / Practices

54.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
55. Irrigate at times and at a rate that do not result in ponding.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
56. Record irrigation events – when, where, amount	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 22: Records

<u>Soil water budgets, moisture trace or data</u>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
<u>Irrigation scheduling – rainfall records, soil tapes/probes/sensors</u>	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Water efficiency calculations	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Water meter and telemetry records	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Irrigation event and location records	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 23: Actions / practices

57. An accredited design and installation company (“Blue tick”) is used for new irrigation system or upgrades.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
58. Evaluate irrigation system annually to check application efficiency and performance (consider using a skilled professional to assess)	<u>Yes</u>	<u>No</u>	<u>N/a</u>
59. Carry out routine bucket tests to assess performance.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
60. Equipment for irrigation system is inspected and maintained at least annually.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
61. Train all staff using the system (consider Irrigation NZ’s operator and manager training)	<u>Yes</u>	<u>No</u>	<u>N/a</u>

Principle 23: Records

Retain irrigation system design plans	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Retain the Commissioning report on completion of installation.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Retain calibration result as well as performance assessment on the bucket test	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Retain maintenance schedule/records.	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Retain servicing invoices	<u>Yes</u>	<u>No</u>	<u>N/a</u>
Retain training records.	<u>Yes</u>	<u>No</u>	<u>N/a</u>

PART D – FEP REVIEW REQUIREMENTS

The FEP shall be reviewed by a Certified Farm Environment Planner for consistency with this schedule:

1. Prior to lodging the FEP with Council pursuant to the timeframes in rules 3.11.5.2 and 3.11.5.3; and
2. In accordance with the review intervals set out in rules 3.11.5.2 and 3.11.5.3.

The purpose of the review is to provide an expert opinion whether the farming activities on the property are being undertaken in a manner consistent with the objectives and criteria set out in Part B of this schedule.

The review shall be undertaken by a Certified Farm Environment Planner who holds a reviewing endorsement (issued by WRC), and must be undertaken in accordance with the review process set out the Waikato Regional Councils FEP Independent Review manual.

The review shall be undertaken by re-assessing the FEP in accordance with the requirements set out in this schedule.

The results of the review shall be provided to the Waikato Regional Council, within 20 working days of the review due date.

PART E – FEP CHANGES

Changes can be made to the FEP provided:

1. The farming activity remains consistent with Part B of this schedule
2. The change to the FEP does not contravene any mandatory requirement of rules 3.11.5.2 or 3.11.5.3, or any requirement of the Regional Plan that is not already authorised.
3. The nature of the change is documented in writing and made available to any CFEP undertaking a review, or to the Waikato Regional Council, on request.

