27 November 2024 Landpro Reference: 24191

Environment Southland
Private Bag 90116
Invercargill, 9840

To whom it may concern

Re: Application by Paul Turner for Paul Turner Farm Trust for activities related to dairy farming at 237 Sinclair Road, Opio.

Please find enclosed the above consent application for your consideration.

The application is seeking a new Land Use Consent for Expanded Dairy farming, which includes increasing the dairy platform by 57ha, increasing the milking herd by 100 cows, removing all winter forage crop from the farming system and using two self-fed silage feed pads.

The applicant is seeking to replace the existing effluent Discharge Permit, to authorise the discharge of effluent onto the new block and extend the available area for receiving effluent from 202 ha to 189.7 ha (the total property) and increase dairy cows on the property from 450 to 550.

The applicant is seeking to replace their existing effluent Water Permit, to authorise the abstraction of water to match daily water demands for 550 dairy cattle and allow water for the associated grazing of other stock classes on farm and increase the seasonal allocation to match season water demands on farm.

The $7,018.00 consent processing deposit was paid online on Monday 25th November 2024.

If you have any questions in relation to this application, please don't hesitate to contact me directly.

Kind Regards

Jade Fitzek
Senior Planner

PART A

Application for Resource Consent

This application is made under Section 88 of the Resource Management Act 1991 (Form 9)

The purpose of this Part A form and the relevant Part B form(s) is to provide applications with guidance on information that is required under the Resource Management Act 1991. Please note that these forms are to act as a guide only, and Environment Southland reserves the right to request additional information.

To: Environment Southland
Private Bag 90116
Invercargill 9840

1. Applicant(s) Details

A resource consent can only be held by a legal organisation or fully named individual(s).

1.1. Applicant's name (*full name of proposed consent holder*). *Please complete either (a) OR (b) to whom consent is to be issued*

First Name Middle Name Surname

(a) Individual(s) Paul Turner for Paul Turner Farm Trust

OR

(b) Registered company name

Company number

1.2. Applicant's address *[not consultant's address]*

(a) Individual(s)

Postal Address 237 Sinclair Road

Email paulandkayleen@farmside.co.nz

Phone Mobile Fax

(b) Company

Contact Person

Postal Address

Email

Phone Mobile Fax

2. Consultant/ Agent details (if applicable)

Contact person: Jade Fitzek

Company: Landpro

Postal Address:

Email: jade@landpro.co.nz

Phone: _____ Mobile: 027 281 1185 Fax: _____

Note: *All correspondence during the consent process will be directed to this contact person, unless instructed otherwise. Final decision documents will be sent to the applicant.*

Are you the owner or occupier at the site? [X] Yes [ ] No

If not, please complete the following information

Name of owner or occupier at the site (*if different from 1.1.*)

Address of the owner or occupier at the site (*if different from 1.2.*)

3. Site

Location of activity (*including street/road name, number, and locality*): 237 Sinclair Road, Opio

Map Co-ordinates (NZTM 2000)

1218892E E 4900083 N(NZTM 2000)

Legal description of property at site of activity (*refer to land title or rates notice*): See AEE

Please attach a map or a coloured aerial photograph, showing at a minimum, the location of the proposed activities.

4. Consents required in relation to this proposal:

Please tick the box for the consent(s) you are applying for and complete the relevant Part B form(s) where available

Water

	Take and use surface water		Divert water
X	Take and use groundwater		Dam water

Land Use

	Bore/ Well		Effluent storage
X	New or expanded dairy farming		Cultivation
	Intensive winter grazing		Gravel extraction
	Feed-pad, wintering pad, calving pad or silage pad		Riverbed activity
	Bridges and culverts		Tree planting

Discharge

	To air		To water
X	To Land		

Coastal

	Whitebait stand		Structures/occupation of space
	Removal of natural materials		Disturb foreshore/seabed
	Discharge/deposit substances		Commercial surface water activity
	Reclaim/drain foreshore/seabed		Marine farming
	Other coastal activities		

What is the purpose of this application?

New resource consent	X
Renew resource consent	X
Variation of conditions according to S 127 RMA	
Certificate of compliance	

Are there any **current** or **expired** consents relating to this proposal? [X] Yes [ ] No

If yes, please provide consent number(s) and description:

AUTH-20211674-01-V1

AUTH-20211674-02

Are any other consents required from Environment Southland or **other authorities**?

[ ] Yes [X] No

If yes, please state the relevant authority and the type of consent(s) required:

For what **purpose** is this consent(s) required: (e.g. discharge of effluent, gravel extraction etc.)

Use land for farming, discharge agricultural effluent to land and abstract groundwater

Pre application advise- Have you discussed this proposal with a council staff member?

[ ] Yes [X] No

If yes, please provide name of staff member if known

Any further comments you would like to advise us about this application?

5. Assessment of effects on the environment (AEE)

Please complete the applicable Part B form(s) for the proposed activities. For those activities where no Part B form is available, please attach a written statement that assesses the effects that your activities may have on the environment. An assessment of effects **must** include the following information:

(a) if it likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity;
(b) an assessment of the actual or potential effect on the environment of the activity;
(c) if the activity includes the use of hazardous substances and installations, an assessment of any risks to the environment that are likely to arise from such use;
(d) if the activity includes the discharge of any contaminant, a description of—
  (i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and
  (ii) any possible alternative methods of discharge, including discharge into any other receiving environment;
(e) a description of the mitigation measures (safeguards and contingency plans where relevant) to be undertaken to help or prevent or reduce the actual or potential effect;
(f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any persons consulted;
(g) if the scale and significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved;
(h) if the activity will, or is likely to, have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).

You should also include:

(a) an assessment of the activity against any relevant provisions of any relevant objectives, policies, or rules;
(b) any information specified to be included in the application in accordance with the relevant regional plan;
(c) for an application to replace an existing consent, an assessment of the value of the investment of the existing consent holder:

An assessment of effects **must** address the following matters:

(a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects;
(b) any physical effect on the locality, including any landscape and visual effects;
(c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity;
(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations;
(e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants;
(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or the use of hazardous substances or hazardous installations.

6. Affected Parties

Please attach written approval from parties who may be affected by your activity. *Written Approval of an Affected Party* forms are available on the Environment Southland website. During the processing of your application, Council may determine that additional approvals are required.

7. Site visit from the Consents Team

Consents staff are able to meet with you, visit your site and see what you are proposing to do. We find that this is beneficial to everyone involved. The cost of the visit will be included in the total cost of processing your consent. We find that applications that have an on-site visit are processed with less congestion and at a similar or lesser overall cost. We will contact you if we consider a site visit to be advantageous in processing your application.

8. How much will it cost to process my application?

Environment Southland's User Charges and Fees document is available at: www.es.govt.nz/fees-and-charges

When the consent has been processed you will receive an invoice for an additional fee, or for a refund.

User Charges

Please note that additional Annual User Charges will apply to all consents.

How to pay

Environment Southland accepts payment in the forms of cash, Eftpos, or electronic transfer. All electronic transfers must include the applicant's name and "consent application" as a reference. Please make electronic payments to: Environment Southland, 01-0961-0018998-00 or online at www.es.govt.nz/online-services/online-payments.

9. Checklist: Have you included the following?

☐ Payment of the required deposit *(see fee schedule)*

*If you paid by electronic transfer payments – please advise **date** of payment and **reference** used:*

_____

☐ Written approval from all potentially affected parties *(forms available from the Environment Southland website)*

☐ Site plan/location map/sketch of the proposed activity

☐ A copy of the Certificate of Incorporation (*where applicant is a company*)

☐ Part B form(s) specific to your activity and/or a separate assessment of environmental effects (AEE)

Notes:

(a) If your application does not contain the necessary information and the appropriate fee, Environment Southland may return the application.

(b) Under S35 of the Resource Management Act 1991 your application will be publicly available information and subject to the relevant provisions of the Local Government Official Information and Meetings Act 1987.

Signature of applicant

I hereby certify that to the best of my knowledge and belief, the information given in this application is true and correct.

I undertake to pay all actual and reasonable application processing costs incurred by Environment Southland.

Name (block capitals) Jade Fitzek

Signed  **Date** 27/11/2024

(***Signature of applicant or person authorised to sign on behalf of applicant)***

LANDPRO

Make the most of your land

Resource Consent Application to Environment Southland

Prepared for Paul Turner for Paul Turner Farm Trust

Prepared For

Paul Turner for Paul Turner Farm Trust

Prepared By

Landpro Ltd
13 Pinot Noir Drive
PO Box 302
Cromwell
Tel +64 3 445 9905

QUALITY INFORMATION

Reference:	C:\12dS\data\SERVER2008R2\24191-Paul Turner - Opio Farm Certificate of Compliance and Expanded Dairying_6246\Planning\Paul Turner Farm Trust AEE.docx
Date:	27 November 2024
Prepared by:	Christina Railton & Jade Fitzek
Reviewed by:	Matilda Ballinger
Client Review:	Paul Turner
Version Number:	FINAL

TABLE OF CONTENTS

1. INTRODUCTION & SUMMARY

1.1 Overview of Proposal

Paul Turner for Paul Turner Farm Trust (the applicant) own and operate an existing dairy farm at Opio in Western Southland. The farm is 231.9ha (223ha effective) and includes a dairy milking platform with cut and carry blocks. The applicant has agreed to purchase an adjoining sheep and beef block, and at the same time has agreed to sell part of their existing dairy platform to the neighbour.

Three parties have been involved in the land transfers that have taken place which are summarised in detail below.

The existing consents that apply to the dairy platform are:

- AUTH-20211674-01-V1 – To discharge agricultural effluent to land from up to 450 cows via low-rate pod system, travelling irrigator, umbilical system and slurry tanker (Expiry 31 May 2032).
- AUTH-20211674-02 – To take and use groundwater for the purpose of stock drinking, dairy shed washdown and domestic house use (Expiry 31 May 2032).
- AUTH-20233661 – Use of land for two self-feeding silage pads (feed pads) including the built-in effluent storage facilities (Expiry 31 May 2034).

This proposal is to modify existing consents to reflect the new farm boundary and seek a new land use consent for expanded dairy farming to increase the milking operation from 450 cows to 550 cows and include an additional 57ha within the available area that can be used as milking platform.

The applicant is seeking 15-year consent durations for all new consents subject to this application.

The proposal to increase dairy cows from 450 to 550 and include an additional 57ha triggers Rule 20(a) of the proposed Southland Water and Land Plan (pSWLP). Furthermore a consent would currently be triggered under Regulation 18 of the National Environmental Standard for Freshwater (NESF) as the dairy farm is proposed to increase beyond 10ha, however a future commencement date is sought for the Land Use Consent of 2 January 2025 (or this will not be required, depending of date of granting). The proposed increase of 57 ha to the dairy platform by converting sheep land will not require a resource consent under Regulation 18 of the NESF which is set to be revoked 1 January 2025.

The purpose of the expansion to realign farm boundaries and increase the milking herd is to offset the financial cost of the land purchase and other improvements made on farm, including building of a second self-feeding silage pad. Realigning the farm boundaries provides land that is better suited to dairying closer to the existing dairy shed and other infrastructure, with reduced time spent walking on laneways, no longer needing to cross the Nightcaps Opio Road, which in turn has environmental and animal welfare benefits.

The new land fits the farm and is not separated via the main road offering substantial operational improvement.

The applicant is requesting public notification.

1.2 Overview of Land Transfer and new ownership

The applicant has agreed to sell 22ha west of Nightcaps Opio road and is relinquishing a 16ha lease block (located to the west of Nightcaps Opio road). In return, the applicant is purchasing a 32ha sheep and beef block to the south of the existing platform. Furthermore, within the existing dairy platform is lease land, the applicant has agreed to purchase this land. The sale and purchase requires a boundary adjustment to split the appropriate land parcels. Figures 1 and 2 below summarise the current and proposed farm boundaries.

Figure 1: Current Farm Boundary (AUTH-20211674-01-V1).

Figure 2: After all land transactions, remaining land from current farm boundary (red), yellow is lease relinquishing/land being sold, and purple is area being added.

1.3 Overview of Consents Sought

The applicant is seeking to replace the existing effluent Discharge Permit, as per the below:

- Discharge effluent onto the new block and extend the available area for receiving effluent from 202 ha to 189.7 ha (the total property).
- Increase dairy cows on the property from 450 to 550.

An updated DESC calculation is provided in Appendix A.

A proposed effluent discharge map is provided in Appendix B.

The applicant is seeking to replace their existing effluent Water Permit, as per the below:

- Increase the daily water to match daily water demands for 550 dairy cattle and allow water for the associated grazing of other stock classes on farm.
- Increase the seasonal allocation to match season water demands on farm.

The application is seeking a new Land Use Consent for Expanded Dairy farming, as per the below:

- Dairy farming of 220 ha
- Milking 550 cows
- Dairy support stock including bulls, and replacement heifers
- No winter forage crop
- Use of two self-feeding pads
- The consent holder has a Farm Environment Management Plan that is appended to this application (Appendix C)
- Nutrient budgets included in Appendix D.

No changes are sought to the consent for the two self-feeding pads AUTH-20233661.

1.4 Proposed Water Quality Improvement

The proposal includes the implementation of a wide range of good management practices (GMPs) and mitigation measures which avoid and mitigate adverse effects on the environment. These are described in detail in this proposal and are also included in the landowner's Farm Environmental Management Plan (FEMP), attached as Appendix C.

A Tiaki Farm Environmental Management Plan (FEMP) has been in place on the property for a number of years and was recently updated. This updated FEMP is a draft plan in accordance with Rule 20(b)(i) and Appendix N of the proposed Southland Water and Land Plan (pSWLP) and includes an action to prepare a Riparian Management Plan including a plan for the tributary of the Aparima River that is on farm.

This consent application that includes OverseerFM nutrient budgets prepared by Lee Baldwin (CNMA) using OverseerFM that shows nitrogen (N) and phosphorus (P) losses to water would decrease by 23% and 4% each respectively. Further mitigations, not included in Overseer are proposed to demonstrate the concentration of key contaminants is mitigated. When assessing the efficacy of mitigations, this is considered against the

activities based on the dominant contaminant risk pathways on farm, i.e., overland flow and artificial drainage.

We take an approach whereby we characterise the landscape vulnerabilities and match these vulnerabilities to targeted mitigations and good management practices (GMPs) to address the key contaminant risk pathways on farm. Mitigations and GMPs are tailored to the activities being undertaken to ensure that the mitigation proposed is efficient but also matched to the inherent and varied susceptibility of the landscape to land use activities at property scale.

We use physiographic characteristics to define these landscape vulnerabilities. Physiographic assessments integrate climatic, topographic (slope, elevation), geology (rock and sediment type), soil (drainage, permeability, and chemistry), and water chemistry and quality to identify the susceptibility of the landscape to contaminant loss. A key outcome of this approach is a description of the contaminant pathways most likely for a property.

Physiographic zones present on the property are Gleyed and a very small area of Central Plains and so the key contaminant pathways for the property include artificial drainage, overland flow, and deep drainage. Local water quality data suggests that nitrogen in surface waters has been elevated but has an improving trend, however phosphorus in surface water is less of a problem, periodically *E. coli* is high with a degrading trend, indicating that these particulate type sources of nutrient, and overland flow pathways, are important for longer term management.

Overall, proposed mitigations that can improve water quality include:

- Removal of winter cropping
- Removal of sheep and beef cattle
- Building of second feed pad and increase time pads are used
- Increase effluent disposal area
- Decrease property average Olsen P to 30 from 35 – see page 58/59 of FEMP, and Nutrient Budget Report
- Slope dairy lane away from surface waterway – page 31 of FEMP
- Within 12 months of consent granted prepare a riparian planting plan for the property and begin implementation within 24 months – see page 52 of FEMP.

1.5 The Applicant

Applicant Address: Paul Turner for Paul Turner Farm Trust
237 Sinclair Road
RD 1
Otautau 9689

Address for Service: C/- Landpro Limited
PO Box 302
Cromwell 9342

1.6 Purpose of Documentation

Under Section 88 of the Resource Management Act 1991 (the RMA), this report provides an assessment of the activities effects on the environment as required by Schedule 4 of the RMA.

2. DETAILS OF PROPOSAL

2.1 Location

The farm and dairy shed are accessed from 237 Sinclair Road, Opio, Otautau (Figure 3). The existing dairy farm as well as the new land proposed for inclusion as dairy platform are shown in Figure 2 earlier in this report. The dairy shed is generally located at NZTM 2000 1218892E 4900083N.

The resulting farm area/boundary for the applicant is below.

Figure 3: Location of farm in relation to nearby roads.

2.2 Details of Consents and Proposal

2.2.1 Land Use Consent for Farming (Proposed Expanded Dairy Activities – Rule 20 (pSWLP))

Table 1 and 2 summarises key details of the land areas and farm system.

Table 1: Overview of farm.

Farm Details		
Address	237 Sinclair Road, Opio, Otautau	
NZTM2000	1218892E 4900083N (dairy shed)	
	Current	*Proposed*
Legal Description	Section 152 Block V Wairio Survey District, Section 153 Block V Wairio Survey District	Lot 1 DP 6203, Section 152 Block V Wairio Survey District, Section 153 Block V Wairio Survey District (some land pending subdivision)
Total farm area	Total Current = 223	Total Proposed = 220
Dairy platform area *Land to be used for grazing of lactating dairy cows*	163 ha	220 ha **(+57 ha compared to current)** See Table 2.
Milking cow numbers	450	550 **(100 additional cows)**
Other stock	60 beef bulls Sept/Oct 10 Breeding Bulls Dec/Jan 120 replacement heifers until weaning 20 Beef calves from weaning, wintered then sold following season. 250 Breeding ewes wintered with replacements and lambs	12 Breeding Bulls Dec/Jan 138 replacement heifers until weaning
Winter Crop	8 ha	0 ha

Table 2: Overview of land areas.

Current	Area ha
Dairy Land Owned	116
Dairy Land Leased	47
Total Dairy	**163**
Other Leased	60
Total Current	**223**
Proposed	**Area ha**
Currently Owned Dairy	116
Currently Leased Dairy	47
Sell 22 ha Dairy	-22
Other Leased land	60
Relinquish lease 16ha	-16
Buy 35 ha	35
Total Proposed Dairy	**220**

In summary, the proposed farm/'contiguous landholding' at 237 Sinclair Road, Opio, Otautau is 220 ha, and it is proposed that the entire 220 ha be used as dairy platform. Other activities such as dairy support grazing and silage production will also occur within the 220 ha dairy platform.

Figure 4 below is taken of the consented dairy land (22ha) and cut and carry block (16 ha lease) that has been sold.

Figure 4: Land being removed from the landholding, left) 22 ha block sold; and right) 16ha lease block relinquished.

Figure 5: Land being added to the landholding.

2.2.1 Discharge Permit

Table 3 summarises key details of the consent, sections below further describe the collection and treatment system, storage volumes, and irrigation method and area, and the changes sought.

Table 3: Effluent and Discharge activities.

Discharge Permit Details		
Permit no.	AUTH-20211674-01-V1	
Maximum number of dairy cows	Current = 450 Proposed = 550	
Wintering barn	Nil	
Other sources of effluent	Self-feeding silage pad	
Type of shed	Herringbone	
Effluent treatment	Gravity feed to dual weeping walls, which is then pumped to the effluent storage pond.	
Storage available (effective m^3)	5,462 m^3	
Storage required (90%) DESC	5,454 m^3	
Disposal area	Current = 202 ha (AUTH-20211674-01-V1 condition 2(e)) Proposed = 189.7 ha (Appendix B)	
Irrigator	Low rate pods Low rate travelling raingun (Cobra) Slurry tanker and Umbilical	
Application rate and depth	10 mm depth, and 10 mm/hr via low rate systems on Cat C land; 25 mm depth, and 10 mm/hr via low rate systems; 10mm depth via umbilical system; and 5mm depth via slurry tanker.	

Collection System

The effluent system on the property comprises of a series of collection sumps in and around the dairy shed, yard and dairy shed entrance. Effluent from the dairy shed, yard flows via gravity to a stone trap (<35 m^3) and two sludge beds and weeping wall (effective solids storage volume 850 m^3). From there liquid effluent flows to the effluent pond (5,462m^3 of effective storage; total hole in the ground volume of approximately 7,035m^3) is pumped to low-rate pods. An umbilical system or slurry tanker is also used. A rainwater diversion is used while the dairy shed is not in use. See Figure 6.

- Effluent is pumped into a twin weeping wall with sludge beds:
    - 36m x 12m x 1.5m, with a 1:1 batter (estimate measurements taken by RES)
    - 850m^3 of effective storage (being a total volume of approximately 1,104 m^3)
    - Passed a visual assessment late 2021

- Effluent is then pumped into the lined effluent pond:
    - 51.7m x 51.6m x 3.5m, with a 2:1 batter (estimate measurements for the top opening taken by RES and the depth of the original design drawings used)
    - 5,462 m^3 of effective storage (being a total hole in the ground volume of approximately 7,035 m^3)
    - Built with resource consent AUTH-301200, synthetically lined with a leak detection system

Figure 6: Photos of x2 sludge beds and lined pond in background, Landpro, 27/08/2024.

The applicant has one self-feeding silage pad on farm (Figure 8), and the existing consent enables another to be built (AUTH-20233661). AUTH-20233661 also authorises the building of two effluent bunkers.

The two silage facilities have the same design, although different dimensions. Each facility consists of a silage pad area in the centre, flanked by two rubber matted loafing areas either side. Between the silage pad and each loafing area there is an effluent collection bunker installed to capture animal waste and silage waste. Solids from the bunkers will be emptied by two methods; with an umbilical system (provided by a local contractor) and discharged on the effluent discharge area; and/or pumped to the main effluent storage. The bunkers will also have a weeping wall at one end and the capacity to pump the liquid component to the main effluent storage pond. As above, there is capacity in the main storage pond to facilitate this. Storm water from the silage cover and the concrete areas is diverted when the pads are not in use.

A simple schematic of the system for one pad is shown below in Figure 7.

No changes are proposed to this collection system and use of the self-feeding silage pads

- Silage-pad/feed pad bunkers
    - 35m x 6.25m x 3m, with a 0:1 batter (as provided by Paul Turner), with solids storage capacity of approximately 656m³ of solids
    - Built and authorised by resource consent, AUTH-20233661.

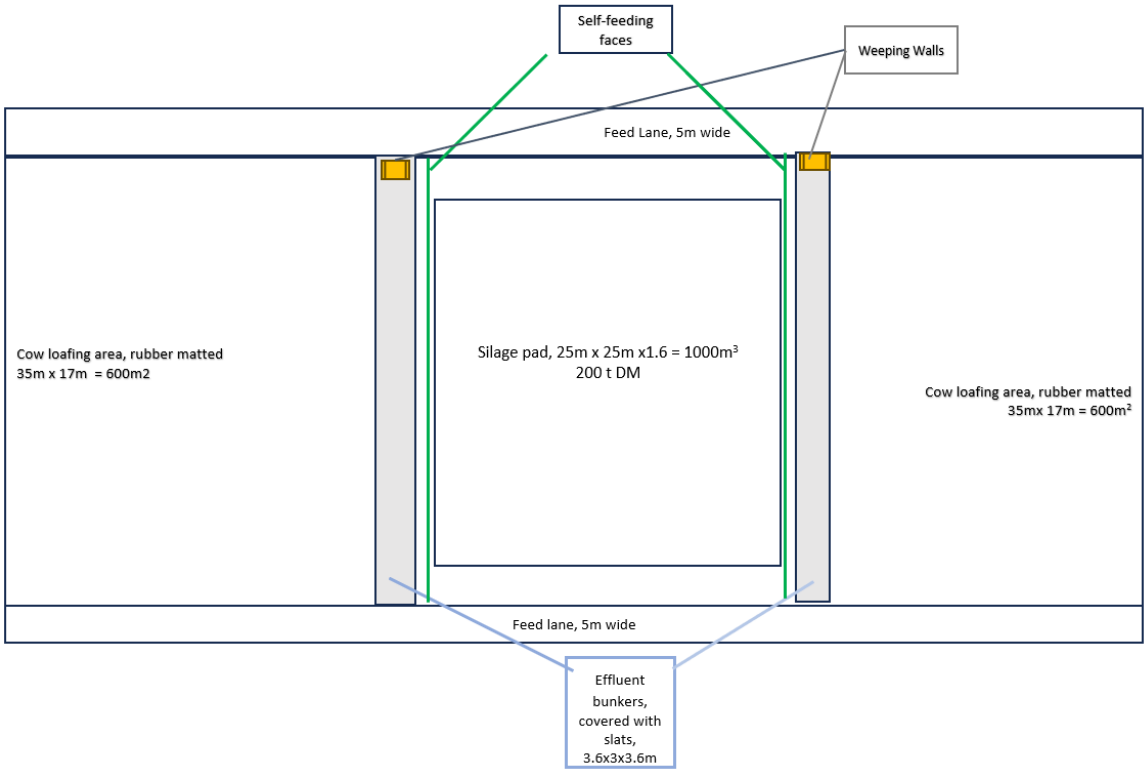

Figure 7: Diagram of the silage pad design.

Figure 8: Photos of self-feed silage pad in use, with slotted section for effluent bunker.

Storage Volumes

A DairyNZ Dairy Effluent Storage Calculator (DESC) Report has been completed to support this consent renewal.

The applicant is proposing to increase dairy cows on farm from 450 to 550.

Rural Environmental Solutions have calculated the available effluent storage existing on farm to be 5,462 m^3. This is based on the effluent pond dimensions of 51.7m x 51.6m x 3.5m, with a 2:1 batter.

Discharge Permit (AUTH-20211674-01) at Condition 15 requires between 5,563 m^3 and 7,035 m^3 storage capacity. The available storage on farm is greater than the 90th%ile recommended storage volume for the property, which was calculated by Rural Environmental Solutions to be 5,454 m^3, see **Appendix A**. The updated DairyNZ DESC demonstrates the capacity of the farms current effluent storage system is sufficient to accommodate the effluent generated from 550 cows on farm.

Effluent Irrigation

The applicant is proposing to increase the discharge area from 40 ha to total 189.7 ha (estimated with buffers applied) (Figure 9, and Appendix B).

Effluent is pumped via low-rate pods and/or low rate travelling rain gun, and an umbilical system, or a slurry tanker is used as and when.

The discharge permit authorises effluent discharge to 202 ha over the dairy farm, and the applicant currently

only uses 40 ha with the travelling raingun and/or pods.

On the ES Beacon website the soil classification for Dairy Farm Effluent on the property is predominantly Class B, being impeded drainage or low infiltration rate land and high risk. Ther are small strips of Category C land that clearly follows small creeks within the property which is not >7 degrees and will be buffered by the standard 20m discharge buffer.

The current discharge permit authorises effluent irrigation over the total property area. The applicant intends to continue using an umbilical or slurry tanker on farm, and on areas where the low-rate pods currently do not go. The proposed effluent discharge area is 189.7 ha, as shown in Figure 9 below.

See also Appendix B.

Figure 9: Updated effluent discharge area with buffers.

2.2.2 Water Permit for Stock Water and Dairy Operation

Water is abstracted for stock drinking water and dairy shed washdown by way of bore D45/0037 on the property.

The applicant is proposing to increase the daily water allowance to 140 L/cow/day, for 550 dairy cows and accommodate the water for associated young stock grazing, and other stock on farm. Furthermore, the seasonal allocation is proposed to be updated to reflect the proposed stock classes to be grazed on farm in future.

The proposed daily volume reflects the below stock numbers:

- Milking 550 dairy cows = 140 L/cow/day, comprising wash water for shed and stock drinking water
- 12 bulls = 54 L/cow/day (taken as a breeding bull, 600 kg +)
- 138 R1s = 41 L/cow/day (taken for a Friesian yearling)

Table 4: Water take for dairy operation activities.

Water Permit Details	
Permit no.	AUTH-20211674-02
Groundwater Zone	Upper Aparima
Bore	D45/0037
Location of point of take NZTM 2000	NZTM2000 1218882E 4900134N
Maximum rate of take	2 l/s
Maximum daily volume	Current = 66,600 L Proposed = 83,300 L
Maximum annual volume	Current = 21,379,500 L/year Proposed = 23,582,952 L/year (water for 550 cow dairy herd, bulls, and youngstock)

2.3 Compliance

Discharge Permits AUTH-20211674-01-V1

The consent holder has generally been fully compliant with discharge permit AUTH-20211674-01-V1, bar a non-compliance for no CAEMP review.

Water Permit AUTH-20211674-02

The consent holder has been generally fully compliant with the exception of an over abstraction in 2023.

3. ACTIVITY CLASSIFICATION

3.1 Consents Required

The following resource Consents are required under the Regional Water Plan for Southland, 2010 (RWPS) and the proposed Southland Water and Land Plan, 2018 (pSWLP).

Table 5: Consents required and applicable rules.

Consent	Plan	Rule	Activity Status
Land Use Consent –To use land for expanded dairy farming	PSWLP	20(c)	Restricted Discretionary
	NES-F	Regulation 18	Permitted 1 Jan 2025
Discharge Permit – to discharge agricultural effluent to land	PSWLP	35(c)	Discretionary
Water Permit – To abstract groundwater for stock drinking water and dairy shed washdown	RWPS	23(c)	Restricted Discretionary
	PSWLP	54(a)	Permitted
RWPS – Regional Water Plan PSWLP – Proposed Stoutland Water and Land Plan NES-F – National Environmental Standard for Freshwater			

Expanded dairy (pSWLP) - The applicant is proposing to increase the size of their dairy herd from 450 cows to 550, which is an increase compared to 3 June 2016. Furthermore, the applicant is proposing to add 57ha to their dairy platform, increasing this from 163ha to 220ha, which is an increase compared to 3 June 2016.

The applicant has prepared a resource consent application in line with Rule 20(b). An updated Farm Environmental Management Plan has been prepared, and that is in a draft format and ready to be certified in in accordance with Appendix N. Furthermore, an assessment that shows that the risk of nitrogen, phosphorus, sediment and microbiological contaminants being discharged from the landholding will be no greater than the risk of contaminant discharge which was lawfully discharged on average for the five years prior to the application being made is included. Unfortunately, there is not 5 years of representative data but we understand the method followed (described later) meets Council's current expectations for a restricted discretionary activity classification.

Therefore, under the pSWLP, the proposed dairy expansion is a **restricted discretionary** activity.

Effluent Discharge (pSWLP) - The applicant is proposing to discharge agricultural effluent via the existing low-rate land disposal system (primary) with available use for umbilical and slurry as contingencies. An increase in the disposal area is proposed. As an increase in cows is proposed, the appropriate rule is Rule 35(c) as a **discretionary** activity. The discharge is not within 20m of a lake, river, artificial watercourse, modified watercourse, natural wetland, 200 metres of any place of assembly or dwelling not on the same landholding, or 20 metres of the boundary of any other landholding, the discharge is not within 100 metres of any authorised water abstraction point.

Water Abstraction - The proposed abstraction of groundwater is a **restricted discretionary** activity under the RWPS, as the take is from a terrace aquifer where the total volume of water allocated is less than 25% of mean annual land surface recharge (2% as at 16th of July 2024).

Under the pSWLP, the proposed daily rate of take is 83,306 L/day and is less than the permitted activity

threshold of 86 m^3/day, therefore the abstraction is a **permitted activity**.

Bundling

Overall, the proposal is 'bundled' to be treated as a **discretionary activity**.

3.2 Consents Not Required

In accordance with Schedule 4 of the RMA, an application must describe and demonstrate compliance with any permitted activity that is part of the proposal to which the application relates.

Table 6: Activities for which Consent is Not Required.

Activity	Plan and Rule	Compliance with the relevant permitted rules of the RWPS and PSWLP
Use of land for the maintenance and use of an existing agricultural effluent storage facility	PSWLP Rule 32D	The use of land for the maintenance and use of the existing agricultural storage facility (includes tanks, weeping walls, sumps and stone traps etc) is a permitted activity where the pond is synthetically lined, has a leak detection system and has been pond drop tested in the last 10 years or was authorised by a resource consent. The pond was authorised by LUC AUTH-31200, is synthetically lined and has a leak detection system. The sludge beds have been visually assessed in the past three years and will be visually assessed for any visible defects that could cause leakage.
Incidental discharges from effluent storage facilities	PSWLP Rule 32E	The pond has a leak detection system and so the pond complies with Rule 32E, as per the direction provided by Rule 32D.
Incidental discharges from farming	PSWLP Rule 24	The land use associated with this discharge will be authorised under PSWLP Rule 20.
Fertiliser	PSWLP Rule 14	All practicable measures will be taken to minimise fertiliser drift beyond the target areas. Fertiliser will be applied to selected areas of the farm in accordance with nutrient budget recommendations, and soil tests to avoid excess leaching of nutrients to groundwater. Fertiliser will be applied when a soil water deficit exists, and all waterways will have riparian margins with stock excluded.
Silage storage and silage leachate	PSWLP Rules 40 & 41	Any/all silage storage facilities meet these requirements.
Sludge	PSWLP Rule 38	Solid sludge effluent collected from the weeping walls, silage pad bunkers, and effluent pond and will be allowed to dry before applying to land when conditions are suitable, observing appropriate separation distances, and there will be no disposal of solids to any waterway.
Cleanfill, Farm Landfills and Offal Holes	PSWLP Rules 42 & 43	No more than 500 m^3 of material will be discharged within cleanfill sites. Stormwater will be directed away from fill areas and no unauthorised material will be placed into proposed fill areas. No naturally formed limestone rock is known to reside within the property. Excavation of fill holes do not intercept springs and are not below the seasonal mean groundwater level in that location. Sensitive areas can be easily avoided when undertaking these associated activities.
Drainage of Land (Rule 9 RWPS & Rule	PSWLP Rule 13	It is not anticipated that any discharge from subsurface drains would result in a conspicuous change to the colour and/or clarity of the receiving waters at a

Activity	Plan and Rule	Compliance with the relevant permitted rules of the RWPS and PSWLP
13 pSWLP)		distance of 20 metres from the point of discharge. The proposed good management practices will significantly reduce the likelihood of any contaminants reaching the subsurface drains.
Intensive Winter Grazing	PSWLP Rule 20A	The applicant intends to not undertake any intensive winter grazing in future.
Pasture based winter grazing.	PSWLP Rule 20B	If pasture based wintering is undertaken, the required 10m buffer to waterways on slopes <10 degrees, and 20m buffers on land with slope >10 degrees, will be maintained, and key CSAs have been identified in the FEMP and stock will be excluded, ground cover is established as soon as reasonably practical after grazing, back fencing and down slope grazing is undertaken.
Use land for feed pad	PSWLP Rule 35A	The existing self-fed silage feed pad and the yet to be build second feed pad are authorised under AUTH-20233661 which does not expire until 31 May 2034 and the applicant is not seeking to replace this consent, as no changes are sought.

3.2.1 National Environmental Standards for Freshwater

The Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (referred to here as the NESF). The NESF regulates activities that pose risks to the health of freshwater and freshwater ecosystems.

There is no irrigation of dairy farm land, and the application of synthetic nitrogen complies with the 190 kg/ha/year cap.

The applicant is proposing to use more than an additional 10ha of land within the landholding at this site for dairy farm land (220 ha) which currently requires consent under Regulation 18 of the NESF, however a future commencement is sought for the Land Use Consent of 2 January 2025 (or this will not be required, depending of date of granting). The proposed increase of 57 ha to the dairy platform by converting sheep land will not require a resource consent under Regulation 18 of the NESF which is set to be revoked 1 January 2025.

Therefore, the proposed condition below would ensure the activities remain permitted under the NESF.

> *X. The use of land for farming shall occur on the landholding at 237 Sinclair Road, as shown on the plan attached as Appendix 1, and consisting of:*
>
> > *(a) an existing block of land at or about map reference (NZTM 2000) 1218930E 4900185N and comprising of Section 152 Wairio SD and Section 153 Wairio SD; and*
> > *(b) a new block of land at or about map reference (NZTM 2000) 1218505E 4898850N and comprising of Section 153 Wairio SD and Lot 1 DP 6203 or any subsequent legal description resulting from subdivision.*
>
> *XX. The farming authorised under Condition X shall not be undertaken until 2 January 2025 at the earliest.*

4. DESCRIPTION OF EXISTING ENVIRONMENT

4.1 Farm Environment Summary

Land Use, Topography and Climate			
Land Use	Other dairy farms, sheep and beef, and rural dwellings.		
Topography and Slope	170-180 m above mean sea level; Flat topography		
Physiographic Zones and Soils			
Soils	Soil vulnerability factors		
	Structural Compaction	Leaching	Waterlogging
Makarewa	Moderate	Slight	Severe
Aparima	Moderate	Moderate	Moderate
FDE land classification	B – Impeded drainage or low infiltration rate C – Sloping land >7 degrees		
Physiographic Zones	Gleyed (97%); Central Plains (3%)		
Contaminant Pathways	Deep drainage, artificial drainage and overland flow		
Hydrology and Water Quality			
FDE risk - groundwater	Moderate - high		
FDE risk - surface water	Moderate - high		
Freshwater Management Unit	Aparima		
Surface Waterways on farm	Aparima River tributaries		
Water Quality pSWLP	Schedule X – degraded catchment for MCI, E. coli, sediment and TN		
Groundwater Management Zone	Upper Aparima		
Groundwater Estimated TON	4.0 – 4.2 mg/l at 7 m below ground level		
Estuary	Jacobs River Estuary		
Swimmability	There are no toxic algae alerts in the Aparima River catchment. The property is 38 km upstream of the Aparima River at Thornbury bridge popular bathing site as per Appendix G of the PSWLP.		
Drinking water supplies	The activity is 10 km upstream of the Otautau registered drinking-water supply that provides water to more than 501 people.		
Instream values	The Macroinvertebrate Community Index (MCI) is 83.3 for the Aparima River according to LAWA for the 5-year median. The score of 83.3 is below the national bottom line MCI score of 90, and in Band D which has a Macroinvertebrate community indicative of severe organic pollution or nutrient enrichment.		

4.2 Soils and Physiographic Zone

4.2.1 Soils

Makarewa soils are poorly drained soils, with a deep rooting depth and moderately high water holding capacity. The slow subsoil permeability and poor aeration during wet periods due to poor drainage can limit the rooting depth. These soils have a moderate vulnerability to structural degradation, slight nutrient leaching to groundwater and severe vulnerability to waterlogging during wet periods.

Aparima soils are imperfectly drained with slow permeability through the fragipan, slightly deep rooting depth, moderately high to high plant available water, and have heavy silt loam textures. They have moderate susceptibility to structural compaction, waterlogging and nutrient leaching to groundwater.

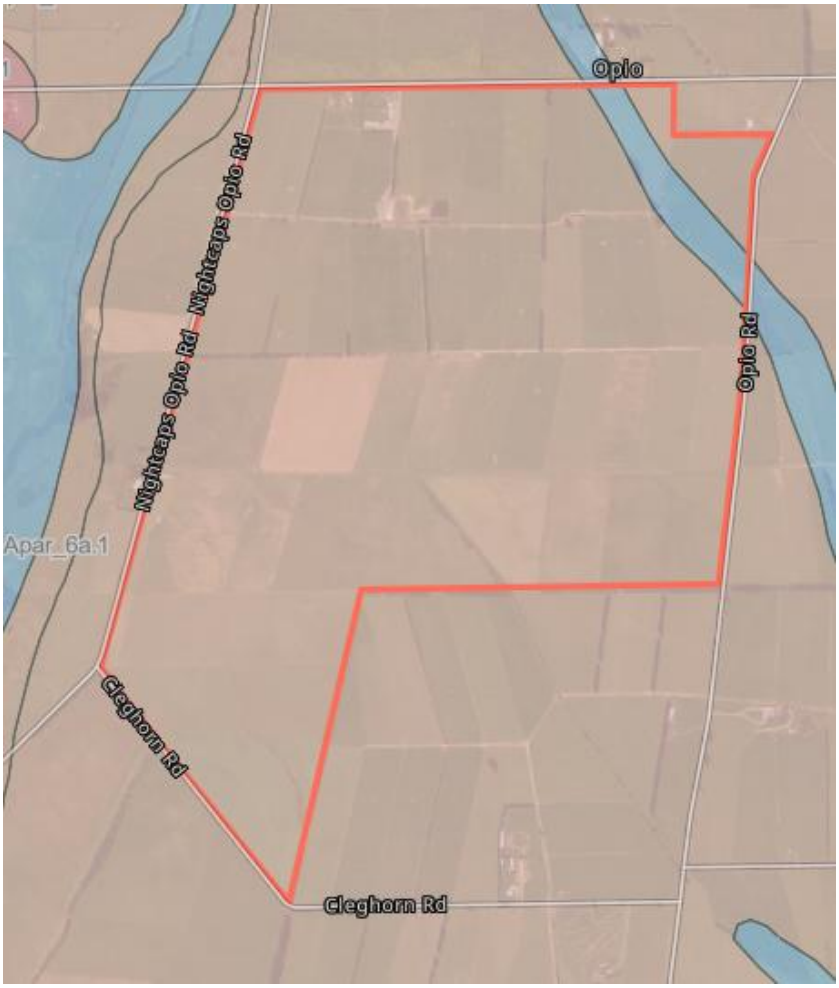

Figure 10: Environment Southland Topoclimate Soils. (Source Data: Beacon).

4.2.2 Physiographic Zones

The predominant Physiographic Zone present on the property is Gleyed, with overland flow being the major contaminant loss pathway for this zone. GMP's and mitigations related to the overland flow contaminant loss pathway on the property are contained within the FEMP (see Appendix C). There is a small area (5.6 ha) of Central Plains located in the north east end of the farm. Based on the risks associated with the physiographic zones, there is a lower risk of nitrate leaching on the property.

Figure 11: Environment Southland Physiographic Zone (Source Data: Beacon).

4.3 Water Quality Receiving Environment

4.3.1 Groundwater

The landholding sits over the Upper Aparima Groundwater zone which encompasses the Aparima River catchment upstream of Otautau. The water quality is generally good, but many areas now show moderate to high levels of contamination from land use activities. Groundwater generally contains low concentrations of dissolved ions. Hardness is low. Iron concentrations are generally low but elevated concentrations occur in places. Nitrate concentrations are variable. They are generally high in the east of the zone adjacent to the Aparima River, and lower in the west where reducing conditions are more prevalent.

The general state and trend of groundwater quality within 5 km of the applicant's farm is summarised in Table 7. There are 61 bores located within a 5 km radius from the applicant's farm bore D45/0037; 31 have water quality data; however, only 6 of these bores have been sampled more than once. The applicant's bore has been sampled once in 1998 and had a reported nitrate-nitrogen concentration of 0.95 mg/L.

Within a 5 km radius bore uses vary from dairy operation and stock supply, domestic supply, geological research and groundwater quality monitoring.

Table 7: Summary of median water quality data for bores within a 5 km radius of the applicant's abstraction bore.

	Date of data collection	Nitrogen - Nitrate (mg L^{-1})	TON (mg L^{-1}) nitrite nitrogen+ nitrate nitrogen	Total Ammoniacal-N (mg L^{-1})	Dissolved Reactive Phosphorus (mg L^{-1})
All bores within 5 km of D45/0037 (median of all data from all bores)	1998-2024	5.28	8.88	0.26	0.02
CE09/0017 (n = 9)	2006-2014	0.68	-	-	-
E45/0088 (n = 57)	2002-2014	3.86	4.1	0.026	0.012
E45/0195 (n = 18)	2014-2024	7.41	7.61	-	-
E45/0210 (n = 24)	2009-2023	13.59	13.53	-	0.007
E45/0667 (n = 14)	2017-2024	3.49	-	0.012	0.043
E45/0783 (n = 11)	2018-2024	4.46	-	0.032	0.004
E45/0789 (n = 10)	2019-2024	1.087	-	-	0.006

The results of groundwater monitoring of the bores included within Table 7 show levels of Nitrate-Nitrogen are less than the New Zealand Drinking Water Standards limit of 11.3 mg/L with the exception of bore E45/0210 which is located over 4km north of the applicant's property.

4.3.2 Surface Water

The farm is located within the Aparima Freshwater Management Unit (FMU), and the Aparima Surface Water Management Zone.

Land Air Water Aotearoa (LAWA) provides information on water quality that compares median monitoring data for the last five years at a site with other sites of similar land use and altitude around the country, and against the National Objectives Framework (NOF) within the National Policy Statement for Freshwater Management (NPSFM). The nearest State of the Environment (SOE) monitoring site to the property is the Aparima River at Thornbury, which is located approximately 38 km south of the property.

