19 February 2025

Landpro Reference: 24191
Council Reference: APP-20241761

Environment Southland
Private Bag 90116
Invercargill 9840

Dear Ryan

Re: Request for Further Information under Section 92(1) of the Resource Management Act 1991 – Application for resource consent to discharge agricultural effluent to land, to take and use groundwater for a dairy operation, and to use land for farming (expanded dairy farm).

In reference to your request for further information dated 10 February 2025 please find outlined below our response to this request.

1 Question 1 - Explain how the proposal will continue to meet the conditions of AUTH-20233661.

1.1 The table below shows how the current self-fed silage feed pads meet the conditions of AUTH-20233661:

Condition 1: This resource consent authorises the use of land for two self-feeding silage pads (feed pads) as described in the application for resource consent dated 14 December 2023. The activity shall be limited to: (a) The use of land for two feed pads for up to 200 cows in each feed pad between 1 June and 30 September (inclusive); and (b) The use of the land for two feed pads for up to 450 cows during adverse weather conditions.	**Currently complies:** The applicant uses feed pad 1 in accordance with this condition. However, the applicant wishes to adjust the way the feed pads can be used in the future to provide flexibility to the farming operation. See variation application in accordance with section 127 of the RMA attached.
Condition 2: This consent shall be exercised in conjunction with Discharge Permit AUTH-20211674-01-V1 (or any subsequent variation versions).	**Complies:** the effluent from the feed pads is collected by the existing effluent system authorised by AUTH-20211674-01-V1.

Condition 3: The feed pads shall be located at 1218988E 4900013N (pad 1) and 1218991E 4899981N (pad 2).	**Complies:** feed pad #1 is located at 1218988E 4900013N and feed pad #2 will be constructed at 1218991E 4899981N.
Condition 4: Both feed pads shall not be located within: (a) 50 metres of any surface watercourse; (b) 70 metres of any water abstraction point; (c) 200 metres of any place of assembly or dwelling not on the subject property; (d) 20 metres of any mapped tile drains; and (e) 20 metres from any property boundaries.	**Complies:** feed pad #1 is not located within any of those buffer distances and feed pad #2 will be constructed so it complies with those buffer distances.
Condition 5: Feed Pad 1 shall be no greater than 3,010 m² in area and feed Pad 2 shall be no greater than 2,150 m² in area.	**Complies:** Feed pad #1 is 2,275 m² in area which is not greater than 3,010 m². Feed pad #2 is proposed to be 1,925 m² in area which is not greater than 2,150 m².
Condition 6: Liquid effluent generated on the feed pads shall be captured and/or scraped into the effluent storage bunkers which are part of the main effluent system authorised by Discharge Permit AUTH-20211674-01-V1.	**Complies:** the effluent from the feed pads is collected by the existing effluent system authorised by AUTH-20211674-01-V1.

1.2 As per the description on the first page of the DESC, the existing pad #1 has been entered in the 'Animal Shelter' tab and the yet to constructed pad #2 has been entered in the 'Feedpad' tab. Under the 'Animal Shelter' tab in the DESC you'll see the pad has been described as 'uncovered'. Neither the currently existing pad nor the yet to be constructed pad are roofed facilities.

2 Question 2 - Provide a visual assessment for the sludge beds to demonstrate compliance with Rule 32D(a)(iii)(4) of the pSWLP.

2.1 See visual assessment attached.

3 Question 3 - Confirm the requested term of the consent.

3.1 A consent term of 15 years is sought by the applicant.

4 Question 4 - Provide an assessment of how losses of nitrogen, phosphorus, sediment and microbial contaminants are being minimised.

