

**IN THE MATTER** of the Resource Management Act  
1991

**AND**

**IN THE MATTER** of the Environment Canterbury  
(Transitional Governance  
Arrangements) Act 2016

**AND**

**IN THE MATTER** of submissions and further  
submissions by Rangitata  
Diversion Race Management  
Limited to Plan Change 5 to the  
Canterbury Land & Water Regional  
Plan

## **STATEMENT OF EVIDENCE OF DAVID JOHN GREAVES**

### **1.0 INTRODUCTION**

1.1 My name is David John Greaves. I am an Associate and Environmental Planner at Ryder Consulting Limited (**'Ryder'**) and am based out of the company's Tauranga office. My responsibilities include reviewing and submitting on national, regional and district planning instruments, designing and implementing consultation programs, the preparation of resource consent applications, the management of resource consent processes, and the preparation and presentation of expert evidence. I hold the Ministry for the Environment's Making Good Decisions certification.

1.2 This evidence is in support of the submissions and further submissions lodged by Rangitata Diversion Race Management Limited<sup>1</sup>, to Plan Change 5<sup>2</sup> of the partially operative Canterbury Land & Water Regional Plan<sup>3</sup>.

### **2.0 QUALIFICATIONS AND EXPERIENCE**

2.1 I am a qualified and experienced environmental planner, having completed a Bachelor of Resource and Environmental Planning at Massey University in 2002. I am also an intermediate member of the New Zealand Planning Institute.

2.2 I have in excess of 14 years' experience as a resource management practitioner in New Zealand, which includes both public and private sector planning roles. I have

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<sup>1</sup> Hereafter referred to as either **'RDRML'** or **'the Company'**

<sup>2</sup> Hereafter referred to as **'PC5'** or **'the Plan Change'**

<sup>3</sup> Hereafter referred to as the **'L&WRP'** or **'the Regional Plan'**

a broad range of planning and process management experience gained from my various roles, which include processing resource consents, environmental and strategic policy development and senior management positions.

- 2.3 I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses, as set out in the Environment Court's Consolidated Practice Note. I also confirm that this evidence is within my area of expertise, with the exception of where I confirm that I am relying on the evidence of another person.

### **3.0 STRUCTURE OF EVIDENCE**

- 3.1 This evidence is structured to reflect the submissions and further submissions lodged by RDRML to PC5. RDRML made a number of original submissions and further submissions to PC5. My evidence will address those submission points that are of particular concern to RDRML.

- 3.2 The structure of my evidence is centered around three key matters, being:
- A. The use of the Farm Portal;
  - B. The proposed timeframe for implementation; and
  - C. The proposed rule framework.

- 3.3 I note that whilst Plan Change 5 proposes a number of new and amended region wide rules, the structure of the L&WRP provides for the sub-region/area rules to take precedence over region wide rules once they have been specifically developed. Decisions have recently been released on Plan Change 2<sup>4</sup>, being the Hinds/Hekeao Plains Area rules within the Section 13 Ashburton chapter. The index at Section 13.5 identifies that the nutrient management rules for the Hinds/Hekeao Plains Area, being rules 13.5.8-13.5.25, prevail over the Region wide rules, including those proposed by PC5. RDRML supplies water to irrigation schemes that are located between the Rangitata and Rakaia Rivers and as such is an area that is covered, in part, by the provisions of both PC2 and PC5.

### **4.0 EXECUTIVE SUMMARY**

- 4.1 RDRML's primary submission to PC 5 (and, indeed, in its previous submissions on the Canterbury Land and Water Regional Plan<sup>5</sup> and subsequent Variations and Plan Changes) supports the inclusion of common standards that drive the consistent modelling of nutrient loss, as this is considered good planning practice and equitable to all parties.

#### The Use of the Farm Portal

- 4.2 Mr Reuben Edkins (Environmental Compliance Manager at RDRML) has undertaken an assessment of the Farm Portal by inputting data from 17 farming operations and comparing the estimated Nitrogen loss rates with the good management practices being undertaken on the properties. Mr Edkins has identified

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<sup>4</sup> hereafter referred to as 'PC2'.

a number of significant differences between implementation of the current good management practices (as measured through RDRML's Audited Self-Management process) and the GMP figures that are produced through the Farm Portal. In particular, Mr Edkins identifies that the average reductions produced by the fertiliser and irrigation proxies are considerably higher than the other proxies, and he concludes that the accuracy of these two proxies is a significant contributor to the inconsistent results. The average GMP Loss Rate calculated by Mr Edkins equates to a Nitrogen reduction of 44%.

- 4.3 The evidence of Mr Ian McIndoe, on behalf of Irrigation New Zealand and in support of the Irrigation New Zealand primary submission, provides an additional detailed assessment of the proposed irrigation proxy. Following the assessment, Mr McIndoe concludes (at paragraph 45 (page 10) of his evidence):

*...the rules don't reflect reality. The information I have presented above shows that the Portal/Overseer application efficiencies are almost certainly beyond best practice. I don't believe that irrigators can practicably achieve the levels of efficiency indicated by Overseer/ Portal at a field or farm scale.*

- 4.4 Dr Alister Metherell (Decision Support Manager for Ravensdown Limited), has provided an assessment of the Farm Portal proxies as they relate to the fertiliser modelling rules. Dr Metherell's assessment includes an analysis of the fertiliser proxy results against baseline or actual nutrient budgets for 52 Canterbury farms. He concludes that, in his opinion, there is a significant disparity between the modelling results produced through the Farm Portal compared with actual results measured on farm.

#### The Proposed Timeframe for Implementation

- 4.5 The policies and rules of the Plan Change identify a number of timeframes by which the various stages of implementation are required to be completed. Such timeframes include the implementation of reductions to the Nitrogen Baseline level upon the Plan Change becoming operative, followed by the implementation of reductions to the GMP Loss Rate level by 1 July 2020.
- 4.6 Based on the assessments that Mr Edkins has undertaken, reductions to meet GMP Loss Rate levels are estimated to be in the order of 44% from current consented levels, within a period of less than 48 months from the release of the S42A report. By way of comparison, proposed Plan Change 2 to the L&WRP gives existing users 19 years to make lesser reductions (PC2 requires a stepped reduction regime of 15% by 2025, 25% by 2030 and 36% by 2035). As such, the timeframe proposed in PC5 represents a significant shift in policy direction and has considerable implications for property owners.
- 4.7 My understanding is that the implications of facilitating the required reductions within the specified timeframes will result in a number of factors within the current farming operations requiring change, including such actions as amendments to a number of farming practices, investment in significant infrastructure change and reduction of production capacity through the retirement of land and reductions in

stocking rates. As explained to me by Mr Edkins, nutrient loss rate reductions of this scale have the potential to have considerable financial implications for property owners and the regional economy as a whole.

- 4.8 There is a considerable discrepancy with the estimated mean reduction in Nitrogen losses from implementing GMP between the S32 assessment (from 9-24%) and the figures that Mr Edkins has calculated using the Farm Portal (44%). I do not believe that the scale of reductions, as identified by Mr Edkins, had been fully anticipated by the S32 analysis or the S42A report and as such I believe that the conclusion in the S42A report is premature.
- 4.9 Further to this, I believe that the S32 assessment has provided only a limited assessment of the costs associated with implementing the Plan Change, and does not accurately reflect the full cost to the landowner. I have concluded that undertaking a S32 assessment of the potential costs at this point in time, without a calculated understanding of the scale of reductions that will be produced by a Farm Portal that accurately represents GMP, the full implications of the costs of achieving the outcomes of the Plan Change are not able to be quantified. I consider it essential that this assessment is completed, following the ratification of the Farm Portal proxies, so that it can assist in the consideration of the setting of timeframes for implementation.

#### The Proposed Rule Framework

- 4.10 In addition to the inaccuracies that have been identified with the fertiliser and irrigation proxies, the submissions of the FANZ, the Egg Producers Federation of New Zealand/Poultry Industry Association of New Zealand<sup>6</sup> and Horticulture New Zealand<sup>7</sup> suggest that some existing agricultural activities are currently unable to be modelled at all within the Farm Portal. As a result of this, under the current planning framework these activities are unable to meet any of the activity status criteria and therefore their continued operation is uncertain
- 4.11 In its primary submission points 11-16<sup>8</sup>, RDRML proposed a number of amendments to the proposed rule framework in order to address the identified issues. In particular, as an acknowledgement of the current limitations of the Farm Portal, RDRML proposed the addition of a third limb to the structure of Rules 5.45A, 5.55A and 5.58A. The additional limb provides for the consideration of farming activities that are unable to be modelled in the Farm Portal to be considered as a Restricted Discretionary Activity.
- 4.12 I believe that amendments to the Plan Change are required to address the anomalies of the Farm Portal and enable the consideration of those operations that cannot currently be modelled. I believe that the amendments proposed by RDRML to Rules 5.45A, 5.55A and 5.58A appropriately address the issue of those operations that are unable to be modelled, without resulting in the adverse effects

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<sup>6</sup> Hereafter referred to as 'EPFNZ', submission PC5LWRP-594

<sup>7</sup> Hereafter referred to as 'HortNZ', submission PC5LKRP-1853

<sup>8</sup> Ssubmission point numbers PC5LWRP-712, PC5LWRP-731 and PC5LWRP-740

created by a rule framework that provides for a completely alternative process to the Farm Portal.