Table 8: Summary of State and Trend of water quality for the Aparima River at Thornbury, LAWA SOE monitoring site.

LAWA WQ Indicators	State	NOF Band	5-year Median	LAWA 5-year Trend
E. Coli	In the worst 50% of all sites	D – 20- 30% of the time, the estimated risk is >=50 in 1000 (>5% risk). The predicted average infection risk is >3%.	220 (n/100ml)	Very likely degrading
Clarity	In the best 50% of all sites	N/A	1.92 (m)	Indeterminate
Nitrate-nitrogen	In the worst 25% of	B – Some growth effect	0.77 (mg/L)	Very likely improving

	all sites	on up to 5% of species.		
Ammoniacal N	In the best 25% of all sites	A – 99% species protection level: No observed effect on any species tested.	0.005 (mg/L)	Likely degrading
Dissolved Reactive P (DRP)	In the best 50% of all sites	B – Ecological communities are slightly impacted by minor DRP elevation above natural reference conditions. If other conditions also favour eutrophication, sensitive ecosystems may experience additional algal and plant growth, loss of sensitive macroinvertebrate and fish taxa, and high rates of respiration and decay.	0.007 (mg/L)	Likely improving

4.4 Estuary

Streams running through the applicant's property ultimately run into the Jacobs River Estuary at Riverton. Jacobs River Estuary is a medium sized "tidal lagoon" type estuary that drains the Aparima and Pourakino Rivers. The estuary is shallow (mean depth approximately 2 metres) and has extensive mudflats (80% of estuary exposed at low tide), seagrass and saltmarsh areas. Nuisance blooms of macroalgae (*Enteromorpha* and *Gracilaria*) are common with the water often having a greenish tinge. Water quality is moderately to highly degraded (low clarity, elevated faecal coliforms, elevated nutrients) with sedimentation resulting in areas of soft muds that are often poor in oxygen with elevated sulphide concentrations. Several very eutrophic arms tend to collect organic matter and nitrogen (the major driver of eutrophication) loads are moderate[1].

A coastal risk assessment undertaken by Wriggle Coastal Management in 2008 shows that while eutrophication and sedimentation are an issue in the estuary, overall vulnerability, and susceptibility ranges from very low to very good, as shown in Table 9.

Table 9: Water Quality Risk assessment for Jacobs River Estuary. Source: Wriggle Coastal Management, 2008.

	Existing Condition Rating	*Susceptibility Rating*	*Vulnerability Rating*
Sedimentation	Fair	Low	Moderate
Eutrophication	Fair	Low	Moderate

[1] Wriggle Coastal Management, 2008. *Southland Coast Te Waewae Bay to the Catlins: Habitat mapping, risk assessment and monitoring recommendations.* Prepared for Environment Southland, August 2008.

Disease Risk	Good	Low	Low
Contaminants	Very Good	Very Low	Very Low
Habitat Loss	Fair	Low	Moderate
Invaders	Good	Low	Low
Shellfish	Good	Very Low	Very Low

The Jacobs River Estuary is approximately 42 km downstream of the applicant's site.

4.5 Cultural Values

Ngai Tahu has a strong association with the Aparima River and Schedule 15 of the Ngāi Tahu Claims Settlement Act 1998 details the Statutory Acknowledgement Area for the Aparima River. The Aparima River was an important source of mahinga kai, in particular tuna. The tūpuna had considerable knowledge of whakapapa, traditional trails and tauranga waka (landing places), places for gathering kai and other taonga, ways in which to use the resources of the Aparima, the relationship of people with the river and their dependence on it, and tikanga for the proper and sustainable utilisation of resources. The river was an integral part of a network of trails which were used in order to ensure the safest journey and incorporated locations along the way that were identified for activities including camping overnight and gathering kai. Knowledge of these trails continues to be held by whānau and hapū and is regarded as a taonga. The traditional mobile lifestyle of the people led to their dependence on the resources of the river. The mouth of the Aparima was a tauranga waka, from which sea voyages were launched to and from a variety of locations in and around Te Ara a Kiwa (Foveaux Strait), Rakiura and the tītī islands. All of these values remain important to Ngāi Tahu today.

Te Tangi a Tauira – The Cry of the People is the Natural Resource and Environmental Iwi Management Plan developed by Ngāi Tahu ki Murihiku for the Southland region and discussed further in later sections of this report.

5. NON-NOTIFICATION & CONSULTATION

A consent authority has the discretion whether to publicly notify an application unless a rule or National Environmental Standard (NES) precludes public notification (in which case the consent authority must not publicly notify) or section 95A(2) applies.

The AEE included within this report demonstrates that the effects of the activities will be no more than minor.

There are no rules or NES' which require the public notification of the application. In addition, there are no special circumstances relating to the application.

Clause 6(1)(f) of Schedule 4 of the RMA requires the identification of, and any consultation undertaken with, persons affected by the activity. We consider that the evidence on adverse effects would justify non-notification or limited notification to Te Ao Marama Inc. However, the applicant appreciates there is public interest in applications of this nature and understands that Environment Southland has indicated that such

applications (additional dairy platform land and additional cows) should be publicly notified. **Therefore, to enhance the efficiency of the process, as the proposal is for expanded dairy activities, including additional land and cows, the applicant requests public notification.**

Prior to submitting the application, the applicant advised Te Ao Marama Inc and is in the process of endeavouring to obtain feedback on any concerns that might exist for the current proposal.

We anticipate that the mitigations proposed as part of this proposal will address any concerns relating to water quality, managing critical source areas and minor land use intensification.

6. ASSESSMENT OF ENVIRONMENTAL EFFECTS

In addition to the application being made in the prescribed forms and manner, Section 88 of the RMA also requires that every application for consent includes an assessment of the effects of the activity on the environment as set out in Schedule 4 of the RMA.

6.1 Assessment of Alternatives

Schedule 4 of the RMA requires that an assessment of environmental effects must include a description of any possible alternative locations or methods for undertaking the activity if it is likely that the activity will result in any significant adverse effect on the environment and/or if the activity includes the discharge of contaminants.

Dairy Farming/Expansion

Realigning the farm boundaries provides land that is better suited to dairy farming closer to the existing dairy shed and other infrastructure, with reduced time spent walking on laneways, no longer needing to cross the Nightcaps Opio Road, which in turn has environmental and animal welfare benefits. Bringing in the new land has environmental, strategic business, and animal welfare benefits, and the applicant intends to have better control over their activities occurring on farm, including the growing of feed as supplements and grazing of youngstock.

Method of Discharge

Deferred irrigation methods will be utilised on the property to ensure that effluent is only applied when conditions are suitable. Detention in the effluent pond also provides some level of treatment to the effluent before it is applied to land. Alternative methods may include direct discharge of the effluent to land on an as-required basis, regardless of the conditions. This would likely result in over-saturation of soils, ponding, overland flow and/or excessive leaching of contaminants, all of which can lead to significant adverse environmental effects. There are no other practicable environmentally acceptable alternatives to applying FDE to land.

Receiving Environment

Discharging effluent to land, if conducted appropriately, enables the reuse of a waste product as a soil

conditioner and provides nutrients for plant growth. Attenuation of contaminants cannot occur if effluent is discharged directly to water and is therefore considered unsuitable. Direct discharge to water would almost certainly be more detrimental to the receiving environment than discharging to land. Overall, the proposed discharge methods and receiving environment are the most suitable for managing the FDE generated on the farm.

6.2 Discharge of Agricultural Effluent

6.2.1 Effluent Application Area, Rate and Timing

The applicant intends to use the existing land disposal system (low-rate pods or equivalent low-rate irrigation system and travelling raingun) and use a slurry tanker and/or umbilical system as and when needed.

The applicant does not propose to change the current maximum application rate/depths, as set out in the current consent.

The discharge authorised by this consent shall not exceed the following rates at any time:

a) a depth of 25 mm at a rate of 10 mm/hour for low rate pods and traveling raingun;
b) a depth of 10 mm at a rate of 10 mm/hour for low rate pods and travelling raingun on Category C land;
c) a depth of 10 mm via an umbilical system;
d) a depth of 5 mm via a slurry tanker.

Furthermore, the applicant is proposing a maximum loading rate of nitrogen onto any land area as a result of the exercise of this consent shall not exceed 150 kilograms of nitrogen per hectare per year, and a minimum return period for the discharge of effluent to land of 28 days.

The applicant proposes to utilise the entire property area, and land on the new block for spreading effluent as organic fertiliser. Effluent is a valuable source of organic nutrients.

DairyNZ's guidelines '*A Farmer's Guide to Managing Farm Dairy Effluent – A Good Practice Guide for Land Application Systems*' indicates that for FDE classification Type B and C land that the existing discharge methods (depths and rates) are appropriate.

	1. High risk soils for effluent management			2. Low risk soils for effluent management	
Category	**A**	**B**	**C**	**D**	**E**
Soil and landscape feature	Artificial drainage or coarse soil structure	Impeded drainage or low infiltration rate	Sloping land (>7°) or land with hump & hollow drainage	Well drained flat land (<7°)	Other well drained but very light flat land (<7°)
Risk	High	High	High	Low	Low
Application depth (mm)	< SWD[1]	< SWD	< SWD	< 50% of PAW[2]	≤ 10 mm & < 50% of PAW[2]
Storage requirement	Apply only when SWD exists	Apply only when SWD exists	Apply only when SWD exists	24 hours drainage post saturation	24 hours drainage post saturation
Max depth: High rate tool	10 mm	10 mm	10 mm[3]	25 mm[4] (10 mm at field capacity)	10 mm
Max depth: Low rate tool	25 mm	25 mm	10 mm	25 mm	10 mm

[1] SWD is the soil water deficit
[2] PAW is the plant available water in the top 300 mm of soil
[3] Only applicable when instantaneous application rate from the irrigator is less than the infiltration rate
[4] Suggested maximum application depth when a suitable SWD exists (≥ 15 mm).

Figure 12: High risk and low risk soil classification as shown in DairyNZ's guidelines '*A Farmer's Guide to Managing Farm Dairy Effluent*'

The applicant's FEMP details the GMPs used to manage effluent storage and application.

The depth of application and assimilation in the topsoil will ensure that an appropriate separation distance to subsurface drains is maintained.

6.2.2 Storage

Storage on farm will remain unchanged from the system currently authorised by AUTH-20211674-01-V1.

An updated DESC calculation has been completed for the property. This DESC shows that there is sufficient storage on farm to increase the milking herd by 100 cows, and this DESC includes the second feed pad yet to be built. Overall, the 90th percentile storage requirement for the property is 5,454 m^3 and there is a total pond usable volume of 5,462 m^3, which is therefore adequate, although good management is essential for liquid effluent of this quantity.

6.2.3 Nutrient Loading & Disposal Area

Effluent calculations for the proposed system have been carried out using DESC (Appendix A) and indicate that the current farm system will produce around 15,570 m^3 of FDE per year. This equates to 82 m^3/ha/yr based on an irrigation area of 189.7 ha. Using DairyNZ (2010) guideline N concentration of FDE of 0.45 kg/m^3, this equates to an area loading of 36.9 kg N/ha/yr and equates to 25% of Environment Southland's (ES) recommended maximum areal rate of 150 kg N/ha/yr and is significantly less than the limit imposed by current consent conditions.

ES's recommended maximum areal rate of 150 kg N/ha/yr is supported by the 2009 report for Environment Southland by AgResearch[2] that recommended the maximum N load as a management criterion to avoid direct losses of land-applied FDE. Given that the proposed areal loading is a fraction of the limit recommended by AgResearch, land-applied FDE nitrogen leaching will be within acceptable limits.

FDE can be used as an organic fertiliser and nutrients are released more slowly than they are from inorganic fertilisers and this slow-release method reduces the risk of nutrient leaching. Overall, the effluent disposal system of the proposed system, as described above allows the effluent to be used as both a fertiliser and soil conditioner with a lower risk of nutrient leaching than inorganic fertilisers.

The proposed new effluent disposal area to 189.7 ha provides a disposal area to stock ratio of 34.5 ha/100cows for 550 cows. The increase in the disposal area provides an increase in the area available to receive effluent, spreading this further, and subsequently less loading of nitrogen from effluent per hectare on farm. Spreading this further allows the effluent to be used as organic fertiliser.

Furthermore, this is significantly greater than the recommendation of 4 ha/100 cows. The available disposal area is also greater than the minimum required in ES's Best Practice Guidelines, which is 8 ha/100 cows.

Effluent will not be applied within the following buffer zones:

- 20 m of any surface watercourse
- 100 m of any authorised water abstraction point
- 20 m to any landholding boundary; and
- 200 m of any residential dwelling on a neighbouring property

There are no other sensitive receptors that require separation measures to be implemented. Provided that these buffers zones are maintained, there would be no significant adverse effects resulting from effluent disposal.

6.2.4 Effects on Water Quality from FDE Disposal

As the applicant will adhere to the buffer zones, the increase in the disposal of effluent to a larger area would very likely result in a reduction of adverse effects on groundwater quality in the vicinity of the property, with less effluent applied per hectare on average. The buffer zones ensure that any overland movement of contaminants is minimised.

It is unlikely the dominant contaminant pathway of concern on the property is deep drainage, this is consistent with the most probable pathway being overland flow consistent with the gleyed physiographic zone present on the property.

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[2] Houlbrooke, D J, Monaghan R M, *The influence of soil drainage characteristics on contaminant leakage risk associated with the land application of farm dairy effluent*, 2009, AgResearch Ltd

In order to avoid indirect losses of contaminants, for example to surface water or groundwater total loading to an area (i.e., kg N/ha/yar from effluent), the timing between applications, and the time of year for application, are the main drivers for the risk of indirect losses over time, and subsequently this is controlled by having a total N loading per hectare as a condition of consent, as a first point of call, and a 28-day return period.

Through consent limit and controls, and ensuring effluent is only applied when conditions are suitable, minimises the risk of groundwater contamination.

Therefore, it is highly unlikely that there would be any significant adverse effects associated with nutrient losses from the proposed discharge of effluent from 550 cows over a larger area.

6.2.5 Odour

The physical location of the effluent infrastructure coupled with the proposed application methods and effluent discharge buffers means there is no significant risk of adverse effects from odour from any spray drift (when using these methods) on surrounding landowners and occupiers. As such, the effects of odour are avoided.

The proposed 189.7 ha of new disposal area will accommodate buffers to dwelling, roads and property boundaries, see Figure 9.

6.2.6 Contingency Plans

A slurry tanker and the umbilical may be used at certain times if the usual methods of effluent discharge are under repair or if conditions allow for more effluent to be applied than the usual system is capable of conveying. Any discharges from the slurry tanker must adhere to the rate and depth limits imposed on the consent.

6.3 Abstraction of Groundwater

6.3.1 Allocation

The applicant's existing abstraction represents a negligible portion of the allocation of the Upper Aparima GWM Zone. Therefore, there will be less than minor impacts on current allocation volumes.

The application seeks consent to abstract groundwater at a maximum rate of 83,306 litres per day and at a maximum seasonal allocation limit of 23,582,952 L/year. The daily rate equates to a total of 140 litres/cow/day for dairy cows, plus an inclusion for the grazing of other stock classes, and 120 litres/cow/day for dairy cows annual on average plus the allowances for other stock classes.

Table 10 summarises the current allocation status of the groundwater management zone which includes the applicant's current water take and use.

On this basis, the proposed abstraction is within primary allocations limits.

Table 10: Summary of groundwater zone allocation - Aquifer allocation as of July 2024.

	RWPS	PSWLP
Discretionary Allocation Limit	93,000,000 m^3/year	56,930,000 m^3/year
Currently Allocated	2,914,845 m^3/year	5,386,514 m^3/year
Currently Allocated (% of Discretionary Allocation Limit)	3%	9.5 %

6.3.2 Stream Depletion and Interference Effects

Policy 29 in the RWPS and Policy 23 of the pSWLP requires a stream depletion assessment when the daily average rate of take is more than 2 L/s because takes less than this are expected to have a minor effect on stream flows. As the proposed take is 83,306 L/day, over 24 hours of pumping the rate of take is less than 2 L/s and therefore does not require a stream depletion assessment.

Significant interference effects on neighbouring bores are not expected. Given that the average rate of take is relatively low, it is unlikely that the radius of interference would affect any of these bores.

6.3.3 Effects on Groundwater Quality

The low rate of take is highly unlikely to result in the drawdown of contaminants from the upper soil profiles adjacent to D45/0037 (housed in a shed and stock excluded) and so the proposed abstraction is not expected to have any adverse effects in terms of groundwater quality. The applicant confirms that the bore head casing on the bore is adequately sealed.

Figure 13: Photos of Bore taken from FEMP.

6.3.4 Efficiency of Use & Monitoring

The proposed rate of take is estimated at 140 L/cow/day, which is consistent with Council's recommendations.

The seasonal allocation is 23,582,952 L/year and equivalent to 120 L/cow/day for the milking herd for a full season, this being the average annual volume based on industry best standards, and the water required for bulls in December and January and dairy young stock from August to November.

Peak daily demand =

- 550 cows x 140 L/cow/day = 77,000 L/day
- 12 bulls x 54 L/bull/day = 648 L/day
- 138 heifers x 41 L/heifer/day = 5,658 L/day
- **83,306 L/day**

Seasonal Allocation =

- 550 cows x 120 L/cow/day x 320 days (milking season) = 21,120,000 L/year
- 550 cows x 70 L/cow/day x 45 days (winter) = 1,732,500 L/year
- 12 bulls x 54 L/bull/day x 62 days (Dec & Jan) = 40,176 L/year
- 138 heifers x 41 L/heifer x 122 days (Aug - Nov) = 690,276 L/year
- **23,582,952 L/year**

The applicant intends to continue monitoring abstraction from D45/0037 to ensure the rate of take is not more than what is proposed as part of this application. Water use data is recorded monthly and sent to the Regional Council annually.

6.4 Land Use Consent for Farming

This assessment of environmental effects (AEE) describes the risks to the environment resulting from the proposal to incorporate the new block into their landholding with an increase in cow numbers, and overall increase in dairy platform area of 57 ha within the overall 220 ha landholding.

The following considers the specific surface water quality issues in the existing receiving environment at the nearest monitoring sites. It looks at the property scale, and the likely contaminant pathways that may impact any water quality issues identified. Any potential water quality issue is considered relative to the proposal, including farm system changes proposed, OverseerFM nutrient budgets, GMPs and mitigations, including their effectiveness and appropriateness, and the contribution that these measures would provide to water quality improvements at the catchment scale.

6.4.1 OverseerFM Modelling

OverseerFM modelling using Version 6.5.6 has been included to support this application. See Appendix D. OverseerFM has been used to model the farm system to estimate nutrient outputs associated with the proposed dairy farm expansion. Nutrient inputs have been carefully considered to ensure viable farm systems are modelled.

The OverseerFM nutrient budgets have been prepared by Lee Baldwin who is a Certified Nutrient Management Adviser (CNMA). The nutrient budgets were independently reviewed by Miranda Hunter (CNMA) of Roslin Consultancy Ltd.

Table11: Summary nutrient budgets.

Nutrient	*Opio Dairy current*	*Sheep & beef current*	*Revised total baseline**	*Proposed scenario*	*% Difference*
Total N Loss	11,604	603	9,910	7,620	-23% decrease

(kg/year)					
Nitrogen loss (kg/ha/yr)	50	19	46	35	-24% decrease
Total P Loss (kg/year)	235	22	217	208	-4% decrease
Phosphorus loss (kg/ha/yr)	1.0	0.7	1.0	0.96	-4% decrease

**Revised total baseline is Opio dairy platform plus the sheep and beef block with the 22ha and 16ha blocks removed from dairy platform*

The applicant has a Tiaki Farm Environmental Management Plan (FEMP) prepared by Fonterra in accordance with Appendix N. The FEMP has not been certified at this stage and the applicant requests a consent condition requiring the FEMP be certified within 12 months of the consent being granted. This date should coincide with the Aparima catchment certified deadline, which has currently been paused by the Government until system improvements are finalised[3]. The FEMP manages potential environmental effects associated with the farming activity and contains details of Good Management Practices (GMPs) adopted by the applicant to ensure that the farm is operated in accordance with industry accepted and promoted good practice, as well as mitigation actions to minimise the losses of contaminants from the existing farming activity.

6.4.2 Mitigations and GMPs

OverseerFM estimates what the losses of N and P to water will be, but not what the potential or actual effects of that loss on water quality would be. OverseerFM does not predict transformation, attenuation or dilution of nutrient between the root zone and the farm boundary. The effects of the proposal on water quality are assessed in this section.

The contaminants of concern are N, P and sediment and microbiological contaminants. These contaminants and their potential adverse effects are outlined below:

- **Nitrogen (N) and phosphorus (P)** (nutrients) are needed by plants for growth but when the concentrations of nutrients in water are high, they can result in excessive growth of plants, e.g., periphyton, macrophytes and phytoplankton. High concentrations of nitrate in water can make it unsafe to drink for humans and can be toxic for sensitive organisms (like young trout and salmon). Ammonia at sufficiently high concentrations can be highly toxic to fish and other aquatic organisms that live in water.
- **Sediment** (as indicated by water clarity) refers to particles or eroded soil and rock. Sediment is also a major source of phosphorus because phosphorus sticks to the surface of soil particles carried to water. When erosion rates are excessive, sediment can smother stream and estuary bed macroinvertebrates and can damage the gills of fish. Finer sediment suspended in water can also reduce light penetration (visibility) which plants need to grow and some creatures need to find food.

[3] https://www.beehive.govt.nz/release/government-pause-freshwater-farm-plan-rollout

- **Faecal indicator micro-organisms** (indicators of microbial pathogens) which can have a detrimental effect on human and animal health, particularly when ingested. The main source of pathogens in fresh water in New Zealand are human sewage and animal manure[4].

Assessing the environmental impact of modelled nutrient losses from a property is complex because these nutrients travel via a number of different pathways through the receiving environment undergoing attenuation, mixing, dilution and dispersion processes which can significantly affect the loading and concentrations that result in the receiving water bodies.

A combination of the farm system changes, and mitigation measures as demonstrated by the nutrient modelling undertaken, and developing a riparian planting plan, will result in significantly less nutrients making their way into water bodies which will make a contribution to improving the quality of groundwater and surface water with a reduction in the load of nutrients leaving the farm boundary, and expected improvement in water quality and the concentration of contaminants.

Mitigations included within the OverseerFM model are:

- Removal of sheep and beef cattle
- Remove intensive winter grazing
- 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

The nutrient budget report expands on all the key drivers of nitrogen and phosphorus.

In addition to the mitigations included within the OverseerFM model, and considering the Government's Science Advisory Panel's review[5] of the effectiveness of Overseer in assessing and predicting farm-scale nitrogen losses, other mitigations are proposed: These are:

- Within 12 months of consent 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.
- Slope dairy lane away from surface waterway – See section L5 (page 31) of the FEMP in Appendix C.

[4] Parliamentary Commissioner for the Environment, 2012. *Water quality in New Zealand: Understanding the science.* New Zealand Government, Wellington. 76p.

[5] Ministry of Primary Industries and Ministry for the Environment, 2021. *Overseer whole-model review*. https://www.mpi.govt.nz/dmsdocument/46360-Overseer-whole-model-review-Assessment-of-the-model-approach

Table 12 expands on the mitigations proposed and the mitigation efficiencies/expected outcomes.

Table 12: Summary of mitigations proposed, the purpose and expected outcome.

Mitigations that address Water Quality	Included in Overseer or not.	Purpose & Outcome
1. Wintering cows on pads instead of crop	Rewarded in Overseer	The benefits of wintering cows on self-fed silage pads, as opposed to intensive winter grazing, include reducing the amount of pugging and compaction of wet soils stock cause, which reduces water infiltration and increases the amount of contaminant losses via overland flow. The effluent, sediment and nutrients collected on the pads can be stored and the discharge to land controlled and timed to when weather and soils conditions are appropriate.
2. Riparian Buffer and Plantings	Not rewarded in Overseer	Riparian planting is proposed in 2026 (along the 250m unnamed tributary of the Aparima River). This will further reduce the potential for contaminants to be lost to surface waterways, through increasing water infiltration rate as the plants physically hinder overland flow, allowing P and sediment to settle out of overland flow before entering the surface waterway. The proposed plantings will also take up nutrients as they grow, which also reduces the amount of contaminants lost to water.
3. Laneway improvements	Not rewarded in Overseer	Research has shown that laneways that are used frequently and associated with stock crossing/bridges, can be responsible for large amounts of P loss on farms. The applicant is proposing to slope the high use laneway to the east of the dairy shed away from the adjacent surface waterway to ensure runoff from the laneway is directed to land – NZTM 2000 1219352N 4900082E - 1219575E 4900101N. Doing this ensures that storm water runoff will be redirected through vegetated areas to allow for filtering. The improvements in laneway management will further mitigate losses of P. Research has shown that vegetated buffer strips can reduce P losses by 38 – 58%.
4. Targeting optimum Olsen P and applying fertiliser to maintenance.	Included in Overseer	Testing soil regularly and managing P fertiliser application to ensure Olsen P levels are within the optimum range minimises the potential for P to be lost to water. Excess phosphorus in water can cause rapid weed growth or algal blooms which can choke aquatic life and cause long-term damage to the health of a waterbody/overall Hauora and mahinga kai species. Reducing the amount of P fertiliser used, minimises the loss of P from the farm to water and will minimise excessive weed growth allowing for mahinga kai sites to be protected from weed, ensuring mahinga kai is safe to eat. The applicants propose to target an Olsen P property average of 30 (average of 35 on current dairy platform, and 16 assumed for new block).

The OverseerFM modelling indicates an improvement in N and P losses to water is likely to occur. Sediment and microbiological contaminants are not modelled within OverseerFM so attempting to demonstrate a reduction in the annual amount of sediment and microbiological contaminants in the proposed scenario compared to the amount which has been lawfully discharged on average over the previous five years is challenging. P loss modelling can be used as a proxy for sediment and microbiological contaminant losses. 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 4%. This is particularly important considering the farm is located in a degraded catchment for sediment and E. coli according to Schedule X.

6.5 Effects on Statutory Acknowledgement Area

The Aparima River is a Statutory Acknowledgement Area under the Ngāi Tahu Settlement Act 1998 due to its tribal significance. Iwi planning documents are not statutory instruments, but they do have statutory weight under the RMA in relation to the plan preparation process. The RPS must take into account any relevant planning document recognised by an iwi authority; however, iwi management plans retain their ability to address concepts from a Māori paradigm without constraint from the RMA.

The dairy farm is located within the Aparima River catchment, and the Aparima Freshwater Management Unit. Schedule 15 of the Ngāi Tahu Claims Settlement, 1998, Sections 205 and 206 apply.

A cultural policies assessment and effects on cultural values is considered elsewhere in this report, refer to Section 7.2.

6.6 Cumulative Effects

As described above, the proposal is very likely to achieve a reduction in annual N and P loss, and sediment and microorganisms, to water as indicated by OverseerFM modelling and the mitigations proposed that directly minimise the effects of overland flow and leaching of the of contaminants 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 in water quality mitigation measures and the ongoing restriction on the applicants' operation in accordance with the nutrient management mitigation proposed will give certainty that water quality will be improved in the long term.

6.7 Positive effects

The continuation of dairy farming will contribute significantly to the social and economic wellbeing of the local and regional community. Animal welfare will also be improved, as the physical distance to the new block compared to parts of the existing dairy platform is much less, reducing time spent walking to and from the dairy shed.

The proposal will result in a significant improvement in water quality locally, and overall contribute to an improvement at the catchment level, although small and likely immeasurable. The proposal represents a positive step towards significant meaningful improvement in the Aparima catchment.

6.8 Other Assessment Matters

In accordance with Clause 7 of Schedule 4 of the RMA the following provides an assessment of the activity's effects on the environment:

a) *any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects*

Throughout the duration of the existing consents, there have been no known complaints from neighbours, which indicates that the potential adverse effects on the neighbourhood are less than minor. See Section 2.3.

The proposal will result in net positive benefits to the local community as there will be capacity to provide for the social and economic benefits with the employment of staff, as well as contractors and consultants, and the farm is serviced by local schools and many businesses that would not benefit if the activities were unable to occur. The ability for the applicant to continue to operate their dairying operation will enable them to provide for their own social, economic, and cultural wellbeing.

The proposal is considered to be wholly consistent with the relevant policies of the Iwi Management Plan (Te Tangi a Tauira).

b) *any physical effect on the locality, including any landscape and visual effects*

In terms of landscape and visual effects, the presence of dairy farming, farming equipment and cows are expected within the rural locality. The proposal will not have any significant physical effects on the locality over and above that currently experienced.

c) *any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity*

The dairy farm is located within a highly modified ecological landscape and the proposal will not have any significant adverse effects on ecosystems above that which has been occurring for many decades.

d) *any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations*

It is not considered that the activities will have any effect on aesthetic values, as the existing dairy platform is established and in keeping with the general rural nature of the area. The land in this area is historically known for farming activity, and the presence of a dairy operation on this property does not result in any effect contrary to the historical values associated with the natural and physical resources in the vicinity.

The existing new block was used for pastoral farming and cut and carrying purposes.

e) *any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants*

The activity is in keeping with the rural nature of the area, therefore it is not considered there will be any unreasonable emission of noise or odour.

f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or the use of hazardous substances or hazardous installations

All hazardous materials carried and used onsite will comply with the relevant rules of the Operative Southland District Plan 2018, and the Hazardous Substances and New Organisms Act 1996. As such, there will be no risk to the neighbourhood, wider community or the environment due to natural hazards or the use of hazardous substances or hazardous installations.

7. STATUTORY CONSIDERATIONS

Schedule 4 of the RMA requires that an assessment of the activity against the matters set out in Part 2 and any relevant provisions of a document referred to in Section 104 of the RMA is provided when applying for a resource consent for any activity. These matters are assessed as follows.

7.1 Part 2 of the RMA

The proposal is consistent with the purpose and principles of the RMA, as outlined in Section 5. The proposal will have less than minor effect on the Upper Aparima Groundwater Zone, and the Aparima River's ability to meet the reasonably foreseeable needs of future generations, or on the life-supporting capacity of these water resources and any ecosystems associated with them as the proposal ensures that adverse effects on the environment are mitigated.

There are no matters of national importance under Section 6 of the RMA that will be affected by the proposal. The proposal is also consistent with the requirements of Section 7 of the RMA, with particular regard given to kaitiakitanga, and the efficient use and development of natural and physical resources. Regarding Section 8, the proposed activity is not inconsistent with the principles of the Treaty of Waitangi.

Overall, the activity is considered to be consistent with Part 2 of the RMA, given the minor nature of the activities and the proposed mitigation.

7.2 Section 104(1)(b) of the RMA

In accordance with Schedule 4 of the RMA, an assessment of the activity against the relevant provisions of a document referred to in 104(1)(b) of the RMA must be included in an application for resource consent. Documentation in this section are noted as being:

(i) a National Environmental Standard;

(ii) other regulations;

(iii) a National Policy Statement;

(iv) a New Zealand Coastal Policy Statement;

(v) a Regional Policy Statement or Proposed Regional Policy Statement;

(vi) a plan or proposed plan.

Under the RMA, regional plans need to give effect to NPSs, NESs and RPSs. For an application of this scale, an assessment of the application against the regional plan is often adequate as these plans ultimately give effect to the higher order statutory instruments. As such, no individual assessment has been made against the National Environmental Standard for Sources of Human Drinking Water. An assessment has been made against the recently released National Environmental Standards for Freshwater 2020 (NES-F) and National Policy Statement for Freshwater Management 2020 as these contain the most up to date national policy directions that need to be considered. The National Policy Statement for Highly Productive Land 2022 (NPS-HPL) has also been considered.

7.2.1 National Policy Statement for Freshwater Management 2020 (NPS-FM)

On 3 September 2020 the National Policy Statement for Freshwater Management 2020 (NPSFM 2020) came into force. The NPSFM 2020 provides a strong direction on how Te Mana o te Wai should be applied when managing freshwater. There are six principles relating to Mana whakahaere, Kaitiakitanga, Manaakitanga, Governance, Stewardship, and Care and Respect. These principles recognise the obligations, roles, responsibilities and relationships that tangata whenua and all New Zealanders have with freshwater.

Whilst Te Mana o te Wai expresses the connection between all New Zealanders and freshwater, it acknowledges that by protecting the health and well-being of the freshwater resource as a whole there will be a freshwater resource that is able to be used for human social, economic and cultural needs. Territorial authorities through discussions with tangata whenua and the local community will be able to say, and develop, how Te Mana o te Wai is applied in a local context through relevant regional and district planning documents.

Whilst ultimately Local Authorities will give effect to Te Mana o te Wai and the NPSFM 2020 through Regional Policy Statements, Regional and District Plans, this is not currently the case. Until any relevant policy statements and plans have been updated the NPS-FM 2020 will have a greater weight at the resource consent application level under s.104(1)(b)(iii) of the Resource Management Act 1991.

This proposal has been carefully considered against *Te Mana o te Wai,* the objective and all relevant policies, and in the context of the detailed assessment of effects is strongly considered to be consistent with all the relevant provisions of the NPSFM. For the reasons given in the assessment of effects above in Section 6, this balance has been found a reduction in nitrogen and phosphorus as proposed by this application and use of mitigation/GMPs across the dairy farm.

Further discussion of relevant policies within the NPS-FM is provided in the table below.

Table 13: Applicable policies from the NPS-FM (2020).

Policy	Wording	Comment
1	Freshwater is managed in a way that gives effect to *Te Mana o te Wai*.	The NPSFM describes the concept of Te Mana o Te Wai as the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the
2	*Tangata whenua* are actively involved	

	in freshwater management (including decision making processes) and Māori freshwater values are identified and provided for.	wider environment. This application has considered Te Mana o te Wai in the assessment for freshwater values and existing receiving environments. A number of the principles set out for Te Mana o te Wai are relevant to Councils in giving effect to the NPSFM (for example through plan making processes), as they focus on tangata whenua's authority and responsibility and actions, as well as governance by the council. The first four principles (a-d) are difficult for an applicant to give effect to. Principle (e) regarding stewardship, and principle (f) regarding care and respect, are given effect to on the applicant's farm through the implementation of GMPs and mitigations including setbacks to waterways.
3	Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.	Surface water quality in the wider receiving environment is considered to be generally poor when assessed against the objectives within the NPS-FM national objective framework. The OverseerFM modelling of the proposed farm system in its entirety models that nitrogen and phosphorus losses will reduce by a 23% and 4% respectively. Using the reduction in P as a proxy, there is also a high likelihood of a reduction in sediment and microbial organisms. The health and well-being of the receiving environments is predicted to improve as a result of the proposal as described, as the result of the mitigations included within the Overseer nutrient budget and the additional mitigations outside Overseer offer opportunity for a significant improvement in water quality. The health and well-being of the catchment as a whole is best managed at the FMU level.
4	Freshwater is managed as part of New Zealand's integrated response to climate change.	Climate change is a matter addressed through the FEMP (Appendix C). The FEMP includes a section detailing the impact of the operation on climate change, including estimated Green House Gas emissions and any actions implemented to mitigate or offset these impacts. A FEMP is in place for the property and has been updated to include the proposed new block. The Zero Carbon Act (2019) sets targets for reducing greenhouse gas emissions. Although agriculture is currently not fully integrated into the Emissions Trading Scheme (ETS), there are discussions on how farmers will be required to report and manage their methane and nitrous oxide emissions. Greenhouse gas emissions are currently not a relevant matter under the RMA. The He Waka Eke Noa partnership was disestablished in June 2024 by the new National Government. Integrated response to climate change is best managed through the FMU process.
5	Freshwater is managed through a National Objectives Framework to ensure that the health and well-being of degraded water bodies and	Water quality is considered in terms of the NOF framework, for those indicators which data is available.

	freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.	
12	The national target (as set out in Appendix 3) for water quality improvement is achieved.	
13	The condition of water bodies and freshwater ecosystems is systematically monitored over time, and action is taken where freshwater is degraded, and to reverse deteriorating trends.	Water quality monitoring on the Aparima River is undertaken by ES under the State of the Environment monitoring programme to ensure continuous monitoring over time to identify trend data. The proposal includes simultaneous monitoring and management of nutrient inputs by way of the FEMP in order to identify areas of improvement which could improve water quality in the receiving waters.
15	Communities are enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with this National Policy Statement."	The expansion of the dairy farm provides greater opportunities of the local economy in terms of permanent jobs and support of local schools and communities. Positive economic, social and cultural well-being should result.

7.2.1 National Policy Statement for Highly Productive Land

The recently promulgated National Policy Statement for Highly Productive Land 2022 (NPS-HPL) commenced on October 17th 2022, and the NPS-HPL will need to be considered during the processing of this consent application. An assessment against the NPS-HPL is considered appropriate if the land is zoned General Rural or Rural Production and classed as Land Use Capability (LUC) 1, 2 or 3, and is therefore considered highly productive land. The majority of the property is classed as Class 2 or 3 land under the Land Use Capability (as mapped by Manaaki Whenua Landcare Research).

The application is consistent with Objective 1, and the relevant Policies 1, 4, 6, 7 and 8 of the NPS-HPL. The land will continue to be used as farmland for primary production, and as such, will not result in the loss of highly productive land for primary production as outlined in Objective 1.

7.2.2 Regional Plans, and Te Tangi a Tauira

Policies from the RWP, and the pSWLP considered relevant to this application are assessed below. The rules and policies in PSWLP became operative on 27th May 2024, however some rules are still under appeal and the corresponding rules and policies contained in the RWP still remain operative. Consideration of the National Environmental Standard for Freshwater water 2020 and Iwi Management Plan – Te Tangi a Tauira are also included below.

7.2.2.1 Discharge of Effluent

Planning Document	Particularly relevant sections
Southland Regional Policy Statement	Objective: RURAL.1, 2, Policy: Rural 1, 2, 4, 5
Proposed Southland Water and Land Plan	Objectives: 13, 18

	Policies: 13, 14, 17, 40, 41
Te Tangi a Tauira	Section: 3.5.1

Objective RURAL.1 enables the sustainable management of Southland's rural land resource. The proposal includes limits on effluent application, in order to maintain the life supporting capacity of soils (RURAL.2).

The assessment of effects has demonstrated effluent can be discharged in a way that enables FDE to be used as an organic fertiliser. The proposal is consistent with Policy 17 of the PSWLP and operates in accordance with a FEMP to manage agricultural effluent. The use of low-rate discharge methods ensures that effluent is applied at a rate and depth that is suitable to the conditions of the subject site.

Surface run-off or overland flow, or ponding of effluent is avoided through best practice application of buffers, and using effluent as an organic fertiliser, ensuring that where reasonably practicable adverse effects on water quality from effluent are avoided or mitigated.

Consistent with Te Tangi a Tauira, adverse effects on soils and water resources as a result of spray irrigation of dairy effluent to land are mitigated, and effluent entering waterways avoided through the appropriate use of buffers. Discharge to land in areas with soils that are higher risk is managed by low-rate application methods. The maximum loading rate of nitrogen onto any land area is well within industry and Council best practice. The effluent pond is appropriately sized to ensure there is sufficient deferred irrigation on farm.

7.2.2.2 Abstraction of Groundwater

Planning Document	Particularly relevant sections
Southland Regional Policy Statement	Objectives: WQUAN.1, WQUAN.2 Policies: WQUAN.1, WQUAN.2, WQUAN.4, WQUAN.5, WQUAN.6, WQUAN.8
Regional Water Plan for Southland	Objective: 5, 7, 8, 9 Polices: B7, 14A, 14B, 21, 22, 23, 25, 26, 28, 29, 30, 31
Proposed Southland Water and Land Plan	Objectives: 1, 7, 11, 12, Policies: B7, 20, 21, 22, 23, 24, 27, 40, 41, 42
Te Tangi a Tauira	Section: 3.5.14

Objective WQUAN.1 enables the sustainable management of the region's freshwater resources. The proposal includes limits on water use so that allocation is maintained, and this is consistent with the 2014 version of the NPSFM that this objective refers to. The discussion above in relation to the 2020 NPSFM covers allocation in-light of Te Mana o te Wai.

With regards to other Regional Policy Statement Objective and Polices, the assessment of effects has demonstrated aquifer values are unlikely to be affected by the proposal, the intended use of water is efficient, overallocation is avoided, demand for water is managed through allocation limits metering is in place to ensure excess taking does not occur and remains within limits of consent.

The proposal is consistent with Policy 20 to 25 of the PSWLP that relate to take and use of groundwater and manages water resources so that the significant adverse effects on the long-term sustainability, reliability of supply for existing water users, groundwater levels and water quality are avoided, mitigated, or remedied.

The proposal will provide benefits to the applicant and the local community, and the use of the resource is considered an efficient use. Water allocation is managed in accordance with Policy 21 and this proposal does not seek to over-allocate the existing water resources.

The proposed abstraction is consistent with Te Tangi a Tauira by ensuring that the proposed use of the water means that groundwater resources long term can be sustained. The extent of existing knowledge about the aquifer is good, and the scale of effects relatively well understood, and considered to be less than minor, especially given the low rate of take. Water use has been considered holistically alongside considering water quality by the interrogated approach to nutrient management on farm. The water use is efficient and represents reasonable use. There is no measurable stream depletion effect due to the low rate of take.

7.2.2.3 Land Use – Dairy Farming

Planning Document	Particularly relevant sections
Southland Regional Policy Statement	Objective: RURAL.1, 2, Policy: Rural 1, 2, 4, 5
Proposed Southland Water and Land Plan	Objective: 1, 2, 18, Policy: 5, 6, 13, 16, 18, 39
Te Tangi a Tauira	Section: 3.5.1, 3.5.10, 3.5.11

The Regional Policy Statement ensures the sustainable use of rural land resources, and that the life supporting capacity of soils is safeguarded. The proposed inclusion of 57 hectares of new dairy farm land does not contravene these objectives or associated policies. The assessment has demonstrated that positive effects to the social, economic and cultural wellbeing will result as a consequence of the proposal, and the effects of the farms development will be sustainably managed through the use of GMPs that ensure protection of soil properties and prevent erosion, compaction, and unnecessary disturbance.

The dairy platform is within the Gleyed and Central Plains (small area proportional to area of Gleyed) Physiographic Zones. Policies 5 and 6 of the PSWLP require the implementation of good management practices to manage adverse effects cumulatively and propose GMPs and mitigations (where appropriate) to mitigate and/or avoid effects of the activities on water quality. The FEMP has included GMPs, and mitigations proposed as part of this resource consent application have considered the effects of the activities in the context of the farms physiographic characteristics and focus on both overland and deep drainage forms of contaminant pathways, including where artificial drainage is in place.

Furthermore, increasing the dairy platform by 57 ha allows for a more self-contained system to operate and farm activities can be matched to the appropriate land, which provides an opportunity for improved farm systems and pastures that will over time contribute to improved environmental outcomes and a reduction in nutrient loading. The continuation of farming would provide for the economic and social well-being of the

applicant and the communities they support. The proposal is consistent with the objectives and policies in the SRPS and Policy 13 of the PSWLP by supporting the sustainable use and development of rural land resources, both environmentally and economically, if undertaken in the manner as proposed.

The applicant has implemented a FEMP which is in accordance with Appendix N of the PSWLP[6]. GMP's and mitigations are most effective at the farm scale if they are targeted to the risk area, in this instance the effects of adherence to the appropriate buffer zones between water bodies and grazed areas, further riparian planting, avoiding intensive winter grazing, utilising a second self-fed silage feed pad, and targeting agronomic optimum Olsen P will avoid or mitigate adverse effects to a practical minimum where they are less than minor. Sediment run-off is managed to a level that it is low risk for the farm system proposed. The FEMP identifies the key critical source areas on the landholding and describes how they will be managed by the applicant to minimise nutrient losses at these points.

7.2.2.4 Water Quality

Planning Document	Particularly relevant sections
Southland Regional Policy Statement	Objectives: WQUAL.1, WQUAL.2 Policies: WQUAL 1, 2, 5, 7, 8, and 9. RURAL.5
Regional Water Plan for Southland	Objectives: 2, 3, 4 Policies: 1A, A4, 1, 3, 6, 7,
Proposed Southland Water and Land Plan	Objectives: 6, 7, 8, 12, 13, 18 Policies: 5, 6, A4, 13, 14, 15A/15B, 16, 18, and 39A
Te Tangi a Tauira	Section: 3.5.11, 3.5.13, 3.5.16, 3.5.17, 3.5.19, 3.5.20

Objective WQUAL.1 is of significant relevance to the proposal as it sets the water quality framework for the management of water quality in Southland. The objective requires four primary things:

- The life supporting capacity of water and related ecosystems is safeguarded;
- The health of people and communities is safeguarded;
- Water quality is maintained or improved in accordance with the National Policy Statement for Freshwater Management 2020;
- Freshwater quality is managed to meet the reasonably foreseeable social, economic and cultural needs of future generations.

