Waimakariri Irrigation Limited

"To be leaders in Water Management, providing Reliable, Economic and Sustainable Supply"

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SUBMISSION: Feedback to the Waimakariri Water Zone Committee Zone Implementation Programme Addendum

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INTRODUCTION

1 Waimakariri Irrigation Limited (*WIL*) appreciates the opportunity to provide further comment on the *Draft Zone Implementation Programme Addendum* (September 2018) (*Draft ZIPA*).

2 Consistent with its previous feedback, WIL remains supportive of the "*Community Outcomes*" (section B4) that have been used to inform the draft "*Solutions Programme*".

3 WIL is also appreciative of the wider efforts that the Waimakariri Water Zone Committee (*Zone Committee*), along with the Council, core stakeholders and the wider community, continue to put into the wider sub regional process.

4 WIL has the following core comments on the Draft ZIPA:

4.1 there is a need to ensure the final document properly informs the sub-regional planning context (which will focus on the next 10 years) and reviews actual monitoring results during that period;

4.2 the modelling appears to have a wide range of uncertainty in the future water quality outcomes, and the Draft ZIPA has not addressed this uncertainty;

4.3 any requirement for reductions will be challenging. Although WIL is supportive of "*good management practice*", what it actually means for nitrogen discharges is not well understood if there is a reliance on the Farm Portal (which is not yet fully operational), nor is it clear what the 'starting point' is that it provides for further reductions (if required) in the proposed Nitrate Priority Management Area;

4.4 very little regard has been had to the actual benefits that may be provided by other catchment interventions such as targeted stream augmentation and managed aquifer recharge. Based on what has occurred elsewhere in Canterbury (such as the Hinds Plains Area) these other interventions are potentially important parts of any Solutions Programme which can offset some of the severest land-use restrictions that the ZIPA currently proposes; and

4.5 the wider economic and social benefits of farming to the Waimakariri District and to wider Canterbury and New Zealand have not been explained. This extends to the wider potential impacts of any final recommended Solutions Programme.

5 Each matter is discussed in more detail below.

6 WIL respectfully asks that the Zone Committee give careful consideration to the matters as set out in the final document.

PLANNING CONTEXT – A NEED TO FOCUS ON THE NEXT 10 YEARS

7 The ZIPA advises (section C1) that it is intended to:

> "*[s]et[] out a staged approach to achieving community outcomes for water management on a 10 – 20 – 50-year timeframe with regular 10 years reviews to incorporate new information and lessons learned.*

8 Despite the above statement, WIL considers that the Draft ZIPA currently does not differentiate to any material extent between:

8.1 existing and known water quality and outcomes that can be reasonably contemplated and addressed within the lifetime of the resulting sub-regional chapter (i.e. the next 10 years in accordance with section 79 of the Resource Management Act 1991); and

8.2 longer-term outcomes which may or may not occur in the future - depending on, for example, the extent to which catchment modelling is actually reflective of future reality (and also outcomes that might be more aspirational in nature).

9 Further care should also be taken to ensure that any management changes (and reductions in nutrient loss) are achievable within the relevant timeframes.

THE BASIS OF THE MODELLING

10 At this time, WIL has not been able to undertake a detailed review of the catchment model.

11 It appears that (depending on the inputs and model structure used) the catchment model has generated a wide range of possible outcomes, some of which indicate that future water quality will be acceptable and others that indicate things will get worse.

12 The Zone Committee's approach is to assume that the median of all modelled scenarios should be used to plan a future management approach. However, there is no indication or suggestion that the median scenario is any more (or less) correct as compared to any of the other modelled scenarios.

13 It is WIL's view that the only correct conclusion that can be drawn from the modelling is that the future predictions of how (and whether) water quality will change has a large degree of uncertainty.

14 WIL therefore asks that the Zone Committee give further consideration in the final document as to how uncertainty in outcomes are to be addressed (especially within the likely 10 year lifespan of the sub-regional chapter prior to its next review). This should include recommendations in relation to matters such as:

14.1 limits that are focused on maintaining or improving (as may apply) existing known existing water quality issues;

14.2 ongoing monitoring of water quality for the purpose of refining catchment outcomes and controls; and

14.3 an expectation that action will be taken to respond to any trend, including the enablement of wider activities that might also be necessary to meet, and where necessary, improve existing water quality.