#### Relief Sought

- 4.13 As a result of the evidence cited, I believe that it is appropriate that the decisions on PC5 be deferred for a defined period while agreement is sought on an appropriate set of fertiliser and irrigation proxies. I expect that a three to four month deferral period would be appropriate, with corresponding directions that a facilitated process be entered into, involving the caucusing of the irrigation and fertiliser experts.
- 4.14 I believe that such a delay is required to enable a decision to be made based on accurate information. Whilst I have not undertaken an analysis of the potential costs associated with delaying the consideration of the Plan Change, I consider that given the short duration that is being sought, being a period of three to four months, the scale of effects is not likely to be considerable. Such potential effects resulting from a delay include further discharges to groundwater for an additional limited period of time and potentially a delay to CRC meeting its obligations under the NPS. However conversely, the potential costs of implementing the Plan Change based on incomplete information or a not fully functioning model are potentially considerable for property owners and the regional economy.
- 4.15 Should the Hearing Panel not be minded to defer its deliberations in the manner that I have recommended, I believe that given the uncertainty surrounding the results developed by the Farm Portal, it is appropriate that an alternative, additional, consenting mechanism be provided for within the Plan Change. Such a mechanism will need to allow for the consideration of applications for resource consent that are unable to meet the calculated Nitrogen loss requirements of the Farm Portal, but can demonstrate that on the farm Good Management Practices are being implemented to achieve the purpose of the Plan Change. Considerations of resource consent applications under this framework would need to determine an appropriate timeframe for the implementation of the reductions based on the extent of the calculated Nitrogen loss rates and the ability to manage farming practices to sustainably achieve the requirements

## **5.0 THE USE OF THE FARM PORTAL**

- 5.1 PC5 promotes a philosophy that the management of Nitrogen in the Canterbury Region is better controlled through the implementation of a comprehensive package of actions, referred to as 'Good Management Practices' ('GMP') on farms, rather than by regulation that places an arbitrary 'cap' on the level of fertiliser applied or on stocking rates.
- 5.2 RDRML's primary submission to PC 5 (and, indeed, in its previous submissions on the Canterbury Land and Water Regional Plan<sup>9</sup> and subsequent Variations and Plan Changes) supports the inclusion of common standards that drive the consistent

modelling of nutrient loss, as this is considered good planning practice and equitable to all parties.

- 5.3 As is discussed in section 6.88 of the Officer's Report<sup>10</sup> to these proceedings, the development of what GMP actually means and how it can be represented through the Resource Management Act 1991 ('the Act') process has been developed jointly between the Canterbury Regional Council<sup>11</sup> and participants from industry, including parties with interests and expertise in irrigation, fertiliser application and the various forms of farming.
- 5.4 The Plan Change proposes that the elements that represent GMP be contained within the Farm Portal, which is referenced in Schedule 28 to the Plan Change. I understand that the Farm Portal is, in summary, a computer model that converts the farming operations into nitrogen loss rates when consideration is given to factors including the type of farming activity, the soil conditions, amount of stock and the volume of fertiliser applied.
- 5.5 I believe that the joint involvement of industry representatives and Council in the development of GMP is a positive approach that will assist in achieving the environmental results anticipated by the Plan. However, as further identified in the S42A report, the GMP proxies that are present within the notified version of PC5 have not been completely agreed between Council and industry. This is evident within the submissions and further submissions that have been lodged by a number of parties, including RDRML, Irrigation New Zealand<sup>12</sup>, Ravensdown<sup>13</sup> and DairyNZ<sup>14</sup>. These parties submit that the irrigation and fertiliser GMP proxies identified within the Plan Change, and subsequently the Farm Portal, do not accurately represent the actual nitrogen loss resulting from the activities modelled, in that there is little correlation between the Nitrogen loss estimates in the Farm Portal and calculations based on historically accepted standards.
- 5.6 In its primary submission relating to the Schedule 28 irrigation and fertiliser rules, Irrigation New Zealand (the industry body representative of the irrigation sector within New Zealand) detail a number of matters that they believe result in inaccurate calculations being produced by the Farm Portal. As an example, the Irrigation New Zealand assessment of the proxies has determined that as it currently stands, the model assumes a 100% irrigation application efficiency for the delivery of water. I understand, based on the information contained in the Irrigation New Zealand submission, that this assumption is not accurate, given that there is likely to be at least an efficiency loss of between 3-5% through the delivery of water and its evaporation before the water even reaches the soil.
- 5.7 The evidence of Mr Ian McIndoe, on behalf of Irrigation New Zealand and in support of the Irrigation New Zealand primary submission, provides an additional detailed

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<sup>10</sup> Hereafter referred to as either 'the s42A Report' or 'the Officer's Report'

<sup>11</sup> Hereafter referred to as 'CRC' or 'the Council'

<sup>12</sup> Submitter number 53910

<sup>13</sup> Submitter number 67229

<sup>14</sup> Submitter number 52271

assessment of the specific application efficiencies that are able to be achieved through irrigation. He concludes, at paragraph 34 (page 7):

*The studies that have focussed on measuring irrigation application efficiency show that efficiencies of 95% are the exception, and very difficult to achieve.*

- 5.8 Further to this, in order to draw a conclusion on the current Farm Portal and OVERSEER application efficiency settings, Mr McIndoe's concludes at paragraph 45 (page 10), that in his opinion:

*That being the case, the rules don't reflect reality. The information I have presented above shows that the Portal/Overseer application efficiencies are almost certainly beyond best practice. I don't believe that irrigators can practicably achieve the levels of efficiency indicated by Overseer/ Portal at a field or farm scale.*

- 5.9 Having considered the submission of Irrigation New Zealand and the evidence of Mr McIndoe, I believe that the irrigation proxies within the Farm Portal, as notified, do not accurately reflect the contribution that irrigation makes to Nitrogen loss rates.

- 5.10 Further to this, Dr Alister Metherell (Decision Support Manager for Ravensdown Limited), has provided an assessment of the Farm Portal proxies as they relate to the fertiliser modelling rules. Dr Metherell's assessment is attached as part of Ravensdown's primary submission and concludes that, in his opinion, there is a significant disparity between the modelling results produced through the Farm Portal compared with actual results measured on farm.

- 5.11 In addition to the assessment that formed part of the Ravensdown submission, Dr Metherell has provided technical evidence on his further analysis of the Farm Portal fertiliser proxies. At paragraph 23 (page 10) of his evidence he concludes, in relation to the pastoral nitrogen fertiliser proxy:

*... In my view it seems more likely that the modelling in behind the Farm Portal is overestimating the requirement for nitrogen fertiliser on high producing farms, with high production being driven by the inherent properties of the farm such as the soil types, climate and irrigation system, and by farm management practices, such as good feed utilisation.*

- 5.12 In order to quantify the results of the modelled Farm Portal GMP proxies, Dr Metherell assessed them against baseline or actual nutrient budgets of 52 Canterbury Farms. Details of the methods of analysis are provided at paragraphs 26 and 27 (pages 11 and 12) of his evidence. The results of this analysis are detailed in paragraphs 28 through to 33. At paragraph 34, Dr Metherell concludes:

*In my opinion these results, which show wide discrepancies between actual N usage and the GMP N fertiliser proxy predicted N requirement, cast serious doubt on the validity of the N fertiliser proxies when applied to a specific farm.*

- 5.13 Following this assessment, Dr Metherell concludes at paragraphs 48 to 50 (pages 25 and 26):

*In my opinion, the derivation and use of the nitrogen fertiliser proxies described in PC5 schedule 28 for both crops and pasture are flawed and as a consequence many farms following good management practices will not be able to comply with the GMP N loss value derived.*

*The nitrogen fertiliser proxies for both pasture and crops should be replaced with an alternative methodology based on a simple calculation of N surplus.*

*The target soil test levels used in the pastoral phosphorus fertiliser proxy need to be aligned with the accepted agronomic target ranges.*

- 5.14 Based on the assessment that Dr Metherell has undertaken, I do not believe that in its current form the Farm Portal is able to be relied upon, with regard to the relationship between the estimates provided by the fertiliser proxy and the actual results on the farm, to accurately model the effects of farming operations on the environment.
- 5.15 In addition to the assessment that was undertaken by Dr Metherell, in its primary submission, DairyNZ also identified a number of inconsistencies, technical flaws and a lack of validation of results present within the Farm Portal. DairyNZ has proposed that a validation process, with regard to the proxies, be undertaken between Council and Industry. This approach is consistent with the approach that was adopted by Council in the formulation of the Good Management Practices developed at the beginning of the PC5 process. I consider that furthering this validation to ensure that the PC5 proxies are accepted as providing an accurate representation of the actual nitrogen loss on properties is good planning practice. This concept of validation is particularly relevant, in my opinion, given the implications that the outputs of the Farm Portal have on the activity status of activities and ultimately the ability to farm in the region.
- 5.16 Mr Reuben Edkins (Environmental Compliance Manager at RDRML) has outlined the process that he has followed in inputting data from 17 farming operations into OVERSEER and the Farm Portal. He notes that these farming operations have been recognised as employing good management practices and he considers them to be 'high performing farms'. As a result of RDRML's Audited Self Management system, the data available to Mr Edkins is considerable and he is able to accurately compare the historical results with the results produced from the Farm Portal. Mr Edkins has identified a number of significant differences between implementation of the current good management practices (as measured through RDRML's Audited Self-Management process) and the GMP figures that are produced through the Farm Portal. In particular, Mr Edkins identifies that the average reductions produced by the fertiliser and irrigation proxies are considerably higher than the other proxies, indicating that the accuracy of these two proxies is a significant contributor to the inconsistent results. In summary, the GMP figures arising from



the Farm Portal require, in a number of cases, very large reductions in what is, as defined in the notified version of PC 5, a very short period of time.