The proposed dairy platform is within the Gleyed and Central Plains physiographic zones. Policies 5 and 6 require as a first priority to avoid the risk to water quality from contaminants, and where avoidance is impractical, the risk be minimised. As part of this proposal, the applicant has prepared and will implement a FEMP that has identified key contaminant risk pathways to ground and surface water on the property and includes GMPs to manage adverse effects cumulatively plus proposed mitigations that mitigate and/or avoid

[6] Refer to section 6.4.1 for comment on certification of this plan.

(to a practical minimum) the effects of the activities on water quality. Genuine attention and thought have been given to the potential adverse effects of the proposal on water quality, in the context of the most likely contaminant pathways.

Policy 15A and 15B requires water quality to be maintained or improved and ensures that any decline in water quality is halted and promotes water quality improvement across lowland water bodies. This proposal demonstrates that an improvement in water quality in the receiving environment (groundwater and surface water) will occur. This ensures that water quality is enhanced and as a result indigenous biodiversity is likely to be enhanced along with the mauri of water. With regards to Policy 15B, effort has been made to provide an assessment of the likely nutrient loading from the property and shows that nutrient loss is unlikely to have an impact on current nutrient loads in the receiving environment. The proposal to expand the dairy farm provides for a variety of measures which either avoid or further mitigate against adverse effects on water quality which are described in detail earlier in this report (Table 12), and in the Overseer report (Appendix D). The proposal would therefore result in a reduction in contaminant losses compared to the existing environment over time compared to the current farm system. Therefore, the proposal is consistent with the relevant policies noted above.

Policy 16 requires the avoidance and minimising of adverse environmental effects from farming activities. This proposal does not include an increase in nitrogen, phosphorus, sediment or microbial contaminant discharges. The landholding is not located within close proximity of any Regionally Significant Wetlands, nohoanga, mātaitai, taiāpure, estuaries or the coastal marine area. The proposal is consistent with Policy 16 as the applicant has a certifiable FEMP that identifies the GMPs and mitigation actions were chosen in relation to the physiographic zones and contaminant pathways present on farm. The nutrient budgets demonstrate that the GMPs and mitigation actions will reduce adverse environmental effects on the waterbodies in catchments identified in Schedule X. This is particularly important for 23% reduction in nitrogen going forward as the farm sits in a degraded catchment for Total Nitrogen according to Schedule X. Sediment run-off is minimised on farm by way of stock exclusion from waterways, implementing buffers to surface waterways for effluent discharge, use of two self-fed silage feed pads during adverse weather events and future riparian planting.

Addressing issues identified in Te Tangi a Tauira the run-off of agricultural contaminants, e.g., nitrates and phosphates, in water bodies through accelerated soil erosion are avoided where practicable by appropriate GMPs and mitigation. As a result of these GMPs and mitigations, like the two feed pads and riparian planting, the quality of waterways in the Aparima Catchment will be improved, albeit very small and likely immeasurable based on the scale of property in the wider catchment. Increasing the effluent discharge area to reduce nutrient loading, targeting agronomic optimum Olsen P, removing intensive winter grazing from the farming system and the proposed riparian planting also contribute to a small reduction in contaminant losses to the catchment.

7.2.2.5 Tangata Whenua

Iwi planning documents are not statutory instruments, but they do have statutory weight under the RMA in

relation to the plan preparation process.

Planning Document	Particularly relevant sections
Southland Regional Policy Statement	Policies: TW.3
Regional Water Plan for Southland	Polices: 1A
Proposed Southland Water and Land Plan	Objective: 3, 4, 5, 15 Policies: 1, 2, 3, 44
Te Tangi a Tauira	Section 3.5.1, 3.5.11, 3.5.13, 3.5.14, 3.5.16, 3.5.17, 3.5.19, 3.5.20
Draft Ngāi Tahu ki Murihiku Freshwater Objectives	See below.

The Southland Regional Policy Statement describes the resource management issues important to Ngai Tahu in the Southland regional and includes ensuring tangata whenua is considered in decision making, iwi management plans are recognised, taonga and sites of special significance are protected and food gathering resources are protected. Te Tangi a Tauira is the iwi management plan recognised by Ngai Tahu which encompasses the Southland region. Policies TW.3 and Policy 2 of the PSWLP require iwi management plans to be taken into account.

The application has considered the relevant iwi management plan (Te Tangi a Tauira) and is therefore consistent with Policy 1, 2, and 3 of the PSWLP.

The Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan, 2008 (NREM, a.k.a. *Te Tangi a Tauira)* is the iwi management plan relevant to the Southland Region.

This proposal includes activities which are contained within the property boundaries and the proposed farm system changes and mitigation/GMPs will ensure that the effects of the activities will not materially impact on tangata whenua values or compromise sites of special significance of food gathering sites. The cumulative effects assessment concludes that any 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. Any effects felt outside the boundary of the property will be managed through the Freshwater Management Unit limit setting process, so that activities do not impact on cultural values such as mahinga kai.

In addition, the application provides for the following in accordance with Te tangi a tauira:

- The provision of buffer zones to water abstraction sites and waterways;
- The existing riparian margins are protected and improved where practicable;
- Nutrient loading to land is within industry best practice limits;
- The system and management practices are considered appropriate for the risks associated with the receiving environment;
- Water abstraction is to be monitored with metering results to be submitted to Council;
- Regarding Policies 3.5.14.17 and 3.5.1.17, the consent periods proposed are less than 25 years.

Draft Ngāi Tahu ki Murihiku Freshwater Objectives

Te Ao Marama and the Regional Forum have worked together to identify the things that are important to people about water in Southland Murihiku. Environment Southland led the conversation about community values for freshwater in 2019, and then developed draft environmental outcomes (objectives) for different water body classes (rivers, lakes, estuaries, groundwater, wetlands, and open coast). Te Ao Marama led a workstream that followed a similar process to establish values and outcomes (objectives) at a catchment level. The weaving together of the findings into one set of draft environmental outcomes for the whole region subsequently followed.

There are five draft freshwater objectives[7] that have been identified by Ngāi Tahu ki Murihiku to apply within all the freshwater management units. These are expanded on below.

The five draft objectives are:

1. Paetae Tuatahi

The way water is managed will:

- *recognise and provide for rangatiratanga, customary rights and development rights*
- *enable customary use and protection and restoration of cultural heritage, and*
- *utilise and support the intent of Ngāi Tahu Settlement instruments.*

2. Paetae Tuarua

All waterbodies that have been degraded will be returned to a state of hauora, which will in turn improve provision for cultural use and association.

3. Paetae Tuatoru

There will be no further deterioration of waterbodies and consistent, progressive measured improvement where waterbodies have been degraded, towards a state of hauora.

4. Paetae Tuawhā

The goal is to:

- *establish a long term monitoring programme using Ngāi Tahu Indicators of Health that adds to the existing council monitoring programme, and*
- *use Ngāi Tahu Indicators of Health to assess the state of waterbodies and the impact of proposed activities on them, including in resource consent decision-making processes.*

5. Paetae Tuarima

Communities and catchment groups will be supported to understand Ki Uta Ki Tai, Te Mana o te Wai, Hauora and Mahinga Kai, and will be provided with the means to work effectively towards a state of hauora for each waterbody.

We have reviewed the draft objectives, and we consider the proposal to be generally consistent with the

[7] Ngāi Tahu ki Murihiku Freshwater Objectives (September 2020).

direction of the objectives as they appear in the current September 2020 version. With regards to **paetae tuatahi**, this application has considered the statutory acknowledgement area, and in particular mahinga kai which is a core element of cultural use in relation to freshwater and an aspect of living cultural heritage requiring protection, as well as restoration. For the reasons outlined below, the improvement in water quality expected as a result of this proposal will more than likely improve the quality of habitat for mahinga kai and provide for cultural use and association within and near to the Aparima River. The applicant intends to maintain and enhance these areas by extending their effluent area which will reduce the concentration and potential ponding of effluent, remove intensive winter grazing from the farming system which avoids pugging and overland flow of contaminants during a high risk time of the year, as well as providing additional riparian planting.

Of relevance is the Hauora Plan for the Aparima Freshwater Management Unit. The application for expanded dairying activities has considered Te Mana o te Wai in Section 7.2.1 above, and the proposed improvement in water quality for the farm is a key driver in meeting the principles set out under Te Mana o te Wai. We are confident that the mitigation measures proposed will ensure kaitiakitanga will be upheld through the establishment and enhancement of waterway protections on the farm, including through laneway improvements and wider buffers, among other proposed mitigations. This will ensure there is no further degradation of freshwater resources on the farm and will make a contribution to the wider efforts of the Aparima FMU over time. This proposal will result in no further deterioration of freshwater at the farm-scale and contribute overall to the wider catchment consistent with **paetae tuatoru** and **paetae tuarua**.

With regards to long term monitoring (**paetae tuawhā**), the applicant encourages Environment Southland to continue monitoring water quality at the Aparima River at Thornbury SOE site, and to include monitoring of Ngāi Tahu Indicators of Health.

With regards to priorities for protection, the farms contribution to a water quality improvement at the site locality will overtime contribute to an improvement in the wider catchment.

The applicant's continued groundwater abstraction is efficient for the intended purpose, and it is not anticipated that this is inconsistent with the values associated to the Upper Aparima Groundwater Management Zone. Groundwater quality in this zone is expected to be improved as a consequence of this proposal with the increase in effluent discharge area and removal of intensive winter grazing. Drinking water sites are not expected to be considered affected by the proposal.

Overall, it is anticipated that the approach taken from the consent holder will ensure that the mitigations proposed by work towards achieving a state of hauroa in the Aparima FMU in time.

7.3 Sections 105 and 107 of the RMA

In addition to the matters in Section 104(1) of the RMA, if an application is for a discharge permit a consent authority must have regard to the matters as specified in Section 105.

The discharge of FDE can be undertaken in a manner which avoids contaminants from entering water through

controls on application method and conditions of consent. As nutrients can be reused, there is a direct benefit to the property as a method for improving soil fertility. The discharge of effluent to land (low-rate methods) is the best method for avoiding adverse effects on water as might otherwise occur in the event that the discharge was directly to water, which would result in a worse environmental outcome.

There are no matters under Section 107(1) of the RMA that would require the consent authority to decline this application.

8. Consent Duration, Review and Lapse

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

With regard to consent duration, special consideration has been given to Policies 14A and 43 of the RWP and Policy 40 of the pSWLP, which have been grouped below for ease of assessment.

Certainty of the nature, scale, duration and frequency of effects

Potential effects of the proposed activities are understood reasonably well, and these are to be managed as far as reasonably practicable. Potential adverse effects have in the first instance been mitigated by appropriate management techniques on farm followed by contingency planning, ongoing monitoring and reporting in an auditable format. Council's level of knowledge regarding the underlying aquifer, the receiving soils and surface water management zone is also improving but suggests that there is still a lot to be understood. It is because of this that a 35-year term is not proposed.

Matching consent duration to the level of risk of adverse effects

The extent and nature of the actual and potential adverse effects of the activities on the existing environment (which includes the current dairy farm) were assessed in this document and concluded to be no more than occurring historically in the existing environment, with potential for ongoing improvement through consent conditions and continued implementation, certification and auditing of the FEMP.

Relevant Tangata Whenua values and Ngai Tahu Indicators of Health

The application has been assessed as consistent with the relevant tangata whenua values as outlined in the iwi management plan, with particular regard to the proposed consent duration being less than 25 years.

The permanence and economic life of any investment

Significant investment has been required just to get to the point of making application with expenditure on professional services, including business feasibility studies, nutrient modelling, effluent system review, water quality and policy and planning assessments.

Commodity market influence is always a factor in the permanence of individual dairying units, hence why effluent discharge activities are often considered to have semi-permanent economic life. The economic life

of the farm is firstly dependent on the granting of the relevant consents, and secondly that those resource consents be granted for a reasonable duration.

Common expiry date for permits that affect the same resource

A common expiration date for all the permits applied for is considered appropriate.

Applicant's compliance history

The applicant has demonstrated an overall good compliance history with the existing resource consents and there is no evidence to suggest that future compliance will not continue to be good, and water records will be provided to Council on time.

Timing and development of FMUs

It is considered that granting a longer consent duration (i.e. 10 years) will better enable implementation of any revised framework establish in the FMU section of the PSWLP, as Council will be able to review all consents in the catchment collectively, which will serve to better implement any limit setting process.

In conclusion, due to the low level of environmental risk of the proposed activities and a substantial value of investments on the property, 10-year consent durations are considered appropriate.

Review and Lapse

The applicant is happy for ES to impose standard review conditions in accordance with Sections 128 and 129 of the RMA. In accordance with Section 125 of the RMA, the applicant seeks a 5-year lapse period for these consents. These consents must not be exercised until any current consents for the same activity have been surrendered or have expired.

9. CONCLUSION

A decision to grant the resource consent application(s) under Section 104B is recommended on the basis that:

a) the adverse effects on the environment are likely to be negligible;
b) The proposal is consistent with the requirements of the RMA, relevant regional plan objectives and policies and other relevant matters.

Granting the resource consent application(s) will be consistent with the purpose of the RMA for the reasons explained within this report. The proposed activities are unlikely to result in further degradation of water quality and potential adverse effects will be avoided or mitigated as far as practicable.

Appendix A: Updated DESC

Appendix B: Proposed Effluent Discharge Map

Appendix C: Farm Environmental Management Plan

Appendix D: Nutrient Management Report

Appendix E: Sale and Purchase Agreement

TUR20050-03 Paul Turner Family Trust- 4(c). RES Base Calculation with 2 pads and increased cow numbers

237 Sinclair Road, Opio

Supplier Number	35225
Storage max m³	6,198.27
90th percentile m³	5,454.85
Total pond useable volume m³	5,462.39
File owned by	Donna McBeath RES Rural Environmental Solutions Ltd
Created by	Donna McBeath RES Rural Environmental Solutions Ltd
Created on	15 Sep 2024
Last edited by	Donna McBeath RES Rural Environmental Solutions Ltd
Last edited on	01 Oct 2024

4(c). RES Base Calculation with 2 pads and increase cow numbers.

550 Peak Cows, high risk soils for effluent application; permanent shed roof diversion; yard, tanker pad and concrete lane diversion when cows are dried off; 1 existing pad and 1 new pad units; NO other Silage Pads or underpass or stand off pads or other areas drain to the pond; 35/50 lt/cow/day wash down water used in the dairy shed (green wash installed on the yard, 35 litres/cow/day, used from at least 1 March until 31 October); rain gun (25m3/hr for a minimum of 4 hours per day when there is a soil moisture deficit of 3mm and increasing as the soil moisture levels increase (the rain gun will be moved, at least, twice a day when the soil moisture deficit is under 10mm)); existing pond; effluent application all year round; 3 days emergency storage.

Other areas include: NIL

The Animal shelter is the pad/unit 1 that has already been constructed. The feed pad is pad/unit 2 to be constructed.

All dung and urine from both pads will be collected in the effluent system.

The time allowed for outlined in both of the pad tabs is a combined maximum use for each of these areas, e.g. 75 cows on the animal shelter in September for 24 hours, could also be 75 cows for 12 hours for the whole month.

This allows for the difference in weather conditions in each year, and that the same volume of effluent will be collected, but the timing or numbers may differ between years.

All information entered and assumptions made in this report are based upon information gathered from management and staff while onsite. Please check that all information and assumptions made in this report are correct.

Under the management system parameters described in this report and on the balance of probability, it is 90% likely that 5,455m³ of liquid effluent storage will be adequate for storage in any one year.

Based on the pond dimensions of 51.7m x 51.6m x 3.5m, with a 2:1 batter, 0.5m freeboard and 0.2 unpumpable area in the base (estimate measurements for the top opening taken by RES and the depth of the original design drawings used), you currently have approximately 5,462m³ of effective storage (being a total hole in the ground volume of approximately 7,035m³) which is over 90% probability that you will have sufficient storage in any one year.

This calculation assumes that you will irrigate for around 224 days every year and that there are around 141 days each season that effluent cannot be applied to land and should be stored in the main effluent pond.

There is an average of approximately 15,570m³ of effluent produced each season, an average of approximately 42.7m³ per day.

Good management is essential for liquid effluent storage of this size.

The online version of the pond calculator has started showing the required solids storage but is likely to be overestimating the volumes required.

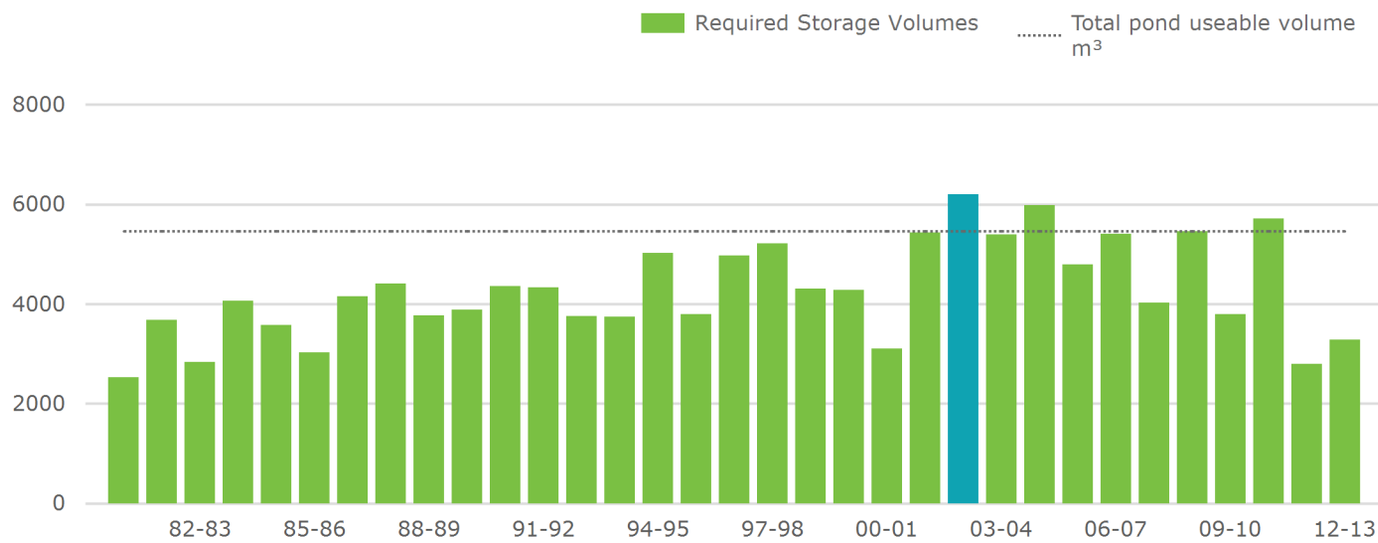
Under the management system parameters described in this report, approximately 209m³ of solids storage maybe required each year for the dairy shed, 311m³ of solids storage maybe needed for unit/pad 1 and 175m³ of solids storage maybe needed for unit/pad 2 (this does not allow for extreme years, as this is likely to be overestimated as solids volumes are not generally increased from year to year; as liquids can be due to differing yearly rainfall), if the solids pond is emptied around November each season.

Based on the solids storage dimensions of each of the twin weeping wall beds (for the dairy shed) being approximately 36m x 12m x 1.5m, with a 1:1 batter (estimate measurements taken by RES), you currently have a total, combined, solids storage capacity of approximately 850m³ of solids storage capacity (being a total hole in the ground volume of 1,104m³) for dairy shed solids storage. Based on the proposed new solids storage dimensions of each of the concrete weeping wall beds on unit/pad 1 (2 at this unit/pad) being approximately 35m x 6.25m x 3m, with a 0:1 batter (as provided by Paul Turner), you currently have a total, combined, solids storage capacity of approximately 656m³ of solids storage capacity for unit/pad 1 solids storage. Based on the proposed new solids storage dimensions of each of the concrete weeping wall beds on unit/pad 2 (2 at this unit/pad) being approximately 25m x 6.25m x 3.0m, with a 0:1 batter (as provided by Paul Turner), you currently have a total, combined, solids storage capacity of approximately 468m³ of solids storage capacity for unit/pad 2 solids storage.

The solids storage surplus of 641m³ for the dairy shed, a surplus of 345m³for unit/pad 1 and a surplus of 293m³ for unit/pad 2. These volumes are likely to be underestimated by the calculator.

Good management is essential for solids storage this size.

Required Storage Volumes



Climate

Site	*Mean Rainfall mm*	*Altitude m*
Nightcaps	1005	168

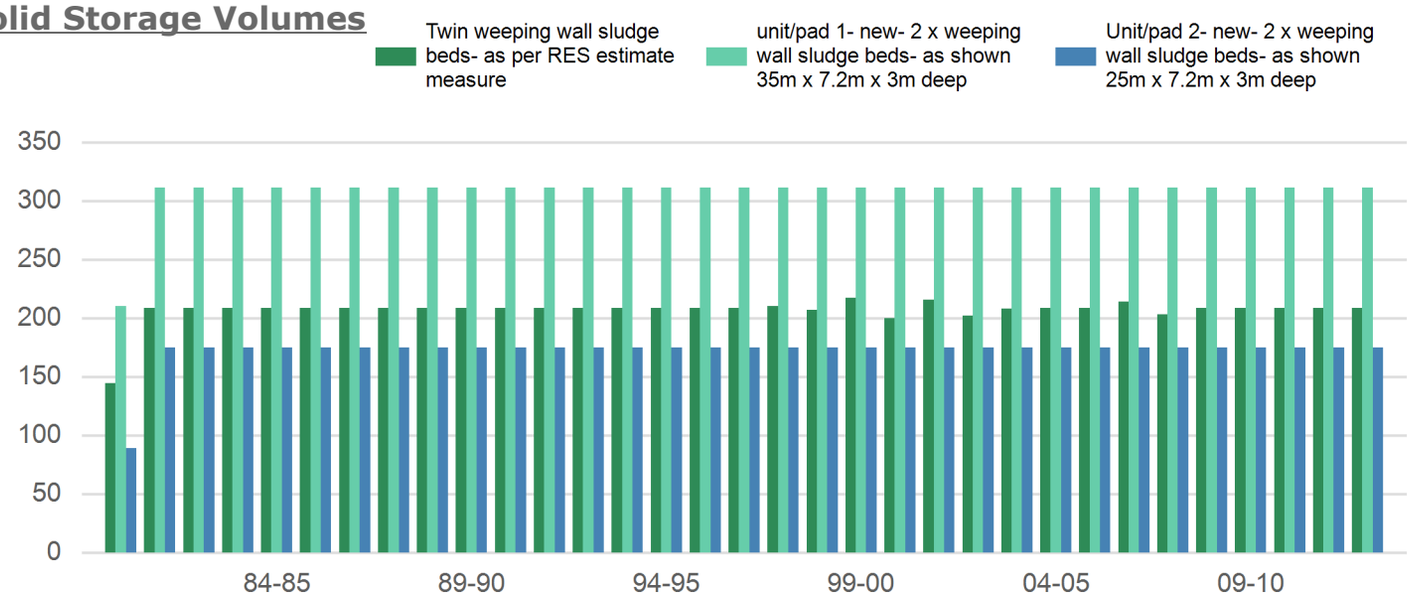
Soil

Low Risk Soil ha	Minimum High Risk Soil ha	Surplus high risk soil ha
0	189.7	0

Irrigation

Calculated option	Application depth mm	Pump volume m³
Option 1: Pump rate 25m³/hr and pump time 4hrs	3	100
Option 1: Pump rate 25m³/hr and pump time 8hrs	6	200
Option 1: Pump rate 25m³/hr and pump time 12hrs	9	300
Option 1: Pump rate 25m³/hr and pump time 8hrs	12	200
Option 1: Pump rate 25m³/hr and pump time 10hrs	15	250
Option 1: Pump rate 25m³/hr and pump time 12hrs	18	300

Solid Storage Volumes

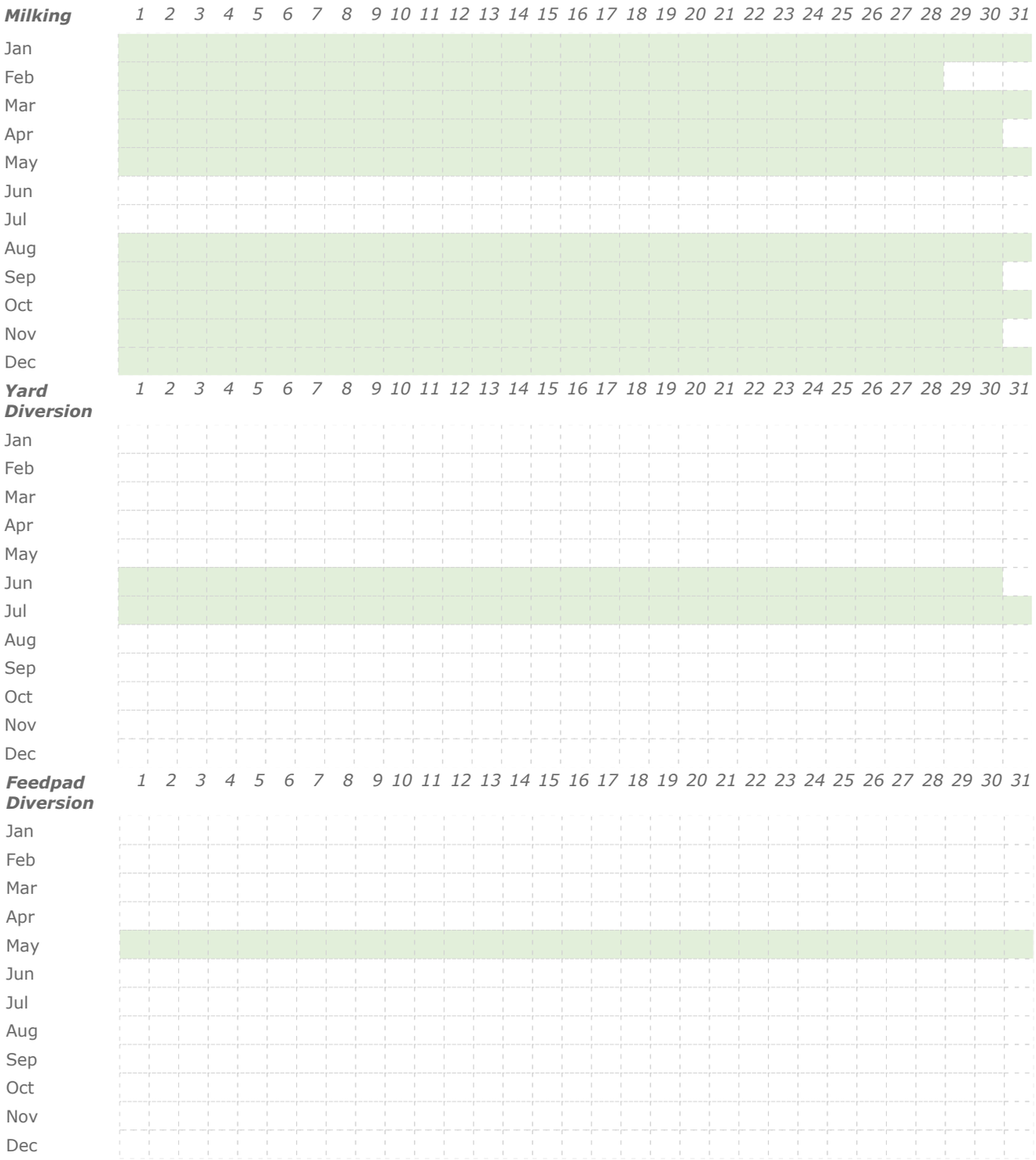


Catchment

Shed		Yard		Feedpad			Animal Shelter			Other
Area m²	Diverted	Area m²	Diverted	Area m²	Covered	Diverted	Area m²	Covered	Diverted	Area m²
265	Yes	1020	Yes	1925	No	Yes	2275	No	No	0

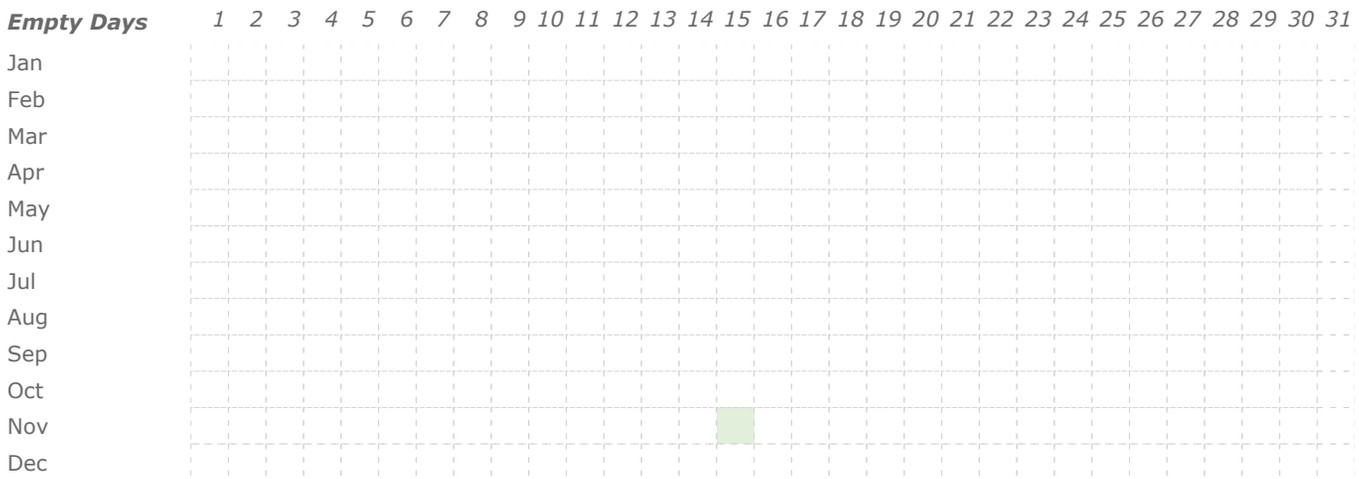
	Yard				Feedpad			Animal Shelter		
	Cows	Hours	Volume m³	Wash LCD	Cows	Hours	Volume m³	Cows	Hours	Volume m³
Jan	550	7.5	27.5	50	0	0	0	0	0	0
Feb	550	7.5	27.5	50	0	0	0	0	0	0
Mar	520	7.5	18.2	35	0	0	0	0	0	0
Apr	500	7.5	17.5	35	0	0	0	0	0	0
May	390	7.5	13.65	35	0	0	0	400	2	0
Jun	0	0	0	0	200	24	0	200	24	0
Jul	0	0	0	0	200	24	0	200	24	0
Aug	200	7.5	7	35	0	0	0	200	24	0
Sep	450	7.5	15.75	35	0	0	0	75	24	0
Oct	550	7.5	19.25	35	0	0	0	0	0	0
Nov	550	7.5	27.5	50	0	0	0	0	0	0
Dec	550	7.5	27.5	50	0	0	0	0	0	0

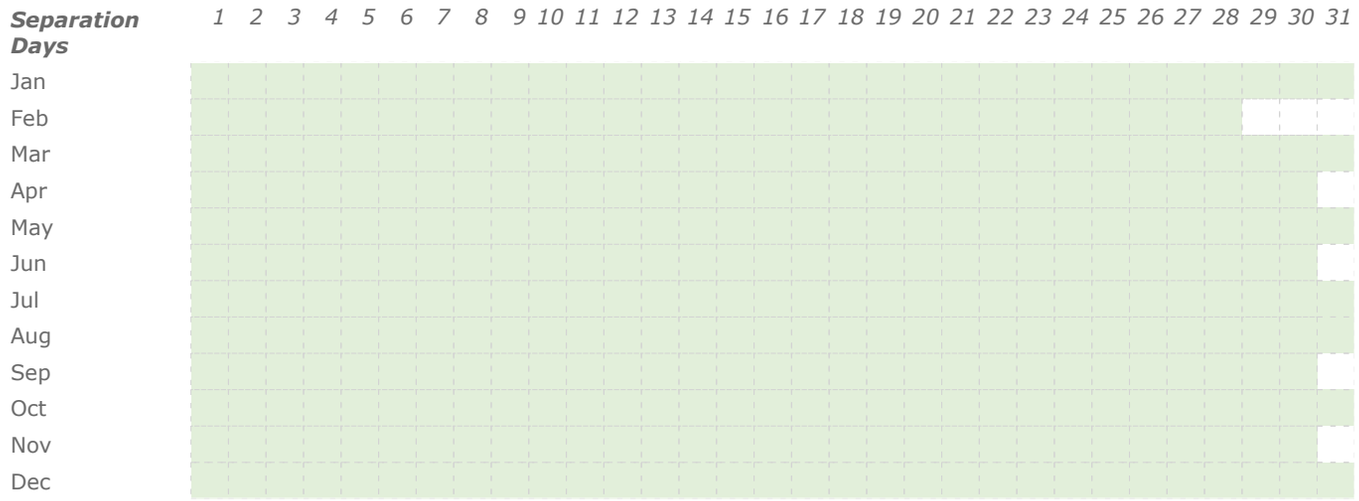
Calendar



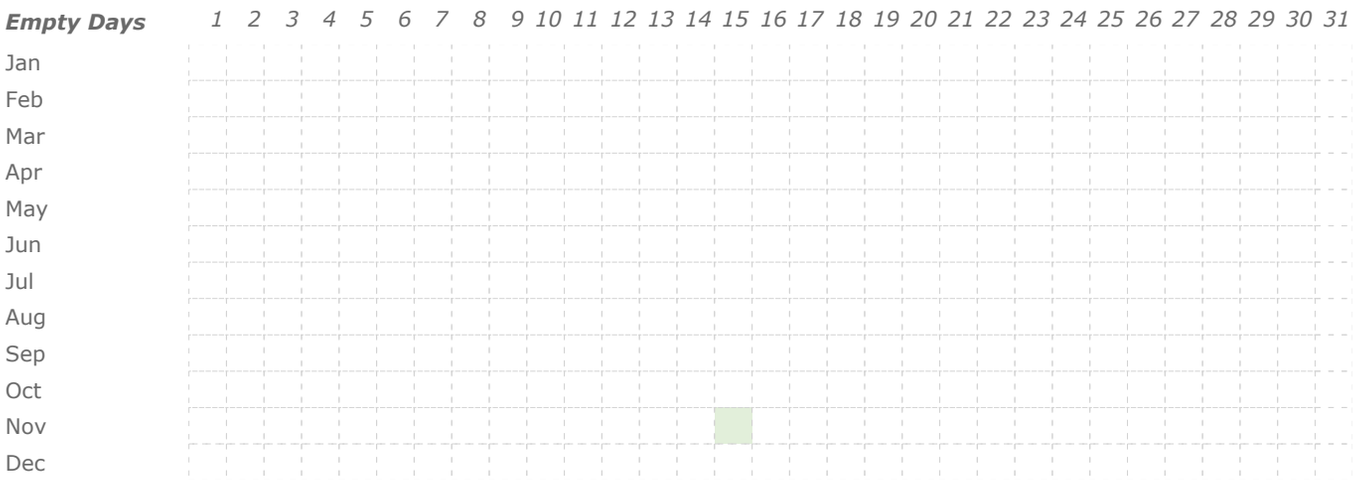
Solid Unit

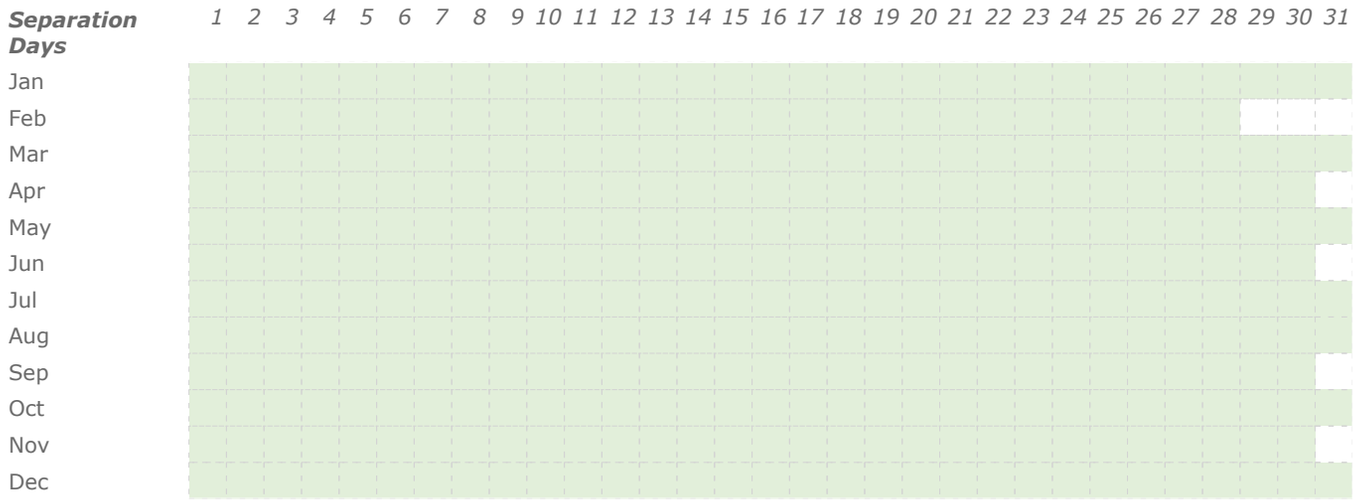
Name	Twin weeping wall sludge beds- as per RES estimate measure
Type	Regular
Dimension	length 36.5m, width 12m and height 1.5m
Input Source	Yard
Dry Matter %	20
Separator Efficiency %	13
Four Day Forecast SWDExcess	10
Minimum SWD Application	10



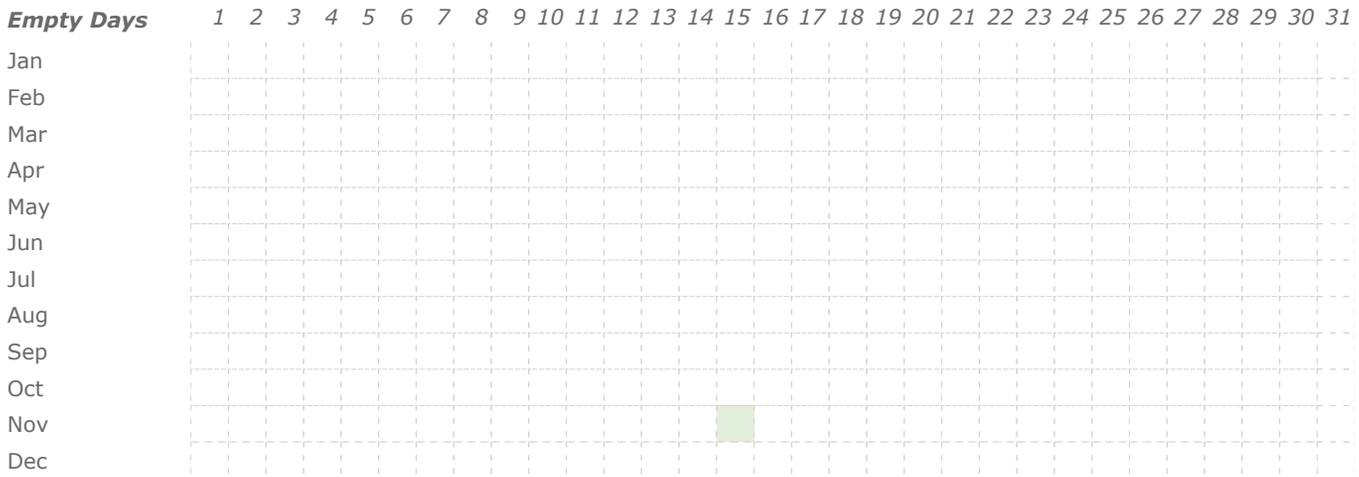


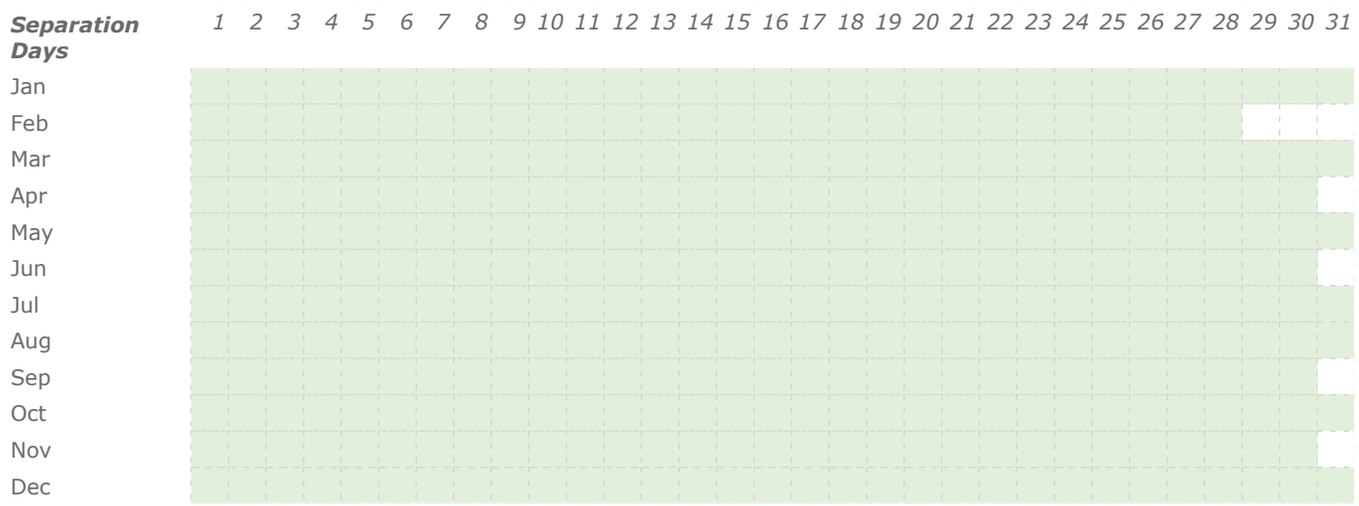
Name	Unit/pad 2- new- 2 x weeping wall sludge beds- as shown 25m x 7.2m x 3m deep
Type	Regular
Dimension	length 25m, width 6.25m and height 3m
Input Source	Feedpad
Dry Matter %	20
Separator Efficiency %	13
Four Day Forecast SWDExcess	10
Minimum SWD Application	10





Name	unit/pad 1- new- 2 x weeping wall sludge beds- as shown 35m x 7.2m x 3m deep
Type	Regular
Dimension	length 35m, width 6.25m and height 3m
Input Source	Animal Shelter
Dry Matter %	20
Separator Efficiency %	13
Four Day Forecast SWDExcess	10
Minimum SWD Application	10





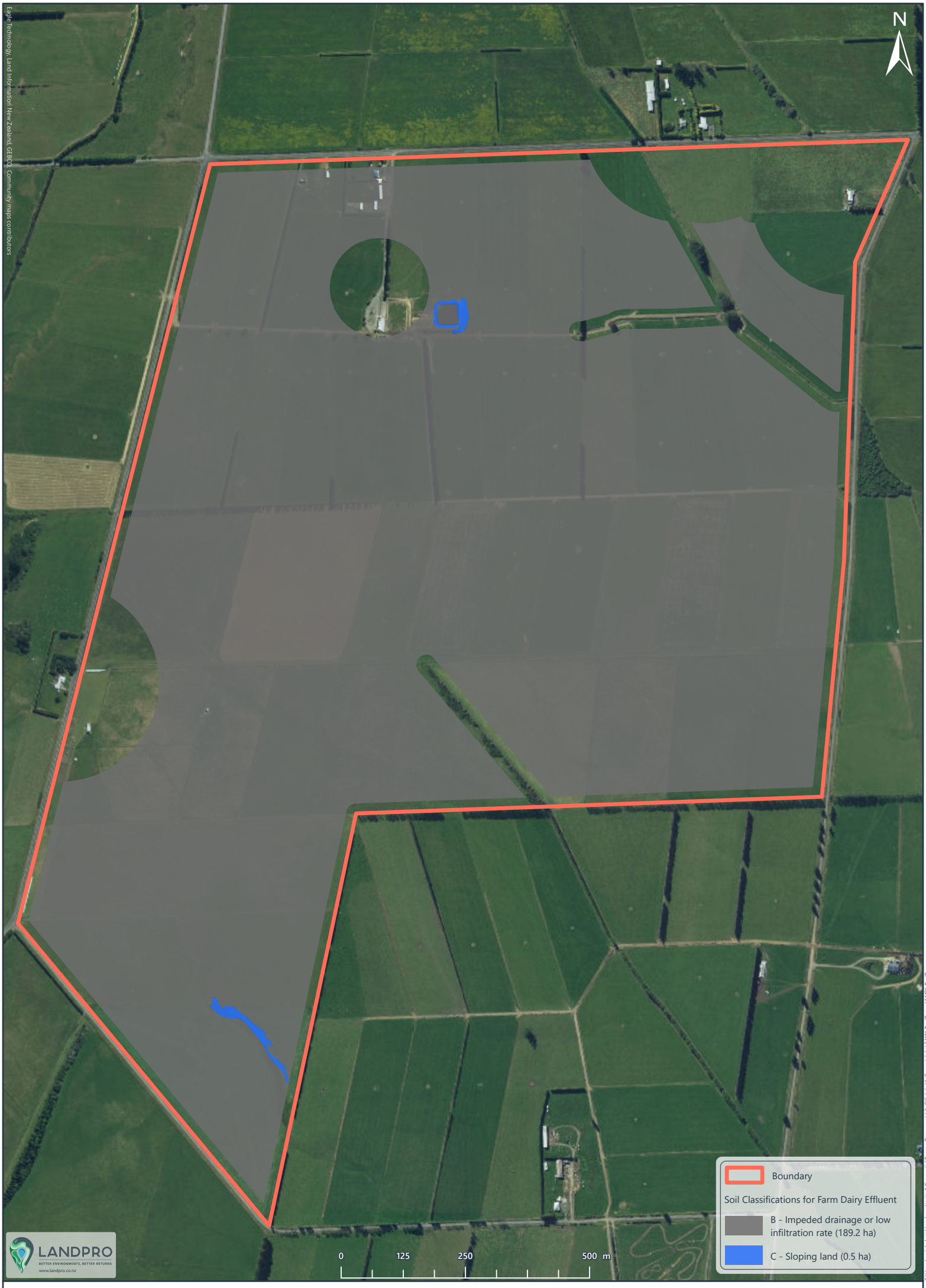
Storage

Emergency Storage Period	3

Storage Name	*Covered*	*Pumped*	*Type*	*Dimension*
Main Effluent Pond- RES estimate measure (2021) of openings and design depth by Civil Tech	No	On	Regular - Rectangular	length 51.7m, width 51.6m, height 3.5m, sludge height 0.2m freeboard height 0.5m and batter 2:1

Appendix

Season	*Required Storage Volumes m³*
80-81	2,535.24
81-82	3,685.66
82-83	2,833.15
83-84	4,059.93
84-85	3,581.25
85-86	3,025.02
86-87	4,150.21
87-88	4,406.11
88-89	3,772.35
89-90	3,880.51
90-91	4,352.73
91-92	4,336.37
92-93	3,755.00
93-94	3,746.63
94-95	5,023.10
95-96	3,797.32
96-97	4,968.52
97-98	5,221.04
98-99	4,302.75
99-00	4,278.26
00-01	3,107.89
01-02	5,438.53
02-03	6,198.27
03-04	5,400.20
04-05	5,988.72
05-06	4,789.12
06-07	5,412.92
07-08	4,029.67
08-09	5,458.93
09-10	3,798.62
10-11	5,716.34
11-12	2,792.30
12-13	3,286.80



Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors

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NZGD 2000 UTM Zone 59S | SCALE: 1:9,000 @ A4

EFFLUENT DISCHARGE AREA

JOB ID: 24191 | CLIENT: Paul Turner | 12/09/2024 | VERSION: FDE

35225

TIAKI FARM ENVIRONMENT PLAN

ABOUT YOUR TIAKI FARM ENVIRONMENT PLAN

This Tiaki Farm Environment Plan document is the result of a tailored farm environment planning service provided to you through the Co-operative Difference. It's part of the advantage you get through Farm Source as a member of the Fonterra Co-Operative. The purpose of this plan is to describe the environmental conditions present on your farm and the management of these conditions. From this, mitigations to potential impacts to water quality are documented and additional mitigations maybe planned, with sensible timeframes. Underpinning this plan, are the agreed national Good Farming Practices that are supported by the agricultural and horticultural sectors. Industry bodies along with Regional Councils and Central Government have developed the Good Farming Practice: Action Plan for Water Quality 2018 in a commitment to swimmable rivers and improving the ecological health of our waterways. The Dairy Industry Strategy (Dairy Tomorrow), as well as the Good Farming Practice: Action Plan for Water Quality 2018, both align with the goal for all dairy farms to have a Farm Environment Plan by 2025. Now that this plan has been created it's the plan owner's responsibility to ensure it is put into action and kept up to date as actions are completed or conditions on farm change. Farm Source is here to help with that implementation and ongoing management through our team of Sustainable Dairying Advisors who can be contacted via the details below.

