

14 September 2022

Environment Southland Regional Council
Private Bag 90116,
Invercargill 9810

Attention: Jade McRae

Dear Jade

RESOURCE CONSENT APPLICATION - APP-20222055 – S92 RESPONSE 2

Thank you for your further request for information for Capil Grove Farm 444. The purpose of this letter is to provide responses to your follow up questions from September 7 2022, which are provided below.

1. The response to question 5 states "*slurry tanker are not high rate discharges*" however I do not consider that slurry tankers meet the definition of low rate irrigation in the Regional Plan below:

Low rate irrigation

Where farm dairy effluent is applied at a maximum instantaneous application rate less than or equal to 10 mm per hour.

Can you provide evidence that the applicants slurry tanker can meet this definition above? If not, then the discharge of effluent to Cat C land (blue areas in pic below) will be a non-complying activity under Rule 50(f) of the Regional Water plan.





Response: DairyNZ's guidelines recommend application rates based on the variable categories of soils. For a Category C soil, which has a slope of 7 degrees or more, it is appropriate and necessary to apply effluent using a low-rate application system to ensure the integrity of the soils and to reduce the chance of run-off.

If effluent is applied at a high instantaneous rate, at a short duration and a high volume, the infiltration capacity of the soil will be exceeded, and run-off will occur; this especially so when slopes are involved. To ensure runoff does not occur, effluent needs to be applied over a longer duration and at a low volume. While there may be some surface redistribution (which is usual for all soil types), it won't exceed the infiltration capacity of the soil.

A slurry tanker has the ability to apply lower volumes of effluent within an hour. The definition of low-rate irrigation in the Regional Plan is on a per hour basis;

"Where dairy effluent is applied at a maximum instantaneous rate less than or equal to of 10 mm per hour"

Capil Grove's slurry tanker is a Jako tanker (Figure 1 below) which has a Schuitemaker macerator attachment. The attachment is an umbilical type system which is specifically used on the property as it has the ability to control the placement and spread of effluent for an even distribution (Figure 2 below – currently not connected).

The attachment has an 8 m spread which applies 35,000 L per application. Travelling at a typical rate of 5 km/hour and covering a distance of 1,250 meters results in 1 ha of area covered. Therefore, applying 35,000 L over an area of 10,000 m²/hour equates to an application rate of 3.5 L/m²/ hour (3.5 mm/ hour).

There are two other properties in Southland where LEI has recently applied for discharge consents and these consents have been granted to use umbilical systems to apply low-rate effluent on high-risk soils. It should be noted that application will only be onto dry soils as the weight of the wagon and trafficking across paddocks will not be practical if the paddocks are wet - a time when there is a greater risk of runoff.

Capil Grove acknowledge the importance of maintaining soil integrity by not only applying effluent at a low rate to Category C soils, but also ensuring that effluent is not applied during times when soil conditions are saturated, or the soil capacity would be exceeded. This is not only important to mitigate run-off, but also to avoid soil compaction and ensure safety of the applicator.



Figure 1: Capil Grove Jako 35,000 L Slurry Tanker.



Figure 2: Schuitemaker Macerator Attachment.



2. The response to question 13 doesn't answer the question regarding AB. I understand all replacement cows will arrive to the farm in calf, but will all non-replacement / current milking herd cows get pregnant via AB for the duration of the consent?

Response: Yes, all non-replacement/ milking herd cows will get pregnant by AI.

Yours sincerely,

Low Environmental Impact

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