5.17 The S32 assessment identifies anticipated N loss calculations for the various land uses in Table 5 of Section 5.2. In this assessment, the mean Nitrogen loss following the adoption of GMP was expected to be a reduction of 25%. This is considerably lower, on average, than what has been produced by Mr Edkins using actual farm data in the latest version of the Farm Portal. As is discussed by Mr Edkins, the calculations that he has produced for the properties he has managed, result in an average nitrogen loss of 44% when applying the Baseline GMP Loss Rate. As noted, this calculation is applying to farming operations that are recognised as currently employing good management practices on the farm. I believe that, when coupled with the evidence of Mr McIndoe and Dr Metherell, the disparity between results that has been identified by Mr Edkins, demonstrates, at worst, that the proxies currently within the Farm Portal are not an accurate reflection of the good management practices in operation on the farms. At best, and on the assumption that the evidence of Mr McIndoe and Dr Metherell is not preferred by the Hearing Committee, the evidence of Mr Edkins' suggests that much larger reductions are needed than were initially contemplated when PC 5 was notified. Either way, the ramifications of Mr Edkins' findings are, in my opinion, significant and go to the heart of the approach being advanced in PC 5.

5.18 The S42A officers report has identified that there have been a large number of submissions raising concern with the appropriateness of the proxies within the Farm Portal and that there are a number alternative proxies able to be adopted. At Section 6.109, the report concludes that:

*Overall, the collaborative approach with industry to develop the proxies identified that there were positive and negative attributes to both of the fertiliser proxies. In the absence of agreement, CRC needed to decide what fertiliser proxy should be included in the Farm Portal and Schedule 28. The Schedule 28 fertiliser proxy considered during the collaborate MGM process was considered by the CRC to be more aligned with GMP than the alternative.*

5.19 Whilst I appreciate that timeframes are necessary in order to ensure that outcomes are achieved, I believe that given the implications of PC5 on the continued viability of farming activities in the region, it is just as important that the Plan Change adopts accurate processes and information than it is that a decision on the Plan Change is made. To that end, I believe that the relief sought by a number of submitters, including RDRML, to not adopt PC5 until a thorough assessment of the relevant proxies has been undertaken is appropriate. It is noted that at paragraph 6.111, the S42A author concludes that should an alternative fertiliser proxy address the concerns of the submitters then the hearing panel is able to adopt it. Again good planning practice and the principle of 'natural justice' would suggest that if a possible solution is available or close to agreement, then every effort should be made to ensure that this is fully explored prior to a decision on the Plan Change being made. I believe that this principle is applicable to all aspects that make up the Farm Portal.

5.20 Paragraph 6.115 of the S42A report states:

*As has been stated earlier, the components of PC5 are very much an integrated package. The Farm Portal and the proxies in Schedule 28 are core components of this integrated package. While there are a number of submitters that request delay, review or fundamental changes to the Farm Portal or Schedule 28, the net result will ultimately be fatal to PC5. PC5 is strongly based around a functional and workable Farm Portal, and as is discussed further, reverting to some form of discretionary consenting and downplaying the importance of the Farm Portal or removing the Farm Portal is not seen as an appropriate outcome by which the CRC can discharge its responsibilities under the RMA, the NPSFM, the RPS or the CLWRP objectives.*

5.21 I agree with the statement that the components of PC5, including the Farm Portal and Schedule 28, are an integral package. However, I do not agree with the statement that delaying the progression of the Plan Change in order to alter the Farm Portal will be ultimately fatal to PC5. In fact, I believe that the opposite is true. In that regard, I am of the opinion that in order for PC5 to achieve the desired water quality outcomes, the modelling undertaken within the Farm Portal needs to accurately reflect the Nitrogen and Phosphorous outputs resulting from farming activities. Any other outcome could threaten public confidence, and thus buy into what is a significant chapter of a very significant planning instrument. This could create compliance challenges and increase compliance costs. It could also reduce the effectiveness of the Plan Change. I am of the opinion that such matters needed to be factored into the section 32 assessment.

5.22 In light of the above, I believe that the most appropriate outcome is for the Council and submitters to continue to work together to validate the operation of the Farm Portal, to the point that it produces results that accurately reflect Nitrogen loss from farming operations. Once this is achieved, the implementation of the Plan Change will enable sustainable farming activities while achieving the environmental outcomes of the Act, the National Policy Statement on Freshwater Management (**'the NPS'**), the Canterbury Regional Policy Statement (**'the CRPS'**) and the L&WRP. I believe that it is appropriate to defer the consideration of the Plan Change for a comparatively short period of time (I would anticipate that a duration of three to four months would be necessary) in order to achieve this collaborative approach.

5.23 I believe that such a delay is required to enable a decision to be made based on accurate information. Whilst I have not undertaken an analysis of the potential costs associated with delaying the consideration of the Plan Change, I consider that given the short duration that is being sought, being a period of three to four months, the scale of effects is not likely to be considerable. Such potential effects resulting from a delay include further discharges to groundwater for an additional limited period of time and potentially a delay to CRC meeting its obligations under the NPS. However conversely, and as identified in paragraph 6.6 of this evidence, the potential costs of implementing the Plan Change based on incomplete

information or a not fully functioning model are potentially considerable for property owners and the regional economy.

### Relief Sought

- 5.24 I am of the opinion that the structure and use of tools such as GMP and the Farm Portal in PC5 do not require significant changes from the version promoted in the S42A report. However, as a result of the evidence cited in the preceding sections of this statement, I believe that it is appropriate that the decisions on PC5 be deferred for a defined period while agreement is sought on an appropriate set of fertiliser and irrigation proxies. I expect that a three to four month deferral period would be appropriate, with corresponding directions that a facilitated process, involving the caucusing of the irrigation and fertiliser experts, be entered into.
- 5.25 In the alternative to the foregoing, and on the basis that the Hearing Panel is not minded to defer its deliberations in the manner that I have recommended, I offer the following advice as to the changes that would be needed to ensure that environmental outcomes sought by PC5 are able to be achieved. I believe that given the uncertainty surrounding the results developed by the Farm Portal, it is appropriate that an alternative, additional, consenting mechanism be provided for within the Plan Change to allow for the consideration of applications for resource consent that are unable to meet the calculated Nitrogen loss requirements of the Farm Portal, but can demonstrate that on the farm Good Management Practices are being implemented to achieve the purpose of the Plan Change. Considerations of resource consent applications under this framework would need to determine an appropriate timeframe for the implementation of the reductions based on the extent of the calculated Nitrogen loss rates and the ability to manage farming practices to sustainably achieve the requirements. Whilst this is not my preferred approach, I believe that it is a viable alternative and is appropriate and in accordance with the Act's sustainable management purpose.

## **6.0 THE PROPOSED TIMEFRAME FOR IMPLEMENTATION**

- 6.1 As identified in section 5 of this statement, RDRML's primary and further submissions support the general framework that is proposed through PC5. This framework includes the imposition of a timeframe by which to implement the Nitrogen reductions in order to achieve the desired outcomes of the Plan Change.
- 6.2 I am of the opinion that it is important that the Plan Change provide a timeframe for compliance with the reduced nitrogen limits in order to ensure that the environmental outcomes are achieved. Furthermore, I believe that the proposed structure, being a two step compliance regime requiring firstly a cap on nitrogen discharges based on the historical average discharges over the a 48 month consecutive period in the years of 2009-2013 (being the Nitrogen Baseline), followed by secondly a further reduction through implementing the GMP regime (being the Baseline GMP Loss Rate), is a reasonable approach in order to manage the reductions required over time.

- 6.3 The policies and rules identify a number of timeframes by which the various stages of implementation of the Plan Change are required to be completed. For example, Rule 5.44A (being the Permitted Activity rule for farming in the Red Nutrient Allocation Zone<sup>15</sup>) requires farms to be registered in the Farm Portal by July 2017 and that a Management Plan in accordance with Schedule 7A is prepared and implemented within 12 months of the rule becoming operative. I consider that achieving these requirements is fair and reasonable in the context of the Plan Change.
- 6.4 However, there are other rules that require compliance with timeframes that I question. The rules for farming activities in the Red NAZ (being rules 5.44B, Controlled Activity; 5.45A, Restricted Discretionary Activity; 5.46A, Discretionary Activity; and 5.48A, Prohibited Activity) require farming activities to reduce nitrogen loss rates to the Nitrogen Baseline level from the time the Plan becomes operative. Further to this, these same rules require further reductions through to the Baseline GMP Loss Rate by 1 July 2020, a period of less than 48 months from the release of the S42A report. Based on the assessments that Mr Edkins has undertaken, such reductions could be in the order of 44% from current levels. By way of comparison, I note that proposed Plan Change 2 to the L&WRP ('PC2') gives existing users 19 years to make lesser reductions (PC2 requires a stepped reduction regime of 15% by 2025, 25% by 2030 and 36% by 2035). As such, the timeframe proposed in PC5 represents a significant shift in policy direction and has considerable implications for property owners.
- 6.5 If it is determined that the calculations from the Farm Portal are accurate, my understanding of the implications of facilitating the required reductions within the specified timeframes will result in a number of factors within the current farming operations requiring change. Principally, as I understand it, in order to achieve a reduction of this magnitude, a farming operation may need to not only amend a number of its practices, but also invest in significant infrastructure change and reduce production capacity through the retirement of land and reductions in stocking rates.
- 6.6 As explained to me by Mr Edkins, nutrient loss rate reductions of this scale have the potential to have considerable financial implications for property owners and the regional economy as a whole. While I am not aware of economic evidence being adduced at this hearing, I note the evidence of Mr Stuart Ford at the hearings to PC 2<sup>16</sup>. At paragraph 14 (page 4) of his evidence Mr Ford concluded that '*The results of my modelling indicate that for the average farm it is not possible for them to experience either a drop in their Net Cash Position or deterioration in their equity without forcing them towards bankruptcy. Therefore if they were required to meet the reductions set out in Variation 2 it would cause, in my opinion and experience, quite major financial and social disruption in the Catchment because at least half of the farms would trend towards bankruptcy.*' In its decision, that Hearing Panel concluded that, in total, reductions of 36% over a 19 year period were acceptable,

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<sup>15</sup> Hereafter referred to as 'NAZ'

<sup>16</sup> Statement of Evidence of Stuart John Ford dated 15<sup>th</sup> of May 2015

when all things are considered. That presents, in my opinion, a bench mark that can be relied on in this instance.