PHONE: **0800 65 65 68**

EMAIL: **sustainable.dairying@fonterra.com**

CONTENTS:

FARM DETAILS

SUPPLIER NUMBER

35225

FARM OWNER

Paul Turner Farm Trust

1633 Wreys Bush Mossburn Road
RD 1
Otautau 9689

PLAN OWNER

Paul Ernest Turner

+64 27 3055843

paulandkayleen@farmside.co.nz

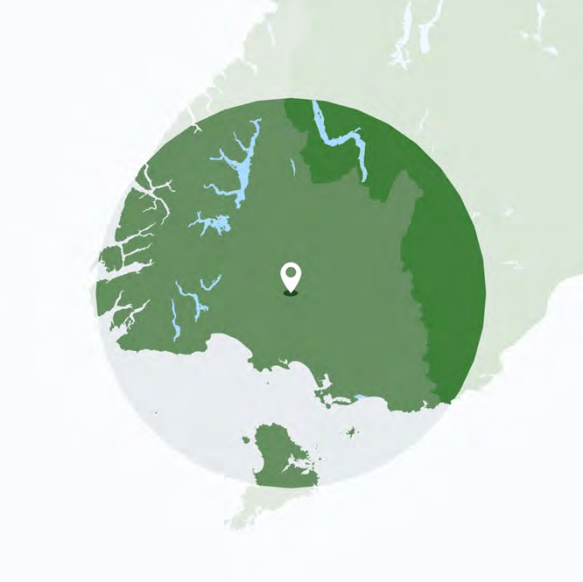
1633 Wreys Bush - Mossburn Road RD 1
Otautau 9689

FARM ADDRESS

SINCLAIR RD

Otautau

LOCATION



REGIONAL COUNCIL

Southland

PLAN LAST EDITED

26 November 2024

POINTS OF NOTE

Plan Developer: Cain Duncan
Additional Farm Owners: Kayleen Turner
Owner Contact Email: paulandkayleen@farmside.co.nz
Owner Contact Number: 027 305 5843

LAND PARCELS

Fee Simple, 1/1, Lot 1 Deposited Plan 6203, 319,904 m2,Fee Simple, 1/1, Section 154 Block V Wairio Survey District, 40,469 m2,Fee Simple, 1/1, Section 152 Block V Wairio Survey District, 1,160,259 m2,Fee Simple, 1/1, Section 153 Block V Wairio Survey District, 1,158,489 m2

FARM OVERVIEW MAP

The map below presents the land in which the farming operations covered in this document occur and identifies some key points of interest. More detailed maps looking at specific environmental management topics are contained throughout the document.

- Major Stock Excluded Waterway
- Major Stock Not Excluded Waterway
- Minor Stock Excluded Waterway
- Minor Stock Not Excluded Waterway
- Farm Boundary
- Compliant Crossing
- Non-Compliant Crossing
- Non-Compliant Non-Regular Crossing
- Dispensation Crossing
- Dairy Shed

GOOD FARMING PRACTICES

This section provides an overall snapshot of the Dairy Tomorrow Good Farming Practices.

FARM MANAGEMENT

The characteristics of the farm and the farm system are identified		ACHIEVED
A risk assessment of the farms inherent and management activity risks is undertaken		ACHIEVED
Accurate and auditable records are kept of annual farm inputs, outputs and management practices		ACHIEVED
Fertiliser is stored and loaded to minimise the risk of spillage and losses to waterways and groundwater		ACHIEVED
Feed is stored, transported and fed to minimise wastage, leachate and soil damage		ACHIEVED
Farm waste is minimised		ACHIEVED
Hazardous substances (agrichemicals and fuel) are stored, handled, used and disposed of to avoid contamination of waterways and groundwater		ACHIEVED

LAND & SOIL MANAGEMENT

Cultivation is managed to reduce the risk of sediment loss and maintain soil structure		ACHIEVED
Erosion-prone land is managed or retired to minimise soil losses		N/A
Grazing of pastures and crops is managed to minimise sediment and contaminant loss		ACHIEVED
Paddocks selected for Intensive Winter Grazing (including intensive baleage wintering) are low risk and managed to minimise the risk of erosion, run-off to waterways and leaching to groundwater		N/A
Critical Source Areas and farm Hot Spots are identified and managed to minimise contaminant losses to waterways		2 ACTION(S)

 indicates the achievement of the Good Farming Practice will also impact Greenhouse Gas Emissions

GOOD FARMING PRACTICES

WATER USE & IRRIGATION MANAGEMENT

Dairy shed and stock water use is efficient and prevents source contamination		ACHIEVED
The depth, rate and timing of irrigation is managed to meet plant demand and minimise the risk of leaching and run-off		N/A
The irrigation system is designed, operated and regularly checked to minimise the amount of water applied to meet plant demand, and prevent microbial contamination		N/A

EFFLUENT MANAGEMENT

Effluent and manure are applied at depths, rates and amounts that match plant requirements and minimise the loss of nutrients or microbial pathogens to waterways and groundwater		ACHIEVED
The effluent system is designed, operated and regularly checked to minimise the risk of nutrient and microbial pathogen loss to waterways and groundwater, and to prevent microbial contamination		1 ACTION(S)

WATERWAYS & BIODIVERSITY

Stock is excluded from lakes and waterways		ACHIEVED
Farm indigenous biodiversity and Mahinga Kai values are identified and protected		4 ACTION(S)

NUTRIENT MANAGEMENT

Soil phosphorus levels are monitored and maintained below or within the target ranges for the soil-type and crop		1 ACTION(S)
The amount and timing of fertiliser inputs, takes account of all sources of nitrogen and phosphorus, matches plant requirements and minimises losses to waterways and groundwater		1 ACTION(S)
Fertiliser spreading equipment is maintained and calibrated		ACHIEVED

GREENHOUSE GAS EMISSIONS

Farm greenhouse gas emissions are known, and a plan is in place to reduce or offset them, that also considers adaptation to climate change		ACHIEVED

 indicates the achievement of the Good Farming Practice will also impact Greenhouse Gas Emissions

ACTIONS & RECOMMENDATIONS

This list includes all actions and recommendations that have been agreed as part of this Farm Environment Plan. Actions are required to achieve Good Farming Practices. Actions that have a target date within 2 years are captured as “Current Actions”. Actions with a target set more than 2 years in the future are captured as “Future Actions”. “Recommendations” cover all other actions that are Leading Practice actions (beyond GFP) or are actions, which are not related to a GFP.

CURRENT ACTIONS

	Target Date
☐ ⚠ ALL - LUs Map Known Tile Drains	06 Sep 2024
☐ ⚠ All LUs - Protect In-Stream and Riparian Habitat when undertaking Waterway Maintenance	01 Nov 2024
☐ ⚠ All LUs - Investigate & where practicable implement outlined nitrogen efficency strategies	26 Oct 2026
☐ ⚠ All LUs - Test Application Rate of Pods and Raingun	26 Oct 2026
☐ ⚠ All LUs - Extend Riparian Margins where Critical Source Areas enter Waterways	26 Oct 2026
☐ ⚠ All LUs - (L7)Slope Lane away from Waterway During Routine Maintenance	26 Oct 2026

FUTURE ACTIONS

	Target Date
☐ ⚠ All LUs - Adjust P application rates so Olsen P is maintained within the Agronomic optimum	26 Oct 2027
☐ ⚠ All LUs - Develop a Riparian Planting Plan	26 Oct 2027
☐ ⚠ All LUs - Investigate tile drain treatment methods	26 Oct 2028

RECOMMENDATIONS

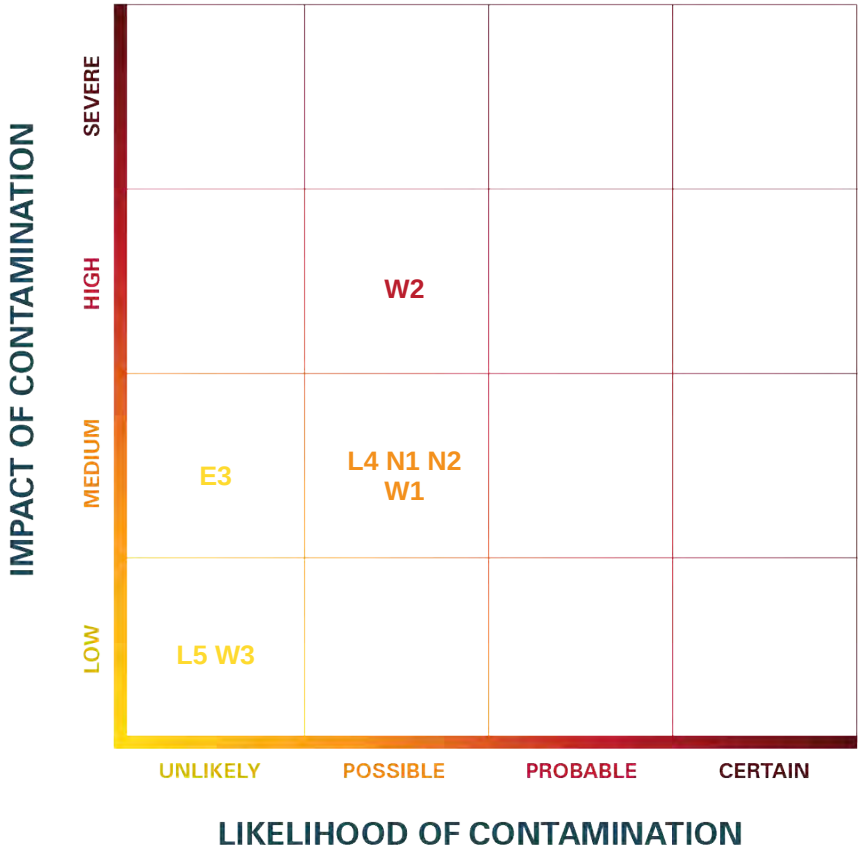
	Target Date
☐ REG - Submit Nitrogen Fertiliser Records to the Regional Council Annually (31st July)	31 Jul 2025

Key: Action Priority

⚠ Low ⚠ Medium ⚠ High ⚠ Critical

UNDERSTANDING THE RISKS ON YOUR FARM

This section provides some context to help understand the relative impact and likelihood of environmental risks that have been identified on your farm. The chart on this page together with the map on the following page can be useful when thinking about what environmental risk areas on your farm need the most focus.



HOW ARE RISK RATINGS MEASURED?

The issues plotted on the chart above have been done so based upon two measures that are assigned to a specific area of your farm where an environmental risk has been identified. 1. Impact of contamination (on the vertical axis, or the first dial) is a measure of the potential scale or significance of contaminants that may be lost from this area of your farm. It's about quantifying how bad could the outcome for the environment be; 2. Likelihood of contamination (on the horizontal axis, or the second dial) is about the chance of the contamination actually occurring from that area of your farm. It takes into account things like how far the area might be from waterways as well as the slope or aspect of the area; When combined together the two measures also give an overall 'risk rating'. The measures and the combined rating are presented for each risk area along with other descriptive information about the risk area on the subsequent pages of this document.

Example:

MAHI WHAKAHAERE
FARM MANAGEMENT

F1 Farm Environment Plan Objectives - Catchment Context - Aparima/Pourakino

F2 Farm Overview - Farm Overview and Benchmark

F3 Infrastructure, storage, waste Overview

F4 Resource Consents

F5 Key Feature - Dairy Shed

F6 Key Feature - Bore D45/0037

FARM MANAGEMENT

GOOD FARMING PRACTICES

The characteristics of the farm and the farm system are identified Practices: The property and farm enterprise details are recorded, including management and ownership structure A map(s) or aerial photograph of the farm is produced at a scale that clearly shows • Key infrastructure • Natural features • Cultural sites	ACHIEVED
A risk assessment of the farms inherent and management activity risks is undertaken Practices: Risk factors to water quality associated with the landscape and farm system have been assessed and are managed appropriately	ACHIEVED
Accurate and auditable records are kept of annual farm inputs, outputs and management practices Practices: Accurate and auditable records of annual farm inputs, outputs and management practices are maintained that support the actions being undertaken to achieve the Dairy Good Farming Practices and reduce any additional risks identified through the risk assessment	ACHIEVED
Fertiliser is stored and loaded to minimise the risk of spillage and losses to waterways and groundwater Practices: The Fertiliser Industry - Code of Practice for Fertiliser handling, storage and use is followed Fertiliser storage sites are: • Located away from waterways or areas prone to flooding • Well ventilated with adequate lighting • Appropriately signed • Able to contain a spillage and provide secondary containment where appropriate Stored fertiliser is covered	ACHIEVED
Feed is stored, transported and fed to minimise wastage, leachate and soil damage Practices: Feed is stored: • at least 50 metres away from waterways • away from community drinking-water protection zone • away from critical source areas Any feed with the potential to create leachate is stored on hard-sealed or compacted areas Rainfall run-off is diverted to land away from feed storage areas Silage is sufficiently wilted before being put into stack Silage remains sealed while stored to prevent rotting Permanent feed-out areas / facilities are sealed and all run-off is collected and applied to land via the effluent system Feed-out areas are located away from critical source areas	ACHIEVED

FARM MANAGEMENT

Soil damage from feeding-out is minimised	
Farm waste is minimised Practices: A waste minimisation system is in place which prioritises waste reduction, and where this is not possible focuses on reuse and recycling Recyclable material is recycled (e.g., scrap metal, baleage wrap, agrichemical containers, tyres, paint, oil, batteries, and other hazardous substances) There is no burning of waste on farm All inorganic, non-recyclable waste is contained and removed from farm Dead animals are sent off farm for processing or correctly disposed on-farm Pests are controlled around feed storage and waste infrastructure	ACHIEVED
Hazardous substances (fertilisers, agrichemicals and fuel) are stored, handled, used and disposed of to avoid contamination of waterways and groundwater Practices: All hazards are identified, and staff made aware of these and how they are to be managed A Certified Handler certificate is held if Class 6.1A or 6.1 B are stored or used on site by farm staff Appropriate Personal Protective Equipment is made available, well-maintained, and worn Procedures are in place for managing emergencies Fertilisers, agrichemicals, and fuels are stored separately Applications follow the Safety Data Sheet (SDS) conditions and are only when weather conditions are suitable Re-entry and witholding periods are adhered to Storage locations are: • Located away from waterways or areas prone to flooding • Well ventilated with adequate lighting • Appropriately signed • Able to contain a spillage and provide secondary containment where appropriate • Agrichemicals are stored in containers constructed of non-flammable material	ACHIEVED

*Additional GFP relevant to the dairy industry goals

FARM MANAGEMENT

CATCHMENT CONTEXT - APARIMA/POURAKINO

F1

The farm is located within the Opio Stream and Aparima River catchments which sit within the wider Aparima/Pourakino Freshwater Management Unit (FMU). No sub-catchment plan exists for the Opio Stream and Aparima River catchments.

The rules contained within the Southland Water and Land Plan (SWLP), the NES Freshwater and Stock Exclusion Regulations apply to the farm, as well as the Fonterra Farmer Terms of Supply.

The key freshwater issues relevant to the catchment are:

- Nitrogen contamination of groundwater, rivers, streams, and Jacobs Estuary.
- High levels of groundwater nitrogen contamination in the Central Plains and Wreys Bush area.
- Excessive sediment and phosphorus loads in some lowland waterbodies resulting in accumulations with Jacob River Estuary.
- Animal and human faecal contamination of some lowland waterbodies.
- Declining ecosystem health (indicated by MCI score trends) at multiple river sites.
- Fish passage
- Wetland loss

Cultural aspects relevant to the catchment are:

- Threats to culturally significant indigenous species such as kanakana (lamprey) tuna (eels), and īnanga (whitebait), including loss of habitat to support these species.

The SWLP identifies the Aparima/Pourakino catchment as 'Degraded'. Actions in this plan must demonstrate a reduction in contaminants, being nitrogen, sediment and E.coli, that are contributing to this 'Degraded' status.

There are no know cultural sites of significance on or downstream of the property, however the community sites of Otautau and Riverton are downstream of the farm.

The key risk areas for the farm that may contribute to the catchments freshwater issues are:

- Areas of poorly drained soil (gleyed land unit) where contaminants such as nitrogen, sediment and E.coli are lost to surface water via artificial drainage or overland flow through critical source areas directly to tributaries of the Opio Stream and Aparima River.

- A small section of the farm (central plains land unit) is subject to nitrogen, phosphorus, sediment and E.coli losses via artificial drainage to surface water when conditions are wet and losses to the underlying aquifer during dry conditions through extensive soil cracking.

FARM MANAGEMENT

Contaminant losses from the property will mainly impact downstream surface water quality and the abundance and safety of mahinga kai and other freshwater species.

Nitrogen	Phosphorus	Sediment	*E. coli*
Large	Some	Moderate	Large

Key*	
Some	< 20% Reduction
Moderate	< 50% Reduction
Large	> 50% Reduction

*amount of reduction required to support hauora outcomes

FARM MANAGEMENT

FARM OVERVIEW AND BENCHMARK

F2

Paul Turner Farm Trust operate a 163ha dairy farm located at 237 Sinclair Road. The 47ha of the dairy farm that was previously leased has now been purchased (August 2024). Paul and Kayleen Turner are primary business contacts for the Trust with day to day management being undertaken by the farm manager, Jordan Wiseman. The property has been owned by the Paul Turner Farm Trust since 2021.

Changes are being proposed to the property boundaries to remove an area of the dairy platform (22ha) located on the western side of Nightcaps Opio Road and to add an additional 44ha of land that was previously leased (currently used as a run-off for the Paul Turner Farm Trust) and 35ha of recently acquired sheep and beef land. This will increase the total farm size to 220ha (212ha effective) all owned by the Trust. This plan is based on the proposed farm system moving forward.

A maximum of 550 cows (pending obtaining resource consent) will be milked on the property through a 32 aside herringbone dairy shed. Two new wintering facilities are being added to the property (1 complete) that will allow all cows to be wintered on farm (other than youngstock and in-calf heifers). The facilities are self-feed silage pads (concrete) with external feed lanes for other supplements, full effluent collection, and a loafing area with rubber matting. Young stock are reared off farm at the owners home farm block. A rotating cut and carry block will circulate through the property (approximately 76ha) providing around 530T (DM) of silage for utilisation on the wintering facilities and on other properties owned by the Trust.

The farm is located within the Opio Stream and Aparima River surface water catchments, which form part of the larger Aparima/Pourakino catchment. To the east the farm has a tributary of the Aparima River running through it.

The key contaminant risks on the farm are nitrogen, sediment and E.coli losses to surface water via artificial drainage or overland flow through critical source areas directly to tributaries of the Opio Stream and Aparima River. A small section of the farm is subject to nitrogen, phosphorus, sediment and E.coli losses via artificial drainage to surface water when conditions are wet and losses to the underlying aquifer during dry conditions through extensive soil cracking.

Land uses that occur on the property are restricted to dairy farming.

This Farm Environment Plan is designed to:

- Provide an overview of the farm, farming practices and infrastructure.
- Summarise the catchment context and landscape the farm sits within.
- Identify environmental risks on the property and the land units they apply to.
- Outline how instream and riparian habitat values will be maintained or improved, including when flood conveying (drain/waterway cleaning) is being carried out.
- Address any issues relating to the Fonterra Terms of Supply including compliance with national environmental standards or regional council rules.
- List industry Good Farming Practices as either achieved or needing to be actioned.
- Identify efficiency improvement opportunities to reduce your Green House Gas (GHG) emission intensity and overall environmental footprint.

FARM MANAGEMENT

• Identify other areas that can be investigated to lower or offset absolute GHG emissions.

Benchmarked Farming Activities	Expanded Dairying Resource Consent Application (2024) and Associated OverseeFM Farm System Modelling Report - July 2024

FARM MANAGEMENT

INFRASTRUCTURE, STORAGE, WASTE OVERVIEW

F3

Dairy Shed

The farm dairy is a 32-aside herringbone dairy shed. Nib walls and sumps allow full capture of effluent from the yard and shed. Roof water is diverted away from the effluent system.

Waste

Currently all farm and household rubbish are either recycled or disposed of off farm. Farm/dairy shed waste is disposed of in a skip on the property. The farm is using the Plasback scheme which recycles silage and baleage wrap. Dead cows are being disposed of on farm in an offal pit.

Silage Storage / Loafing Pad

The farm has moved to utilising silage as a significant source of winter feed. This is stored on a newly built self-feed silage pad and associated cow loafing area. The area is concrete with effluent contained and collected in grates between the silage stack and the loafing area. This is stored in 3m wide by 3m deep bunkers along the side of the facility, which also has a piped overflow into the main effluent pond. The facility is set up so a flood wash can be installed in the future if required, however cleaning is currently undertaken 2 times per week via scraping, which is working well. The loafing area has been sized to allow sufficient space for cows to lie down (6m2/cow) and has rubber matting for cow comfort. The facility can hold 200 cows. A second facility is being constructed shortly allowing all cows (other than young stock and in-calf heifers) to be wintered on farm.

Supplement Storage

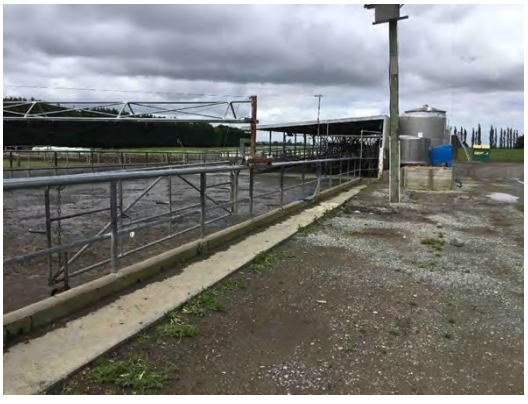
Supplements (PKE) is fed in paddock and on the loafing pad. The storage for the supplements is in silos by the farm sheds. The storage area is away from waterways and covered to protect feed.

Fertiliser Storage

Fertiliser is being stored in a covered concrete bunker by the farm sheds. The storage area is located away from waterways.

Fuel Tanks

Fuel is stored in an above ground tank which is located by the farm sheds. There were no signs of leakage or significant spillage. Due to the small size to the tanks and their location, they pose a low risk.



FARM MANAGEMENT

FARM MANAGEMENT

RESOURCE CONSENTS

F4

The dairy farm holds three resource consents, to abstract water for dairy shed and stock drinking purposes, to discharge dairy effluent to land and for the construction and use of two self-feed silage pads and associated animal loafing areas. A copy of the consents for the farm are attached in Appendix 1. The consents for the farm expire on the 31/05/2032.

Discharge Permit Number: AUTH-20211674-01-V1

Water Permit Number: AUTH-20211674-02

Wintering Pad: AUTH-20233661

National Policy Statement for Freshwater Management came into force on the 3rd September 2020 and include several new environmental regulations. On your property the following activities are likely to be impacted.

- Reporting of Synthetic Nitrogen Fertiliser
- Stockholding Areas (covered by silage pad resource consent)
- Conversion of land to dairy farming (new consent to be lodged)

The regulations permit some of the above activities if certain conditions are met. Where these conditions cannot be met the farm owner is required to apply for resource consent from the Regional Council. The specific requirements and actions are outlined under the relevant sections of this FEP and more general information on the Regulations can be found at https://www.dairynz.co.nz/regulation/policy/

Appendix Document	Appendix 1 - Resource Consents

ACTIONS | RECOMMENDATIONS

		Target Date
☐	**REG - Submit Nitrogen Fertiliser Records to the Regional Council Annually (31st July)** By the 31st July each year send to the Regional Council a full record of nitrogen fertiliser used on farm in the previous season (volume, nitrogen content of each fertiliser, date applied). Nitrogen fertiliser used on annual forage crops should be recorded separately, along with the area of land sown in crops.	31 Jul 2025

WHENUA ME TE ONE
LAND & SOIL MANAGEMENT

- L1 Southland Physiographic Zone - Land Units / Physiographic Zones
- L2 Land & Soil Overview
- L3 Soil - Soils
- L5 Race Maintenance & Management
- L6 Winter Grazing - Wintering, Cropping and Cultivation
- L7 Key Feature - Lane Adjacent to Waterway
- L8 Key Feature - Critical Source Area
- L9 Key Feature - Critical Source Area

LAND & SOIL MANAGEMENT

GOOD FARMING PRACTICES

Cultivation is managed to reduce the risk of sediment loss and maintain soil structure Practices: The suitability of each paddock for cultivation is assessed, and high-risk cultivation activities avoided. Considerations include: • Topography and soil type • Proximity to waterways • Erosion susceptibility • Crop sowing and harvest dates • Cultivation methods • Previous cropping history Pugging and compaction of soils is avoided Soil structure is assessed regularly No or minimum tillage cultivation techniques are predominantly used such as, direct drilling, strip-tillage, or non-inversion tillage Cultivation is avoided when soil moisture is at or beyond field capacity Cultivation practices and timings are considered to minimise nitrogen leaching losses associated with mineralisation	ACHIEVED
Erosion-prone land is managed or retired to minimise soil losses	N/A
Grazing of pastures and crops is managed to minimise sediment and contaminant loss Practices: A farm grazing policy is developed that considers and manages: •Erosion susceptibility •Soil pugging and compaction •Overgrazing •Adverse climatic events •Stock type, class and intensity •Grazing rounds/ rotation lengths If paddocks near waterways are used during wet periods, a buffer strip beside the waterway is fenced off A larger feeding area is offered in cold conditions when demand is high and utilisation low	ACHIEVED
Paddocks selected for Intensive Winter Grazing (including intensive baleage wintering) are low risk and managed to minimise the risk of erosion, run-off to waterways and leaching to groundwater	N/A
Critical Source Areas and farm Hot Spots are identified and managed to minimise contaminant losses to waterways	2 ACTION(S)

LAND & SOIL MANAGEMENT

LAND UNITS / PHYSIOGRAPHIC ZONES

L1

The farm has been broken into Land Units based on topography and landscape contaminant loss risk (Physiographic Zones).

Physiographic Zones were developed to give a greater understanding of the key risks to water quality throughout the Region. The risks to water quality are highly linked to where water comes from and the processes it undergoes as it moves through the soil and drainage networks. Physiographic Zones group areas of Southland that have similar landform types and water quality. The Zones have been identified according to water origin, soil type, geology and topography.

The Land Units identified on the property are:

Gleyed Land Unit – 214.5ha

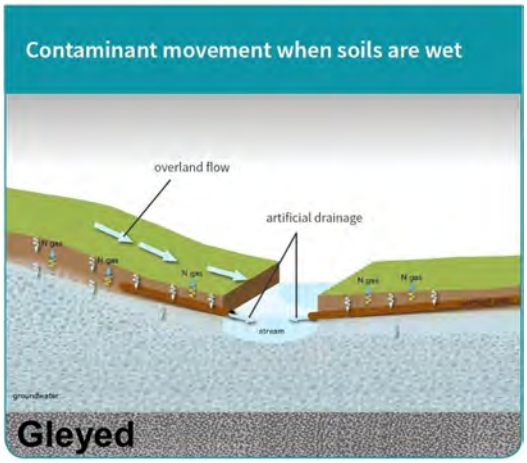
Central Plains Land Unit – 5.5ha

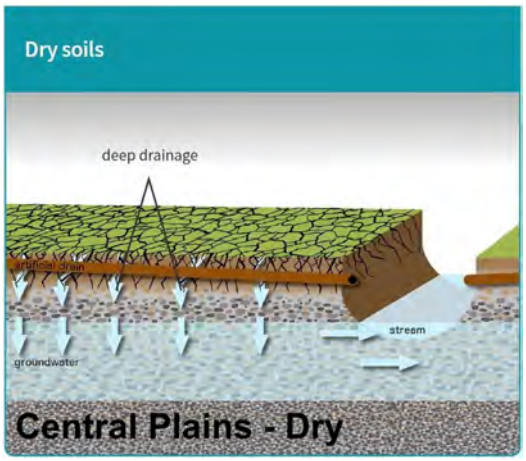
No Land Units have been differentiated due to topography (similar across the entire property).

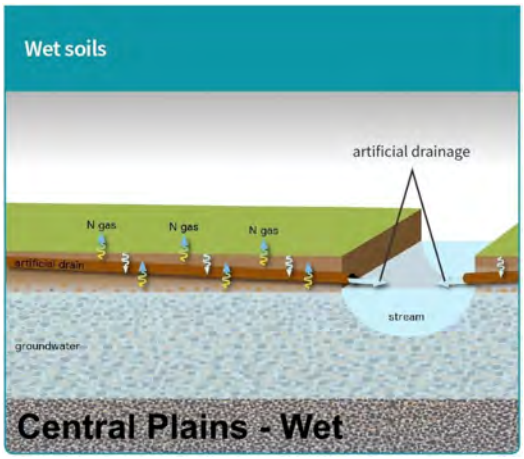
The contaminant loss risk associated with the identified Land Units are outline below:

Central Plains	Key Contaminant Pathway - Artificial/Tile Drainage to Surface Water (Wet) and Deep Drainage to Groundwater (Dry) Areas of clay-rich soils found in the central parts of the Southland Plains. These soils can crack extensively during summer as they dry out and swell when wet in winter and early spring, becoming poorly drained. Wet soils: This zone has an extensive artificial drainage network to help manage waterlogging. During heavy or prolonged rainfall, contaminants move quickly via artificial drains to streams. Dry soils: Clay minerals in the soil shrink as soils dry, resulting in the opening of cracks and fissures. During summer rain, water and contaminants move rapidly from the land surface, through the soil to underlying groundwater, resulting in elevated nitrogen concentrations.
Gleyed - No Variant	Key Contaminant Pathway - Artificial/Tile Drainage to Surface Water Soils in the Gleyed Zone accumulate and store nitrogen during summer and early autumn when soil moisture levels are low. Some nitrogen will be removed from the soil and aquifers via denitrification (lost as nitrogen gas) so groundwater nitrate concentrations are typically low to moderate. Accumulated nitrogen starts moving with water when soils become wet in late autumn and winter and may be lost via artificial drains or overland flow on sloping topography.

LAND & SOIL MANAGEMENT







LAND & SOIL MANAGEMENT

LAND & SOIL OVERVIEW

L2

The property lies on the alluvial terraces of the Aparima River. The topography of the farm is predominately flat to gently rolling with some shallow undulations and Critical Source Areas running through the property. Soils on the farm are predominately Aparima and Makarewa, with Aparima soils being imperfectly drained and slowly permeable and Makarewa soils being poorly drained.

As the property is within a Schedule X catchment the practices and actions identified in this section identify how contaminant losses will be minimised and additionally how they contribute to a reduction in adverse effects on water quality. This section specifically deals with how sediment (and associated bound phosphorus) and E.coli effects on water quality will be reduced.

To reduce sediment (and associated phosphorus) and E.coli losses from the farm, compared to the benchmarked farming activities (see Farm Overview) the 'Land & Soil Management' section of this plan focuses on actions to reduce sediment and E.coli losses including:

-Ceasing all intensive winter grazing activities and moving wintering onto two designated wintering facilities with full effluent capture.

-Moving dairy farming off areas of land to the west of Nightcaps Opio Road, which removes a road crossing and areas of slightly steeper topography that have a higher risk of overland flow of contaminants into Opio Stream.

- Reducing sediment/E.coli losses from critical source areas

- Reducing sediment/E.coli losses from higher risk areas, such as lanes and tracks.

Mitigations and actions to reduce nutrient, sediment and E.coli losses from sub-surface drainage can be found in the 'Waterways and Biodiversity' section of this plan.

Paddocks that are naturally wet, have swales/critical source areas or are located near waterways are avoided in wet conditions to minimise the risk of sediment/E.coli runoff to waterways.

Pugging and soil compaction are minimised by utilising artificial drainage, moving intensive winter grazing onto off paddock facilities, and avoiding high risk paddocks when soil moisture levels are high. Low tillage cultivation methods, such as direct drilling are used where possible for re-grassing pasture. Full cultivation is undertaken in spring when soils are drier and for paddock re-development.

Supplements are fed away from waterways and all waterways are fenced with riparian margins maintained in rank grass or plants to filter any sediment run-off.

Lanes are maintained to a high standard to prevent deterioration, minimising sediment run-off and effluent and associated E.coli ponding on or to the side of lanes.

LAND & SOIL MANAGEMENT

LAND & SOIL MANAGEMENT

SOILS

L3

There is one main soil type on the farm, Aparima with a small section of Makarewa soil running alongside the waterway on the eastern side of the farm.

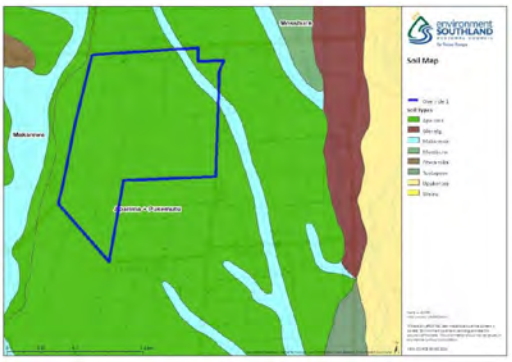
Aparima Soils

Aparima soils have a heavy silt loam texture and are imperfectly drained. A dense fragipan between 60-90cm restricts water drainage. This slow permeability can lead to waterlogging and overland flow via critical source (depression) areas on the farm. The soil responds well to artificial drainage. In some areas of the farm poorly drained Pukemutu soils may be found interspersed between the Aparima soils.

Makarewa Soils

Makarewa soils have a silty clay texture and are poorly drained making them vulnerable to waterlogging and pugging during wet periods. This creates a higher risk of overland flow occurring through critical source areas into the nearby waterway.

Appendix Document Appendix 2 - Soil Map



Aparima profile

LAND & SOIL MANAGEMENT

Makarewa profile

LAND & SOIL MANAGEMENT

CRITICAL SOURCE AREAS

L4

IMPACT OF CONTAMINATION  +  LIKELIHOOD OF CONTAMINATION = MEDIUM RISK RATING

There are swales and depressions on the farm that during heavy rain result in a concentration of water and associated contaminants (sediment, phosphorus and bacteria) from surrounding paddocks being channelled down into surface waterways on the farm. The main Critical Source Areas (L8 - L9) are shown on the map at the start of this section.

The highest risk of sediment/bacteria loss through these Critical Source Areas is when soil moisture levels are high and there is exposed soil or a source of sediment/E.coli (lanes or stock access). During these high risk periods steps need to continue to be taken to exclude stock from Critical Source Areas in addition to the recommendations outlined below.

To reduce the amount of sediment/bacteria reaching surface waterways during high risk periods and during periods of heavy rainfall, the riparian margins where overland flow paths enter surface waterways should be extended to create a larger filtering area (as pictured below) and for added filtering and biodiversity gains, planted in native grasses such as carex secta or tussock. In addition to this, technologies such as small scale wetlands (see photo of South Otago example) or simple sediment traps/ponds could be investigated if additional measures are required. These are especially suitable for naturally wet areas that have lower productivity.

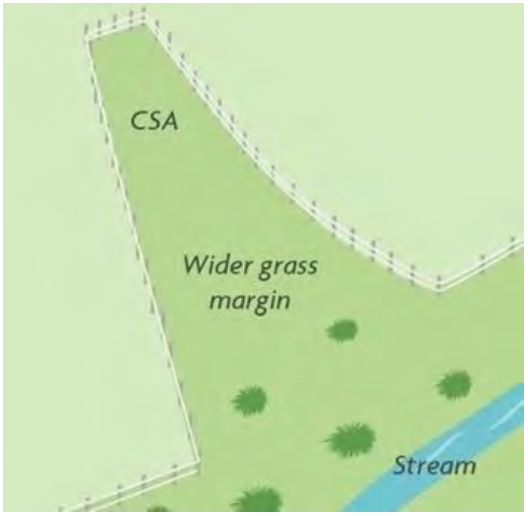
The photos below show examples of Critical Source Areas that may result in overland flow into surface waterways on the property. Most of the swales also have tile drains located under them and thus tile drain treatment options can also be investigated in these areas (see Waterways and Biodiversity Section).

The removal of intensive winter grazing from the property will result in a significant reduction in sediment/bacteria losses through Critical Source Areas compared to the benchmarked farming activities.

ACTIONS | RECOMMENDATIONS

		Target Date
☑	**ALL LUs - Continue to Exclude Stock from Critical Source Areas during High Risk Periods - To Achieve GFP** The highest risk of sediment/bacteria loss through these Critical Source Areas is when soil moisture levels are high and there is exposed soil or a source of sediment/E.coli (lanes or stock access). During these high risk periods steps need to continue to be taken to exclude stock from Critical Source Areas.	01 Sep 2024
☐	**All LUs - Extend Riparian Margins where Critical Source Areas enter Waterways - To Achieve GFP** Extend the riparian margins where overland flow Critical Source Areas (CSA) enter surface waterways. This creates a larger filtering area for run-off. Maintain these areas in rank grass or plant native grass species such as red tussock or carex secta.	26 Oct 2026

LAND & SOIL MANAGEMENT




Example - Planted Critical Source Area

LAND & SOIL MANAGEMENT

RACE MAINTENANCE & MANAGEMENT

L5

IMPACT OF CONTAMINATION + LIKELIHOOD OF CONTAMINATION = LOW RISK RATING

The dairy lanes over the farm are an example of good management practices for lane constructions. The lanes are wide (~7m) with a solid base and good surface incorporating an appropriate crown and camber. There were no issues noted with poor lane quality on the farm even close to the dairy shed. The quality lanes allow for good stock flow, reducing lameness issues and the build-up of effluent on the lane surface and adjacent paddocks.

A section of the farm track runs adjacent to a waterway. The buffer between the stream and the track is approximately 3-5m and helps filter runoff from the lane prior to it entering the waterway. When track maintenance next occurs, the lane should be reformed with a camber sloping away from the waterway, so runoff is diverted into the grass paddock on the opposite side of the lane.

The general quality of the lanes on the property and the continued maintenance programme minimises the loss of sediment/bacteria from these areas into surface water. Cut outs can be used to allow water to flow of the lanes into adjacent paddocks, avoiding water ponding on the lane and causing deterioration.

ACTIONS | RECOMMENDATIONS

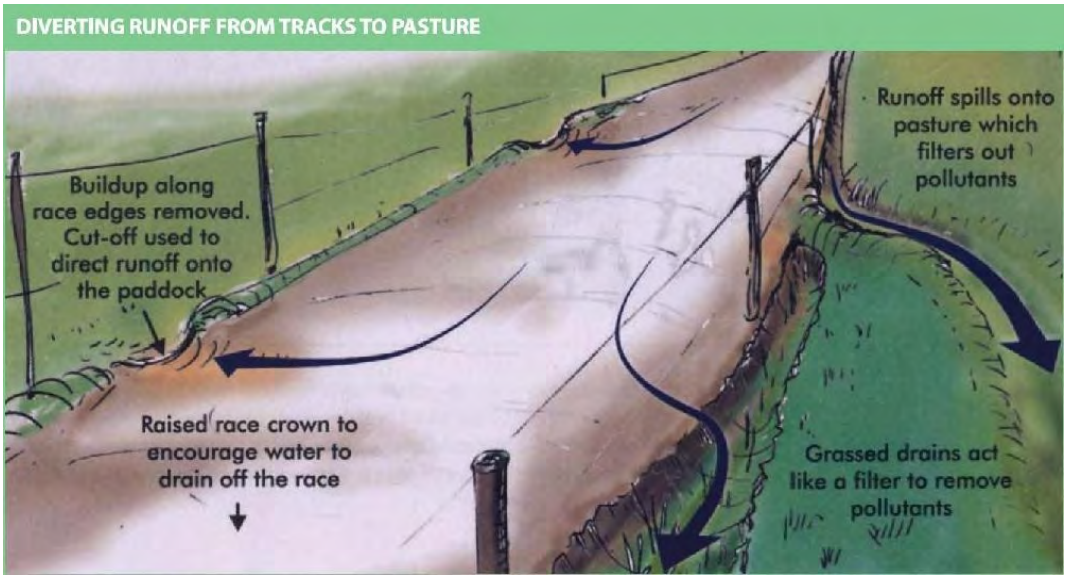
Target Date

All LUs - (L7)Slope Lane away from Waterway During Routine Maintenance - To Achieve GFP

26 Oct 2026

During routine maintenance, modify the lane (marked L7 on the map at the start of this section) camber to slope away from the adjacent waterway towards the paddock on the opposite side. Install cutouts on the paddock side of the lane so water runs off at regular intervals into the adjacent paddock.