15 WIL considers that the draft document should focus on two immediate contexts for the purposes of informing the sub-regional chapter – existing water quality and the controls/restrictions that are to be placed on activities, along with a monitoring regime and a range of 'tools' that may be employed to assist in working towards desired catchment outcomes.

THE ACHIEVABILITY OF REDUCTIONS

16 WIL already has a number of initiatives in place with its Shareholders to ensure good management practices and wider environmental improvement are achieved by 1 September 2020. This includes:

16.1 a formal nutrient management policy that all holders of WIL shares must comply with. In addition to a requirement to implement good management practices by 1 September 2020, the requirements of the policy include compliance with a nutrient budget and controls around nutrient loss, and the preparation and regular audit of a Farm Environment Plan.

16.2 an Environmental Management Strategy as part of WIL's resource consents CRC166677 (water permit) and CRC184861 (discharge permit) that requires WIL to undertake environmental monitoring and to provide various information to the Regional Council as a part of ongoing compliance;

16.3 provision of *REGEN* technology to ensure effective irrigation monitoring and efficiency;

16.4 staff that are trained in good management practices and environmental compliance that are available to assist shareholders; and

16.5 more general requirements around water metering and compliance with all resource consents, environmental requirements and WIL policies through a water supply agreement.

17 The Zone Committee's intention that farmers implement good management practices described in the document "*Industry-agreed Good Management Practices relating water quality*" (dated 18 September 2015) is consistent with the above initiatives and is supported by WIL.

18 WIL does, however, emphasise:

18.1 even achieving "*good management practices*" will in many instances require considerable individual farm investment (especially, for example, to improve irrigation and effluent systems). Again WIL is fully supportive of good management practice being implemented, but it needs to be done carefully. In the case of WIL its initiatives have generally only been in place since September 2016, and although Shareholders are well on track to achieving the proposed 2025 date (also being the expiry date for consent CRC184861), this effort will take time and in some cases considerable investment; and

18.2 at this time WIL has concerns around the use of the Farm Portal as a means of assessing *Baseline Good Management Practice Loss Rates*. Although changes to the Farm Portal may be made in the future, it is WIL's understanding that it is not yet able to calculate losses in some farming systems. Under its existing consented regime (with an expiry date for its nutrient discharge permit to 30 June 2025) WIL does not need to use the Farm Portal. There is a concern that farms may achieve GMP as described by the booklet, but may not be able to achieve the currently unknown N leaching number produced by the Farm Portal.

19 WIL therefore asks that the Zone Committee give careful consideration to the timeframes and cost that are required for the implementation of "*good management practices*".

20 It is also apparent that the extent to which the implementation of good management practices will achieve actual improvements in water quality is not known at this time. Although some improvement is reasonably contemplated by WIL it cannot be easily measured prior to being implemented. Actual water quality monitoring (and a more detailed analysis of farm system losses) can only be undertaken after 1 September 2020.

21 In terms of further reductions in the proposed Nitrate Priority Management Area, WIL is particularly concerned that:

21.1 the 'starting point' for any reductions is not clear (although what is clear is that considerable effort and expenditure is required to even reach the good management practice starting point); and

21.2 although also unclear, WIL believes that reductions in the vicinity of "*10-15%*" for dairy farming and all other land uses in the vicinity of "*5-10%*" will be challenging for at least a good number of Shareholders/farmers. Such reductions beyond current good management practice are likely to have very real implications for further expenditure and farm outputs/income, and will result in flow on problems for the social and community well-being of the zone.

22 The achievability of reductions and the implications for farmers is only discussed generally and briefly in the Draft ZIPA. As it is highly relevant for any Solutions Programme, WIL asks that further consideration be given to what is the 'starting point' and what is a realistically achievable level of further reduction (if any) in the Nitrate Priority Management Area for the likely 10 year lifespan of the sub-regional chapter.

BASIS OF NITRATE PRIORITY MANAGEMENT AREA

23 Through the public consultation that has occurred, WIL understands that the Nitrate Priority Management Area boundary is largely based on Landcare Research *S-Map* soil mapping of lighter soils in the area.

24 Given the potentially significant implications for farming activities within any confirmed Nitrate Priority Management Area, WIL is concerned to ensure that the Nitrate Priority Management Area is both mapped as accurately as possible and reflective of modelled/predicted higher risk nitrate loss areas (i.e. not mere soil type).