- 6.7 The S32 assessment estimated that the mean reduction in Nitrogen losses from implementing GMP ranged from 9% to 24%. However, the actual calculations undertaken by Mr Edkins have identified that using the current Farm Portal proxies the mean actual reductions are in the order of 44%, for the farms that he has assessed. As I have already noted, this is substantially more than was anticipated by the Officers. I question, therefore, if the use of the Farm Portal, as it presently exists, will achieve the Act's sustainable management purpose, particularly when the timeframes associated with the achievement of the GMP Loss Rates are considered.
- 6.8 Section 7.1.3 of the S32 assessment has attempted to quantify the costs associated with the implementation of GMP on farming operations. However, the analysis concludes that it is difficult to quantify the costs of implementing GMP as it is unknown how many farms in the region are currently operating at or beyond GMP. It goes on to estimate that between 40-80% of farms are believed to be operating at GMP but that this is not able to be confirmed until auditing commences. It is noted that the only cost that has been quantified in the S32 assessment is an estimate for auditing a single property, this has been estimated to result in a cost to the landowner of between \$750-\$1,200 per audit.
- 6.9 I believe that this limited assessment of the costs associated with implementing the Plan Change does not accurately reflect the full cost to the landowner. As identified in paragraph 6.8 above, the S32 analysis has not attempted to quantify the full cost of the Plan Change including the potential financial implications of implementing the Nitrogen Baseline and Baseline GMP Loss Rate. My understanding of the potential costs (from Mr Edkins) of implementing the GMP initiatives include such things as the physical undertaking of works on the land, the reduction of the area available for production through the formation of separation strips, setbacks and the retirement of pasture, operational changes including the application of fertiliser, reducing stock numbers and increased investment in infrastructure such as the upgrading of irrigation equipment, amongst other things. Further to this, the S32 analysis does not provide an assessment of the subsequent costs of these actions, such as the reduction of income resulting from the loss of production land or reduced stock numbers or factor in the costs associated with reduced public confidence and the compliance implications that I set out in paragraph 6.8 of this statement. I believe that without a full assessment of the potential costs of implementing these GMP measures, a thorough assessment of what is an appropriate timeframe to give effect to the changes is unable to be determined.
- 6.10 In light of the above, and in particular what I consider the deficiencies within the S32 assessment relating to the identification of the full costs of the Plan Change, I have given consideration to undertaking a S32 assessment of the potential costs myself. However I have concluded that at this point in time, without a calculated understanding of the scale of reductions that will be produced by a Farm Portal that

accurately represents GMP, the full implications of the costs of achieving the outcomes of the Plan Change are not able to be quantified. I consider it essential that following the ratification of the Farm Portal proxies, should the Hearing Panel determine that this is the best outcome to achieve the purpose of the Plan Change, this assessment is completed so that it can assist in the consideration of the setting of timeframes for implementation.

- 6.11 The timeframes for the implementation of the Plan Change need to, in my opinion, result in a balance between the desired environmental outcomes and financial sustainability for those parties directly affected. Section 6.184 of the S42A report has concluded that a period of four years is adequate for farmers to alter their practices in order to implement GMP. However, based on the actual data that Mr Edkins has produced on the rate of reduction needed to achieve the Baseline GMP Loss Rate levels, I do not believe that there has been an appropriate assessment of the physical and financial implications resulting from the reductions in order to determine that the timeframes are appropriate. In particular, Mr Edkins' calculations have indicated that substantial changes are required in less than four years from consideration of the Plan Change (it is uncertain when the decision will be released), in order to achieve the reduction to GMP Loss Rate levels, which he calculates are 44% from existing levels. As I have already noted in paragraph 6.7, the S32 analysis anticipated reductions in the order of 24%. As such, I do not believe that the scale of reductions, as identified by Mr Edkins, had been fully anticipated by the S32 analysis or the S42A report and as such I believe that the conclusion in the S42A report is premature.
- 6.12 As identified in paragraph 5.23 of this statement, the potential adverse environmental effects of a decision to delay consideration of the Plan Change to enable the refinement of the Farm Portal, and subsequently a thorough assessment of an appropriate timeframe for its implementation, include the permitting of further discharges to groundwater for the period of time it takes to refine the Farm Portal and the possible delay in CRC meeting its obligations under the NPS and CRPS. Conversely, the potential costs of implementing the Plan Change based on incomplete information or a not fully functioning model are potentially considerable for property owners and the regional economy.
- 6.13 Any decision on the Plan Change, be it consideration of the various proposed provisions or the consideration to delay the process to allow for further assessment to be completed, should be undertaken by balancing the effects of each scenario against the objectives that the Plan Change is seeking to achieve. In this regard, I believe that, based on the evidence of Mr McIndoe and Dr Metherell, it appears industry are actively seeking to find solutions to the current shortfalls of the Farm Portal in order to work with Council to produce a tool that achieves the purpose of the Plan Change. As such, I believe that any delay could be of a comparatively short duration. If this is the case, then the impact of the adverse effects identified above are considerably reduced.

#### Relief Sought

- 6.14 RDRML supports the concept of the Farm Portal as a mechanism to implement the proposed changes. However, without a complete analysis of the costs associated with the implementation of the Plan Change, I do not believe that compliance timeframes are able to be set until such time as the quantum of reductions is better understood. As identified in Section 5 of this statement, a large body of evidence suggests that the Farm Portal is not producing figures that accurately reflect nitrogen loss from activities. In order to achieve the balance between environmental outcomes and financial sustainability, it appears that there needs to be a comprehensive understanding of the implications of this change in policy direction. Only once this is fully understood can an appropriate assessment of the implementation of the Plan Change, including the setting of appropriate timeframes, be fully completed and set.
- 6.15 In addition to the relief sought in paragraph 5.24 above seeking the refinement and increased sophistication of the Farm Portal to accurately reflect Nitrogen loss from GMP, RDRML seeks that a decision on the timeframes to implement the Plan Change be deferred. Following satisfactory refinement and testing of the Farm Portal to the point that confidence can be gained by the results, it is submitted that an analysis of the costs of implementing the Plan Change be undertaken and subsequently an appropriate timeframe set.
- 6.16 Should the Hearing Panel consider that a delay to considering the Plan Change not be appropriate, I believe that the most pertinent alternative option is that identified in paragraph 5.25 of this statement. That is, an alternative, additional, consenting mechanism be provided for within the Plan Change to allow for the consideration of applications for resource consent that are unable to meet the calculated Nitrogen loss requirements of the Farm Portal but can demonstrate that on the farm Good Management Practices are being implemented to achieve the purpose of the Plan Change. Considerations of resource consent applications under this framework would need to determine an appropriate timeframe for the implementation of the reductions based on the extent of the calculated Nitrogen loss rates and the ability to manage farming practices to sustainably achieve the requirements.

## **7.0 THE PROPOSED RULE FRAMEWORK**

- 7.1 RDRML has, throughout the development of the L&WRP, supported a framework that provides for the reduction of Nitrogen loss from farming activities in the Canterbury Region. As an organisation that is actively involved in ensuring that the environmental effects from activities are managed to ensure their long-term sustainability, RDRML has an interest in ensuring that the planning framework is able to achieve the desired outcomes.
- 7.2 As identified in paragraph 5.1, the structure of PC5 is reliant on GMP and the Farm Portal in order to determine both the activity status and resource consent process for applications to farm within the Canterbury Region. By way of an example, Rule 5.44A states that a farming activity on a property greater than 10 hectares in the Red NAZ can be considered as a Permitted Activity if, amongst other things, it is registered in the Farm Portal. Further to this, Rules 5.44B, Controlled Activity;

5.45A, Restricted Discretionary Activity; 5.46A, Discretionary Activity; and 5.48A, Prohibited Activity, provide a rule structure for the consideration of resource consent applications. The mandatory element for each of these rules is the requirement for the farming operation to meet the identified Nitrogen loss levels within the identified timeframes via a calculation in the Farm Portal. There is currently no mechanism to consider an application for resource consent that measures Nitrogen loss levels in an alternative way to the Farm Portal or for an alternative timeframe for compliance with the loss levels.