LAND & SOIL MANAGEMENT



LAND & SOIL MANAGEMENT

WINTERING, CROPPING AND CULTIVATION

L6

Young stock are currently grazed off farm at the owners support block, including over winter. The property is undergoing significant changes to how stock are wintered with the construction of two self-feed wintering pads that will allow all dairy cows (excluding in calf heifers) to be wintered off paddock. One wintering pad has been completed with the second being constructed so it is ready for winter 2025. The change in wintering practices away from on-paddock intensive winter grazing will significantly reduce the risk of sediment, phosphorus and bacteria loss to water from the farm compared to the benchmarked farming activities.

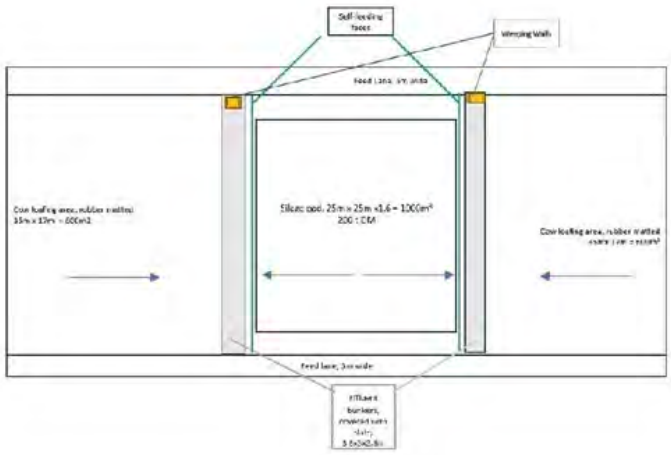
Cultivation and Re-Grassing

The 2024/25 season will see a change in the cultivation and re-grassing undertaken on the farm. Previously this has generally aligned with paddocks that have been intensively winter grazed, however moving forward this will be undertaken more strategically based on pasture renewal needs (no longer winter grazing on paddocks). Approximately 5-7% of the farm is re-grassed each year. Where re-grassing occurs, paddocks undergo full cultivation, but direct drilling could be considered depending on factors such as soils, drainage and paddock performance.

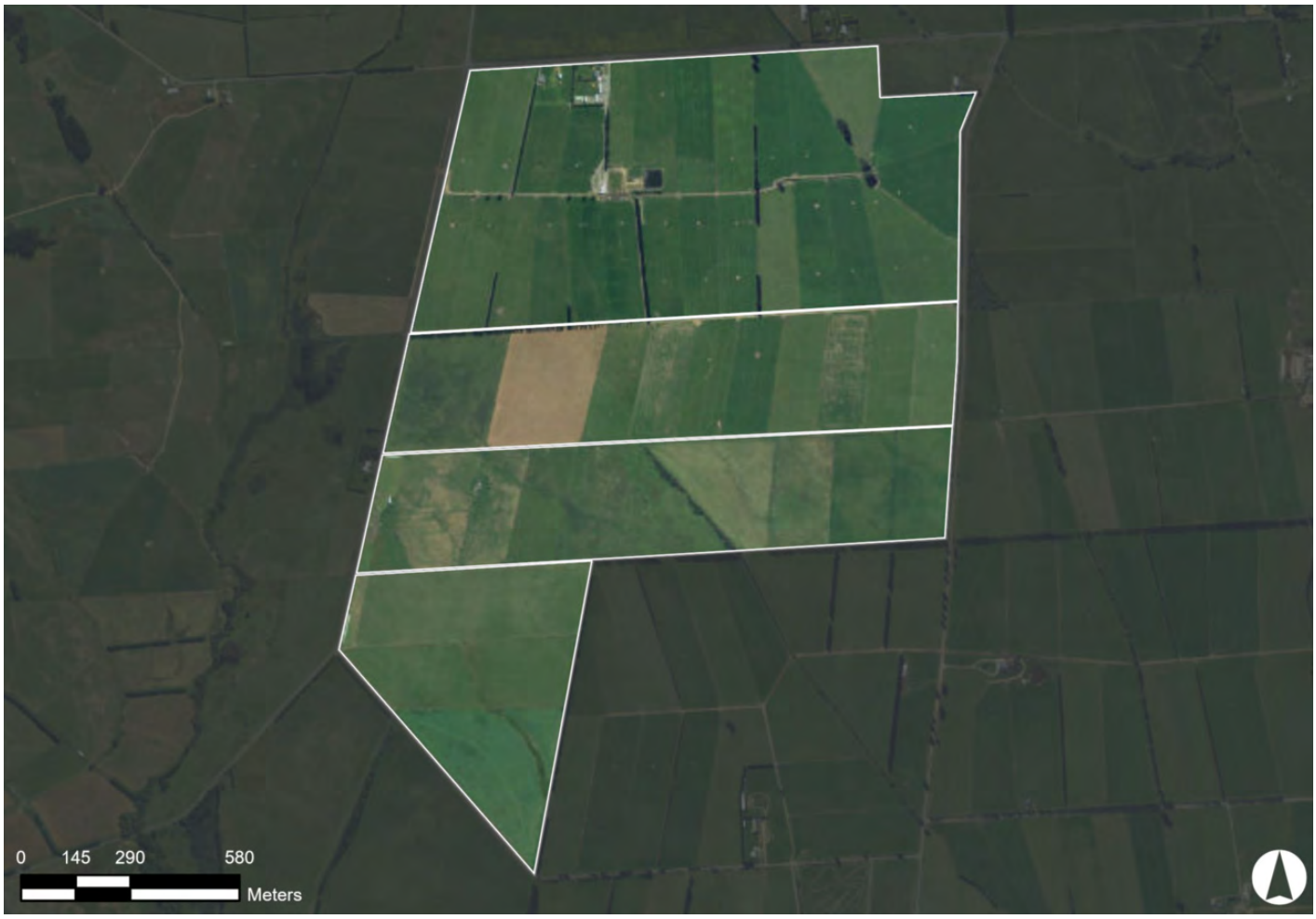
Maps

Maps showing the areas of re-grassing/cultivation that is planned in the next 12 months are contained in Appendix 3.

Appendix Document Appendix 3 - Cultivation Maps



WHAKAMĀKŪKŪ
WATER USE & IRRIGATION MANAGEMENT



I1 Water Use Overview

WATER USE & IRRIGATION MANAGEMENT

GOOD FARMING PRACTICES

Dairy shed and stock water use is efficient and prevents source contamination Practices: All water use on farm is measured (water meters) Water minimisation techniques are in place at the dairy shed A leak detection system is in place All leaks are fixed as soon as possible Water troughs are checked daily where animals are grazing All well heads are sealed, and stock permanently excluded from them A backflow prevention system is installed (where required)	ACHIEVED
The depth, rate and timing of irrigation is managed to meet plant demand and minimise the risk of leaching and run-off	N/A
The irrigation system is designed, operated and regularly checked to minimise the amount of water applied to meet plant demand, and prevent microbial contamination	N/A

WATER USE & IRRIGATION MANAGEMENT

WATER USE OVERVIEW

I1

Dairy shed and stock drinking water is taken from bore D45/0037, which is located at the entrance to the tanker loop. Up to 66.6 cubic metres of groundwater can be abstracted for use on the property. Water abstracted is initially stored in two concrete tanks beside the dairy shed before being used for stock water or within the dairy shed.

Bore D45/0037 is excluded from stock by way of its location beside the tanker loop and the corrugated iron structure surrounding it. The bore casing sit well above the ground level and is capped to prevent contamination.

A water meter is located by the water tanks to measure groundwater taken for the farm's total stock and dairy shed use. Water data is recorded and sent to the Regional Council annually.

Water use on the farm is minimised by keeping yard hosing to a minimum, recycling of cooling water and regularly checking for leaks where stock are grazing.

PARAKAINGAKI EFFLUENT MANAGEMENT

E1 Effluent Overview

E2 Effluent Storage

E3 Effluent Irrigation

E4 Key Feature - Effluent Storage Pond

E5 Key Feature - Weeping Wall Ponds

EFFLUENT MANAGEMENT

GOOD FARMING PRACTICES

Effluent and manure is applied at depths, rates and amounts that match plant requirements and minimise the loss of nutrients or microbial pathogens to waterways and groundwater Practices: An effluent management plan is in place that includes: • Regional rules and consent conditions • A farm effluent map that highlights: • Waterways • Buffer and exclusion zones • High and low risk soils • Effluent system layout (hydrants and runs) • System maintenance checks • System operating procedures • Health and safety • Emergency procedures and contacts Effluent application timing and rates are adjusted based on soil moisture levels Nutrient load is spread evenly across the largest area practical Soil tests are taken biennially in the effluent application area, and fertiliser applications adjusted accordingly Effluent is not applied when soils are at or above field capacity Effluent is not applied when rainfall that would result in the soil becoming saturated is forecast Failsafe mechanisms are in place Staff are trained in the effluent systems operation and maintenance	ACHIEVED
The effluent system is designed, operated and regularly checked to minimise the risk of nutrient and microbial pathogen loss to waterways and groundwater, and to prevent microbial contamination	1 ACTION(S)

*Additional GFP relevant to the dairy industry goals

EFFLUENT MANAGEMENT

EFFLUENT OVERVIEW

E1

Industry best practice for the management of farm dairy effluent (FDE) requires effluent to be stored and irrigated strategically when there is a suitable soil water deficit (deferred irrigation). This significantly reduces the risk of generating surface run-off or direct drainage of effluent into underlying sub-surface drains or groundwater. In addition to deferred irrigation, it is industry best practice to use low-rate (intensity) irrigation technology to reduce the risk of a soils capacity to absorb effluent (soil infiltration rate) being exceeded. Lower application rates reduce the risk of ponding and help with the retention of applied nutrients in the soil root zone be reducing the likelihood of preferential flow through soil cracks or subsurface drains.

The effluent system on the farm is in line with industry best practice for the following reasons:

- Suitably sized effluent storage is available as calculated using the Dairy Effluent Storage Calculator.
- Deferred irrigation practices are used, i.e. effluent is stored until conditions are suitable for applying effluent.
- Low rate irrigation technology is used.

Effluent is washed off the yard, tanker pad and dairy shed pit area into a series of sumps that connect into a stone trap located to the east of the dairy shed. Effluent from the stone trap flows via gravity to one of two sludgebeds with weeping walls located at their eastern end.

Effluent from the wintering pads/silage pads flows or is scraped into slatted concrete bunkers on either side of the self-feed silage section of the pad. Effluent in the bunkers is spread to land via a contractor (umbilical system or slurry tanker) with liquid effluent also able to be pumped over to the main sludgebeds after passing through weeping walls at the ends of the concrete bunkers.

Solids from the sludgebeds are cleaned out at least annually and spread to land via a muck spreader in accordance with Regional Council rules, being at a depth of less than 10mm and when soil temperatures are above 7 degrees.

Liquid effluent is pumped from the end of the sludgebeds over into a 5738m3 (usable volume), synthetically lined storage pond. A dairy effluent storage calculation was completed in October 2023 by Rural Environmental Solutions (Donna McBeath). This calculation confirmed there is adequate effluent storage available for the farm.

Liquid effluent is pumped out from the storage pond to a low rate travelling raingun (Cobra), when conditions are suitable, based on a visual assessment and data from the Environment Southland Beacon website located at Wairio on Aparima soils. The Cobra travelling raingun has a Gator Buddy failsafe installed.

Staff have been trained on the use of the effluent system and regular system maintenance is carried out. Application rate testing of the pods and raingun should be carried out on a regular basis to ensure they are operating correctly.

EFFLUENT MANAGEMENT

The locations where effluent can be applied are shown on the farms resource consent (Appendix 1). Staff are aware of the farms resource consent and the general conditions of that consent. The farm has an effluent management plan that has recently been updated (Appendix 5).

Appendix Document	Appendix 1 - Resource Consent (Effluent Discharge Area)
Appendix Document	Appendix 4 - Effluent Management Plan

EFFLUENT MANAGEMENT

EFFLUENT STORAGE

E2

There is a 5,738m3 (usable volume), synthetically lined effluent storage pond constructed on the property, which was built in 2012. A pond size calculation was completed in 2023 as part of the consent application to install two new wintering/silage pads and determined the pond was adequately sized.

The effluent storage pond has a leak detection system underneath the synthetic liner which can be monitored from the nearby inspection chamber. Due to the pond being installed under a resource consent and having a leak detection system it will only need to be drop tested when the farms discharge consent is renewed.

The pond storage area has been fenced to prevent unauthorised access.

Pond lining	plastic
Dairy effluent storage calculator	Yes
Pond volume	5738 Cubic Metres
Stormwater diversion	Yes

EFFLUENT MANAGEMENT

EFFLUENT IRRIGATION

E3

IMPACT OF CONTAMINATION  +  LIKELIHOOD OF CONTAMINATION = LOW RISK RATING

The effluent irrigation area proposed to be consented is 217ha (currently 202ha), which is larger than required to ensure nitrogen loading rates are kept below 150kg/ha/yr and potassium inputs are not excessive.

Liquid effluent is currently applied using a cobra raingun travelling irrigator. This system applies effluent at low rates (less than 10mm/hr). This is the lowest risk irrigation technology currently available. Low rate irrigation technology ensures the soil infiltration rate is not exceeded and thus minimises the risk of effluent ponding. A Gator Buddy failsafe is installed on the raingun travelling irrigator which turns off the effluent pump in the event the irrigator stops moving.

No application rate testing has been carried out (see Actions). This is required to diagnose any issues with the irrigation system, ensuring the optimal amount of effluent is being applied at the correct rate and depth.

The Discharge Permit for the farm allows for applications of effluent via a slurry tanker and umbilical system. This will occur directly from the effluent pond or the wintering pad bunkers. The application of effluent using a slurry tanker/umbilical system is high risk over tile drains and on sloping topography due to the very high application rates/intensity of these irrigators (150,000L/hr). This results in a high risk of overland flow on sloping topography and bypass flow into tile drains. These systems should only be used when soil moisture conditions are optimal.

Application depth testing	required
Irrigation method	low rate pods
Irrigation Method	Travelling Raingun
Irrigation method	Slurry wagon

ACTIONS | RECOMMENDATIONS

Target Date

All LUs - Test Application Rate of Pods and Raingun - To Achieve GFP

26 Oct 2026

In order to accurately schedule your effluent irrigation and insure effluent is not being over applied, the application rate of the pods needs to be tested. A testing kit is available through Fonterra.

EFFLUENT MANAGEMENT

RARENGA RAUROPI
WATERWAYS & BIODIVERSITY

W1 Waterways & Biodiversity Overview

W2 Artificial or Tile Drainage

W3 Riparian Management Unit - Aparima Tributary - Riparian Planting Zone

W4 Mahinga Kai

W5 Shelter

WATERWAYS & BIODIVERSITY

GOOD FARMING PRACTICES

Stock are excluded from lakes and waterways Practices: Stock are excluded from ephemeral waterways if grazing occurs while water is flowing Stock are excluded from lakes and permanently flowing or intermittent waterways Waterways are fenced with at least two electric wires All stock crossings are bridged or culverted An appropriate buffer is maintained: • that accounts for slope, • to filter runoff, • even if only temporarily during vulnerable periods. Wet areas within paddocks are managed to avoid contamination from stock or fertiliser Drains are well managed Drain cleaning minimises sediment and fish losses	ACHIEVED
Farm indigenous biodiversity and Mahinga Kai values are identified and protected	4 ACTION(S)

*Additional GFP relevant to the dairy industry goals

WATERWAYS & BIODIVERSITY

WATERWAYS & BIODIVERSITY OVERVIEW

W1

IMPACT OF CONTAMINATION  +  LIKELIHOOD OF CONTAMINATION = MEDIUM RISK RATING

Activities within waterways, critical source areas (see Land and Soil Management Section), natural wetlands and their margins are managed on the property to reduce adverse effects on water quality, as outlined below. In addition to this, the Land and Soil, Effluent and Nutrient Management Sections of this plan provide further details on how the farm will achieve this objective. This section of the Farm Environment Plan also outlines how waterways and drainage are maintained to avoid damage to and ultimately improve aquatic habitats.

Two tributaries of the Aparima River run through the property, one on the eastern side of the established dairy farm and a second on the lease block. The waterways are all fenced to exclude stock with riparian margins on the northeastern waterway (established dairy farm) generally maintained in rank grass, with the odd exotic tree. The waterway on the lease block has recently had its riparian margins cleared of gorse and broom. The owner is considering planting options for this area.

There are no notable areas biodiversity on farm but opportunities exist to improve instream habitat in the northeastern stream and biodiversity connections to an adjacent area of native vegetation that boarders the eastern side of the farm.

Stock damage to waterways on the farm is prevented by having permanent stock exclusion fencing and maintaining 2-3m wide riparian buffers between the fence and top of the stream bank. The vegetated riparian buffers also assist in filtering paddock run-off, in combination with the extended riparian margin action outlined in the Critical Source Areas Section of this plan.

Stock crossing points over waterways on the property are also culverted or bridged to prevent stock access and have built up edges to prevent run-off entering the underlying stream.

Artificial drains are a key feature/risk of the property, allowing it to be used for productive purposes, but also providing a conduit for contaminants to be rapidly transported to surface waterways. Artificial drainage is discussed later in this Section.

Internal waterways on the property are not generally cleaned out, therefore damage to aquatic habitats from drainage maintenance is minimal. If waterways are cleaned out in the future, care should be taken to avoid removing bank vegetation and areas of fish habitat.

The Aparima catchment continues to provide important habitat for culturally significant indigenous species that are threatened and at risk, including kanakana (lamprey), tuna (eels) and whitebait species. Existing protected and enhanced areas of the farm provide a habitat for native species.

ACTIONS | RECOMMENDATIONS

Target Date

WATERWAYS & BIODIVERSITY

All LUs - Protect In-Stream and Riparian Habitat when undertaking Waterway Maintenance - To Achieve GFP

01 Nov 2024

When undertaking mechanical clearance of sediment/weeds from waterways on the property protect in-stream and riparian habitat. This is achieved by generally undertaking cleaning activities during December and January which avoids key native fish spawning months for most fish (other than Tuna/Eels), not removing shallow stony areas, using a weed rake or stream-cleaning bucket on diggers to minimise spoil and protect banks from collapsing, returning any fish removed back into the stream and avoiding damage to bank and riparian vegetation.

Waterways should only be mechanically cleaned where this is essential and in stages (downstream sections last) to help capture sediment released by the digger upstream. No more than 1/5th of the waterway should be cleaned per year to ensure adequate instream habitat is maintained within the waterway.

WATERWAYS & BIODIVERSITY

WATERWAYS & BIODIVERSITY

ARTIFICIAL OR TILE DRAINAGE

W2

IMPACT OF CONTAMINATION  +  LIKELIHOOD OF CONTAMINATION = HIGH RISK RATING

Subsurface (tile) drains are the key contaminant pathway for land units on the property.

The farm is drained by a network of subsurface drains that allow water to be quickly transported from the land surface and subsoil to waterways on the farm. This prevents soil damage, protects pasture and allows the land to be used for farming. The downside is subsurface drainage provides a rapid transport mechanism for contaminants such as sediment, E.coli and nutrients to also be transported from the land and subsoil to waterways on the farm.

Actions to direct tile drain water into sediment traps (ponds) or small scale wetlands, prior to discharging into waterways should be prioritised, where this is practicable. These treatment systems allow sediment and associated nutrients to be filtered out of drainage water prior to entering surface waterbodies. In addition to this, major tile drains may be able to be treated with bio-filtration in the future, whereby water passes through a carbon rich medium (such as woodchips) that houses bacteria that convert nitrate into nitrogen gas. Research on the practical implementation of these tools is currently being carried out by Dairy NZ and can be a focus for future iterations of this Plan.

Known tile drains are shown on the map in Appendix 5.

Outlets marked	No
Outfall location	Stream
Appendix Document	Appendix 5 - Tile Drain Map

ACTIONS | RECOMMENDATIONS

Target Date

ALL - LUs Map Known Tile Drains - To Achieve GFP — 06 Sep 2024

Continue to update the tile drain map for the farm as and when new tile drains are installed or existing tile drains are discovered.

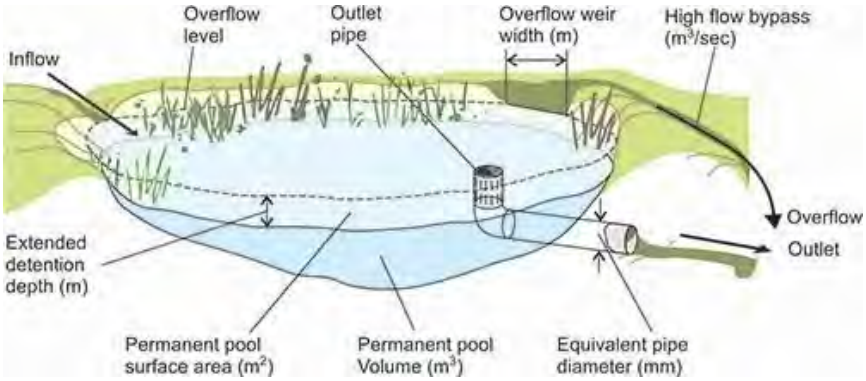
All LUs - Investigate tile drain treatment methods - To Achieve GFP — 26 Oct 2028

Tile drains are a pathway for the transportation of contaminants such as sediment and nutrients to surface waterways.

Where practicable create sediment ponds prior to major tile drains discharging into surface water bodies or divert tile outlets into existing landscape features (duck ponds) or small constructed wetland areas.

This action should be considered as a priority for the farm due to tile drains being the key contaminant loss pathway for land units on the farm.

WATERWAYS & BIODIVERSITY



Tile Drain Wetland Area

WATERWAYS & BIODIVERSITY

APARIMA TRIBUTARY - RIPARIAN PLANTING ZONE

W3

IMPACT OF CONTAMINATION + LIKELIHOOD OF CONTAMINATION = LOW RISK RATING

This 250m of the Aparima tributary stream located in the north eastern section of the farm has been identified as an area where additional riparian planting could be carried out to improve in-instream and riparian habitat compared to the benchmarked farming activites.. The riparian margins in this area are approximately 3m wide and are currently maintained in rank grass. This section of waterway also connects to a section of native vegetation on an adjacent property to the east of the road.

Develop a riparian management plan to ehance the habitat in this section of the waterway. This could include simple planting of carex secta, toetoe and tussock close to the stream edge and a second row of larger shrubs such as cabbage tree, pitosporum, flax and mingimingi closer to the fence.

Waterway type	Stream/Creek
Fencing status	Permanently Fenced
Vegetation status	Rank Grass
Riparian Management Plan	No

ACTIONS | RECOMMENDATIONS

Target Date

All LUs - Develop a Riparian Planting Plan - To Achieve GFP

26 Oct 2027

Develop a riparian management plan to enhance the habitat in this section of the waterway. This could include simple planting of carex secta, toetoe and tussock close to the stream edge and a second row of larger shrubs such as cabbage tree, pittosporum, flax and mingimingi closer to the fence.

WATERWAYS & BIODIVERSITY

MAHINGA KAI

W4

Mahinga kai is about the value of natural resources – our birds, plants, fish, and other animals and resources that sustain life, including the life of people. It is critical to manage these resources to allow people to continue gathering kai (food) in the way the ancestors did. Across Aotearoa as guardians of the land we all have a commitment to work towards meeting Mahinga Kai objectives such as protecting wetlands and fish habitats for species such as nanga and tuna, mitigating the impact of exotic and pest fish species, and ultimately enabling the continued access to healthy mahinga kai species that are safe to eat and in quantities to support local communities. The contribution to Mahinga Kai values doesn't have to be only within the farm boundary, as individual actions on farm will have cumulative effects beyond the farm boundary to the wider catchment.

There are actions done on farm relating to Mahinga Kai and minimising sediment and nutrient loss, these are identified on the farm maps in this report. Specific actions are summarised below

Management of contaminants	Losses of contaminants from the farm have been mitigated or removed through the actions developed within this farm environment plan. This includes management of nitrogen, phosphorus and faecal matter, which are all detrimental to waterway health and the health of mahinga kai.
Management of risk areas	Areas of differing soil types that require different management is done on farm as per land management section of this plan.
Fish habitat protected	Waterways are fenced off and maintained to support fish habitat. The Aparima catchment continues to provide important habitat for culturally significant indigenous species that are threatened and at risk, including kanakana (lamprey), tuna (eels) and whitebait species.
Waterways protected	All waterways or areas holding water are fenced to exclude stock with a buffer zone to help filter any run off of nutrients. Any drains are managed to avoid disturbance or damage to mahinga kai species or habitats.

Galaxia (native freshwater fish)

Develop Native Biodiversity

WATERWAYS & BIODIVERSITY

Tuna (freshwater eels)

Koura (native freshwater crayfish)

WATERWAYS & BIODIVERSITY

SHELTER

W5

There are a number of single rows mix exotic tree hedges present on the property. The well maintained and considered planted shelter belts slow down wind speed. This reduces moisture loss from soil and plants in summer and autumn and helps delay the effects of drought. Shelter is generally beneficial to livestock. Animals gather in shade during hot weather and take refuge from cold winds. Sheltered animals need less feed to maintain physical condition, and their winter growth rates improve.

TAIORA
NUTRIENT MANAGEMENT

N1 Nutrient Overview

N2 End of Season Nitrogen Report - Nitrogen Management

N3 Nitrogen Leaching Mitigations - Nitrogen Efficiency Improvements

NUTRIENT MANAGEMENT

GOOD FARMING PRACTICES

Soil phosphorus levels are monitored and maintained below or within the target ranges for the soil-type and crop	1 ACTION(S)
The amount and timing of fertiliser inputs, takes account of all sources of nitrogen and phosphorus, matches plant requirements and minimises losses to waterways and groundwater	1 ACTION(S)
Fertiliser spreading equipment is maintained and calibrated Practices: Fertiliser spreading equipment is maintained in accordance with the manufacturer's instructions Farm spreading equipment is calibrated regularly specific to the product being spread -- spreading width and volume checked Paddocks are checked for paddock stripes after spreading Contractors are Spreadmark accredited	ACHIEVED

*Additional GFP relevant to the dairy industry goals

NUTRIENT MANAGEMENT

NUTRIENT OVERVIEW

N1

IMPACT OF CONTAMINATION  +  LIKELIHOOD OF CONTAMINATION = MEDIUM RISK RATING

A nutrient loss risk assessment has been carried out using the Fonterra Nitrogen Risk Scorecard and by assessing the key drivers of phosphorus loss risk, being Olsen P, slope, waterway stock exclusion, stocking rate and cultivation/wintering. Results associated with the Nitrogen Risk Scorecard are contained under the Nitrogen Management section of this Plan.

The appropriate use of nutrients on the farm is determined by regular soil testing and advice from the farms fertiliser representative (Ballance). All farm soil testing is carried out every three years with a tailored fertiliser plan developed to increase Olsen P levels in lower fertility paddocks and reduce Olsen P levels where they exceed the agronomic optimum. All paddock testing is done every three years to give time for fertiliser changes to be reflected in the soil test results.

Olsen P levels being targeted moving forward are the top end of the recommended agronomic range (30).

Based on the 2021 soil test results Olsen P levels ranged between 21-66 (average 40). Olsen P levels greater than the agronomic optimum (30) are expensive to maintain when compared to the limited pasture production achieved. In addition to this, soil Olsen P levels above 30, especially in soils with low anion storage capacity increase the risk of phosphorus losses to water.

Other factors that increase the risk of phosphorus loss to water have been assessed as low risk on the property with all waterways being stock excluded, relatively flat topography (other than small sections of the farm where terraces are located), only 5% of the farm cultivated per year and no pasture based winter grazing occurring. Going forward it is proposed the farm will also only have a modest stocking rate of 2.5cows/ha.

No fertiliser is stored on farm, all fertiliser is brought in and applied by Transport Services Limited who are Spreadmark accredited and use proof of placement technology. Fertiliser applications are differentiated between effluent and non-effluent areas to ensure that nutrients are applied in dairy effluent are accounted for. All fertiliser is applied taking into account soil and weather conditions.

Applications of nitrogen fertiliser occur between August and April. In the 2023/24 season an average of 187kg/N/ha was applied. This is discussed further in the Nitrogen Management section of this Plan.

The National Environmental Standards for Freshwater Management limit the use of nitrogen fertiliser on pastoral land (including crops). No more than an average of 190kg/N/ha can be applied across your land holding with individual paddocks (excluding crop paddocks, which can have higher rates if this doesn't result in the average rate across the landholding exceeding 190kg/ha) receiving no more than 190kg/ha. All dairy farms must supply fertiliser purchase records and application records to Environment Southland by the 31st July each year.

NUTRIENT MANAGEMENT

ACTIONS | RECOMMENDATIONS

Target Date

All LUs - Adjust P application rates so Olsen P is maintained within the Agronomic optimum - To Achieve GFP

26 Oct 2027

Current soil test Olsen P ranges from 21 to 66, the agronomic optimum for soils on the farm is a maximum of 30. Olsen P levels greater than 30 are expensive to maintain when compared to the limited pasture production that is achieved. Higher Olsen P levels also result in an increased risk of phosphorus loss to water.

NUTRIENT MANAGEMENT

NITROGEN MANAGEMENT

N2

IMPACT OF CONTAMINATION  +  LIKELIHOOD OF CONTAMINATION = MEDIUM RISK RATING

A Farm Insights Report and Nitrogen Loss Risk Scorecard has been produced for the property based on the information provided to Fonterra in your Farm Dairy Records. The data contained within your Farm Dairy Records has been checked to ensure there are no obvious errors. Your reports are attached to this Plan in Appendix 6.

Your Farm Insights Report shows the farm has a Purchased Nitrogen Surplus of 179kgN/ha for the 2023/24 season. Purchased Nitrogen Surplus reflects the relationship between the amount of nitrogen entering the farming system through fertiliser and feed, versus the amount leaving the farm in product. The higher your Purchased Nitrogen Surplus the greater the risk of nitrogen being lost to water and greater opportunities for efficiency gains by optimising your nitrogen fertiliser use. For farms in Southland producing above 1350kg/MS/ha the average nitrogen surplus (2023/24) was approximately 105kg/N/ha.

More nitrogen is being used to grow pasture (per kg/DM grown) than the average System 4 farm in Western Southland, by comparison you are growing approximately 75kg/DM for every kgN used versus a System 4 Western Southland benchmark group average of 116kg/DM for every kgN used. This indicates the potential to reduce the amount of nitrogen being brought into your farming system (and subsequent cost) without impacting your overall pasture and milk solids production.

When compared to last season (2022/23), fertiliser usage increased from 100kg/N/ha to 187kg/N/ha. It is noted there was a corresponding increase in production per cow and per hectare that could be attributed to the additional fertiliser (and imported feed) applied, however the estimated 14tDM/ha of pasture grown on farm was also produced by several farms surrounding you using an average of 140kg/N/ha (See Nitrogen Fertiliser Optimisation Section of your Insights Report).

The results from your Nitrogen Risk Scorecard have identified the following areas as having a high to very high risk of nitrogen loss to water and should be investigated further to minimise losses:

1. Stock Management (Very High Risk) – The key diver is the farms stocking rate of 3.0 cows/ha (medium risk) which is significantly increased by the amount of dry matter being consumed per ha (18.1tDM/ha) resulting in more nitrogen being ingested by the animal and retuned to pasture as dung and urine patches (highly vulnerable to be leached).

2. Nitrogen Fertiliser (High Risk) – The key driver is the amount of fertiliser applied (187kg/ha). The higher the amount of fertiliser applied, the greater the risk of nitrogen loss risk. Additional factors such as the efficiency with which a kgMS is produced per kgN applied and timing and application rates are additional factors considered.

3. Imported Feed (Very High Risk) – The key driver is the amount of feed imported combined with the average nitrogen content of the feed and the efficiency in which the feed is used to produce a kgMS per kgN imported.

It is recommended the Nitrogen Efficiency Improvements Section of this Plan is reviewed to further refine the use of nitrogen fertiliser usage to ensure it is being used as effectively as possible.

NUTRIENT MANAGEMENT

Records kept for nutrient budgeting	
Appendix Document	Appendix 6 - Farm Insights Report & Nitrogen Risk Scorecard

ACTIONS | RECOMMENDATIONS

Target Date

All LUs - Investigate & where practicable implement outlined nitrogen efficency strategies - To Achieve GFP

26 Oct 2026

Several strategies are outlined in the Nitrogen Efficiency Improvements Section of this Plan. These strategies focus on a more tactical use of nitrogen to fill feed deficits rather than relying on nitrogen all year round. It is strongly recommended that any strategies are trialed using a staged approach to avoid unforeseen impacts on your farming system. Most of the strategies also require a well-managed ryegrass/clover mix with good swards of clover present to promote nitrogen fixation.

NUTRIENT MANAGEMENT

NITROGEN EFFICIENCY IMPROVEMENTS

N3

Several changes to the way nitrogen fertiliser is used on the farm have been suggested to enable the more efficient use of nitrogen fertiliser and a subsequent reduction in costs. The strategies are focused on a more tactical use of nitrogen to fill feed deficits rather than relying on nitrogen fertiliser all year round. The strategies are all based on maintaining the current milk solids production and stocking rate. It is strongly recommended that the strategies are trialed using a staged approach over the coming seasons.

Initial guidance on the efficiency of nitrogen use was determined by comparing your farms purchased nitrogen surplus against the average nitrogen surplus of farms in your region producing similar milksolids per ha. This indicates there may be opportunities to use nitrogen inputs more efficiently without impacting on milk solids production.

Clover Content

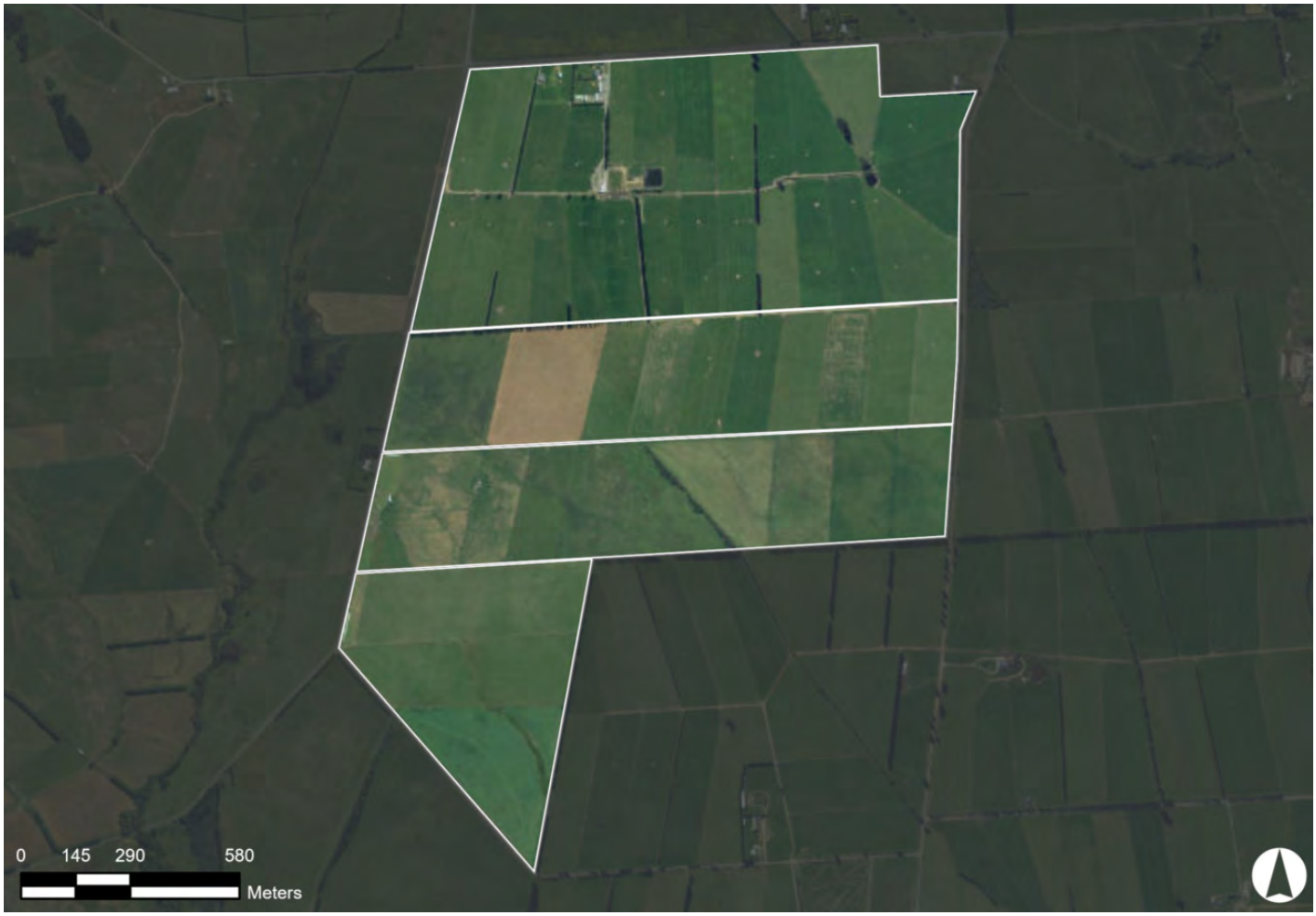
For most of the strategies outlined below paddocks must have a well-managed ryegrass/clover mix with good swards of clover present to promote nitrogen fixation. Care needs to be taken to avoid long-lasting shading of clover runners in spring by prolonged canopy closure (i.e. heavy silage cuts). Shading will reduce clover branching and reduce clover production. This will impact nitrogen fixation later in the year, risking lower summer pasture yields.

Utilise an Environmental Plantain in Pasture Mix	Research has shown that utilising an environmental plantain cultivar can reduce nitrogen leaching as less nitrogen ends up in cow urine (main driver of nitrogen leaching) and urine patches have a lower nitrogen load due to a greater urine volume per animal per day. Depending on the proportion of plantain in the cows diet, this will reduce the nitrogen leached.
Reduce Nitrogen Fertiliser on the Effluent Block	Reduce the frequency and/or rate of nitrogen fertiliser applications on the effluent block to account for the nitrogen being supplied from farm dairy effluent. It is recommended this is progressively decreased over the coming seasons to approximately 150kg/N/ha. This could be reduced further if the full effluent area is not utilised.
Remove a Summer Nitrogen Fertiliser Application	In late autumn to early spring, low temperatures usually restrict clover growth, nitrogen fixation and mineralisation, resulting in less nitrogen being available to grow grass. This results in nitrogen deficiencies being more pronounced in spring, when soil temperature and moisture dont limit grass growth, and a rapid response to nitrogen fertiliser can be expected. During summer, clover content is at its highest, when combined with favourable soil temperatures and soil moisture clover is able to fix significant amounts of nitrogen for grass growth, resulting in reduced responses to nitrogen fertiliser.
Reduce Nitrogen Application Rates	Reduce nitrogen fertiliser application rates. Using an application of 25-30kg/N/ha is likely to be enough to overcome any spring nitrogen deficiencies. Higher rates (40kg/N/ha max) should be restricted to when conditions for pasture growth are optimal and surplus pasture is going to be harvested for silage. This will avoid high pre-grazing covers and residuals.
Remove late autumn applications of Nitrogen Fert	Reduce or do not apply nitrogen fertiliser in late autumn, when average covers are generally sufficient, soil temperatures are falling (lower response to nitrogen) and there is an increased risk of nitrogen

NUTRIENT MANAGEMENT

loss through soil drainage.

TŪKUNGA HAU **KŌTUHI**
GREENHOUSE GAS EMISSIONS



G1 Greenhouse Gas Emissions Overview

G2 Pasture and Crop Production - Greenhouse Gas Mitigation Opportunities

GREENHOUSE GAS EMISSIONS

GOOD FARMING PRACTICES

Farm greenhouse gas emissions are known and a plan is in place to reduce or offset them, that also considers adaptation to climate change

ACHIEVED

Practices:
Greenhouse gas emissions are calculated each year for the farm

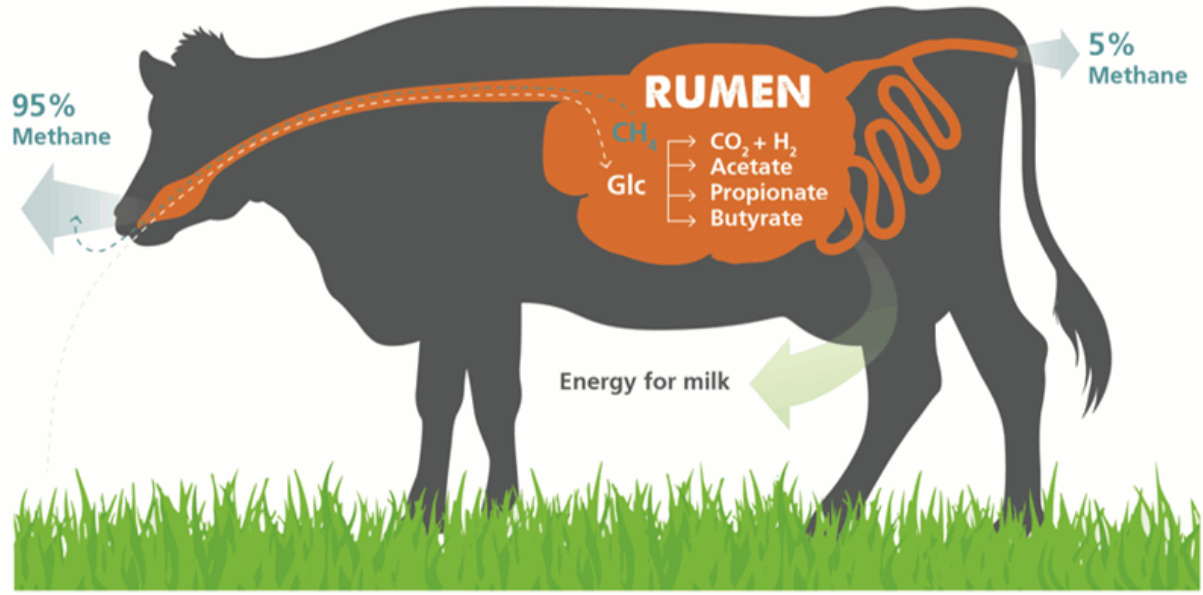
GREENHOUSE GAS EMISSIONS

WHAT ARE GREENHOUSE GAS EMISSIONS?