4.1 As per section 6.4 of the AEE, Nutrients budgets have been prepared by a CNMA which have been reviewed by Council's independent Overseer Reviewer (Nicky Watt CNMA), and it was established that "*The data inputs have been followed with some deviations. This leads to a **high** level of robustness for the relevant input data … I consider that the robustness of the nutrient loss estimates for the Proposed model to be **high**.*" The use of Overseer is required by the proposed Southland Water and Land Plan (pSWLP). The extent to which regulatory management of nutrient losses from farming land should be facilitated using Overseer has been debated since its first use in 2005 in the Lake Taupo catchment. The approach currently generally supported in Southland includes comparing the current farming system to the farming system proposed going forward as a result of the land use consent for an expanded dairy farm being granted.

4.2 The nutrient budgets supplied with the application predict a 20% reduction in Nitrogen loss and a 11.9% reduction in phosphorus loss below the root zone as a result of the changing the farming system going forward. The predicted nitrogen loss reduction is particularly important as the farm sits in a degraded catchment for Total Nitrogen according to Schedule X. A 20% reduction in nitrogen loss to freshwater should result in a reduction in adverse effects associated with nitrogen enrichment such as eutrophication, excessive algal and plant growth and dissolved oxygen depletion.

4.3 Sediment and microbiological contaminants are not modelled within OverseerFM, so attempting to demonstrate a reduction in the annual amount of sediment and microbiological contaminants lost to freshwater in the current and/or proposed scenarios is challenging. However, P loss modelling can be used as a proxy for sediment and microbiological contaminant losses to assess if the effects will be reduced. Phosphorus in the soil readily binds to fine soil particles and is therefore lost to the environment via the same contaminant pathways: runoff/overland flow and erosion. Microbiological contaminants are also lost to the environment by the mechanics of water flow via these same pathways. The Overseer modelling of P loss in this application indicates sediment and microbiological contaminants will decrease by 11%. This is particularly important considering the farm is located in a degraded catchment for sediment and E. coli according to Schedule X.

4.4 In light of the Ministry for the Environment's guidance for councils using Overseer to support regulatory outcomes, and the conclusion that Overseer output numbers should not be used as absolute numbers and a range of tools and evidence sources should continue to be used when assessing nutrient loss across farms and catchments (referred to as 'a multi-evidence approach'), mitigation measures are of the utmost importance when assessing the effects of this application. This is because they represent additional steps that can be taken to reduce the adverse effects of the change or intensification of land use. The crucial mitigations not rewarded or considered within the Overseer model for this particular application are:

- Slope dairy lane away from surface waterway – See section L5 (page 31) of the FEMP in Appendix C.
- Within 12 months of consent being granted prepare a riparian planting plan for the property and begin implementation within 24 months. Riparian planting plan to include proposed riparian planting of 250 m of an unnamed tributary of the Aparima River over a period of three years – see section W3 (page 52) FEMP in Appendix C.

4.5 There are also a number of mitigations proffered by the applicant that rewarded or considered within the Overseer model:

- Remove intensive winter grazing
- Removal of sheep and beef cattle
- Addition of second feed pad
- Increase months feed pads are used
- Increase in effluent area from 40 ha to 189.7 ha
- Target agronomic optimum Olsen P of 30

4.6 As described above, the combination of a reduction in modelled losses and proffered mitigations outside of Overseer that directly minimise the effects of overland flow and leaching of contaminants to water, is very likely to achieve a reduction in annual N and P loss, and sediment and microorganisms to water. Improvements made under the proposal in isolation from other farms will only have an extremely small impact on long-term water quality. This highlights the importance of catchment wide implementation of water quality mitigation measures and the ongoing restriction on the applicants' operation in accordance with the nutrient management mitigation proposed will give certainty that adverse effects will be reduced, and water quality will be improved in the long term.

5 Question 5 - Provide an updated FEMP to ensure it meets the Appendix N criteria.

5.1 The FEMP purpose statement is technically not required as Fresh Water Farm Plans under Section 9a of the RMA are in effect in Southland (November 2024 Order in Council specifically relating to Southland), therefore Parts A and C of Appendix N do not apply. However, for completeness the purpose statement has been added to the FEMP.

5.2 See updated FEMP attached with correct farm areas and legal descriptions.

Ngā mihi nui,

Jade Fitzek

Senior Planner

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