- 7.3 As I have identified and discussed in Section 5 of this statement, and as acknowledged at Section 6.88 of the S42A report, a number of submitters have advised that the current proxies within the Farm Portal do not accurately represent the actual Nitrogen loss resulting from the implementation of the industry agreed GMP's.
- 7.4 In addition to the inaccuracies that I have already highlighted (refer to paragraphs 5.6 to 5.16 of this statement) with the Farm Portal, Section 6.66 of the S42A report identifies that the submissions of the FANZ, the Egg Producers Federation of New Zealand/Poultry Industry Association of New Zealand<sup>17</sup> and Horticulture New Zealand<sup>18</sup> suggest that some existing agricultural activities are currently unable to be modelled at all within the Farm Portal. As a result of this, under the current planning framework these activities are unable to meet any of the activity status criteria and therefore their continued operation is uncertain. I question if it is sound planning practice and/or appropriate to introduce a consent framework that ultimately results in an existing farming operation being classified as a Prohibited Activity based solely on what appear to be the limitations of a model.
- 7.5 In its primary submission points 11-16<sup>19</sup>, RDRML proposed a number of amendments to the proposed rule framework in order to address the identified issues. In particular, as an acknowledgement of the current limitations of the Farm Portal, RDRML proposed the addition of a third limb to the structure of Rules 5.45A, 5.55A and 5.58A. The additional limb provides for the consideration of farming activities that are unable to be modelled in the Farm Portal to be considered as a Restricted Discretionary Activity. I believe that these proposed additions result in an effective response to a situation that is currently not consistent with the purpose and principles of the Act, by restricting the use of land based on the limitations of a modelling tool rather than an environmental effect. A tracked change version of the Plan Change provisions including the proposed wording for Rules 5.45A, 5.55A and 5.58A is attached as **Annexure A** to this evidence.
- 7.6 It is noted that a number of submissions propose an alternative 'consent regime' as a means of addressing the current deficiencies within the Farm Portal. The S42A report considered the alternative regimes proposed and in Sections 6.154 and 6.155 advised that, in the opinion of the authors of that report, the addition of a stand alone rule framework as an alternative to the Farm Portal could result in

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<sup>17</sup> Hereafter referred to as 'EPFNZ', submission PC5LWRP-594

<sup>18</sup> Hereafter referred to as 'HortNZ', submission PC5LKRP-1853

<sup>19</sup> Submission point numbers PC5LWRP-712, PC5LWRP-731 and PC5LWRP-740



uncertainty, as well as act to undermine or compromise the role of the Baseline GMP Loss Rate calculations of PC5. I agree with these conclusions, as they relate to a complete stand-alone alternative rule framework. However, I am of the opinion that it would be inappropriate to advance a plan change that classifies activities on the basis of their ability to be modelled. Given the uncertainties that have been identified by Dr Metherell, Mr Mcldoe and Mr Edkins, I also question if it would be appropriate to classify activities based on the Farm Portal, as it currently exists. Put another way, I am of the opinion that the Plan Change cannot ignore the evidence that could, if it is accepted by the Hearing Committee, demonstrate that the Farm Portal is not producing the accurate results that were anticipated and in particular is unable to model some activities at all. As such, I believe that amendments to the Plan Change are required to address the anomalies of the Farm Portal and enable the consideration of those operations that cannot currently be modelled. I believe that the amendments proposed by RDRML to Rules 5.45A, 5.55A and 5.58A appropriately address the issue of those operations that are unable to be modelled, without resulting in the adverse effects created by a rule framework that provides for a completely alternative process to the Farm Portal.

- 7.7 As a result of the above assessment and in addition to the amendments identified to Rules 5.45A, 5.55A and 5.58A, I am of the opinion that actions are required beyond the recommendations of the S42A report in order to ensure that the Plan Change ultimately achieves its identified outcomes. The most appropriate approach, in my opinion, is to defer the decisions on the Plan Change until it has been determined that the results produced from the Farm Portal are an accurate representation of the agreed GMP narratives. The Plan Change process to date has been a collaborative exercise between Council and industry and as such it is considered that further facilitating this approach to produce a fully functioning Farm Portal tool will best achieve the desired outcomes. I have considered the potential effects of such a deferral in paragraphs 5.23 and 6.12 and am of the opinion that a deferral of the short duration proposed will not result in the scale of effects that are un-proportionate in the circumstances. Further to this, and again considering the timeframe sought, I do not believe that a deferral would substantially impact on the ability of CRC to meet its obligations in regard to the NPS or CRPS.

#### Relief Sought

- 7.8 RDRML seeks that the identified changes to Rules 5.45A, 5.55A and 5.58A (as set out in Annexure A of this statement) be accepted, in order to provide for the consideration of activities that are not able to be modelled by the Farm Portal.
- 7.9 In addition to this, and as identified in paragraphs 5.24 and 6.14 above, I am of the opinion that given the inaccuracies of the current version of the Farm Portal, it is appropriate that the decisions on PC5 be deferred until it has been determined that the results produced are an accurate representation of the agreed GMP narratives.
- 7.10 Should the Hearing Panel determine that the deferral of decisions on the Plan Change is not appropriate, I believe that the alternative framework identified in paragraphs 5.25 and 6.16 of this statement are therefore the most applicable approach. A tracked changes version of the provisions is provided as **Annexure B**.

## 8.0 Summary

8.1 As identified in its submissions, RDRML generally supports the principles advanced by Council through the suite of Plan Changes to the LWRP, with the intention of producing a comprehensive planning document that will result in the sustainable management of the environment. I agree with, and support this position. However, I am of the opinion that the current provisions of PC5 do not provide a mechanism to achieve the desired environmental outcomes, and have the ability to result in unacceptable social and economic impacts for Canterbury.

### Farm Portal

8.2 As identified in the RDRML primary submission and as further explained in the evidence of Mr Reuben Edkins of RDRML, the Farm Portal (as currently proposed) does not seem to accurately represent the actual Nitrogen loss produced from farming activities.

8.3 I am of the opinion that the structure and use of tools such as GMP and the Farm Portal in PC5 do not require significant changes from the version promoted in the S42A report. However, as a result of the evidence cited in section 5 of this statement, I believe that it is appropriate that the decisions on PC5 be deferred for a defined period while agreement is sought on an appropriate set of fertiliser and irrigation proxies. I expect that a three to four month deferral period would be appropriate, with corresponding directions that a facilitated process, including caucusing of the relevant fertiliser and irrigation experts, be entered into.

8.4 It is acknowledged that deferring the consideration of the Plan Change will result in the potential for adverse effects. I have considered the potential effects and am of the opinion that given the short duration being sought, the scale of effects is not likely to be considerable or inappropriate.

### The Proposed Timeframe for Implementation

8.5 I believe that the proposed structure, being a two step compliance regime requiring firstly a cap on nitrogen discharges based on the historical average discharges over the 2009-2013 four year period (being the Nitrogen Baseline), followed by secondly a further reduction through implementing the GMP regime (being the Baseline GMP Loss Rate), is a reasonable approach in order to manage the reductions required over time.

8.6 The actual nitrogen loss calculations undertaken by Mr Edkins has identified that using the current Farm Portal proxies, the mean actual reductions are in the order of 44%, for the farms that he has assessed. I do not believe that when the assessment of the Plan Change provisions considered the timeframes for implementation, the Nitrogen loss reductions of the scale that Mr Edkins has calculated were anticipated. Further to this, the timeframes provided to comply with Nitrogen loss limits in the recent decisions of PC2 represent a considerably longer period of time to achieve a lesser reduction.

- 8.7 As I understand it, assuming that the modelling of the Farm Portal is accurate, in order to achieve a reduction of the magnitude identified by Mr Edkins a farming operation may need to not only amend a number of its practices, but also invest in significant infrastructure change and reduce production capacity through the retirement of land and reductions in stocking rates. Achieving nutrient loss rates of this scale have the potential to result in considerable financial implications for property owners. The evidence of Mr Ford<sup>20</sup>, in relation to the reductions proposed in PC2, concludes that *'this scale of reductions would result in major financial and social disruption in the Catchment'*. I believe that this statement is also applicable to the reductions anticipated through the implementation of PC5.
- 8.8 In light of the calculations that have now been able to be made using the Farm Portal and the evidence of Mr McIndoe and Dr Metherell regarding the accuracy of the modelling, I believe that it is justified to defer the consideration of the Plan Change until the Farm Portal proxies have been thoroughly tested and adjusted in order to accurately reflect actual Nitrogen loss rates. At the time that satisfactory refinement and testing of the Farm Portal has been completed, it is appropriate that an analysis of the costs of implementing the Plan Change be undertaken and subsequently an appropriate timeframe be set for the adoption of the rule framework and the staged reduction in Nitrogen loss to be employed.

#### The Proposed Rule Framework

- 8.9 The proposed structure of PC5 is reliant on GMP and the Farm Portal in order to determine both the activity status and resource consent process for applications to farm within the Canterbury Region. However, currently the Farm Portal is unable to accurately model actual Nitrogen loss and in some instances is unable to produce any results for particular farming activities. As notified, the rule framework classifies such operations as Prohibited Activities, meaning that their future operation is unable to be considered through the resource consent process.
- 8.10 I believe that amendments to the Plan Change are required to address the anomalies of the Farm Portal and enable the consideration of those operations that cannot currently be modelled. I believe that the amendments proposed by RDRML to Rules 5.45A, 5.55A and 5.58A appropriately address the issue of those operations that are unable to be modelled, without resulting in the adverse effects created by a rule framework that provides for a completely alternative process to the Farm Portal.
- 8.11 Should the Hearings Panel not be minded to defer its deliberations in the manner as I have recommended, I believe that it is appropriate that an alternative, additional, consenting mechanism be provided for within the Plan Change. Such a mechanism should allow for the consideration of applications for resource consent that are unable to meet the calculated Nitrogen loss requirements of the Farm Portal, but can demonstrate that on the farm Good Management Practices are being implemented to achieve the purpose of the Plan Change. Considerations of resource consent applications under this framework would need to determine an

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<sup>20</sup> Statement of Evidence of Stuart John Ford dated 15<sup>th</sup> of May 2015

appropriate timeframe for the implementation of the reductions based on the extent of the calculated Nitrogen loss rates and the ability to manage farming practices to sustainably achieve the requirements.