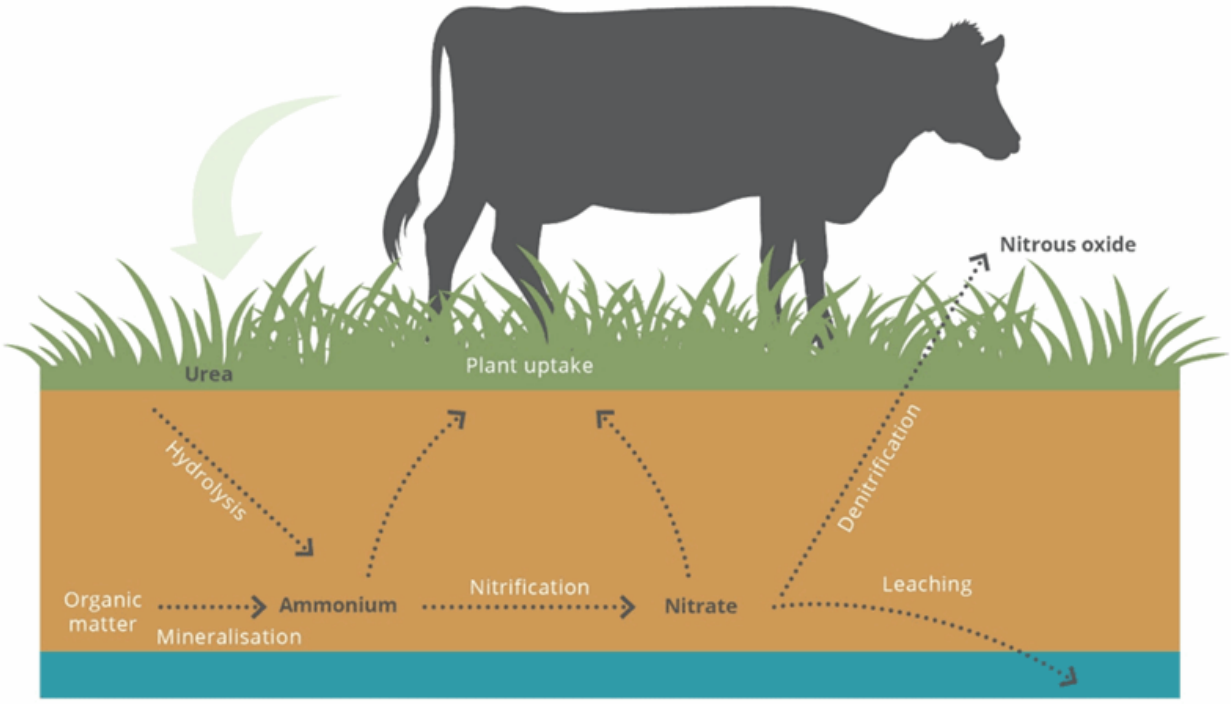
The main agricultural GHGs are methane (CH_4) and nitrous oxide (N_2O). Methane is produced by ruminants (e.g., cows and sheep) by methanogen microbes that are naturally present in the rumen. Most methane is emitted when cattle burp. The amount of methane produced for each farm is directly related to the total feed intake for that farm (including cows, heifers and calves).

Nitrous oxide is emitted from soil when urine, faeces and fertilisers are broken down by microbes in the soil.

How methane (CH_4) is produced



How a nitrous oxide (N_2O) is produced



GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS EMISSIONS OVERVIEW

Each farms greenhouse gas (GHG) emissions vary depending on farm size, inputs, outputs and management. This section of your Farm Environment Plan is to understand your farms individual Greenhouse Gas Emissions footprint and understand practices on your farm which impact your emissions.

Actions and recommendations in this section of the plan have been formulated from the discussion on-farm, and the information included in your Farm Insights Report. As discussed, there are some practices on-farm which have a significant impact on emissions. These practices are also covered in other sections of this plan and have co- benefits for reducing impacts on water quality reducing your GHG emissions. These are identified by a logo on the Good Farming Practice summary at the beginning of this plan in addition to being discussed in this section.

A Farm Insights Report has been produced based on the information provided to Fonterra in your 23/24 season Farm Dairy Records (FDR's), accounting for practices on your dairy farm effective area. This report is attached to this Farm Environment Plan in the Appendix.

The following section of this plan summarises the information in the Insights report, and discussion during the farm visit to identify the key practices on farm already demonstrating emissions efficiency, and some key opportunities to investigate, to further reduce emissions on your farm.

Your farm is achieving Good Farming Practice for GHG emissions by knowing what your emissions are and having this plan in place to reduce or offset them.

Recommendations for continuous improvement have been included in this plan.

Appendix Document	Appendix 6 - Farm Insights Report & Nitrogen Risk Scorecard

GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS MITIGATION OPPORTUNITIES

Emissions Profile (per kgMS):

Your farms total emissions are 10.2 kgCO2e/kgMS. This is made up of 6.2 kgCO2e / kgMS from Methane, 1.4kgCO2e / kgMS from Nitrous Oxide and 2.6 kgCO2e from Carbon Dioxide. When compared to the benchmark group of other farms in Otago and Southland your farm's emissions (intensity) are slightly below the benchmark group average. Despite this, there are still opportunities to reduce your emission intensity through efficiency gains.

Farm Emission Reduction Plan

As outlined under the nitrogen management section of this plan, there are potential opportunities to grow similar amounts of pasture with less nitrogen fertiliser inputs (or more pasture with the same or slightly less nitrogen inputs). This will not only lower your costs of production in terms of fertiliser costs and imported feed but result in less nitrogen oxide emissions.

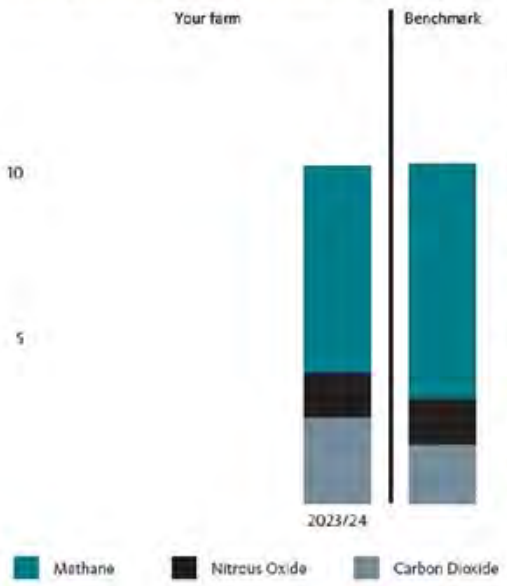
If more pasture can be produced on farm from the same or less inputs, this could enable imported feeds, such as PKE to be reduced. Imported feeds such as PKE have a high emissions footprint (carbon dioxide), thus reducing these will reduce your farms overall emissions.

Overall, any improvements that can be made to increase milk produced from the same or less inputs will reduce your emissions intensity (per kgMS produced). Maintaining or further lowering mastitis and lameness rates ensures cows are healthy, producing well and prevents milk having to be withheld while animals are treated.

A more detailed assessment of efficiency opportunities will be undertaken as part of a future 'Efficiency Plan' visit.

Your on-farm emissions

Your farm is benchmarked against Southland and Otago farms



This data shows the emissions that are created from your farming activities. There are also other things that influence your farm's footprint - things like peat soil, land-use change and carbon removals. These aren't captured in the data below.

	Your Farm	Benchmark
Emissions ($kgCO_2e$)/ kgMs	10.2	10.30
Methane (biological)		
Dairy herd	5.00	5.50
Replacements	0.70	1.00
Effluent	0.50	0.60
Nitrous Oxide (biological)		
Livestock	0.90	1.00
Fertiliser	0.40	0.30
Manure and soil	0.10	0.10
Carbon Dioxide (non-biological)		
Imported feed	1.60	0.80
Fertiliser	0.50	0.40
Other	0.50	0.60

APPENDIX 1

AUTH-20211674-01-V1

Cnr North Road and Price Street
(Private Bag 90116
DX YX20175)
Invercargill

Telephone (03) 211 5115
Fax No. (03) 211 5252
Southland Freephone No. 0800 76 88 45

Discharge Permit

Under Section 104C of the Resource Management Act 1991, a resource consent is granted by the Southland Regional Council to **Paul Turner for Paul Turner Farm Trust** of **1633 Wreys Bush Mossburn Road, Dunrobin, 9689** from **24 November 2021.**

Please read this Consent carefully, and ensure that any staff or contractors carrying out activities under this Consent on your behalf are aware of all the conditions of the Consent.

Details of Permit

Purpose for which permit is granted:		To discharge agricultural effluent to land from up to 450 cows via low rate pod system, travelling irrigator, umbilical system and slurry tanker.
Location	- site locality	237 Sinclair Road, Opio
	- map reference	NZTM2000 1218900E 4900074N
	- physiographic zones	Gleyed and Central Plains
	- groundwater zones	Upper Aparima
	- catchment	Opio Stream, Aparima River and Kenny Creek
	- FMU	Aparima
Legal description of land at the site:		Section 152 Block V Wairio SD, Section 154 Block V Wairio SD, Part of Section 153 Block V Wairio SD.
Expiry date:		**31 May 2032**

History of Transfer and Change

- Consent varied on 18 April 2024
- Appendix 1 amended on 29 April 2024
- Consent amended on 1 August 2024

Schedule of Conditions

General conditions

1. This resource consent shall not be exercised until Discharge Permit AUTH-301198 is surrendered or has expired.

2. This consent authorises the discharge of dairy shed effluent ("agricultural effluent") and self-feeding silage pads (feed pads) effluent onto land, via a land disposal system consisting of a stone trap, weeping wall and sludge beds and an effluent storage pond to low rate pods, travelling irrigator, umbilical system and slurry tanker, as described in the applications (APP-20211674 & APP-20233661)[1] for resource consent dated 11 November 2021 and 14 December 2023. The activity shall be limited to:
   (a) The discharge to land of agricultural effluent generated from milking of up to 450 cows up to twice per day;
   (b) The discharge to land of agricultural effluent generated from the use of two self-feeding silage pads facilities holding a maximum of 200 cows per facility between 1 June and 30 September (inclusive) or up to 450 cows in adverse weather conditions;
   (c) The discharge to land of agricultural effluent via a low-rate pod system (or equivalent low-rate irrigation system) and travelling irrigator;
   (d) The discharge to land of agricultural effluent via a high-rate umbilical system and slurry tanker as contingency measures; and
   (e) The discharge of agricultural effluent to an area no more than 202 hectares as per the plan attached as Appendix 1.

   Advice Note: *Routine monitoring inspections of this consent may occur up 2 times a year. This number does not include any other required inspections.*

3. Notwithstanding these conditions, this permit shall be exercised in accordance with the Collected Agricultural Effluent Management Plan. Where there is inconsistency between the Collected Agricultural Effluent Management Plan and the conditions of this consent, the conditions of this consent shall prevail.

4.
   (a) The discharge shall not exceed: A depth of application of 10 millimetres for each individual application, and an instantaneous rate of 10 millimetres per hour via a low-rate pod system or travelling irrigator on Category C land;
   (b) A depth of application of 25 millimetres for each individual application, and an instantaneous rate of 10 millimetres per hour via a low-rate pod system or travelling irrigator;
   (c) A depth of application of 10 millimetres for each individual application via an umbilical system; and
   (d) A depth of application of 5 millimetres for each individual application via a slurry tanker.

5. If the Consent Holder installs an equivalent low-rate irrigation system as per Condition 2(b), the Consent Holder must, during the initial use of that low-rate irrigator:
   (a) measure the depth and instantaneous rate of application by the equivalent low-rate irrigator as installed; and
   (b) supply these measurements to the Consent Authority within 20 working days of the test being undertaken.

6. The minimum return period for the discharge of agricultural effluent to land shall be 28 days.

7. The discharge shall not occur when the moisture content of the soils is at or above field capacity.

[1] Environment Southland Document ID: A708586, A1022773

8. Nitrogen loading onto any land area as a result of the exercise of this consent shall not exceed 150 kilograms of nitrogen per hectare per year.

Exclusions

9. This consent does not authorise the discharge of:
   (a) dairy shed effluent (excluding self-feeding silage pads effluent) collected during 1 June to 31 July,
   (b) effluent collected by a winter barn or underpass.
   (c) effluent onto Category C land via high-rate umbilical system or slurry tanker.

10. No discharge shall occur within:
   (a) 20 metres of any surface watercourse;
   (b) 100 metres of any water abstraction point;
   (c) 200 metres of any place of assembly or dwelling not on the subject property; and
   (d) 20 metres from any property boundaries.

   Where there is inconsistency between the plan attached as Appendix 1 and the conditions of this consent, the conditions of this consent shall prevail.

11. The stored or discharged agricultural effluent shall not enter any surface watercourse in any way, including:
   (a) directly.
   (b) indirectly.
   (c) by overland flow.
   (d) via entrainment by stormwater or run-off; or
   (e) via a pipe.

12. The stored or discharged agricultural effluent shall not:
   (a) form ponds or flow on the land surface, or
   (b) cause contamination of water.

13. The stored or discharged agricultural effluent shall not cause any odour beyond the boundary of the site (see Appendix 1) that is offensive or objectionable in the opinion of the Council's Compliance Officer.

14. Spray drift beyond the boundary of the site shall not occur.

Effluent storage

15. The discharge shall occur via an agricultural effluent storage facility of between 5,563 cubic metres and 7,035 cubic metres capacity.

16. The Consent Holder must maintain at least 500mm of freeboard in the agricultural effluent storage facility at all times.

17. By the 1 January 2022 the Consent Holder shall obtain written confirmation from a suitably qualified person that the structure, referred to in the application as the north weeping wall, has no visible cracks, holes, or defects that would allow effluent to leak from the structure.

18. The certification required by Condition 17 shall be accompanied by photographs of the structure (date and time stamped) and be supplied to the Consent Authority within one month of receiving the certification.

System management

19. The Consent Holder shall notify the Consent Authority the identity of the Person in Charge of the agricultural effluent disposal system:
    (a) prior to the first exercise of this consent, and
    (b) no more than five working days following the appointment of any new Person in Charge.

20. The Consent Holder shall install and maintain:
    (a) an operational alarm that alerts the Person in Charge to any system failure that could cause the over-application, overflow or spilling of agricultural effluent (e.g., sudden pressure drop, irrigator stoppage); and / or
    (b) an operational automatic switch-off system that prevents any over-application or spilling of agricultural effluent.

21. Where the agricultural effluent reticulation system is installed in such a way that effluent can be siphoned when pumping ceases, the Consent Holder shall install and maintain an anti-siphon device in the agricultural effluent pipeline.

22. In the event of the failure or mismanagement of the agricultural effluent disposal system, or any other event that may result in a discharge of agricultural effluent that may have significant adverse effect on water quality, particularly in the region of the abstraction point of a registered drinking-water supply, the Consent Holder shall notify, as soon as reasonably practicable, the following:

    (a) the Consent Authority (ph. 03 211 5115 or 03 211 5225 after hours); and
    (b) Southland District Council (ph. 0800 732 732).

Collected Agricultural Effluent Management Plan

23. Within three months of the first exercise of this consent, the Consent Holder shall prepare and submit to the Consent Authority a Collected Agricultural Effluent Management Plan. The Collected Agricultural Effluent Management Plan shall:
    (a) provide concise and clear direction to the Person in Charge and other staff on the operation of the agricultural effluent system.
    (b) identify environmental risks of agricultural effluent discharges specific to the farm including, but not limited to, locations of drains, surface waterways, sub-surface drainage and critical source areas in the agricultural effluent disposal area.
    (c) identify how the above environmental risks are avoided.
    (d) describe how each component of the agricultural effluent system is maintained and have regard to the information provided in the pond storage calculations provided in the application.
    (e) describe how agricultural effluent in storage is managed.
    (f) describe how agricultural effluent is managed when soils are at or above field capacity and/or during adverse weather conditions; and
    (g) describe how the stormwater diversion on the system is set up and managed.

24. Annually or more frequently, the Collected Agricultural Effluent Management Plan shall be reviewed, and the outcome of the review provided to the Consent Authority within one month.

25. If amended at any time, the most recent version of the Collected Agricultural Effluent Management Plan shall be provided to the Consent Authority within one month of the amendment.

Advice notes: *The Collected Agricultural Effluent Management Plan required by Condition 23 may be incorporated into the Farm Environmental Management Plan required by Rule 20, and prepared in accordance with Appendix N, of the proposed Southland Water and Land Plan (Decisions Version) (or any updated version of the plan).*

Review of consent

26. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent during the period 1 February to 30 September each year, or within two months of any enforcement action being taken by the Consent Authority in relation to the exercise of this consent, for the purposes of:
    (a) Determining whether the conditions of this permit are adequate to deal with any adverse effect on the environment, including cumulative effects, which may arise from the exercise of the permit, and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the permit.
    (b) Eensuring the conditions of this consent are consistent with any National Environmental Standards Regulations, relevant plans and/or the Environment Southland Regional Policy Statement;
    (c) Amending the monitoring programme to be undertaken;
    (d) Adding or adjusting compliance limits;
    (e) Ensuring the Apurimac Freshwater Management Unit meets the freshwater objectives and freshwater quality limits set in an operative regional plan or National Policy Statement for Freshwater Management; and
    (f) Requiring the Consent Holder to adopt the best practicable option to remove or reduce any adverse effect on the environment arising as a result of the exercise of this permit.

Re-issued on 18 April 2024 after amendment on conditions 2, 4, 9, 13, and Appendix 1.
Re-issued on 29 April 2024 after correction on Appendix 1.
Re-issued on 1 August 2024 after amendment on condition 2(b)

for the **Southland Regional Council**

Ryan Hodgson
Senior Consents Officer

Notes:

1. *The Consent Holder shall pay an annual administration and monitoring charge to the Consent Authority, collected in accordance with Section 36 of the Resource Management Act, 1991, payable in advance on 1 July each year.*

2. *In accordance with Section 125(1)(a) of the Resource Management Act, this consent will lapse after a period of five years after the date of commencement unless it is given effect to or an application is made to extend the lapse period before the consent lapses.*

3. *In accordance with section 126 of the Resource Management Act, 1991, this consent may be cancelled by the Consent Authority if not exercised for a continuous period of 5 years or more.*

4. *The Consent Holder is reminded that they may apply at any time under Section 127 of the Act to have any condition of this consent changed except that which specifies the expiry date of this consent.*

5. *If you require a replacement permit upon the expiry date of this permit, any new application should be lodged at least 6 months prior to the expiry date of this permit. Applying at least 6 months before the expiry date may enable you to continue to exercise this permit until a decision is made, and any appeals are resolved, on the replacement application.*

6. *Dairy shed effluent should not be discharged onto any land area that has been grazed within the previous 5-10 days. Where there has been significant damage to soil during grazing, it is recommended that effluent not be applied until that damage has been repaired.*

7. *Measuring the moisture content of the soil to determine when the soils are at or above field capacity can be done by either actual monitoring on site or by reference to the appropriate Council monitoring site. The Council's soil moisture monitoring sites can be viewed at* http://gis.es.govt.nz/ *and following the "Soil Moisture Map" link.*

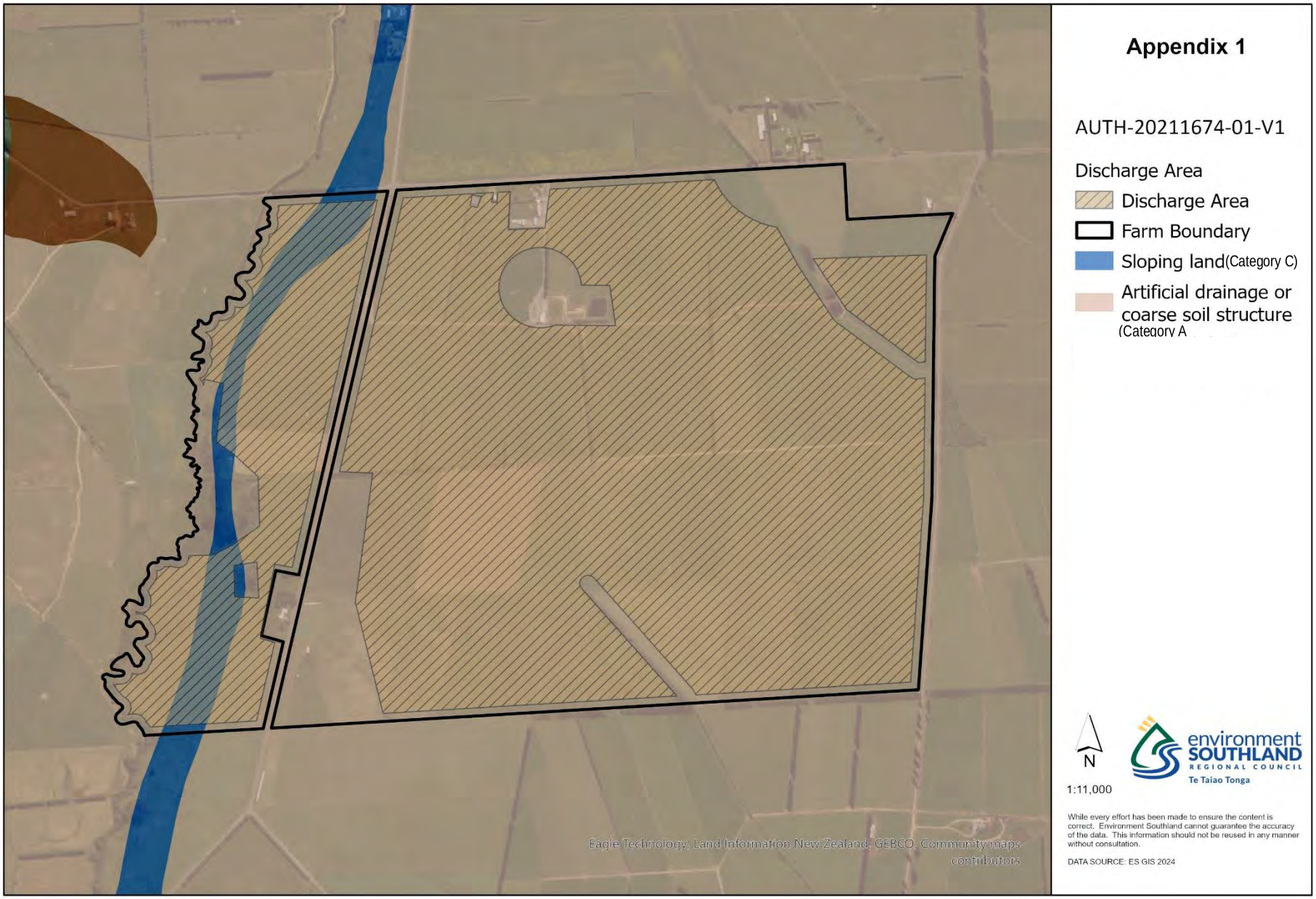
8. *Ponding is the accumulation of effluent on the soil surface resulting from the application of effluent to saturated soils, or the application of effluent inducing saturated soil conditions.*

9. *Extreme caution should be taken when applying nitrogen fertiliser to the effluent disposal area. It is recommended that a nutrient budget is used to check that nitrogen and potassium application rates to the effluent disposal area are not excessive.*

10. *The Consent Holder should display, in a prominent place in the dairy shed, a copy of the resource consent and relevant limits about the operation of the effluent disposal system that must be complied with.*

11. *Storage systems should be operated at low levels when conditions for effluent disposal are suitable in order to maintain storage for wet weather periods. In particular, storage systems should be emptied in late summer/early autumn to ensure sufficient storage capacity for the following late winter/early spring period.*

12. *The Proposed Southland Water and Land Plan (pawl) was notified by Environment Southland on the 3rd of June 2016. The Council's decision on the pawl was publicly notified on 4 April 2018. On and from that date the notified version of the pSWLP is replaced by the decisions version of the pSWLP. Rules within the pSWLP have immediate legal effect, including rules relating to the on-going use of land for dairy farming. Under Rule 20 of the pSWLP, a Management Plan will need to be prepared and developed in accordance with Appendix N of the pSWLP. This plan is to be provided to the Consent Authority upon request.*


Appendix 1
AUTH-20211674-01-V1
Discharge Area
Discharge Area
Farm Boundary
Sloping land(Category C)
Artificial drainage or coarse soil structure
(Category A
N
1:11,000
environment SOUTHLAND
REGIONAL COUNCIL
Te Taiao Tonga
While every effort has been made to ensure the content is correct. Environment Southland cannot guarantee the accuracy of the data. This information should not be reused in any manner without consultation.
DATA SOURCE: ES GIS 2024
Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors

AUTH-20233661

environment SOUTHLAND
REGIONAL COUNCIL
Te Taiao Tonga

Cnr North Road and Price Street
(Private Bag 90116
DX XY20175)
Invercargill

Telephone (03) 211 5115
Fax No. (03) 211 5252
Southland Freephone No. 0800 76 88 45

Land Use Consent

Under Section 104B of the Resource Management Act 1991, a resource consent is granted by the Southland Regional Council to **Paul Turner for Paul Turner Farm Trust of 1633 Wreys Bush Mossburn Road, Dunrobin, 9689** from **18 April 2024.**

Please read this Consent carefully, and ensure that any staff or contractors carrying out activities under this Consent on your behalf are aware of all the conditions of the Consent.

Details of Consent

Purpose for which permit is granted:		Use of land for two self-feeding silage pads (feed pads) including the built-in effluent storage facilities.
Location	- groundwater zone	Upper Aparima
	- FMU	Aparima
	- physiographic zone	Gleyed and Central Plains
	- catchment	Opio Stream, Aparima River and Kenny Creek
	- legal description	Section 152 Wairio SD

Expiry date: **31 May 2034**

History of Changes and Transfer

- **Consent conditions corrected on 1 August 2024**

Schedule of Conditions

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[1]. 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.

[1] Environment Southland document ID: A1022773

2. This consent shall be exercised in conjunction with Discharge Permit AUTH-20211674-01-V1 (or any subsequent variation versions).

3. The feed pads shall be located;

   (a) as described in the table below;

Feed pad 1:

Legal description	Section 152 Wairio SD
Map Reference of Feed Pad (NZTM 2000)	1218988E 4900013N
Property address	237 Sinclair Road, RD1, Otautau

Feed pad 2:

Legal description	Section 152 Wairio SD
Map Reference of Feed Pad (NZTM 2000)	1218991E 4899981N
Property address	237 Sinclair Road, RD1, Otautau

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.

5.

5.1 Feed Pad 1 shall be:

   (a) No greater than 3,010 m² in area;
   (b) Constructed with a concrete effluent storage bunker to capture effluent generated on the feed pad.

5.2 Feed Pad 2 shall be:

   (a) No greater than 2,150 m² in area;
   (b) Constructed with a concrete effluent storage bunker to capture effluent generated on the feed pad.

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.

7. This consent does not authorise the discharge of any liquid effluent or animal and vegetative waste produced as a result of the activity authorised by this consent being undertaken.

Advice Note: *The Consent Holder shall discharge:*

(a) the feed pads sludge and associated vegetative matter in accordance with Rule 38 of the Proposed Southland Water and Land Plan (Decisions Version) or any subsequent versions; and

(b) the liquid effluent generated from the feed pads in accordance with the conditions of Discharge Permit AUTH-20211674-01-V1 (or any subsequent variation versions).

8. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent during the period 1 February to 30 September each year, or within two months of any enforcement action being taken by the Consent Authority in relation to the exercise of this consent, or on receiving monitoring results, for the purposes of:

   (a) Determining whether the conditions of this permit are adequate to deal with any adverse effect on the environment, including cumulative effects, which may arise from the exercise of the permit, and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the permit;
   (b) Ensuring the conditions of this consent are consistent with any National Environmental Standards Regulations, relevant plans and/or the Environment Southland Regional Policy Statement; or
   (c) Ensuring the Aparima Freshwater Management Unit meets the freshwater objectives and freshwater quality limits set in an operative regional plan or National Policy Statement for Freshwater Management.

Reissued on 1 August 2024 after amendment on condition 1(a)

for the **Southland Regional Council**

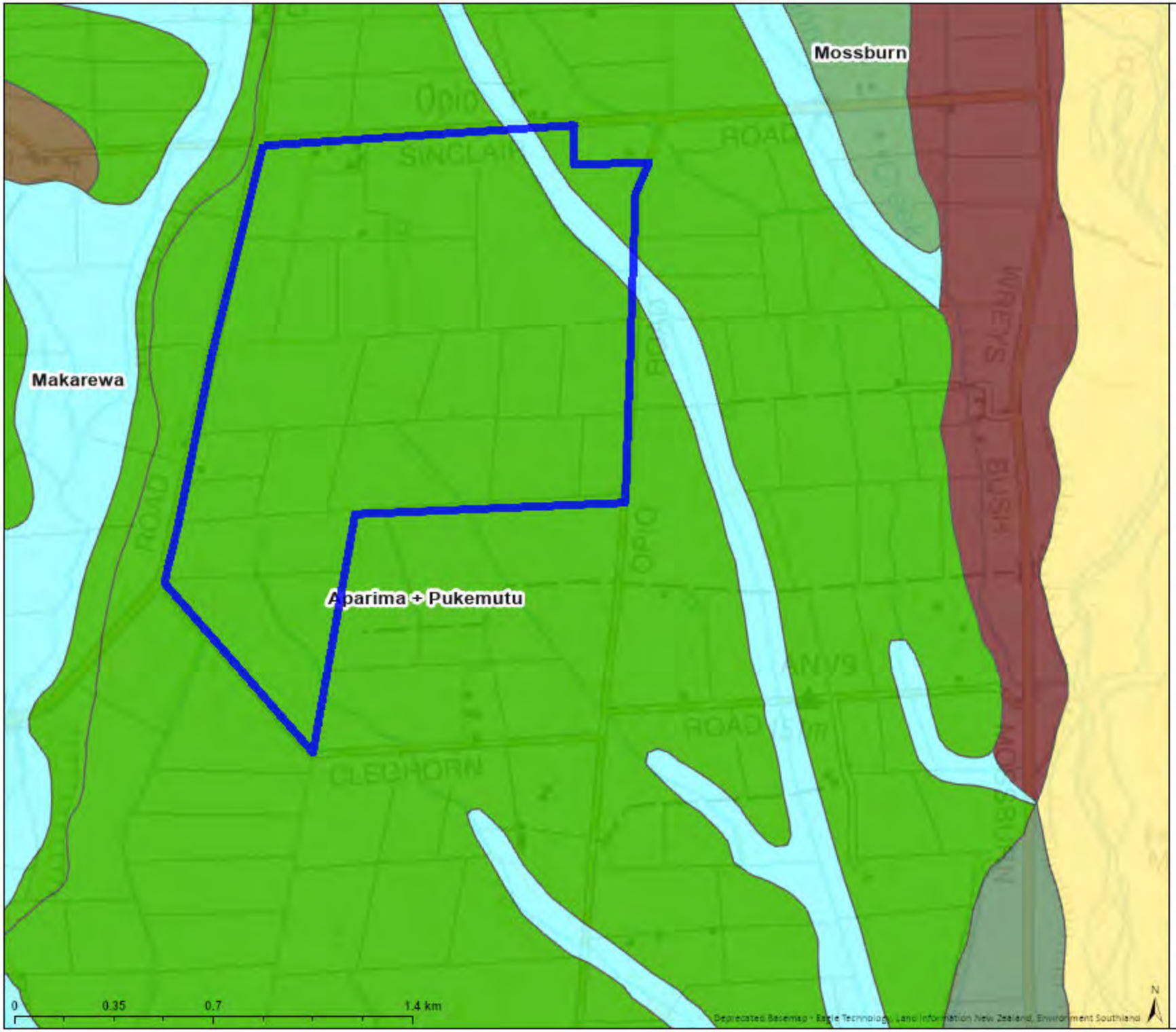
Ryan Hodgson
Senior Consents Officer

Notes

1. *In accordance with Section 125(1)(a) of the Resource Management Act, this consent shall lapse after a period of five years after the date of commencement unless it is given effect to or an application is made to extend the lapse period before the consent lapses.*

2. *The consent holder shall pay an annual administration and monitoring charge to the Consent Authority, collected in accordance with Section 36 of the Resource Management Act, 1991. This charge may include the costs of inspecting the site up to one time each year (or otherwise as set by the Consent Authority's Annual Plan).*

APPENDIX 2



environment SOUTHLAND
REGIONAL COUNCIL
Te Taiao Tonga

Soil Map

Override 1

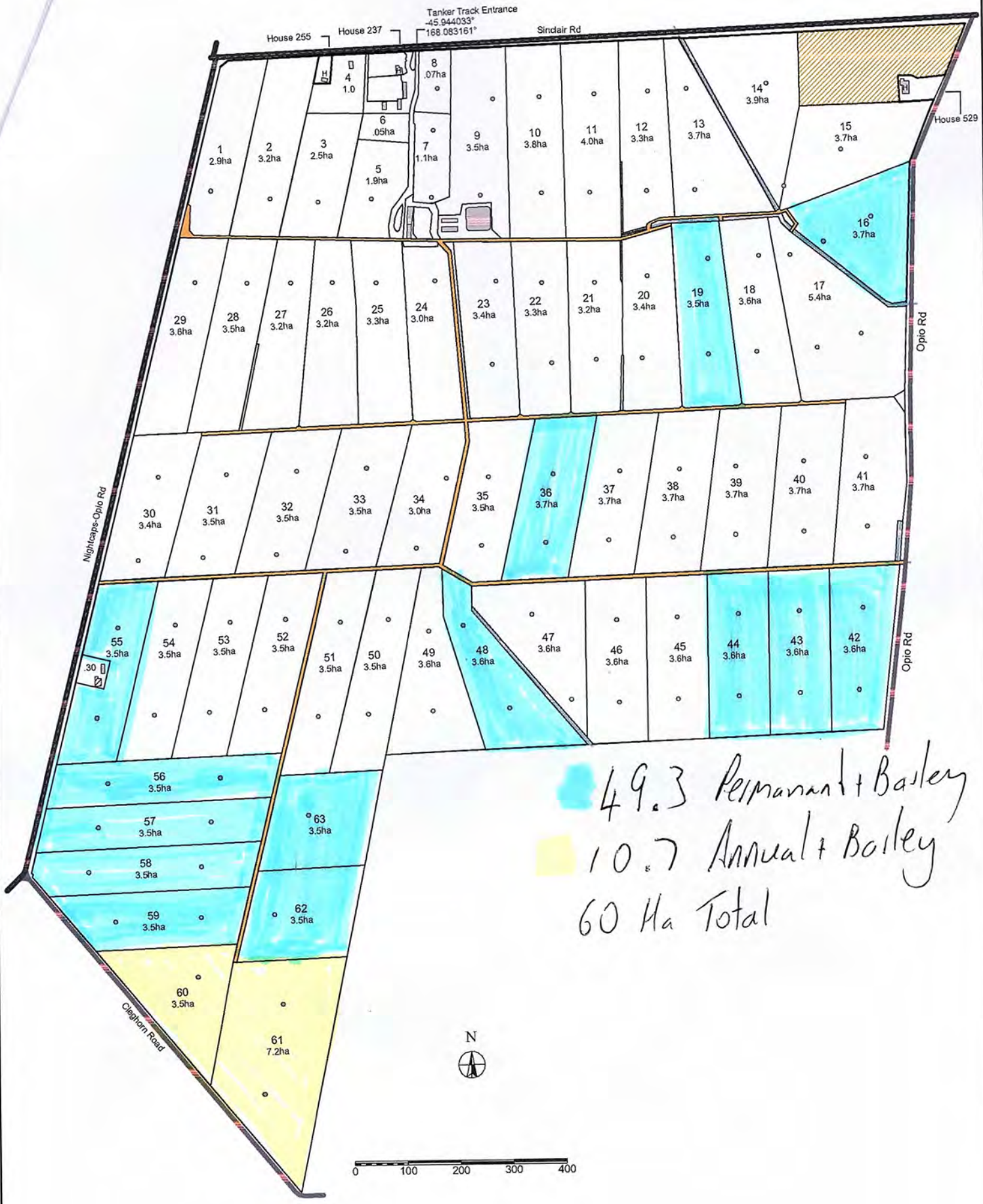
Soil Types

- Aparima
- Glenelg
- Makarewa
- Mossburn
- Oteramika
- Tuatapere
- Upukerora
- Waiau

Scale: 1:18,056
Map created: 29/08/2024

DATA SOURCE: ES GIS 2024

APPENDIX 3



49.3 Permanent + Barley

10.7 Annual + Barley

60 Ha Total

Etal Creek Opio Paul Turner 027 305 5843	Total Area: Effective Area: Paddock 1-63	220.69 ha 212.02 ha	**Farm Map**	Southland Farm Mapping Ltd GPS & Drone Surveying Chris Botha 021 134 7248
	237 Sinclair Road RD 1 Otautau Fonterra 35225	45°57'14.4"S 168°04'18.4"E	Surveyed : 26/09/2024 Drawn : 26/09/2024	

APPENDIX 4

Effluent Management Plan

Contact Details

Company Name:	***Paul Turner Farm Trust***	
RES Client Code: TUR20050-03	Dairy Supply Number (DSN): 35225	
Postal Address:	1633 Wreys Bush Mossburn Road RD1 Otautau 9689	
Current Consent details:	Discharge Permit: AUTH-20211674-01	Water permit: AUTH-20211674-02
Activity Location:	Address: 237 Sinclair Road Opio	Legal Description of land: Section 152 Block V Wairio Survey District, Section 154 Block V Wairio Survey District, Part of Section 153 Block V Wairio Survey District. (shown as 167.0728 ha)
Contact Details:	Paul Turner Farm Trust C/- Paul Turner 1633 Wreys Bush Mossburn Road RD1 Otautau 9689	Mobile: 027 305 5843 Landline: Email: paulandkayleen@farmside.co.nz
EMP Prepared By:	RES Rural Environmental Solutions Donna Corbin 42 Charlton Road Gore 9710	Mobile: 027 890 1234 Email: donna@res.kiwi.nz
On farm Contacts:	Farm Manager: Jordan Wiseman	Mobile: 027 384 6769 Email: jordan.wiseman95@gmail.com
	Person In charge of Effluent System: Jordan Wiseman	Mobile: 027 384 6769 Email: jordan.wiseman95@gmail.com

Table of Contents

Effluent Orientation and Training

Staff will be given a copy of this plan when they start working on the property. They will then be shown the effluent system and verbally trained on how it works, its components and they will be assigned a buddy to work alongside of while they learn each step.

Please refer to Appendix A for a copy of the DairyNZ “Effluent Orientation and Training Record” to be filled in for each staff member.

Overview of the Effluent System

We are consented to milk a maximum of 450 cows, twice a day, from the 1st of August till the 31st of May.

For effluent application from an all grass system, with no stock holding areas, a minimum area of approximately 4 ha/100 cows may be required, being 18 ha for 450 cows. The current effluent application area is approximately 140.5 ha (less any setbacks).

The following areas drain to the effluent system:

- shed pit
- tanker pad
- yard
- concrete entries
- stone trap
- twin weeping wall sludge bed
- old feed pad
- main effluent pond

The following areas do not drain to the effluent system:

- dairy shed roof

Figure 1 Overview of the effluent system.

Figure 2 Whole farm layout

Key Information about Effluent Disposal System

- Effluent is collected from:
  - 32 cup a side herringbone shed.
  - Tanker Pad, vats, pit, yard and concrete areas.
- Stormwater diversion
  - The dairy shed roof is permanently diverted.
  - The yard & entries, old feed pad are not diverted.
- Stone trap 1 (stone trap)
  - The stone trap is cleaned as required of a minimum of every 2-4 weeks.
  - Solids are spread directly to land as conditions allow, as per Rule 38 of the PSWLP (refer to Appendix C). They must not be spread deeper than 10mm depth.
  - Solids should not build up in any area of the stone trap enough to form a channel.
  - The stone trap drains into the twin weeping wall sludge bed.
- Approximately 31.5m³ of effluent is generated (on average) each day when the peak number of cows are being milked.
- Water use (from bore; D45/0037):
  - The yard is cleaned using fresh wash water and is scraped.
  - Up to 140 litres per cow, per day of water can be abstracted for shed wash down and stock drinking water.
    - Approximately 70 litres for shed wash down water.
    - Approximately 70 litres for stock drinking water.
  - 2 holding tanks are installed at the shed for fresh water for shed wash (being a volume of 60m³).
  - The more water that is used/caught, the more effluent is produced. Water use is reduced by:
    - Only wash side yards when necessary.
    - Being aware of the water use in the dairy shed at all times.
    - Work the hose water actively.
- Weeping Wall Sludge Bed - twin weeping wall sludge bed
  - The north sludge bed is approximately 36.5m long x 12m wide x 1.5m deep with an effective storage capacity of approximately 422m³, when the beds are empty.
  - The south sludge bed is approximately 36.5m long x 12m wide x 1.5m deep with an effective storage capacity of approximately 422m³, when the beds are empty.
  - Having a combined storage volume of approximately 845m³ in both beds.
  - Both sides should be spread over a minimum land area of 8.5ha (to provide an average depth of 10mm, as per rule 38 of the Proposed Southland Water and Land Plan).
  - No solids are to be spread to land during 1 May till 30 September, every year (as required by rule 38 of the Proposed Southland Water and land Plan).
- Main effluent storage (main effluent pond)
  - The pond has a synthetic liner, there is gas venting installed and a leak detection system is installed under the liner, it is approximately 51.7m long x 51.6m wide x 3.5m deep, with a 0.5m freeboard, having a storage volume of approximately 5,738m³ (including the sludge area at the bottom), when the pond is empty (The pond depth was taken from the Civil Tech pond drawings, with the opening dimensions being measured by RES on site).
  - Any day's effluent can be applied to land (any day there is a soil moisture deficit of greater than 3mm), effluent should be applied to land.
  - The main effluent storage pond level should be managed in accordance with Figure 5 Target Pond Levels.
  - A Pod Buddy Automatic Switch Off System automatic switch off system is installed at the pump, it does turn the pump off. A high/low pressure switch is installed.
- Effluent is applied to land from the main effluent storage pond, when soil and weather conditions allow.

- ❖ When soil or weather conditions are not suitable, effluent is stored in the main effluent storage pond.
- ❖ No effluent is applied when the soil moisture level is below 3mm deficit.
- ❖ The soil moisture deficit is determined before every application by referring to the ES Website for soil moisture (http://gis.es.govt.nz/index.aspx?app=soil-moisture), do not exceed the soil moisture deficit available- **Wairio Site**.
- ❖ No effluent is applied to land when the soil temperature is below 5 degrees.

➢ Effluent can be applied using the low-rate pods, umbilical cord and slurry tanker.

Figure 3 Consent Appendix 1 - Discharge area map.

Evaluating the Yard and Effluent System

This section is a simplified guide of how Environment Southland may look at your dairy shed, effluent system and effluent application. It should be used in conjunction with the DairyNZ resource, Dairy Farm Effluent- the rules for achieving compliance in Southland (refer to Appendix B for a copy of this document, or the DairyNZ website for the latest version).

What dilution is effluent considered to be by Environment Southland?

There is no definition that says effluent may be "this strength" or contain "this much" effluent to be considered for enforcement action. Just remember:

> "If it is effluent, if it has been in effluent, if it now contains effluent (no matter how small the effluent part is); if it contains any contaminants at all, it needs to be stored on a sealed and contained area until it can be applied to land at the right time and in the right way to be taken up by the grass"

Sealed and Contained

The Shed and Catchment Areas

From the shed, yard and other catchment areas; through to the pond, effluent lines and hydrants:

- Is the effluent on a sealed area?
    - Is it compressed material such as clay, lime rock or nap rock; or is it concrete; or does it have a suitable synthetic liner? AND
- Is the effluent contained?
    - Is the effluent contained in the sealed area? Is there any potential for effluent to run off the sealed area (either in the dry or in the wet, what would happen in a heavy rain fall event?).

Effluent Irrigation

When applying effluent to land by the irrigator:

- The application areas does not need to be sealed. BUT,
- The effluent must still be contained to:
    - The area you are applying to, at the depth you are applying it (including the spray drift, and not leaching into any tiles within this area). AND
    - The depth you are allowed to apply the effluent to in your consent. It must not be applied deeper than the consented individual application depth, or not exceeding 150kg N/ha/year (typically 30mm combined total per year).

Consented Rate and/or Depths for each type of Irrigation System.

The consented rate and depth for each type of irrigation system consented for use on the property is outlined in Discharge Permit AUTH-20211674-01. Before any other types of irrigator can be used the consent will need to be varied to allow the use of them (unless it is a low rate system, under condition 5 you can use a low rate system after an Application Rate test has been undertaken that demonstrates that the rate and depth requirements have been meet, and the test has been submitted to ES).