25 To this extent:

25.1 WIL does not object to the use of *S-Map* as a 'first step' or 'high level' means of informing modelled/predicted nitrate losses. However as Landcare itself advises in respect of *S-Map* "[*p*]*rovision of … quantitative data is challenging because soils are highly variable in both the horizontal and vertical dimensions*".[1] It is WIL's experience that there are material areas within the proposed Nitrate Priority Management Area that have heavier and lower risk soils that are not shown on S-Map. Conversely, the Nitrate Priority Management Area also appears to include some heavier soils in some areas that are shown on S-Map; and

25.2 it is apparent from the modelling that has been undertaken and relied on throughout other parts of the Draft ZIPA that soil types (and the S-Map) are not indicative of actual risk and environmental effects. It is WIL's view that boundaries should be informed by modelled nitrate losses and the extent to which they indicate there may be material inter-zone transfer/impacts on groundwater, particularly in relation to the Christchurch aquifer.

26 It is WIL's view that the "*Interzone transfer source area – high likelihood*" area (as indicated in the *Nitrate assessment for the interzone source area catchment* Report (April 2018)) is likely to be a more appropriate starting point for informing land use controls.

27 WIL therefore asks that further consideration be given to the recommended boundaries of the Nitrate Priority Management Area while also ensuring the wider Solutions Programme has careful regard to the achievability of any required reductions.

SOLUTIONS PROGRAMME DOES NOT INCLUDE OTHER MECHANISMS

28 Based upon the modelled outcomes and the proposed staged approach to the setting and achieving of nitrogen limits in the Nitrogen Priority Management Area, it appears possible that very significant reductions in nitrogen loss could be required at some point in the more distant future.

29 The Draft ZIPA appears to anticipate that all reductions will be achieved by restrictions on farming operations. Based on present knowledge and technologies, it appears that reductions of the magnitude anticipated will be impossible or at least

[1] https://smap.landcareresearch.co.nz/data-provenance/

unachievable without severe farm system changes and consequential effects including, significant economic and social effects for farmers and the wider region.

30 In practice, it is WIL's view that if they are eventually required, such wider improvements in water quality will only be achieved by having both on-farm reductions **and** catchment interventions. However, there is very limited discussion within the Draft ZIPA on the need to also investigate and/or undertake:

30.1 managed aquifer recharge; and

30.2 targeted stream augmentation

31 To this extent, a useful comparison can be made with Hinds (plan change 2) where there was a greater emphasis on catchment interventions (alongside achievable farming reductions) as a mechanism to achieve desired catchment outcomes. The final plan change 2 provisions included for example express reference to both managed aquifer recharge and targeted stream augmentation and provisions around how they may occur.

32 The Draft ZIPA by comparison appears to describe catchment interventions as a "[*f*]*uture goal*" that might be considered at the next plan review. It is WIL's view that much greater consideration needs to be given to catchment interventions now and that the final document should include recommendations as to how they might be achieved.

33 Further, in terms of waterbodies where existing water quality concerns have been identified (such as Silverstream), WIL is open to exploring with the Zone Committee what might be possible in terms of catchment interventions within the lifespan of the sub-regional chapter.

ECONOMIC AND SOCIAL CONSIDERATIONS ARE ONLY CONSIDERED VERY BRIEFLY

34 Potential economic and social impacts are considered only very briefly within the Draft ZIPA. Both are important considerations under Part II of the Resource Management Act 1991 and the various planning instruments that have been made under it.

35 It is WIL's view that the current Draft ZIPA does not adequately address:

35.1 the wider economic and social value of agricultural and horticultural activities to the Waimakariri District and wider Canterbury/New Zealand economy; and

35.2 the impact that any required reductions in discharges may have on individual farmers and the wider community.

36 WIL asks that the Zone Committee give particular consideration to the wider implications of any Solutions Programme to ensure all factors are considered in a balanced way.

37 WIL sees water quality as extremely import, but in accordance with 'sustainable management' under the Resource Management Act 1991, the 'environment' must be seen in its wider statutory context.

CONCLUDING COMMENTS

38 WIL again welcomes the opportunity to provide feedback and is happy to discuss any of the matters set out.