RDRML Relief

- 8.10 A Tracked Change version of the relevant provisions of the officers S42A recommendations showing the proposed RDRML changes is attached as **Annexure A**. I note for completeness that the adoption of these provisions is only appropriate, in my opinion, following the full refinement of the Farm Portal to the point that it produces results that accurately reflect Nitrogen loss from farming operations. If the deferral I have recommended is not accepted, I have proposed amendments 'in the alternative'. They are set out in **Annexure B** to this statement.

David John Greaves  
22 July 2016

## **ANNEXURE A**

### **Proposed Plan Change Provisions: Tracked Changes**

Proposed amendments to Rules 5.45A, 5.55A and 5.58A. Adoption of S42A officers report track changes version. Black underline represents Officers proposed changes and **bold double underline and bold strike through** are RDRML proposed changes.

**5.45A Within the Red Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with condition 2 or 3 of Rule 5.44B is a restricted discretionary activity provided the following conditions are met:**

1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and
2. ~~Until 30 June 2020~~**[Insert date following assessment of validated Farm Portal and assessment of appropriate timeframe]**, the nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone does not exceed the nitrogen baseline, and from ~~1 July 2020~~**[Insert date following assessment of validated Farm Portal and assessment of appropriate timeframe]**, does not exceed the Baseline GMP Loss Rate; unless the nitrogen baseline was lawfully exceeded prior to 13 February 2016, and the application for resource consent demonstrates that the exceedance was ~~lawful; and~~
3. **The farming activity being modelled in the Farm Portal does not meet the modelling rules and the Farm Portal is unable to produce an accurate nitrogen loss calculation.**

*The exercise of discretion is restricted to the following matters:*

1. The content of, compliance with, and auditing of the Farm Environment Plan; and
2. The content, quality and accuracy of the OVERSEER® budget provided with the application for resource consent; and
3. The actual or potential adverse effects of the activity on surface and groundwater quality and sources of drinking water *and how these will be avoided or mitigated*<sup>1,2</sup>; and
4. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and
5. Methods that limit the nitrogen loss ~~calculation~~ for the farming activity to a rate not exceeding the Baseline GMP Loss Rate **and the timeframes for achieving the Baseline GMP Loss Rate**; and

6. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate, and the timeframes for achieving the GMP Loss Rate; and
7. Methods to address any non-compliances identified as a result of a Farm Environment Plan audit; including the timing of subsequent audits; and
8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and
9. The consistency of the proposal with Policy 4.38A; and
- ~~10. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.~~

5.55A Within the Orange Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area, that does not comply with condition 2 or 3 of Rule 5.54B, is a restricted discretionary activity provided the following conditions are met:

1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and
2. Until 30 June 2020, the nitrogen loss calculation for the part of the property within the Orange Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 2020 the Baseline GMP Loss Rate, unless the nitrogen baseline was lawfully exceeded prior to 13 February 2016, and the application for resource consent demonstrates that the exceedance was lawful; and
3. The farming activity being modelled in the Farm Portal does not meet the modelling rules and the Farm Portal is unable to produce an accurate nitrogen loss calculation

*The exercise of discretion is restricted to the following matters:*

1. The content of, compliance with, and auditing of the Farm Environment Plan; and
2. The content, quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and
3. The actual or potential adverse effects of the proposal on surface and groundwater quality and sources of drinking water and how these will be

avoided or mitigated<sup>15</sup>; and

4. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate and the timeframes for achieving the Baseline GMP Loss Rate; and
5. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate, and the timeframes for achieving the GMP Loss Rate; and
6. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and
7. Methods to address any non-compliances that are identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and
8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and
9. The consistency of the proposal with Policy 4.38A; and
10. ~~Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.~~

**5.58A Within the Green or Light Blue Nutrient Allocation Zone the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with condition 2 or 3 of Rule 5.57C is a restricted discretionary activity provided the following conditions are met:**

1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and
2. Until 30 June 2020, the nitrogen loss calculation for the part of the property within the Green or Light Blue Nutrient Allocation Zone does not exceed a total of 5kg/ha/yr above the nitrogen baseline, and from 1 July 2020 a total of 5kg/ha/yr above the Baseline GMP Loss Rate; unless the nitrogen baseline was lawfully exceeded prior to 13 February 2016, and the application for resource consent demonstrates that the exceedance was lawful; and
3. The farming activity being modelled in the Farm Portal does not meet the modelling rules and the Farm Portal is unable to produce an accurate nitrogen loss calculation



**The exercise of discretion is restricted to the following matters:**

1. The content of, compliance with, and auditing of the Farm Environment Plan; and
2. The content quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and
3. The actual or potential adverse effects of the proposal on surface and groundwater quality and sources of drinking water *and how these will be avoided or mitigated*; and
4. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and
5. Methods that limit the nitrogen loss ~~calculation~~ for the farming activity to a rate not exceeding the Baseline GMP Loss Rate **and the timeframes for achieving the Baseline GMP Loss Rate**; and
6. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate, **and the timeframes for achieving the GMP Loss Rate**; and
7. Methods to address any non-compliances that are identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and
8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and
9. The consistency of the proposal with Policy 4.38A; and
10. ~~Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.~~

## **ANNEXURE B**

### Alternative Proposed Plan Change Provisions: Tracked Changes

Adoption of S42A officers report track changes version. Black underline represents Officers proposed changes and **bold double underline and bold strike through** are RDRML proposed changes

## Section 2 - How the Plan Works & Definitions

### Definitions, Translations and Abbreviations

#### Definitions

The words used in this Plan have their ordinary meaning as set out in the Oxford English Dictionary (Second Edition or Oxford English Dictionary Online), except where the words are defined in either the RMA, the RPS 2013, or this Plan. The definitions in italics below are from the RMA and are reproduced here for information purposes.

Word	Definition
<u>Accredited Farm Consultant</u>	<p>means a person that <u>either</u>.<sup>21</sup></p> <p><u>(a) holds a Certificate of Completion in Advanced Sustainable Nutrient Management in New Zealand Agriculture from Massey University; and that has been certified by the New Zealand Institute for Primary Industry Management as meeting the criteria for a 'Certified Dairy Farm System Consultant'; or</u></p> <p><u>(b) holds any other qualification, that has been approved by the Chief Executive of Environment Canterbury, as being an equivalent standard with respect to the knowledge and competencies required.</u></p>
<u>Certified Farm Environment Plan Auditor</u>	<p>means a person that either (a) is approved by the Chief Executive of Environment Canterbury as meeting the following criteria and is registered on the Environment Canterbury website as a Certified Farm Environment Plan Auditor or (b) is an auditor that is operating under a member of an International Standards Organisation accredited audit programme that has been approved by the Chief Executive of Environment Canterbury as including audit criteria equivalent to that set out in Part C of Schedule 7; and who can provide evidence of at least 5 years' professional experience in the management of pastoral, horticulture or arable farm systems and holds either:</p> <p>4. a Certificate of Completion in Advanced Sustainable Nutrient Management in New Zealand Agriculture from Massey University; or</p> <p>5. a Certificate of Completion in Sustainable Nutrient</p>

<sup>21</sup> RDRML submission point 1.

	<p><del>Management in New Zealand Agriculture from Massey University; or</del></p> <p>6. <del>Such other qualification that has been approved by the Chief Executive of the Canterbury Regional Council as containing adequate instruction and assessment on agricultural sciences and nutrient management.</del></p> <p>1. <u>has at least 5 years' professional experience in the management of pastoral, horticulture or arable farm systems; and</u></p> <p>(a) <u>holds a Certificate of Completion in Advanced Sustainable Nutrient Management in New Zealand Agriculture from Massey University; or</u></p> <p>(b) <u>holds a Certificate of Completion in Sustainable Nutrient Management in New Zealand Agriculture from Massey University; or</u></p> <p>(c) <u>holds a tertiary qualification in agricultural science or demonstrates an equivalent level of knowledge and experience; and</u></p> <p>2. <u>is a current member of a Professional Institute that requires members to subscribe to a Code of Ethics and has a procedure in place for dealing with complaints made against members; and</u></p> <p>3. <u>demonstrates, to Environment Canterbury, proficiency in the auditing of Farm Environment Plans against the matters set out in Part C of Schedule 7.</u><sup>22</sup></p>
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<sup>22</sup> RDRML submission point 3.

## Policies

### Sub-region Section Development

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- 4.11 Acknowledging the pivotal role of good management practices in the sustainable management of the Region's water bodies, good management practice will be codified and introduced into this Plan by way of a plan change on or before 30 October 2016. ~~The setting and attainment of catchment specific water quality and quantity outcomes and limits is enabled through limiting the duration of any resource consent granted under the region-wide rules in this Plan to a period not exceeding five years past the expected notification date (as set out in the Council's Progressive Implementation Programme) of any plan change that will introduce water quality or water quantity provisions into Sections 6 – 15 of this Plan.~~<sup>23</sup>

### Activity and Resource Policies

...

#### *Nutrient Management*

...