For a low-rate system this would be:

- Classification A soils- a rate of 10mm/hour at a depth not exceeding 25mm per application;
- Classification C soils- a rate of 10mm/hour at a depth not exceeding 10mm per application;

For a slurry tanker system, this would be:

- at a depth not exceeding 5mm per application;

For an umbilical cord system, this would be:

- at a depth not exceeding 10mm per application;

Potential Effect

Under the current Resource Management Act 1991 (RMA) the Regional Council can base their on farm assessment of effect on:

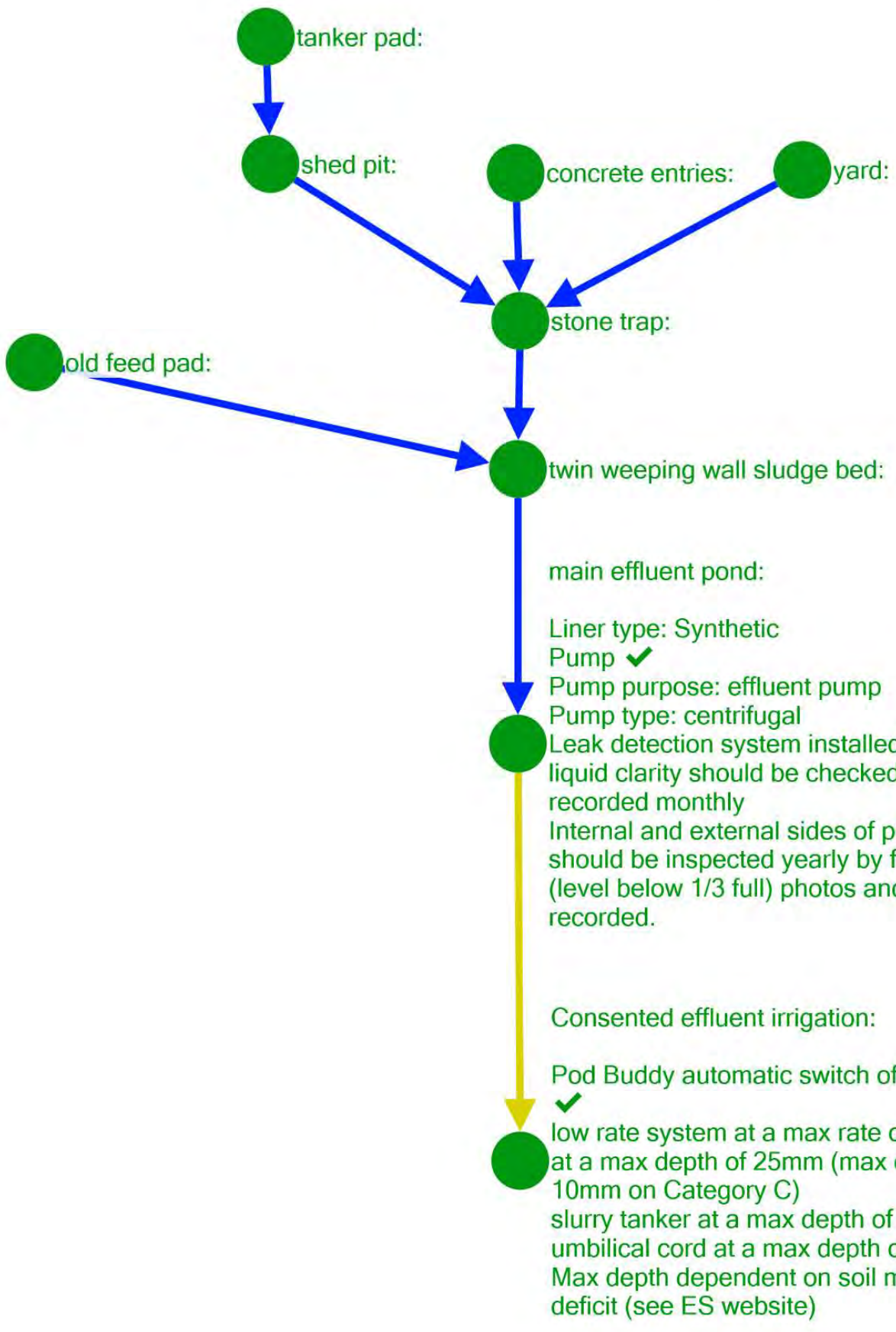
3 Meaning of effect
In this Act, unless the context otherwise requires, the term effect includes—
(a) any positive or adverse effect; and
(b) any temporary or permanent effect; and
(c) any past, present, or future effect; and
(d) any cumulative effect which arises over time or in combination with other effects—
regardless of the scale, intensity, duration, or frequency of the effect, and also includes—
(e) any potential effect of high probability; and
(f) any potential effect of low probability which has a high potential impact.
Section 3: amended, on 7 July 1993, by section 3 of the Resource Management Amendment Act 1993 (1993 No 65)

What Grading's can ES Give?

1- Fully Compliant.
2- Minor non-compliance. Usually given for paperwork related issues, or minor areas.
5- Marginal non-compliance. Usually given for small areas of possible effects. This is what will start showing a bad history for the farm. This could be one area of concern or made up of multiple concerns.
10- Significant non-compliance. Usually given for multiple small possible effects, medium to large possible effects and direct discharges, all 10's have a re-inspection and all 10's are possible prosecutions.

Effluent System Layout Summary

Effluent System Layout - Paul Turner Farm Trust



Other Information

Discharge permit expiry: 31/05/2032
Water permit expiry: 31/05/2032
Consented max number of cows: 450
Milking consented from 1/08 to 31/05
Storage dimensions: 51.7m long x 51.6m wide x 3.5m deep, 5,738m³ effective storage.
2 routine ES inspections per year.
EMP prepared ✔
EMP should be reviewed yearly.
Water meter type - Mechanical.
Water meter verification required every 1 year
Readings should be taken monthly and submitted to ES by the 31st of May.
Max water use in shed, yard, etc:
(not include stock drinking water)
All year - 31,500 litres/day

Legend

Not collected

shed roof - Permanently diverted

Figure 4 Effluent Layout Summary.

Set back Distances.

Effluent shall only be applied to the allowed discharge area.

The following set back distances will be adhered to at all times. The setback distance specified is measured from where the effluent lands.

On windy days the irrigator may need to be set back a lot further to ensure that all effluent lands outside of the setback zone.

Effluent shall not be discharged within:

(a) 20 metres of any surface watercourse;
(b) 100 metres of any water abstraction point;
(c) 200 metres of any place of assembly or dwelling not on the subject property; and
(d) 20 metres from any property boundaries.

Solids/Sludge Application.

All solids/sludges will be applied either:

- As per the Discharge permit requirements, or
- as per Rule 38 of the Proposed Southland Water and Land Plan. Refer to Appendix C for a copy of this rule.

Pond Size

The Dairy Effluent Storage Calculation for the farm is attached in Appendix D. The inputs should be checked yearly to ensure no changes have been made.

Effluent storage 1 - main effluent pond

The main effluent pond is approximately 51.7m long x 51.6m wide x 3.5m deep, excluding the pond freeboard there is approximately 5,738m³ of storage available for use when the pond is empty (The pond depth was taken from the Civil Tech pond drawings, with the opening dimensions being measured by RES on site).

Under the proposed management and infrastructure parameters described in this report and on the balance of probability, it is 90% likely that 5,563m³ of storage will be adequate for storage in any one year.

Target Pond Levels (assuming Pond is Sized Correctly)

Below is a guide for approximately when the pond should be at what level, during the year.

Aug/Sep/Oct

- If pond is more than 1/3 full going into this period strict management practices will be needed as it is likely you will have insufficent available storage.
- Discharge on any days that conditions are suitable.
- Soils are likely to have low infilltration rates.
- Expect approximately 2/3 of challenging rainfall, during Aug/Sept/Oct.
- Rain is coming.

Nov/Dec

- Empty Pond as soon as conditions are suitable.
- Ensure pond is empty before the Christmas holidays and heat comes (to help control odour).

Jan/Feb/Mar

- Empty the pond after the Christmas hoildays and keep empty.
- Discharge on any days conditions are suitable.
- Watch for cracking of soils.
- Do not irrigate on cracked soils.

Apr/May

- Pond should be empty going into April and at the end of April.
- Discharge on any days that conditions are suitable.
- Expect approximately 1/3 of challenging rainfall, from late April till end of May.

Jun/July

- Pond should be approximately 1/3 full going into June.
- Keep excess water out of pond during June and July, ie stormwater diversion.
- Only consider discharging during this time to keep pond level under 1/3 full, ready for August.
- Only apply on any days that conditions are suitable.
- Low nutrient uptake durign this time.
- Soils are likely to have low infilltration rates.

Figure 5 Target Pond Levels

Before applying Effluent to Land

- Check the ES Website for soil moisture, do not exceed the soil moisture deficit available.
    - The soil moisture deficit is determined before every application by referring to the ES Website for soil moisture (http://gis.es.govt.nz/index.aspx?app=soil-moisture) (**Wairio Site**). Do not exceed the soil moisture deficit available.
- Check the weather forecast, do not apply when rain is predicted within 4-6 hours.
- Check the location to be used is within the effluent application area of the consent.
- Check the irrigator is set on the fastest speed and is working correctly.
- Undertake a visual soils assessment before applying effluent.

Important Notes

- No effluent is to pond on the soil surface.
- No effluent is to get into waterways.
- The pond is not to overflow at any time.
- The pond is to be pumped out of anytime that soil moisture and weather conditions allow.
- Any days' effluent can be applied it should be applied.
- The pond is only to be used when soils moisture and weather conditions do not allow effluent to be applied.

Irrigator Set Up

The DairyNZ resource, A staff guide to operating your effluent irrigator system – Low Rate, will be used to train staff and techniques to setting up the irrigator for each run.

Visual Soils Assessment

Check paddocks manually - look and listen. Do not irrigate if:

There is already water puddling on the ground/worms on surface.

You can hear/see water or wet mud under foot when you walk.

It has been raining a lot, snowing or the ground is frozen.

The soil makes a 'worm' when rolled, sticks to your thumb when rolled or free water appears when squeezed.

Refer to pages 8-22 of The DairyNZ resource, A staff guide to operating your effluent irrigator system – Low Rate System (refer to Appendix E).

AND:

- Determine the soil moisture deficit (www.es.govt.nz).
  - The soil moisture deficit is determined before every application by referring to the ES Website for soil moisture (http://gis.es.govt.nz/index.aspx?app=soil-moisture) **(Wairio Site).** Do not exceed the soil moisture deficit available.
- Determine the weather forecast (https://www.yr.no/place/New_Zealand/).
- Determine location is within the allowed effluent application area of the Consent.
- Check application regularly for ponding, pooling or runoff.
- Observe:
  - Do not apply if puddles of water are already present.
  - Pugging in paddock.
  - Low areas.
  - Tiles/swales and critical source areas for runoff.
  - Slope.

Traffic Light Map

Figure 6 Traffic Light Map.

The traffic light map below (Figure 6) has been prepared by Paul Turner (on 5/4/2022) to reflect know levels of soil risk for effluent application. These areas should be reviewed yearly to ensure they still reflect the associated risk.

An assessment of the paddock, soil moisture and weather forecast should always be referred to before applying effluent. This map is an indication only and should be used as a guide only. It may change at different times of the year.

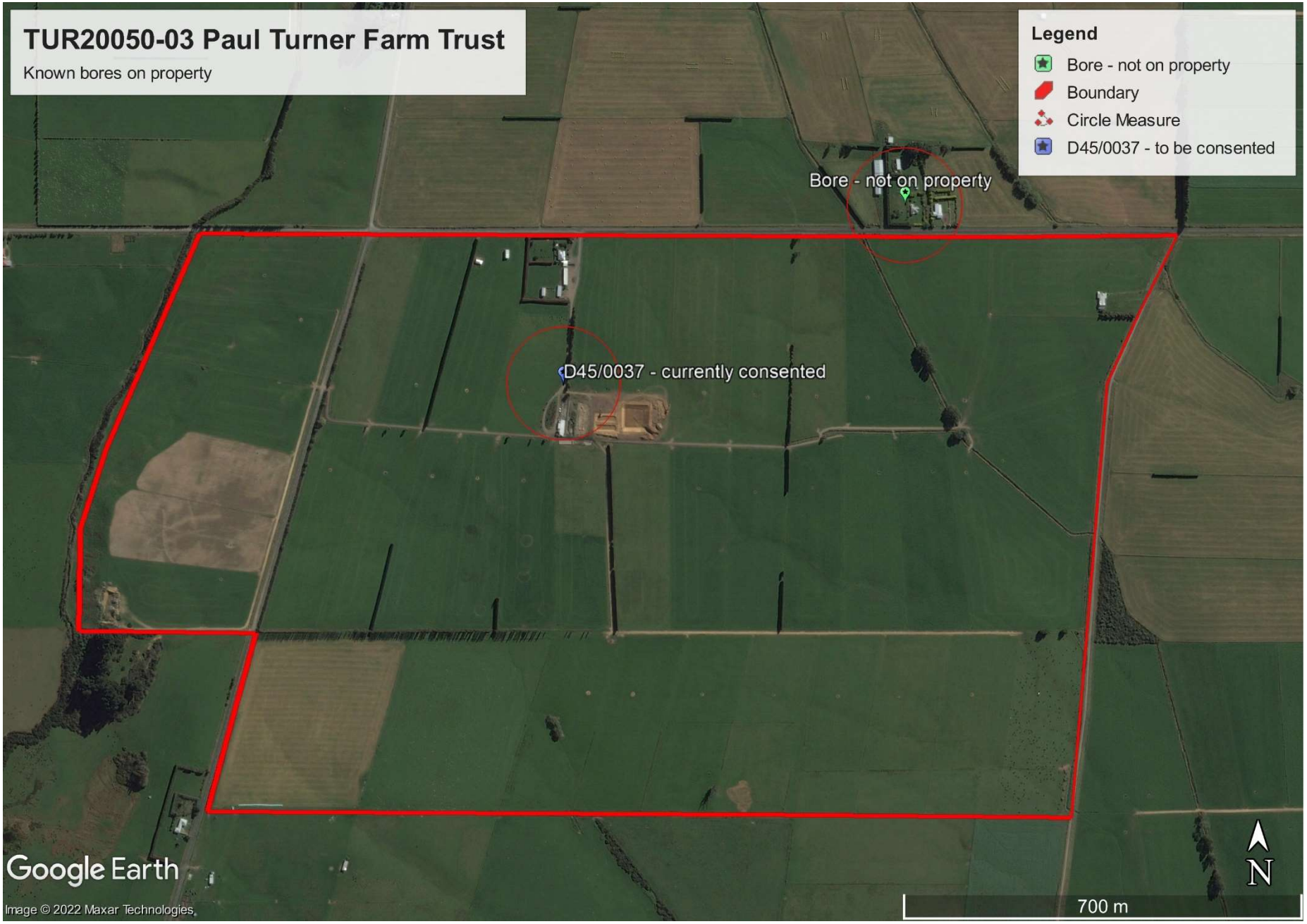
If the area is not suitable or safe to use for effluent application, or you cannot follow the recommendations below please contact the farm manager immediately for further advice.

Each land area should only be used for effluent irrigation once every 4 months (with at least 28 days between each application at all times).

The soil moisture deficit is determined before every application by referring to the ES Website for soil moisture (http://gis.es.govt.nz/index.aspx?app=soil-moisture), do not exceed the soil moisture deficit available- **Wairio Site**.

Traffic Light Map Coloured Areas	Description	Soil Moisture Deficit:	Recommended Area from the traffic light map to apply effluent:
		0-3mm	No effluent application through the pod system.
Green areas	Lowest risk areas (use mainly in the wetter times)	3-8mm	Green areas only.
Orange areas	Medium risk areas (use mainly in normal operating conditions)	8-15mm	Orange areas. (Green can be used if needed, but better to keep these areas for 3-8mm).
Red areas	Highest risk areas (use only in drier times)	15-25mm	Red and Orange areas.
		30mm+	Be very careful of any dry areas and potential cracking (visible or not) as these cracks can easily drain to a subsurface tile or harder pan. Which can easily flow directly to a waterway.
Purple areas	Areas within consented discharge area that have yet to be assessed for risk.	TBC	Can be used to apply effluent once risk has been determined and been added to the traffic light map.
Black areas	Voluntary no discharge areas		No effluent application unless authorised prior by the consent holder.
Clear non coloured areas	Not within consented discharge area.		No effluent application.

Known bores on property



Soil Classification Summary

Figure 7 Soil Classifications.

The soil classifications identified in the effluent discharge area are Classification A (approximately 135.2 ha) and Classification C (approximately 5.3 ha):

Soil Classification	Description	AgResearch Application Recommendations
A (pink area)	Artificial drainage or course soil structure.	High risk soils for effluent irrigation; only apply when a soil moisture deficit exists; only apply up to, or equal to the existing soil moisture deficit; maximum rate 10mm/hour, maximum depth using a low rate system 25mm; using a standard travelling irrigator, slurry tanker or umbilical cord, 10mm depth.
C (blue area)	Sloping land. Areas with greater than 7° of slope will not be irrigated on.	High risk soils for effluent irrigation; only apply when a soil moisture deficit exists; only apply up to, or equal to the existing soil moisture deficit; maximum rate 10mm/hour, maximum depth using a low rate system, 10mm; a standard travelling irrigator is not recommended on these soils, however slurry tankers and umbilical cords systems at low depths can be used to apply a 10mm depth or less.

Soil Type Summary

Figure 8 Soil Types.

There are 2 dominant soil types identified on the property Aparima (approximately 157.08ha) and Makarewa (approximately 10ha):

Soil Type	Soil Classification	Vulnerability Factors					
		Drainage	Structural Compaction	Nutrient Leaching	Topsoil Erodibility by water	Organic matter loss	Waterlogging
Aparima	A or C	Imperfectly drained	moderate	moderate	slight	slight	moderate
Makarewa	A	Poorly drained	moderate	slight	minimal	slight	Severe

Physiographic Zones

The dairy platform has 2 Physiographic zones identified, the predominant is Gleyed (no variant and overland flow variant approximately 161.63ha) and Central Plains (no variant approximately 5.44ha).

Figure 9 Physiographic Zones.

Effluent Application Records

Effluent application records are to be recorded for each run. This information is recorded in the dairy diary.

Contractor

If any contractors are used to apply effluent to the farm, the contractor must be provided with a map of the farm showing them the areas to be used (these areas should be assessed by the person in charge of the effluent system just before application occurs). The application rates and depths are to be recorded on the map.

A copy of the map will be kept by the person in charge of the effluent system and placed into the effluent application records.

The contractor should be able to tell you what rate and death will be applied and confirmed the volume of effluent applied to each area.

The contractor must provide a summary of the areas applied to, litres (m^3) and the rate/depth applied for each application. This record is kept in the effluent application records.

The contractor is provided with a map of the farm showing them the areas to be used. No more than 10mm per application is applied. The contractor works out the application depth by using the speed of the tractor and the flow rate.

Application Rate Test

An application rate test will be undertaken every two years to ensure compliance with the current Environment Southland Discharge Permit. It will be undertaken following the Dairy NZ guidelines(found in "A staff guide to operating your effluent irrigation system- Low Rate) and calculated using the calculation methods in the back of this resource.

Soil Temperature

Do not apply effluent when the soil temperature is below 5 degrees.

Environment Southland Consents

Discharge Permit – AUTH-20211674-01

Discharge Permit: AUTH-20211674-01 expires 31/05/2032

A copy of the Discharge Permit is attached to Appendix F. The conditions of the consent *will be adhered to at all times by all staff*.

Water Permit – AUTH-20211674-02

Water Permit: AUTH-20211674-02 expires 31/05/2032

A copy of the Water Permit is attached to Appendix G. The conditions of the consent *will be adhered to at all times by all staff*.

What if you can't follow the Standard Operating Guidelines in this Plan

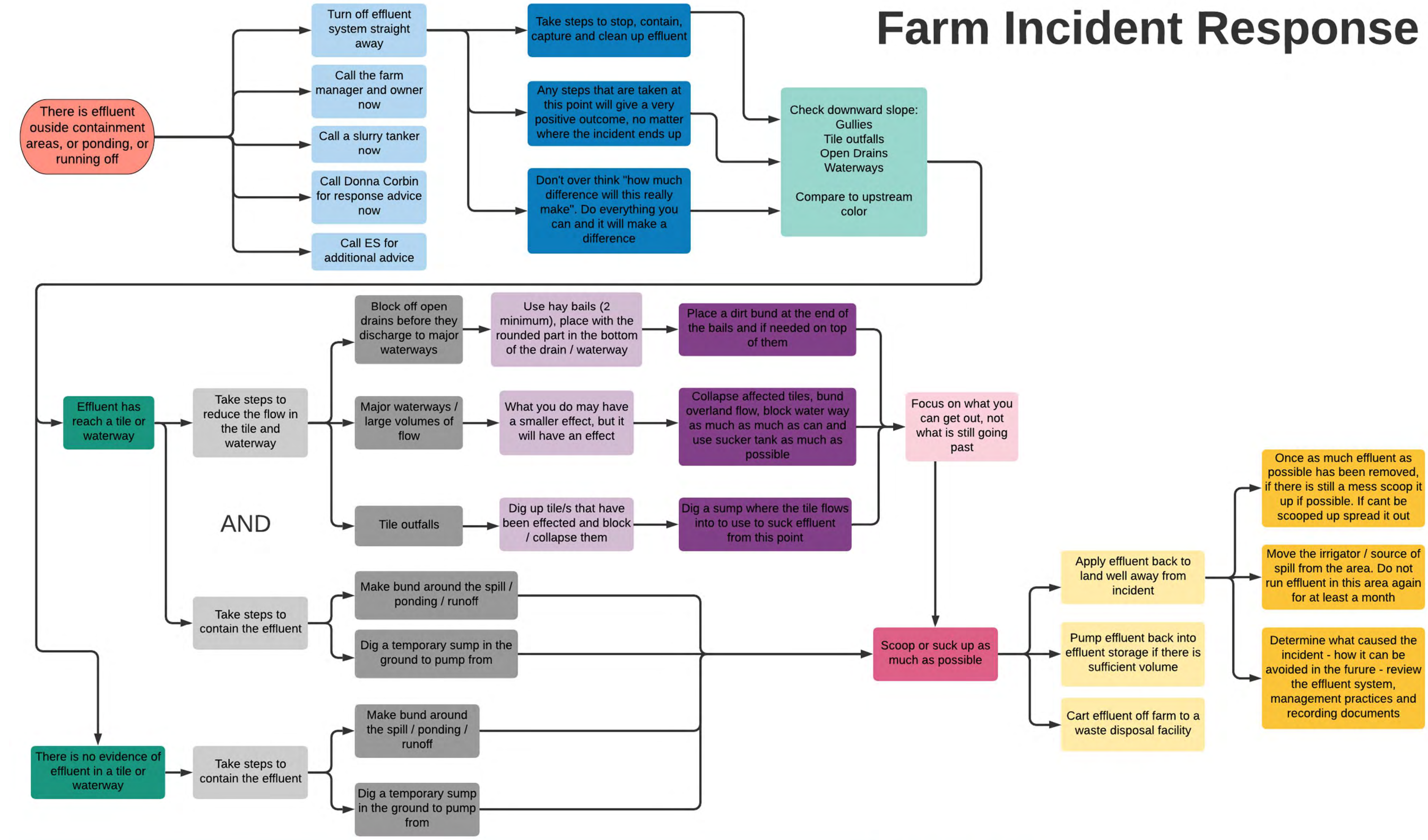
Do not run the effluent application system, ensure effluent is being stored in the main effluent pond and advise the manager immediately.

Follow their advice.

What to do if there is a Problem

Turn off the effluent system and advise Manger immediately. All possible steps to stop, reduce and clean up the incident are to be undertaken.

Incident Response



RES RURAL ENVIRONMENTAL SOLUTIONS
INDEPENDENT CONSULTANCY
DONNA CORBIN
027 890 1234 - donna@res.kiwi.nz - www.res.kiwi.nz

Emergency Numbers:

Donna Corbin	• 027 890 1234
DairyNZ	• 0800 4324 7969
Fonterra	• 0800 65 65 68
Open Country	• 0800 8255 6455
Environment Southland	• 03 211 5115
Slurry Tankers	• Caldwells: 027 436 4663
	• Thompsons: 027 439 2842

System Checks and Maintenance

Action	*Comments*	*Frequency (X= min recommended)*						
		daily	*weekly*	*Fortnightly*	*Monthly*	*6 monthly*	*Yearly*	*other*
Dairy Shed, Yard and Tanker Pad Areas								
Check dairy shed, yard and effluent system for compliance with regional rules and good practice.	Refer to the section above "Evaluating the yard and effluent system", to assess all areas as being sealed and contained.	X						
Check float switch and pump are operating correctly in the pit.	If installed.	X						
All pipe work is secure.			X					
Any leaking/dripping taps are fixed with a permanent solution.		X						
Any transfer pumps are greased (where relevant) and checked for wear and tear and odd noises.					X			
Stone Trap								
No blockages and are free of any obstacles.		X						
Clean/remove solids from stone trap.	Make sure no effluent/solids is outside the stone trap after cleaning.				X			
Emptied yearly, an internal inspection undertaken and photos saved.							X	
Weeping Wall Sludge Bed/s (twin weeping wall sludge bed***)***								
Is protection under incoming flow in place, any damage/cracks/holes/defects to internal embankments?			X					

Action	*Comments*	*Frequency (X= min recommended)*						
		daily	*weekly*	*Fortnightly*	*Monthly*	*6 monthly*	*Yearly*	*other*
Do the weeping wall beds need switched over or emptied?					X			
Emptied yearly, an internal inspection undertaken and photos saved.							X	
Any transfer pumps are greased (where relevant) and checked for wear and tear and odd noises.					X			
Main Storage Structure (main effluent pond)								
Check lines/pipes incoming and outgoing pipes for blockages and any damage under the incoming pipes and liquid flow areas.		X						
Monitor level.	If level is above 80% full check daily.		X					
	Report pond level to the consent holder weekly.		X					
Storage level is appropriate for the time of year (refer to Figure 5 for guidance).					X			
Pond level assessed and visual assessment of structure.	Including any damage above effluent line, soft spots, lush weed growth, etc.				X			
Check inspection chamber (located southeast of the pond).	If flow present then take a clear jar sample, try not to disturb bottom and sides. If no flow, assess the bottom and sides of flow area for effluent residue. Take lots of photos- record check in dairy diary.				X			

Action	***Comments***	***Frequency (X= min recommended)***						
		daily	***weekly***	***Fortnightly***	***Monthly***	***6 monthly***	***Yearly***	***other***
Effluent pump checked.	Greased (where relevant) and checked for wear and tear and odd noises.				X			
Alarms and control systems checked are in working order.					X			
Inspection Chamber water sample.	Send a sample to the lab for a yearly check. At minimum test for: Electrical Conductivity, Ammoniacal Nitrogen, E.Coli, pH, DRP and if sufficient volume BOD5.						X	
Check inputs for the Pond Storage Calculation have not changed.							X	
Storage practically emptied yearly (to within 300-500mm of very bottom) and lots of photos taken. Internal inspection undertaken.							X	
Pumps								
Check pumps and motors, grease if required, report strange noises- grease minimum of every 2 months.					X			
All pumps and stirrers are serviced yearly by Progressive Engineering.							X	
Spare pumps/motors.	Check/start any spare pumps monthly and service yearly.				X		X	
Irrigator (low rate pods***)***								
Check soil moisture deficit and weather report.	The soil moisture deficit is determined before every application by referring to the ES Website for soil moisture	X						

Action	Comments	Frequency (X= min recommended)						
		daily	weekly	Fortnightly	Monthly	6 monthly	Yearly	other
	(http://gis.es.govt.nz/index.aspx?app=soil-moisture), do not exceed the soil moisture deficit available (**Wairio Site**).							
Determine when, where and how much effluent is to be applied.		X						
Visual soils inspection is undertaken of area before setting up irrigator.		X						
Record application area, run time and gearing.	For every run.	X						
Irrigator set up correctly and check working order.	Ensure the pods are set up so that no overlapping of application occurs. All pods should have a 8-9mm nozzle (the same on each pod), the automatic switch off system should be in working order. Set application timing based on the soil moisture deficit available each run. Check set back distances from waterways, boundaries etc.	X						
Automatic switch off system is working correctly.		X						
Grease irrigator and pump moving parts (if required).					X			
Check irrigator nozzles are not worn or split (replace if they are).					X			
Add any newly identified tiles or drains to map.								X- as found

Action	*Comments*	*Frequency (X= min recommended)*						
		daily	*weekly*	*Fortnightly*	*Monthly*	*6 monthly*	*Yearly*	*other*
Assess hydrants and lines, repair or replace as necessary								X- as found
Effluent Application Rate Test (check depth effluent is being applied).	Typically, November through March is good for this.							X- every 2 years.
Consents								
Water meter readings.	From Bore Meter.				X			
Water readings sent in by 31 May (keep a copy for yourself).	Ensure any volume after the final reading (prior to 31 May) is included in the next years readings.						X- before the 31 May each year.	
Does the water meter need verified as required by consent?								X- every 5 years.
Review of Effluent Management Plan Undertaken.	Typically June/July is a good time for this, before the start of each season.						X	
Farm Environmental Management Plan reviewed yearly. Good Management Practices reviewed and updated, Crop/Wintering Plan reviewed and set.							X	
Staff Training								
New staff are to be given a copy of the EMP when they start and are trained in accordance with this plan.							X	
Existing staff review the EMP at the start of each season (June/July).							X	

Known Waterways / Open Drains and Tiles / Swales Map

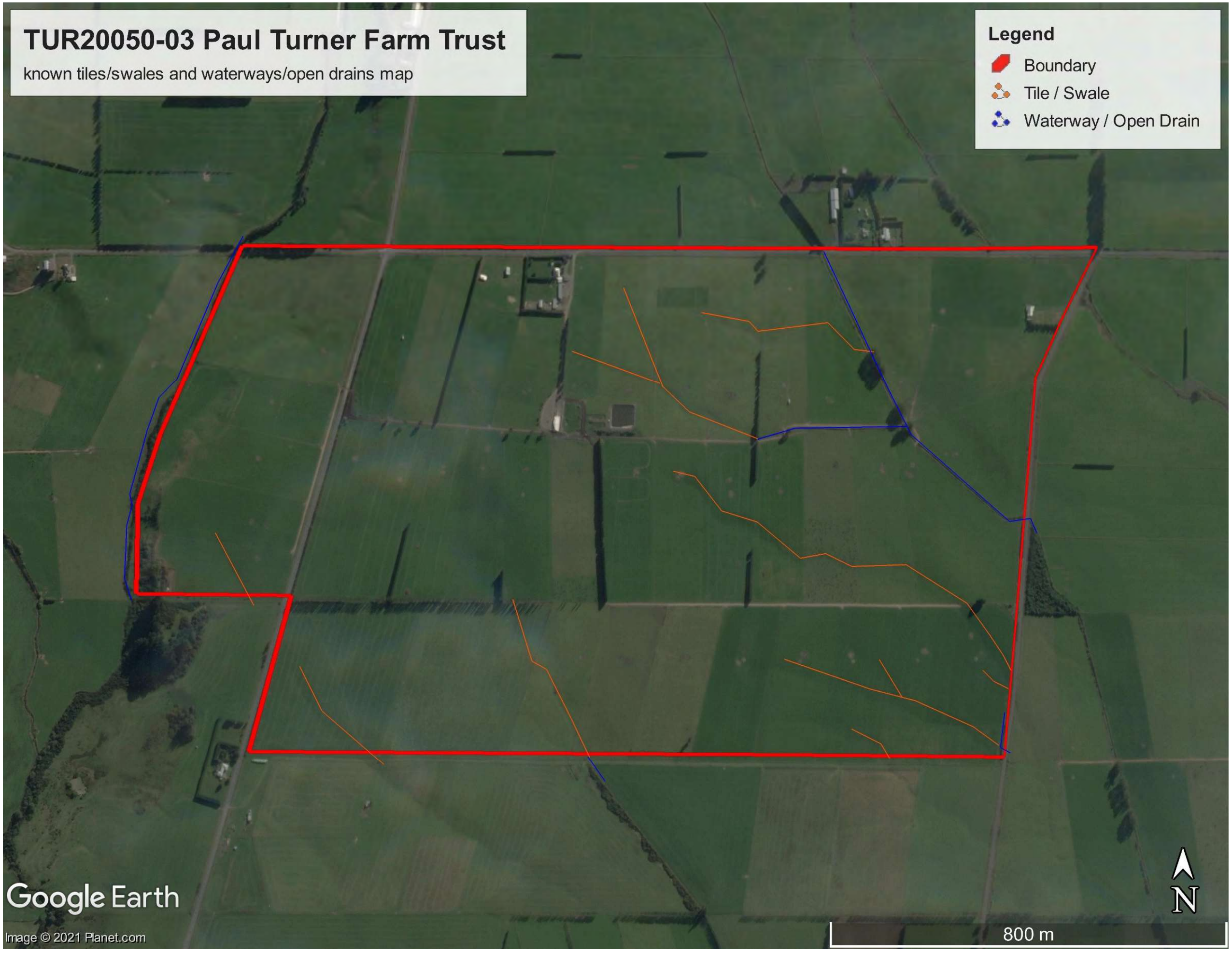


Figure 10 Known tiles and waterways.

Appendices

Appendix A

DairyNZ- Effluent Orientation and Training Record.

Effluent Orientation and Training Record

Season___/___

Effluent Competencies	Employee name	Employee name	Employee name
General			
Understands the regional council rules and farm policies for effluent management			
Understands health and safety around the effluent system			
Understands record keeping for irrigator runs and maintenance			
At the Dairy			
Use of stormwater diversion system			
Good hosing practice and water management			
Animal handling to minimise effluent volume			
Cleaning the stone trap			
Sump, pump & pond monitoring and management (including float switches)			
In the Paddock			
When to irrigate: assessing soil and weather conditions			
Where to irrigate: runs, paddock rotations, high risk vs low risk soils etc (mark on farm map)			
Where not to irrigate: near waterways, drains, boundaries, slopes etc (mark on farm map)			
How the irrigator works, how to use it, set up, hose layout and performance checks			
Measuring the depth of effluent application			
Irrigator, pump maintenance/cleaning			
Greasing and general maintenance requirements (how and when)			
How to check and replace rubber nozzles and seals (same time as dairy rubber ware)			
Tyre pressure and condition			
Pipe-work, hose and hydrant condition			
Wire-rope, cam and ratchet condition			
Other			

Trainer signature			
Employee signature			
Date			

Date when staff become competent in each skill. If all training provided in one day, tick and date at the bottom.

DairyNZ

Appendix B

DairyNZ- FDE- the rules for achieving compliance in Southland.

Dairy farm effluent

– the rules for achieving compliance in Southland

This checklist is a self audit to give farmers confidence they will pass an Environment Southland Compliance Assessment. The checklist is for your own information and you do not have to share it with any organisation.

We recommend you follow up any boxes that are not ticked as soon as possible. If you need assistance, please contact one of the organisations listed at the back of the checklist.

- Not all resource consents are the same. Some older consents will not list all the conditions in this checklist but will likely be in your next consent. It's a good idea to read this checklist in conjunction with your individual consent
- You must remain compliant with your consent requirements every day – regardless of the time of year, weather, breakdowns or staffing issues
- Ensure you have a plan in place to cope with all of the above scenarios
- Enforcement action is considered on a case-by-case basis, and specific factors, such as a breach during times of flood, will be taken into account during enforcement decision making
- Make sure all staff on your farm know the rules, are fully trained in the operation and maintenance of the effluent system, and know what to do and who to contact if the system breaks down
- Always aim for good practice rather than just achieving compliance
- Check the expiry date on your consent and make sure you submit new applications at least six months before the expiry date.

OpenCountry Partnership by Choice

Federated Farmers of New Zealand

environment SOUTHLAND Te Taiao Tonga

Fonterra Dairy for life

DairyNZ

Version 5, February 2015

Southland checklist

1. Get familiar with the conditions of your consent and actively seek compliance	
Much of the non-compliance reported in Southland is for minor issues that can easily be avoided. Take the time to go through your consent and make sure that all the administrative conditions have been fulfilled	
No significant farm system changes have been made since the effluent system was designed as covered by your consent (i.e. type of irrigator, underpass, wintering pad, new pond etc)	
Effluent is only applied to the area of land specified in your consent document	
The number of cows being milked is within the limit specified on the consent	
A copy of your effluent consent is displayed in a prominent place in the dairy shed[1]	
A copy of the effluent management plan has been provided to all employees	
Consent is current and previous consents that are no longer required have been surrendered	
All other requirements of the consent have been fulfilled	
If property has been bought/sold consent has been transferred to the new owner	
2. Have an effluent system that is capable of complying with your consent conditions, in terms of infrastructure and ongoing maintenance	
Good practice: • *Have effluent samples lab-tested for nutrient concentration* • *Optimise nutrient use efficiency by applying effluent over a sufficient area* • *Check actual effective area that will have effluent applied and allow a buffer for waterways/boundaries*	
There is sufficient effluent storage for times when soil moisture levels are high[2]	
All effluent is contained within structures (ponds or sumps) as specified in your consent, prior to application	
Sumps are sealed and designed so that any overflows are directed into a sealed holding pond	
The depth (mm) and rate (mm/hr) of effluent application has been measured and it satisfies the requirements of the consent	
The application area is large enough to meet the requirements of the consent for N loading[3]	
The pump pressure is sufficient to ensure compliant effluent application depths can be met over all of the effluent area	
A regular maintenance regime is in place for the effluent system – such as greasing, hosing-down, pond storage capacity, unblocking stirrer, nozzles, tyres, checking pipes, hydrants, stone traps	
Contingency measures are in place in the event of a system failure[4]	
Effluent solids, sludges and slurries (i.e. from ponds, feed pads and sand trap cleanings) are stored on a sealed surface which drains back into the effluent system. Solids are spread evenly (less than 7mm depth) on pasture to avoid over loading with nutrients in one area[5]	
Stand-off pads are designed so that all effluent is contained within a bedding layer, or collected in a sealed effluent system. When replacing the bedding layer, the old material is spread evenly on pasture to avoid over-loading of nutrients in one area[6]	
A fail-safe device is in place to reduce the risk of a discharge if anything goes wrong	
All areas used to store or transport effluent or sludge are sealed[5]	

3. Get the right amount of effluent on the soil at the right time and in the right place	
A good effluent system will apply effluent to soil:	
At an application rate (mm/hr) which does not result in ponding and effluent runoff. Generally no irrigation of effluent to pasture should occur when rainfall results in the soil becoming saturated (i.e. free water appears on the soil when squeezed).[7] Refer to the soil moisture information on www.es.govt.nz if you do not have your own	
At an appropriate depth (mm) for the soil and within the limit specified on your consent	
At least 20 metres between the edge of the application landing area and waterways and adjacent property boundaries, and within the area specified on consent[8] 100m from any existing potable water abstraction point 100m from any residential dwelling	
Effluent systems that can deliver these results will save you money through better nutrient utilisation and will help prevent environmental effects on water	
4. People and systems (these are not always requirements of your consent, but will help you and your staff comply on a daily basis)	
Everyone in the farming operation understands the importance of effluent management and the consequences of non-compliance	
Everyone knows what to do if something goes wrong	
A training schedule is maintained for staff with direct effluent management responsibilities	
An effluent management plan is in place that clearly defines responsibilities and procedures ***Good practice:*** Record effluent irrigator runs – where, date, number of returns etc	
External training courses are utilised to increase understanding of good practice	
5. Check for other sources of effluent outside of the dairy	
Ensure that runoff from other hard stand areas is directed into your effluent system, and that the volume is included as part of your effluent consent. ***Such areas might include:***	
Feed pad effluent	
Stand-off pad effluent	
Underpass effluent	
Bridges/culverts	
Laneways (entry and exit points)	

[1] Not all consents require this, but it's a good idea anyway. If you would like a copy of your consent, call Environment Southland

[2] Storage requirements are dependent on many factors

[3] Refer to your nutrient budget in order to determine your farm's N loading on your effluent application area

[4] Contingency measures include things like additional storage capacity, having a spare pump or irrigator, staff know who to call etc

[5] Sealed means does not leak, such as concrete, lined or compacted clay (where the soil type is suitable to do this)

[6] If your stand-off pad is unable to be designed to contain all effluent, you may need to apply for a resource consent to authorise it

[7] Topography, rainfall, soil moisture, soil type and drainage all influence the risk of runoff and ponding. A soil moisture probe can be used to check soil moisture

[8] Defined as surface water body, drainage canal, drain and bores

Other Environment Southland Rules

Remember there are regional plans for Southland that might have rules relating to activities on your farm. Of relevance are the Regional Water Plan, the Solid Waste Management Plan and the Effluent Land Application Plan.

Examples where resource consents may be required include the following:

6. Farm dumps	
Any solid waste generated from farming activities, that is disposed of into or onto land will require a resource consent if you are not able to meet the criteria listed below:	
The solid waste is generated on the farm, on which the disposal site is located	
No offal is placed in the dump	
No hazardous waste, sludge, oil or chemical containers with chemical residues are disposed of in the dump	
No solid waste is deposited into any water body	
No surface water runoff enters the farm landfill	
No waste is deposited within 50m of a watercourse, potable water supply or property boundary	
7. Offal holes	
Placing farm offal into an offal hole requires a resource consent if you are not able to meet the criteria listed below. The offal holes must be:	
Located more than 50m from any watercourse	
Excavated at least 24 hours before they are used	
In a location where water will not accumulate in the bottom of the hole, nor surface runoff able to flow into the hole	
No offal is deposited within 50m of a watercourse, potable water supply or property boundary	
8. Silage pits and stacks	
The location of silage pits and stacks can affect water quality in some circumstances. The movement of leachate onto or into farm land from silage pits requires resource consent unless you ensure you meet the following criteria:	
The silage storage facility is not located; • within 50 m of any surface water body or naturally occurring wetland, or any potable water abstraction point, *or* • within 100 m of any dwelling or place of assembly, on another landholding constructed or in use prior to the silage storage facility being lawfully established, *or* • on land that is contaminated, permanently or intermittently wet, unless the silage is stored on a sealed concrete pad with all leachate controlled.	
There is no discharge of any noxious, dangerous, offensive or objectionable effect beyond the boundary of the landholding or on waàhi tapu or archaeological sites	
There is no discharge of contaminants to any water or naturally occurring wetland	
There is no overland flow of stormwater into the silage storage facility	

9. Effluent sludge application to land	
Discharge of effluent sludge to land can cause an environmental impact if it is not carefully managed. Sludge application will be non compliant if you are not able to meet the following criteria:	
Applied at least 100m from any residential dwelling other than those on the property	
At least 20m from any waterbody, wetland or coastal marine area	
Lane way scrapings are stockpiled on a sealed surface that does not leak, such as concrete, lined or compacted clay	
10. New dairy conversions	
All new dairy conversions in Southland have to apply for four resource consents before converting:	
1. Discharge Consent for the discharge of dairy shed effluent 2. Water Consent to take ground or surface water for stock watering and dairy shed wash down. 3. Land use Consent to convert the property to a dairy farm. Includes profiling the soil to determine its suitability for intensive farming, and an environmental management plan to mitigate environmental risks 4. Land use Consent to install an effluent pond Additional consents may be required for the use of water bores or gravel extraction for example.	

Contacts

You can check out the rules in the regional plans at: www.es.govt.nz. If you are not sure of any of the questions in this checklist, or need further assistance contact:

DairyNZ	Sustainability team 0800 4 DairyNZ (0800 4 324 7969)
Fonterra	Sustainable Dairying Team 0800 65 65 68
Open Country Dairy	0508 Our Milk (0508 687 6455)
Environment Southland	0800 76 88 45
Federated Farmers	0800 Farming (0800 327 6464)
Primary ITO	0800 80 20 80

Appendix H - Management Plan Review Log

This plan is to be reviewed every 12 months to check it still accurately reflects on-site activities and whether any improvements to management procedures need to be made. The results of the review are to be reported to ES within 1 month of the review being undertaken (even if no changes to the existing plan are made).