- 4.36 Sustainable farming practices are promoted in all areas by: Water quality outcomes are met by:
- (a) ~~enabling very small farming operations or farms with minimal nutrient discharges to be undertaken without requiring the record-keeping of modelled nutrient loss; all farming activities minimising nutrient losses through the implementation of good practice:~~
  - (b) ~~recognising that there may be limited increases in the loss of nutrients from farming activities in areas where regional water quality outcomes are at risk of not being met, that are shown by an Orange colouring on the Series A Planning Maps, provided that regional water quality outcomes will still be met; and all permitted farming activities on properties greater than 10 hectares preparing and implementing a Management Plan in accordance with Schedule 7A:~~
  - (bb) farming activities with the potential for more significant nutrient losses that require a resource consent to discharge nutrients to ground or surface water, managing, over time, their nitrogen loss in accordance with either the Baseline Good Management Practice Loss Rate or the Good Management Practice Loss Rates and being subject to

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<sup>23</sup> RDRML submission point 4.

~~a resource consent process; and~~<sup>24</sup>

- (c) encouraging industry and irrigation scheme-based initiatives to improve land and water use practices for farming activities, reduce nutrient loss and nutrient discharges, and facilitate land use consenting, including irrigation scheme-wide initiatives, reporting and auditing of their constituent farms.

**4.37** ~~Prevent any increase in the loss of nutrients from farming activities in areas where region-wide water quality outcomes are not being met, that are shown by a Red colouring on the Series A Planning Maps and in Lake Zones as shown on the Series A Planning Maps. Freshwater quality is improved within the Lake Zone and Red Nutrient Allocation Zone by:~~

~~(a) avoiding the granting of any resource consent that will allow the nitrogen losses from a farming activity to exceed the Baseline GMP Loss Rate, except where Policy 4.38A applies; and:~~

~~(b) including on any resource consent granted for the use of land for a farming activity, conditions that, over time<sup>25</sup>:~~

~~(i) limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and~~

~~(ii) require farming activities to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and~~

~~(c) requiring a Farm Environment Plan as part of any application for resource consent to use land for a farming activity, and requiring that Farm Environment Plan to:~~

~~(i) describe the specific on-farm actions that will be undertaken (and the timeframe within which these actions will be undertaken) to implement the Good Management Practices; and~~

~~(ii) provide an explanation of how these on-farm actions will ensure progress towards the attainment of the management objectives and targets in Schedule 7 of this plan.~~

**4.38** ~~Require the adoption of the best practicable options to minimise the loss of nutrients from farming activities in areas where region-wide water quality outcomes are at risk of not being met, that are shown by an Orange colouring on the Series A Planning Map. Freshwater quality is maintained within the Orange Nutrient Allocation Zone by:~~

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<sup>24</sup> RDRML submission point 5.

<sup>25</sup> RDRML submission point 6.

- (a) restricting nitrogen losses from farming activities to the lesser of the Baseline GMP Loss Rate or the Good Management Practice Loss Rate, except where Policy 4.38A applies; and
- (b) including on any resource consent granted for the use of land for a farming activity, conditions that, **over time**<sup>26</sup>:
  - (i) limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate; and
  - (ii) require farming activities to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate; and
- (c) requiring a Farm Environment Plan as part of any application for resource consent to use land for a farming activity, and requiring that Farm Environment Plan to:
  - (i) describe the specific on-farm actions that will be undertaken (and the timeframe within which these actions will be undertaken) to implement the Good Management Practices; and
  - (ii) provide an explanation of how these on-farm actions will ensure progress towards the attainment of the management objectives and targets in Schedule 7 of this plan.

**4.38AA** Freshwater quality is maintained within the Green and Light Blue Nutrient Allocation Zones by:

- (a) restricting increases in nitrogen loss from farming activities to no more than a total of 5kg/ha/yr above the Baseline GMP Loss Rate; and
- (b) including on any resource consent granted for the use of land for a farming activity, conditions that, **over time**<sup>27</sup>:
  - (i) limit the nitrogen loss calculation for the farming activity to a rate not exceeding a total of 5kg/ha/yr above the Baseline GMP Loss Rate; and
  - (ii) require farming activities to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than 5kg/ha/yr above the Baseline GMP Loss Rate; and
- (c) not granting any resource consent to exceed the Baseline GMP Loss Rate unless the application for resource consent demonstrates that water quality will be maintained; and

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<sup>26</sup> RDRML submission point 6.

<sup>27</sup> RDRML submission point 6.

(d) requiring a Farm Environment Plan as part of any application for resource consent to use land for a farming activity, and requiring that Farm Environment Plan to:

(i) describe the specific on-farm actions that will be undertaken (and the timeframe within which these actions will be undertaken), to implement the Good Management Practices; and

(ii) provide an explanation of how these on-farm actions will ensure progress towards the attainment of the management objectives and targets in Schedule 7 of this Plan.

...

4.38A Within the Red, Orange, Green or Light Blue Nutrient Allocation Zones, only consider the granting of an application for resource consent to exceed the nitrogen baseline where:

(a) the nitrogen baseline has been lawfully exceeded prior to 13 February 2016 and the application contains evidence that the exceedance was lawful; and

(b) the nitrogen loss calculation remains ~~at, or below the lesser of the Good Management Practice Loss Rate or~~ the nitrogen loss calculation that occurred in the four years prior to 13 February 2016 ~~but that management practices are improved such that nitrogen losses below the root zone achieve the Good Management Practice Loss Rate over time.~~<sup>28</sup>

4.38B Effects on water quality arising from intensification or changes to a farming activity, are monitored ~~through by either:~~

(a) requiring property owners to submit information regarding the type and intensity of their farming activity to the Farm Portal; and the accuracy of any information submitted to the Farm Portal is periodically reviewed by Environment Canterbury as part of its monitoring programme;~~or~~

(b) ~~where irrigation schemes or principal water suppliers are managing nutrient loads on behalf of a group of farming activities, to require the principle water suppliers or irrigation schemes to periodically submit details of their nutrient load to Environment Canterbury, setting out how the load was calculated and how it conforms with any nutrient load prescribed in their resource consent or in a permitted activity rule.~~<sup>29</sup>

~~4.38C Where a policy or a condition in a rule requires compliance with a Baseline GMP Loss rate, compliance with that loss rate shall not be required prior to 30 June 2020.~~

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<sup>28</sup> RDRML submission point 7.

<sup>29</sup> RDRML submission point 8.



~~4.38D Where a policy or rule requires a farming activity to be managed in accordance with the Good Management Practice Loss Rate, compliance with that loss rate shall not be required prior to:~~

~~(a) 1 July 2016 for any land where part of the property is located within the Lake Zone:~~

~~(b) 1 January 2017 for any land where part of the property is located within the Orange Nutrient Allocation Zone:—~~

~~(c) 1 July 2017 for any land where part of the property is located within the Red Nutrient Allocation Zone:—~~

~~(d) 1 January 2018 for any land where part of the property is located within the Green or Light Blue Nutrient Allocation Zone.—<sup>30</sup>~~

...

~~4.41C Maintain water quality in Orange, Green and Light Blue Nutrient Allocation Zones, and improve water quality in Red Nutrient Allocation Zones and Lake Zones by requiring:~~

~~(a) any application for resource consent for the discharge of nutrients submitted by an irrigation scheme or principal water supplier to describe the methods that will be used to implement the Good Management Practices on any land that will be supplied with water from the scheme or principal water supplier; and<sup>8</sup>~~

~~(b) discharge permits granted to irrigation schemes or principal water suppliers to be subject to conditions that restrict the total nitrogen loss to a limit not exceeding:~~

~~(i) over time, the Baseline GMP Loss Rate for any land within the Red, Lake or Orange Nutrient Allocation Zones; and~~

~~(ii) over time, a total of 5kg/ha/yr above the Baseline GMP loss rate for any land within the Green or Light Blue Allocation Zones.~~

~~(c) an application is to specify if the irrigation scheme or principal water supplier is to manage the nutrient load associated with the discharge permit on a 'property by property basis' or aggregated across the command area of the scheme or supplier.<sup>31</sup>~~

~~4.41D Applications by irrigation schemes or principal water suppliers for a resource consent for the use of land for a farming activity or the discharge of nutrients are to be accompanied by an~~

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<sup>30</sup> RDRML submission point 6.

<sup>31</sup> RDRML submission point 9.

Environmental Management Strategy that describes:

- (a) how the nutrient load for which resource consent is sought has been calculated, and the rationale for that nutrient load applied; and
- (b) how nutrients from all land subject to any permit granted to the scheme or principal water supplier will be accounted for; and
- (c) how properties joining or leaving the irrigation scheme or principal water supplier area are to be managed, including the method to be used to calculate the nutrient load that will be allocated to any property leaving the scheme; and
- (d) the proposed monitoring and reporting regime to the CRC, including, but not limited to, a description of the:
  - (i) audit systems that will be used to assess individual on-farm compliance with the content of any Farm Environment Plan; and
  - (ii) methods used to address non-compliances identified in individual on-farm audits; and
  - (iii) proposed data to be collected and the frequency of any proposed reporting to the CRC.

...

**5.41A Despite Rules 5.43A to 5.59A, the use of land for a farming activity where either:**

- (a) the nitrogen loss from the farming activity is being managed under a resource consent that is held by an irrigation scheme or principal water supplier and the permit contains conditions which limit:
  - (i) the maximum rate at which nitrogen may be leached from the subject land (as measured in kg/ha/yr); or
  - (ii) the concentration of nitrogen in the drainage water leached from the subject land (as measured in ppm or g/m<sup>3</sup>); or
- (b) the land is subject to a water permit that authorises the use of water for irrigation and:
  - (i) the permit was granted prior to 18 January 2014; and
  - (ii) the permit is subject to conditions that specify the maximum rate of nitrogen that may be leached from the land; and

(iii) the water permit is subject to conditions which requires the preparation and implementation of a plan to mitigate the effects of the loss of nutrients to water

is a permitted activity.

...

**5.44B Within the Red Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with one or more of the conditions of Rule 5.44A is a controlled activity provided the following conditions are met:**

4. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and
5. ~~Until~~ **By 30 June 20205**, the nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 202035 the Baseline GMP Loss Rate; and
6. The Farm Environment Plan and nutrient budget submitted with the application for resource consent has been prepared or reviewed by an Accredited Farm Consultant.

***The CRC reserves control over the following matters:***

1. The commencement date for the first audit of the Farm Environment Plan; and
2. The content, quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and
3. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and
4. Methods that limit the nitrogen loss ~~calculation~~ for the farming activity to a rate not exceeding the Baseline GMP Loss Rate **and the timeframes for achieving the Baseline GMP Loss Rate**; and
5. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate **and the timeframes for achieving the Baseline GMP Loss Rate**; and
6. Methods to avoid or mitigate adverse effects of the activity on surface and groundwater quality and sources of drinking water; and
7. Methods to address any non-compliance identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and
8. Reporting of estimated nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and

9. ~~Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.~~<sup>32</sup>

...

5.45A Within the Red Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with condition 2 or 3 of Rule 5.44B is a restricted discretionary activity provided the following conditions are met:

1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and
2. Until By 30 June 20205 the nitrogen loss calculation for the part of the property within the Red Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 202035 does not exceed the Baseline GMP Loss Rate; unless the nitrogen baseline was lawfully exceeded prior to 13 February 2016, and the application for resource consent demonstrates that the exceedance was lawful; and
3. The farming activity being modelled in the Farm Portal does not meet the modelling rules and the Farm Portal is unable to produce an accurate nitrogen loss calculation.

*The exercise of discretion is restricted to the following matters:*

1. The content of, compliance with, and auditing of the Farm Environment Plan; and
2. The content, quality and accuracy of the OVERSEER® budget provided with the application for resource consent; and
3. The actual or potential adverse effects of the activity on surface and groundwater quality and sources of drinking water and how these will be avoided or mitigated<sup>12</sup>; and
4. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate and the timeframes for achieving the Baseline GMP Loss Rate; and
5. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate and the timeframes for achieving the Baseline GMP Loss Rate; and
6. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate, and the timeframes for achieving the

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<sup>32</sup> RDRML submission point 11.

**GMP Loss Rate; and**

7. Methods to address any non-compliances identified as a result of a Farm Environment Plan audit; including the timing of subsequent audits; and
8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and
9. The consistency of the proposal with Policy 4.38A; and
10. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.<sup>33</sup>

...

**5.54B Within the Orange Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with one or more of the conditions of Rule 5.54A is a controlled activity provided the following conditions are met:**

1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and
2. ~~Until By 30 June 2020~~, the nitrogen loss calculation for the part of the property within the Orange Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 20~~20~~<sup>35</sup> the Baseline GMP Loss Rate; and
3. The Farm Environment Plan and nutrient budget submitted with the application for resource consent has been prepared or reviewed by an Accredited Farm Consultant.

***The CRC reserves control over the following matters:***

1. The commencement date for the first audit of the Farm Environment Plan; and
2. The content, quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and
3. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and
4. Methods that limit the nitrogen loss ~~calculation~~ for the farming activity to a rate not exceeding the Baseline GMP Loss Rate **and the timeframes for achieving the Baseline GMP Loss Rate**; and
5. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss

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<sup>33</sup> RDRML submission point 12.

Rate is less than the Baseline GMP Loss Rate **and the timeframes for achieving the Baseline GMP Loss Rate**; and

6. Methods to avoid or mitigate adverse effects of the activity on surface and groundwater quality and sources of drinking water; and
7. Methods to address any non-compliance identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits;
8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and
9. ~~Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.~~<sup>34</sup>

...

**5.55A Within the Orange Nutrient Allocation Zone, the use of land for a farming activity on a property greater than 10 hectares in area, that does not comply with condition 2 or 3 of Rule 5.54B, is a restricted discretionary activity provided the following conditions are met:**

11. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and
12. ~~Until By 30 June 20205,~~ the nitrogen loss calculation for the part of the property within the Orange Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 202035 the Baseline GMP Loss Rate, unless the nitrogen baseline was lawfully exceeded prior to 13 February 2016, and the application for resource consent demonstrates that the exceedance was lawful; ~~and~~
13. **The farming activity being modelled in the Farm Portal does not meet the modelling rules and the Farm Portal is unable to produce an accurate nitrogen loss calculation.**

*The exercise of discretion is restricted to the following matters:*

1. The content of, compliance with, and auditing of the Farm Environment Plan; and
2. The content, quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and
3. The actual or potential adverse effects of the proposal on surface and groundwater quality and sources of drinking water *and how these will be avoided or mitigated*<sup>15</sup>; and

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<sup>34</sup> RDRML submission point 13.

4. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and
5. Methods that limit the nitrogen loss ~~calculation~~ for the farming activity to a rate not exceeding the Baseline GMP Loss Rate **and the timeframes for achieving the Baseline GMP Loss Rate**; and
6. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate, **and the timeframes for achieving the GMP Loss Rate**; and
7. Methods to address any non-compliances that are identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and
8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and
9. The consistency of the proposal with Policy 4.38A; and
10. ~~Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.~~<sup>35</sup>

...

**5.57C Within the Green or Light Blue Nutrient Allocation Zone the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with one or more of the conditions of Rule 5.57B is a controlled activity provided the following conditions are met:**

1. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and
2. ~~Until By 30 June 2020~~ the nitrogen loss calculation for the part of the property within the Green or Light Blue Nutrient Allocation Zone does not exceed the nitrogen baseline, and from 1 July 20~~20~~<sup>2035</sup> the Baseline GMP Loss Rate; and
3. The Farm Environment Plan and nutrient budget submitted with the application for resource consent has been prepared or reviewed by an Accredited Farm Consultant.

***The CRC reserves control over the following matters:***

1. The commencement date for the first audit of the Farm Environment Plan; and

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<sup>35</sup> RDRML submission point 14.

2. The content, quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and
3. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and
4. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate and the timeframes for achieving the Baseline GMP Loss Rate; and
5. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate, and the timeframes for achieving the GMP Loss Rate; and
6. Methods to avoid or mitigate adverse effects of the activity on surface and groundwater quality and sources of drinking water; and
7. Methods to address any non-compliance identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and
8. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and
9. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.<sup>36</sup>

...

**5.58A Within the Green or Light Blue Nutrient Allocation Zone the use of land for a farming activity on a property greater than 10 hectares in area that does not comply with condition 2 or 3 of Rule 5.57C is a restricted discretionary activity provided the following conditions are met:**

4. A Farm Environment Plan has been prepared for the property in accordance with Part A of Schedule 7 and is submitted with the application for resource consent; and
5. Until By 30 June 2020~~2025~~, the nitrogen loss calculation for the part of the property within the Green or Light Blue Nutrient Allocation Zone does not exceed a total of 5kg/ha/yr above the nitrogen baseline, and from 1 July 20~~2035~~ a total of 5kg/ha/yr above the Baseline GMP Loss Rate; unless the nitrogen baseline was lawfully exceeded prior to 13 February 2016, and the application for resource consent demonstrates that the exceedance was lawful; and

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<sup>36</sup> RDRML submission point 15.



6. The farming activity being modelled in the Farm Portal does not meet the modelling rules and the Farm Portal is unable to produce an accurate nitrogen loss calculation.

*The exercise of discretion is restricted to the following matters:*

11. The content of, compliance with, and auditing of the Farm Environment Plan; and
12. The content quality and accuracy of the OVERSEER® budgets provided with the application for resource consent; and
13. The actual or potential adverse effects of the proposal on surface and groundwater quality and sources of drinking water and how these will be avoided or mitigated<sup>16</sup>; and  
—
14. The timing of any actions or good management practices proposed to achieve the objectives and targets described in Schedule 7; and
15. Methods that limit the nitrogen loss calculation for the farming activity to a rate not exceeding the Baseline GMP Loss Rate and the timeframes for achieving the Baseline GMP Loss Rate; and
16. Methods that require the farming activity to operate at or below the Good Management Practice Loss Rate, in any circumstance where that Good Management Practice Loss Rate is less than the Baseline GMP Loss Rate, and the timeframes for achieving the GMP Loss Rate; and
17. Methods to address any non-compliances that are identified as a result of a Farm Environment Plan audit, including the timing of any subsequent audits; and
18. Reporting of nutrient losses and audit results of the Farm Environment Plan to the Canterbury Regional Council; and
19. The consistency of the proposal with Policy 4.38A; and
20. Methods to prevent an exceedance of any relevant nutrient load limit set out in Sections 6 to 15 of the Plan.<sup>37</sup>

..

## New Rule

5.59AA Within the Red, Orange, Green, Light Blue or Lake Zone nutrient allocation zones, the use of land for a farming activity is a discretionary activity provided the following conditions are met:

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<sup>37</sup> RDRML submission point 16.

1. The nitrogen loss is to be managed by an irrigation scheme or principal water supplier;  
=
2. An Environment Management Strategy that accords with Policy 4.41D has been prepared and lodged with the resource consent application;
3. The timeframes for achieving the Good Management Practices Loss Rate or Baseline GMP Loss Rate are set out in the resource consent application lodged with the CRC. <sup>38</sup>

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<sup>38</sup> RDRML submission point 17.