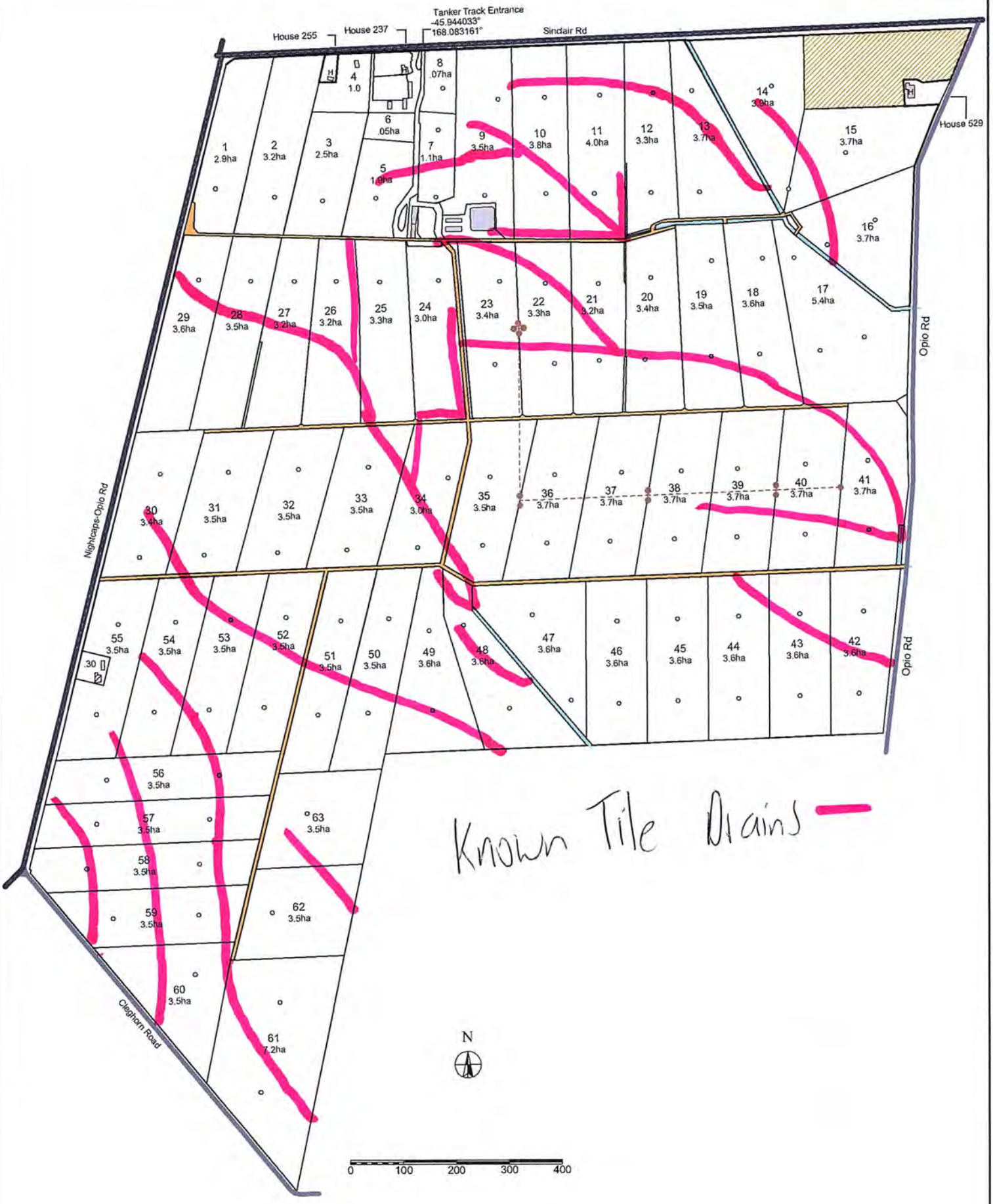
Date Reviewed:	Reviewed By:	Changes Made:	Updated Copy Sent to ES? (date)
----------	Created By: RES Rural Environmental Solutions	New Plan developed and sent to farm manager.	PDF of new plan sent to ES _____.

This plan represents Donna Corbin TA RES Rural Environmental Solutions, assessment of whether the effluent system on your farm may meet the Regional requirements, best industry practice guidelines, as at the date of the assessment.

This plan is based upon the data collected onsite and/or provided by the client, staff, the visual and audio assessment of the system and management systems. While all reasonable endeavours have been made to ensure the accuracy of the information contained in this Report, Donna Corbin TA RES Rural Environmental Solutions does not accept responsibility for any loss or damage (whether direct, indirect, consequential or other), however caused (including through negligence), which you may directly or indirectly suffer in connection with your use of this plan, and expressly disclaims any and all liabilities contingent or otherwise that may arise from any such loss arising out of your use of or reliance on information contained on or accessed through this plan. You agree that the above exclusion of liability confer a benefit on the entities or persons listed above and are enforceable by each of them in accordance with the contracts (Privity) Act 1982.

The issuing of this plan is not a warranty or confirmation that the effluent system fully complies with any requirements of any relevant authority either as at the date of the issue of the plan or in the future. To the maximum extent permitted by law, any condition or warranty that would otherwise be implied into these terms and conditions is hereby excluded.

APPENDIX 5



Etal Creek Opio Paul Turner 027 305 5843	Total Area: Effective Area: Paddock 1-63	220.69 ha 212.02 ha	**Farm Map**		Southland Farm Mapping Ltd GPS & Drone Surveying Chris Botha 021 134 7248
	237 Sinclair Road RD 1 Otautau Fonterra 35225	45°57'14.4"S 168°04'18.4"E		Surveyed : 4/10/2024 Drawn : 4/10/2024	

APPENDIX 6

2023/2024

Fonterra™

Dairy for life

WELCOME TO YOUR

Farm Insights Report

SUPPLY NUMBER: 35225

Where your milk went last season

Your milk helps to feed people all around the world – thanks for all your hard work to make this happen.

Milk processed at Southland and Otago sites was used by customers to make products like:

Supplements, pizza, pasta, bakery items, dairy desserts

And the quality of your milk was key – you achieved:

245 Excellence Days

Great work, you're in the top 20% of farms for:

Feed converted to milk

How to use this report

Using information to guide decisions is nothing new to farmers. For years you've used grass growth, herd condition and so much more to guide your choices on-farm. This information alone is useful, but it becomes a powerful decision-making tool when comparing your farm to similar farms, and trends over time.

That's what this Farm Insights Report is for. It gives you a view of your farm's performance in context – so you can identify what could help you get more out of the work you're putting in, now and into the future.

Spot an issue with your data?

We've used your Farm Dairy Records and other data we hold for you.
Please check your farm's information for accuracy and note the limitations of this report, both on page 12.
You can adjust the data we have by resubmitting your Farm Dairy Records at **nzfarmsource.co.nz/farmdairyrecords**

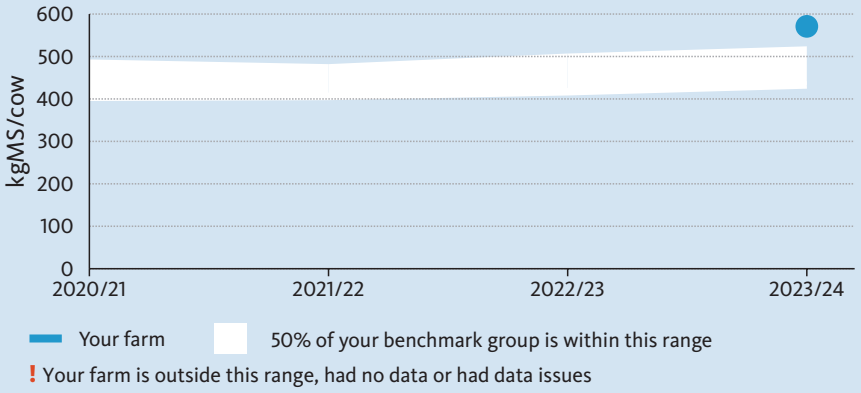
Your farm's big picture view

Success looks different to everyone. By looking at key trends over time, you can start to build a bigger picture of sustainability on your farm.

Production per cow

Your farm is benchmarked against other Southland and Otago System 4 farms.

Higher production per cow with the same inputs, like feed, can mean emissions produced are spread across extra milk solids. That's good for lowering emissions intensity.



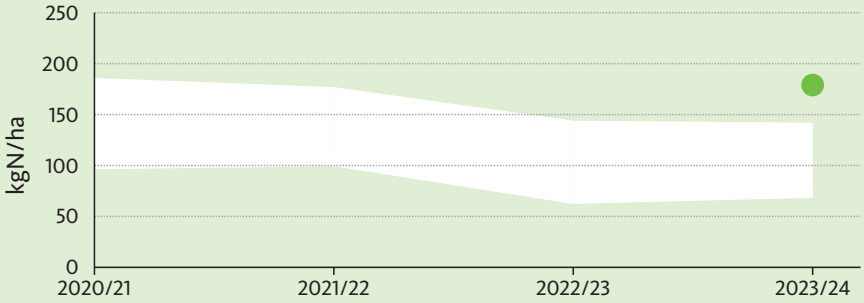
Your farm | 50% of your benchmark group is within this range

! Your farm is outside this range, had no data or had data issues

Purchased Nitrogen Surplus

Your farm is benchmarked against farms in the Southland and Otago region with milk production above 1350 kgMS/ha.

Surplus Nitrogen in your system is at risk of being lost to the environment. See more on page 10.



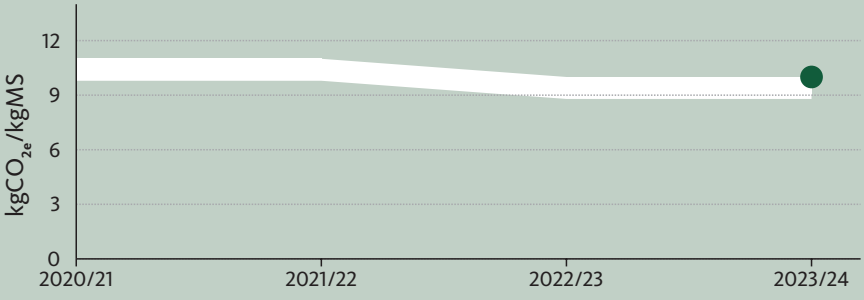
Your farm | 50% of your benchmark group is within this range

! Your farm is outside this range, had no data or had data issues

Greenhouse Gas Emissions per kgMS

Your farm is benchmarked against others in the Southland and Otago region.

You can find a more detailed breakdown of your emissions on page 9.

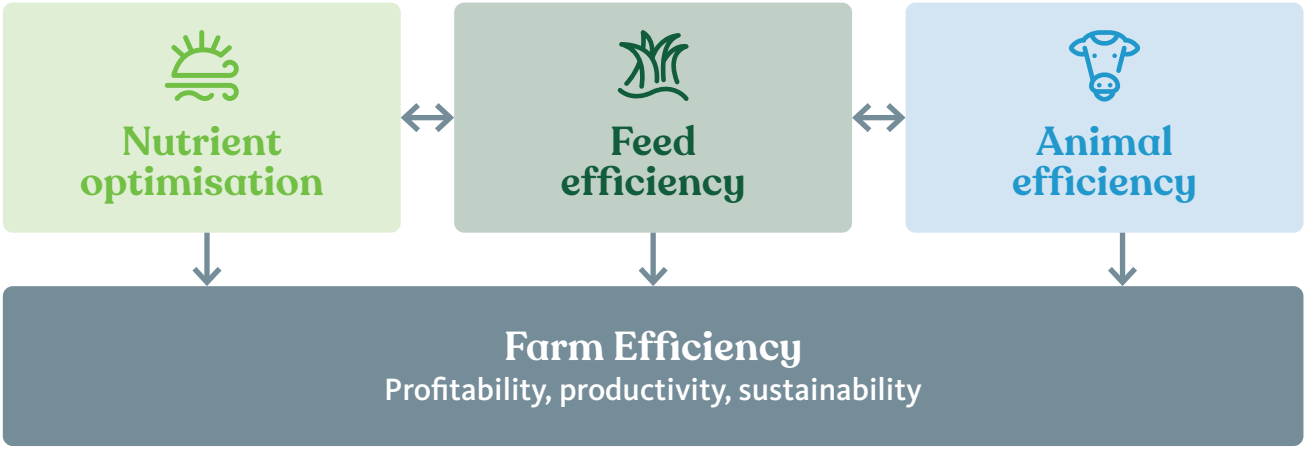


Your farm | 50% of your benchmark group is within this range

! Your farm is outside this range, had no data or had data issues

The farm efficiency opportunity

Operating an efficient farm is about getting the most out of everything you're putting into your system.



What are the options for your farm?

Every farm is different, depending on your system, goals, and unique way of farming. Based on your insights, here's a snapshot of how your farm compares to others.

	Further info (pg)	Benchmark group average	Your farm 23/24 season	High opportunity ›››››››› High performer
Nitrogen fertiliser efficiency (kgDM/kgN)	5	97	75	
Homegrown feed (tDM/ha)	5,6	13.5	14.0	
Feed converted to milk (%)	6	57	63	
Production per kg liveweight (%)	6	101	124	
6-week in-calf rate (%)	7	70	-	
Not in-calf rate (%)	7	14	-	
Somatic cell count (cells/ml)	8	144,539	119,877	
Mastitis (%)	8	12	8	
Lameness (%)	8	6	4	

** the benchmark group for Homegrown feed is the same as that used on page 5 of the report*

Nutrient optimisation

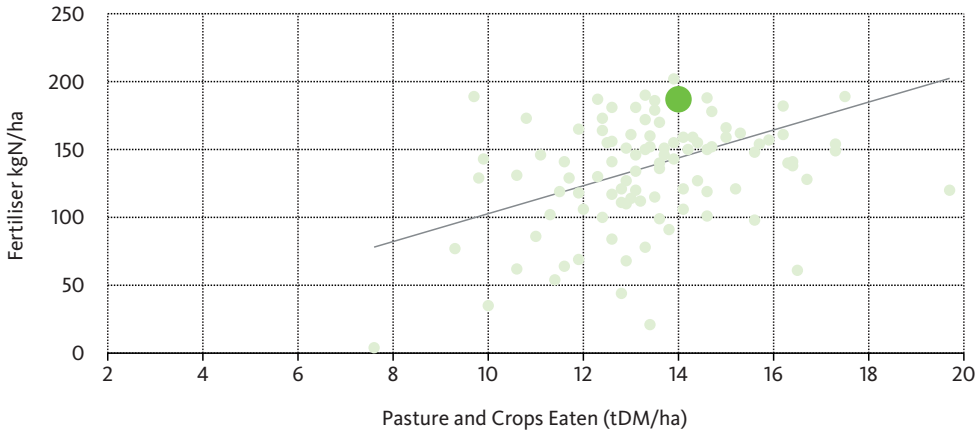
Are you getting the best growth response to the fertiliser you're using? Optimised use can save costs, and reduce loss and wastage.

Your farm's nitrogen fertiliser conversion efficiency

This data shows how efficiently the nitrogen you're applying is converted into feed.

How does your farm compare?

- Your farm (actual)
- Closest 100 farms to your location (radius 15km)
- Local average



Your farm's N-fertiliser efficiency

Your farm is eating
14.0 tDM/ha

Your farm is applying
187 kgN/ha

Your nitrogen fertiliser efficiency is
75 kgDM/kgN

Efficiency opportunity

The top 20% of farms in your region are achieving fertiliser efficiency of
126.0 kgDM/kgN

If you could increase your efficiency by 10%, you could harvest
15.4 tDM/ha

Opportunity: If you grew more feed from the same nitrogen fertiliser

By lifting homegrown feed by 0.5tDM/ha you could achieve the following::

↑ **21** kgMS/cow

↓ **2.3%** $kgCO_2e/kgMS$

↑ **$77,752**

What's the next step?

- Consider factors like fertiliser management, effluent, pasture, cropping, soil and irrigation.
- Scan this QR code for DairyNZ's nitrogen resources to learn more.
- Consult your Sustainable Dairying Advisor, or a farm advisor, for personalised advice.

Feed efficiency

How are you maximising yield and quality of homegrown feed, and using supplementary feed? With the right balance you can manage costs and ensure feed is converted efficiently into milk.

Your feed sources

Your farm's feed sources (tDM/ha)

Your region's feed sources (tDM/ha)

Benchmark group is farms with similar milk production by hectare in your region.

Feed sources	Your farm	Your region
Pasture and crops (grown on farm)	14.0 (77%)	14.4 (79%)
Pasture and crops (imported to farm)	0.0 (0%)	0.8 (4%)
Grazing off (incl. wintering)	1.1 (6%)	1.1 (6%)
All other feeds	3.0 (17%)	2.0 (11%)

How much of your feed eaten is converted into milk?

Benchmark group is farm system by region. Your farm's average herd liveweight is assumed as 460kg based on your breed mix.

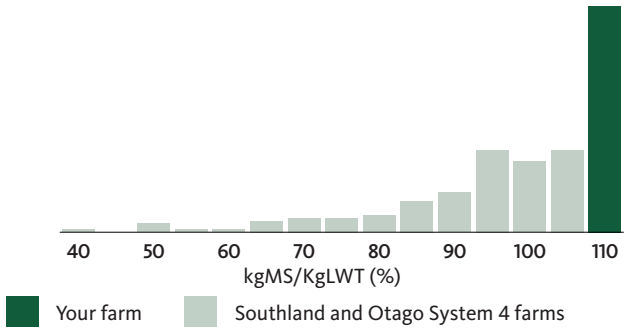
From your records, we estimate that the proportion of feed eaten and converted into milk on your farm is:

63%

Benchmark average
57%

Benchmark top 20%
60%

Your farm's milk production per kilogram of liveweight



Great job – you are in the top 20% regionally

Based on these insights, your conversion of feed-eaten-to-milk is in the top 20% of similar farms in your region. Improving this even further could help improve your overall production and could help reduce your GHG/kgMS.

What's the next step?

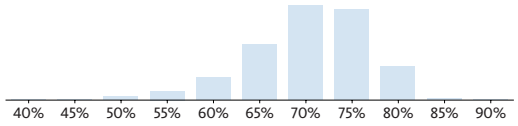
- Consider factors like cow health and quality (page 7 and 8 of this report), or feed type and quality.
- Scan this QR code for DairyNZ's feed utilisation resources.
- Consult your Technical Sales Rep, farm consultant, or nutritionist for personalised advice.

Animal efficiency

Reproductive performance is key in a seasonal calving system. Cows that cycle earlier will have more opportunities to conceive, and more days in milk the following season.

Reproductive performance

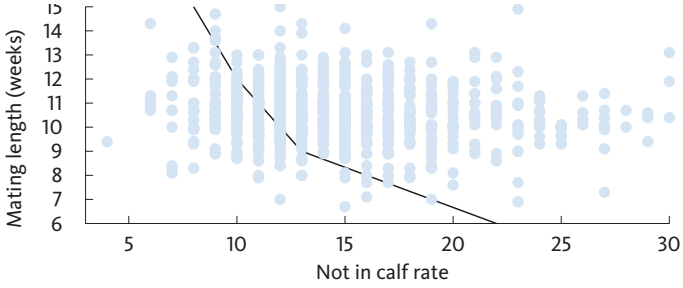
Regional 6-week in-calf rate



Fonterra farms in the Southland and Otago

! Your farm is outside this range, had no data or had data issues

Regional not in-calf rate, and mating length

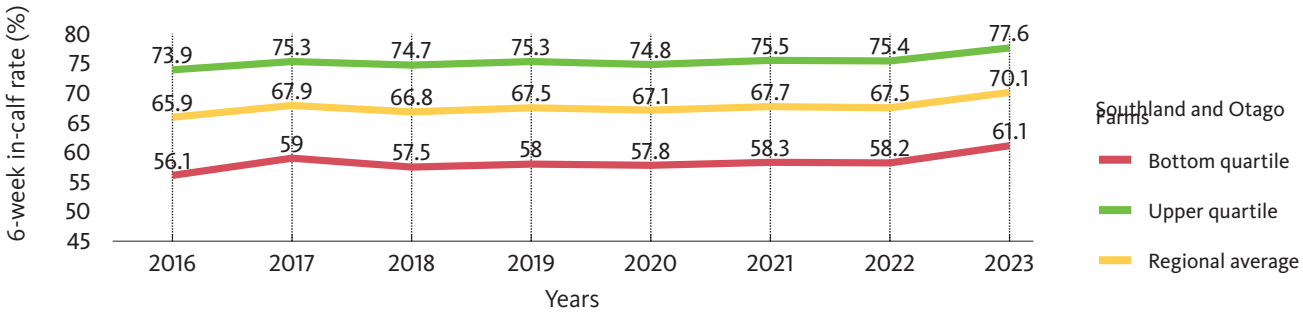


Fonterra farms in the Southland and Otago

Expected not in-calf rate

! Your farm is outside this range, had no data or had data issues

Reproductive performance over time



If your in-calf rate reached 78%

For a herd your size achieving the national average 6-week in-calf rate of 69.3%, an increase to 78% could mean the following:

↑ 8 kgMS/cow

↓ 0.9% kgCO2/kgMS

↑ $28,810

What's the next step?

- Consider early/dated pregnancy testing which is needed to properly assess your farm's reproductive performance.
- Scan this QR code for DairyNZ's InCalf resource.
- Consult your breeding company or vet for personalised advice.

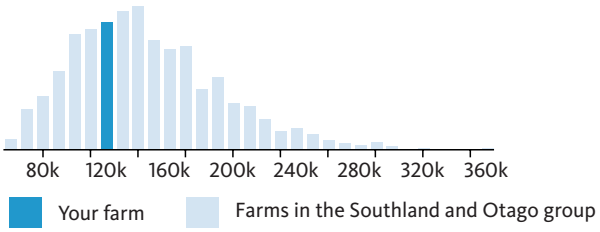
Animal efficiency

Your herd's health and condition are key to the overall efficiency picture on your farm. Factors like infection and lameness can cost time, money and cow productivity.

Somatic cell count

Bulk somatic cell counts (SCC) over 100,000 cells/ml indicate some cases of sub-clinical infection are present in the herd. Animal energy is then diverted from milk production to fight off the infection – research has shown there's a 2.1% loss in production for every doubling of somatic cell count over 100,000 cells/ml.

Your farm's annual average somatic cell count 2023/2024



Opportunity: If you reach 100,000 cells per ml

↑ 3 kgMS/cow

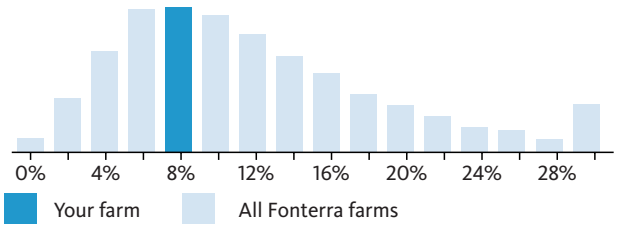
↓ 0.3% $kgCO_2e$/kgMS

↑ $11,500

Mastitis & lameness

Mastitis and lameness are both painful for affected cows, and can impact production and performance.

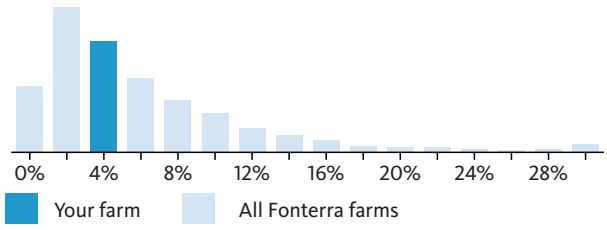
Your farm's mastitis cases as % of peak cows 2023/2024



Estimated cost of mastitis for your farm ($150/case)

$6,000

Your farm's lameness cases as % of peak cows 2023/2024



Estimated cost of lameness for your farm ($250/case)

$5,000

What's the next step?

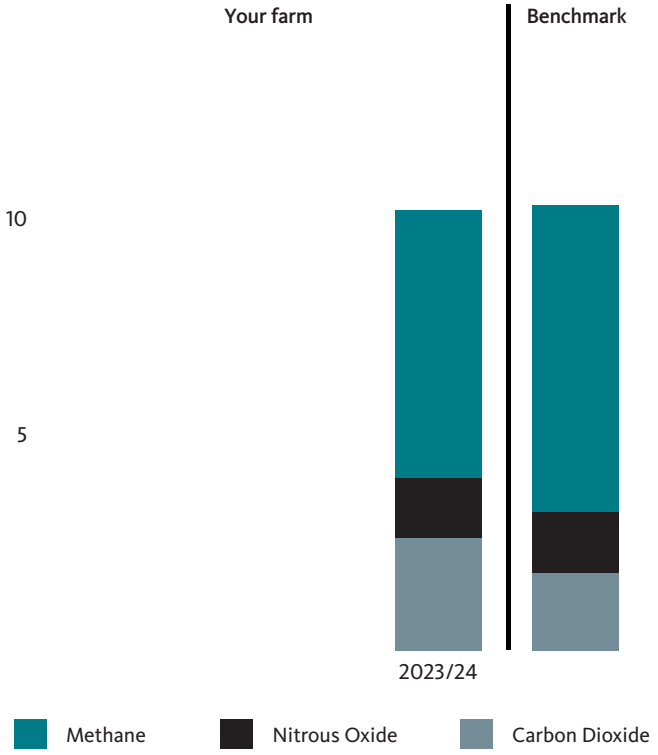
- Consider working with a vet to investigate lameness or mastitis issues.
- Refer to the SmartSAMM guidelines on the DairyNZ website for more information on managing mastitis.
- Scan this QR code to book a Fonterra Milk Quality Improvement visit for advice.

Emissions

Even the smallest on-farm efficiency gains can boost profitability and productivity. But they're also good for reducing emissions per kgMS. Each farm has a unique opportunity - it's up to you and your focus.

Your on-farm emissions

Your farm is benchmarked against Southland and Otago farms



This data shows the emissions that are created from your farming activities. There are also other things that influence your farm's footprint - things like peat soil, land-use change and carbon removals. These aren't captured in the data below.

	Your Farm	Benchmark
Emissions ($kgCO_2e$)/ kgMs	**10.2**	**10.30**
Methane (biological)		
Dairy herd	5.00	5.50
Replacements	0.70	1.00
Effluent	0.50	0.60
Nitrous Oxide (biological)		
Livestock	0.90	1.00
Fertiliser	0.40	0.30
Manure and soil	0.10	0.10
Carbon Dioxide (non-biological)		
Imported feed	1.60	0.80
Fertiliser	0.50	0.40
Other	0.50	0.60

Where can I find more information?

Methane

- Animals, pages 7-8 of this report
- Emissions booklet, pages 20-26

Nitrous Oxide

- Nutrients, page 5 of this report
- Emissions booklet, pages 27-34

Carbon Dioxide

- Nutrients, page 5 of this report
- Feed, page 6 of this report
- Emissions booklet, pages 35-40

We've shifted to a more accurate GHG model

Your emissions are now calculated using a model from AgResearch called the Agricultural Lifecycle Assessment (Ag:LCA). This is based on more detailed information about your farm from your Farm Dairy Records. You can find out more about this switch by scanning this QR code:

What's the next step?

- Scan this QR code for the emissions booklet to read more.
- Consider exploring the reading outlined under each gas type to understand where there are opportunities for your farm.
- Consult your Sustainable Dairying Advisor for more personalised advice.

Water quality

Potential water quality risks are well-known by the dairy farming community in New Zealand. Farmers have taken several actions from fencing off waterways to carrying out riparian planting to help manage water quality.

Your farm's Nitrogen Risk Scorecard

This data summarises risks for nitrogen loss on your farm. Your farm's full Nitrogen Risk Scorecard can be found online using the QR code here:

Stock Management	VERY HIGH	Cropping & Cultivation	LOW
Nitrogen Fertiliser	HIGH	Effluent Management	VERY LOW
Imported Feed	VERY HIGH	Irrigation	VERY LOW

Purchased Nitrogen Surplus

23/24 season

Nitrogen Fertiliser		Imported Feed		Exported Product		Purchased Nitrogen Surplus
187 kgN/ha	+	112 kgN/ha	–	120 kgN/ha	=	179 kgN/ha

Refer to page 3 for your PNS trend over time.

What's the next step?

A Fonterra **Farm Environment Plan** is tailored to the risks and practices on your farm. You can review or complete actions in your Digital Dairy Diary or contact your Sustainable Dairying Advisor for more support.

Biosecurity

New Zealand is naturally free of many pests and diseases that exist in other parts of the world. But that means new and invasive species could threaten our unique biodiversity - just take mycoplasma bovis and fall armyworm for example.

Good disease management on-farm is essential for protecting your herd. Flow-on benefits can include reduced treatment inputs, maximised genetic investment, better milk production and lower feed inputs.

Biosecurity measures that protect against Bovine ViaralDiarrhea (BVD) can also protect your herd against other harmful diseases.

BVD management opportunity

The estimated cost of BVD in a negative herd: $22.22 x peak cow numbers/year.

The cost of BVD in a positive herd is much higher with negative impacts on conception as well as reduced production.

$10,466

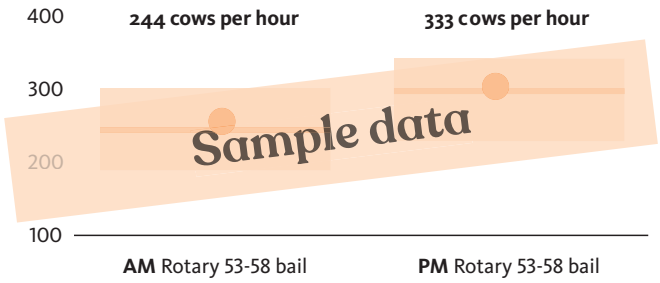
What's the next step?

Consult your local vet about disease management, include BVD in your Animal Wellbeing Plan, and scan this QR code to read more about biosecurity on our website.

Milking efficiency

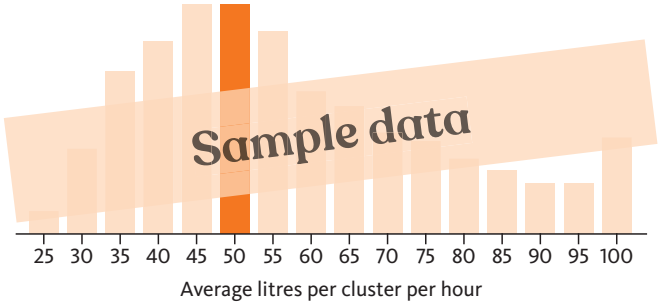
Saving time in the shed can be a great way to free up time to focus on other important farm priorities. These insights use milk vat monitoring data and DairyNZ's research to estimate the time that could be saved on your farm at milking time.

Average cows per hour



Your farm — Your benchmark's average — 50% of your benchmark group are within this range

Litres per cluster per hour



Your farm — All Fonterra farms

We estimate you could save

7–16 hours per week

Sample data

This estimate is based on your farm reaching 80-100% of its potential milking efficiency using the maximum milking time (MaxT) strategy.

What's the next step?

Fonterra offers milking efficiency support as part of the Milk Quality Improvement Visits. Scan this QR code for more information.

Your farm's key information

	Units	21/22	22/23	23/24
Dairy farm effective area	Ha	-	-	157
Peak cows (maximum numbers)	Cows	-	-	471
Stocking rate (dairy cows)	Cows/ha	-	-	3.0
Production	kgMS	-	-	268,876
Production per ha	kgMS/ha	-	-	1,713
Average somatic cell count	Cells/ml	-	-	119,877
Nitrogen fertiliser applied per ha	kgN/ha	-	-	187
Nitrogen fertiliser conversion efficiency	kgDM/kgN	-	-	75
Pasture & crop eaten (homegrown feed)	tDM/ha	-	-	14.0
Feed converted to milk	%	-	-	63
Production per kg liveweight	%	-		124
Imported feed fed	tDM	-	-	551
Imported supplement per cow	tDM/cow	-	-	1.2
Production per cow	kgMS/cow	-	-	571
Purchased Nitrogen Surplus	KgN/ha	-	-	179
Greenhouse Gas Emissions per kgMS	$kgCO_2e$/kgMS	-	-	10.2
Mastitis cases	Cows	-	-	40
Lameness cases	Cows	-	-	20
6-week in-calf rate	%	-	-	-
Not in-calf rate	%	-	-	-
Mating length	Weeks	-	-	-
Total biological methane	kg/ha	-		419
Total biological nitrous oxide	kg/ha	-		8

What is your total biological kg emissions

This number shows an estimate of your farm's biological GHG emission for your dairy farm effective area. This is an indication of the emissions which may be included in any future emission pricing regulations.

Spot an issue?

If your numbers don't seem quite right, you can resubmit your data anytime at nzfarmsource.co.nz/farmdairyrecords

The information and insights provided to you in this report are sourced from information that you have provided through your Farm Dairy Records, together with milk quality and production data that we hold and third party industry research. While the information and insights provided may identify risks and opportunities, such information is general information only and is not in the nature of advice. Any modeled financial costs or savings are estimated projections only, and provided in New Zealand dollars based on values current at the time this report was prepared ($7.80/kgMS). We make no representations or warranties (whether express or implied) as to whether information or data provided in this report is accurate, reliable or complete. You are solely responsible for your own assessment and evaluation of the information and for the actions or decisions you take in reliance on the information or data generated. Accordingly, Fonterra shall not be liable for any loss arising from any actions or decisions taken by you in reliance on the information contained in this report.

Purchased Nitrogen Surplus

Purchased Nitrogen Surplus is the difference between the nitrogen inputs (fertiliser and imported feeds) and the nitrogen outputs (milk, meat, crop, supplementary feed or exported effluent) on your dairy farm effective area. A high number means more nitrogen is at risk of being lost from your farm to the receiving environment.

Your Farm's Purchased Nitrogen Surplus Per Hectare

Nitrogen Fertiliser
187
kgN/ha

+

Imported Feed
112
kgN/ha

−

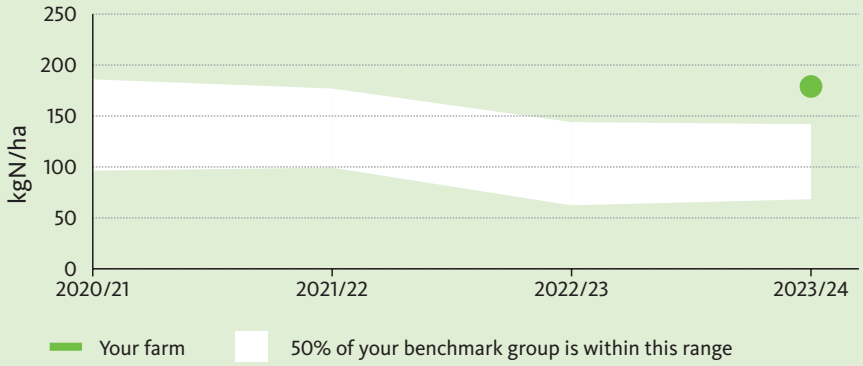
Exported Product
120
kgN/ha

=

Purchased Nitrogen Surplus
179
kgN/ha

Purchased Nitrogen Surplus

Your farm is benchmarked against farms in the Southland and Otago region with milk production above 1350 kgMS/ha.



Your farm's Nitrogen Risk Scorecard

Stock Management	VERY HIGH	Cropping & Cultivation	LOW
Nitrogen Fertiliser	HIGH	Effluent Management	VERY LOW
Imported Feed	VERY HIGH	Irrigation	VERY LOW

Your Farm's Nitrogen Risks

Stock Management

Stocking Rate

The higher the stocking rate[1] (peak), the greater the nitrogen loss.

Total	**22.7 su/ha**
Milking herd 3.0 cows/ha	22.2 su/ha
Replacement/ other animals	0.5 su/ha

Dry Matter Eaten

The more dry matter eaten[2] per hectare, the more nitrogen ingested by the animal and returned to pasture as dung and urine.

Total	**18.1 tDM/ha**
Grown on this farm	
Pasture and crops	14.0 tDM/ha
Imported to this farm	
Pasture and crops	1.1 tDM/ha
All other feeds	3.0 tDM/ha

Wintering Off/Culling

Reducing the number of animals on farm (from peak numbers) by culling and/or wintering off (May-Aug) will reduce the nitrogen loss risk on your dairy farm effective area.

46% OFF PLATFORM

Winter Practices

Reducing the amount of time cows spend on pasture and/or crops over winter will reduce the nitrogen loss risk.

Off pasture facility	0%
On pasture	**100%**
Break fed fodder crop	0%

Nitrogen Fertiliser

Fertiliser Applications

The more nitrogen fertiliser applied, the higher the nitrogen loss risk.

187 kgN/ha

Milk Solids per kg Nitrogen Used

Using less Nitrogen fertiliser (all other inputs being equal) whilst maintaining production, will lower purchased nitrogen surplus.

9 kgMS/kgN

Timing of Application

Fertiliser applied during the winter months can increase the chance of nitrogen being lost.

Sep - Apr

Jul - Aug

May - Jun

Highest Application Rate

Lower application rates reduce the nitrogen loss risk.

Below 25 kgN/ha

Above 25 kgN/ha

Feed Budget

Using a feed budget or wedge to help plan strategic fertiliser applications is a good farming practice.

No feed budget used

Feed budget used

Imported Feed

Nitrogen Imported From Feed

The greater the amount of imported feed, the more nitrogen that enters the system.

112 kgN/ha imported

Nitrogen Content

The greater the average nitrogen content, the higher the amount of nitrogen that enters the system.

Average N content of 3.18%

Nitrogen Use Efficiency of Imported Supplements

The greater the conversion efficiency, the lower the nitrogen surplus available to be lost.

15 kgMS/kgN

[1] *Stock Units (su) are a means of calculating stock numbers between species, breeds, and age groups based on relative feed demand. As an example 23.9su is equivalent to approximately 3 cows/ha (Friesian/Jersey cross) or 1500kg liveweight per hectare.*

[2] *Energy model calculations based upon the DairyBase model developed by DairyNZ.*

[3] *Includes feed fed to stock grazed off the dairy farm effective area.*

Key driver of Nitrogen loss risk.

Your Farm's Nitrogen Risks (cont)

Cropping and Cultivation

Conventional

This is the greatest risk method for sowing a crop and the risk increases as the cultivated area increases.

5% of farm cultivated annually

Minimum Tillage

This is a lower risk activity than conventional cultivation, however the risk increases with the total area cultivated.

Not Applicable

Direct Drill

This is a lower risk activity than both full cultivation and minimum tillage for establishing a crop.

Not Applicable

Season of Harvest/Grazing

Crops harvested/grazed during winter pose a higher risk to nitrogen leaching.

Not Applicable

Timing of Fertiliser Application

There is greater risk if fertiliser is applied to crops during high risk months of May, June, July and August.

No fertiliser applied during winter

Fertiliser applied during winter

Effluent Management

Effluent Discharge Method

Discharging treated effluent to land is the lowest risk.

Irrigate to pasture

Irrigate to pasture (low storage)

Discharge to water

Discharge to water and pasture

Effluent Irrigation Area

An undersized effluent area can result in the average amount of nitrogen per hectare applied exceeding local rules and regulations.

10ha/100 cows

Application Depth

Low rates will ensure greater flexibility of management with more irrigation days available and increase the chance of the plant utilising the nutrients within the effluent rather than it being lost.

< 12mm application depth

Irrigation

Irrigation Method

Irrigation generally increases the nitrogen loss risk due to the potential for over irrigating to induce drainage events. Some systems are inherently riskier than others irrespective of management.

No fresh water irrigation

Irrigation Scheduling

Deciding when to start or stop irrigation is important as poor management of an irrigation event can lead to induced drainage.

Not Applicable

Irrigation Application Method

Having control over the amount and how often water is applied can greatly influence nitrogen loss risk with poor management of irrigation events leading to induced drainage.

Not Applicable

DISCLAIMER

*Provision of advice in relation to effluent storage, effluent irrigation systems and the management of other environmental risk areas on farm.

The advice that Fonterra Co-operative Group Ltd (Fonterra, we, us) provides to farmers in relation to effluent storage capacity and other environmental compliance practices, including mitigation actions described in Farm Environment Plans, is based on the information and assumptions that farmers and their agents have provided to us and on our knowledge and understanding of current best practice in the industry. Fonterra does not purport to replace sound engineering or other professional advice and as such we strongly encourage farmers to seek independent expert advice before any construction, upgrades, or other change to your on-farm practices. Farmers are ultimately responsible for the environmental compliance of their farm and on-farm practices. Fonterra gives no warranties (express or implied) and, to the maximum extent permissible by law, excludes all liability in contract or tort (including, without limitation, liability for negligence) or otherwise in relation to the advice provided.

BALDWIN AGRI SOLUTIONS

OverseerFM farm system modelling to support a consent application for a dairy boundary realignment and expanded dairy

Report prepared for:
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31st July 2024

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This report is designed to be read in its entirety and any excerpts should reference the report for completeness of understanding.

Peer review completed by Miranda Hunter, Roslin Consultancy Limited:

- 30 plus years farm systems expertise
- Certified Nutrient Management Adviser since 2014
- Member of NZIPIM
- Contributing author to recent peer reviewed paper- “Understanding your landscape resilience: Beyond Regulation” Kyte R, Hunter M, Rissman C, Boyce A. April 2024

Contents

1.0 Executive summary:

Opio Dairy is family-owned farming business located at Opio in Western Southland. The farm is a 231.9ha (223ha effective) Dairy milking platform and cut & carry blocks. The opportunity has arisen for Opio Dairy to purchase an adjoining sheep and beef block . To do this Opio Dairy would sell 22ha east of Nightcaps Opio road along with relinquishing the 16ha lease to the East of Nightcaps Opio road. In return Opio dairy would purchase a 32ha sheep and beef block to the south of the existing platform. This piece of land fits the farm and isn't separated via the road like the 22ha and 16ha blocks.

Figure 1 – Current farm boundary

Figure 2– Proposed Farm Boundary

(note: red area is new proposed boundary, yellow is lease relinquishing/land being sold), purple is area being added

To inform the assessment of effects nutrient budgeting has been completed using Overseer version 6.5.6 for the 23/24 season (to reflect status quo farm system) to compare with the proposed land use. Reasons why a 5-year rolling average has not been used is outlined below in section 3.4. These budgets estimate the nitrogen and phosphorus losses from the farm. Three nutrient budgets have been completed:

1) Baseline Opio Dairy
2) Baseline Sheep & Beef
3) Proposed Dairy System

1.1 Nutrient Loss estimates

The tables below compare the estimated losses of nitrogen and phosphorus from the consented baselines with the estimated losses under the proposed system.

Consented baseline:

	Baseline Opio Dairy	Baseline Sheep & Beef	Total Baseline
Effective Area	223	32	255
Total Farm N Loss (kg)	11 604	603	12 207
N Loss/ha (kgN/ha/yr)	50	19	
Total Farm P Loss (kg)	235	22	257
P loss/ha (kgP/ha/yr)	1	0.7	
Pasture Grown (tDM/ha)	17.1	12.1	
RSU	5170	473	5643

Revised baseline with 22ha and 16ha blocks removed from Dairy Platform.
This has been calculated by removing the nutrient loss from blocks 1 and 5 and a pro rata of other sources relative to the total area.
Note: 22ha + 16ha = 17% of whole block

Nitrogen loss
Total N loss block 1 = 695 kg N / yr
Total N loss block 5 = 1523 kg N / yr
Other sources N loss pro rata = 79 kg N / yr (462 kg N x 17%)

Nitrogen loss no longer attributable to the baseline due to the loss of the 38 ha via giving up lease and selling land = 2297 kg N / yr

Phosphorus loss
Total P loss block 1 = 13 kg P / yr
Total P loss block 5 = 9 kg P / yr
Other sources P loss pro rata = 18 kg P / yr (107 kg P x 17%)

Phosphorus loss no longer attributable to the baseline due to the loss of the 38 ha via giving up lease and selling land = 40 kg P / yr

RSU have been pro rata based on land area:
5643 RSU x 17% = 959 RSU

Revised Consented Baseline compared to Proposed

	Total Baseline	Revised Total baseline	Proposed System	Difference between Baseline and Proposed
Effective Area (ha)	255	217	217	
Total Farm N Loss (kg)	12 207	9910 *(12 207 – 2297)*	7620	23% decrease
N Loss/ha (kgN/ha/yr)				
Total Farm P Loss (kg)	257	217 *(257 – 40)*	208	4% decrease
P loss/ha (kgP/ha/yr)				
Pasture Grown (tDM/ha)			17.1	
RSU	5643	4752 (5641- 889)	6512	37% increase

1.2 Drivers of changes in nutrient losses

1.2.1 Nitrogen loss estimates

Nitrogen losses from a farm system can have negative impacts on water quality downstream. This in turn can have negative implications on aquatic life and human health.

OverseerFM has estimated a 23% decrease in total nitrogen losses between the baseline and proposed scenarios. This is the cumulative result of many changes to the farm system including:

- Cropping
  - Remove winter cropping
- Stock
  - Slight reduction replacement rate
  - Remove sheep and beef cattle
  - Increase number of cows 450 to 550
- Structures
  - Addition of second feed pad
  - Increase of months feed pads used
- Effluent
  - Increase effluent area
- Block Management
  - Management systems rotate through all blocks
- Nitrogen
  - Increase total N use across farm for pasture grazing

1.2.2 Phosphorus loss estimates

Phosphorus losses from the farm can cause algal growth in surface waterways. OverseerFM has estimated a 4% decrease in total phosphorus losses in the proposed system. Key changes include:

- Cropping
  - Remove winter cropping
- Stock
  - Slight reduction replacement rate
  - Remove sheep and beef cattle
  - Increase number of cows 450 to 550
- Structures
  - Addition of second feed pad
  - Increase of months feed pads used
- Effluent
  - Increase effluent area
  - Spread solid effluent in lower risk time of year
- Block Management
  - Management systems rotate through all blocks
- Nitrogen
  - Increase total N use across farm for pasture grazing
- Fertiliser
  - Decrease in Olsen P to 30 to 35, increase Olsen P on 32ha block to 30
  - fertiliser applied to maintenance using low solubility phosphate fertiliser

OverseerFM is not spatially explicit and a phosphorus mitigation plan should be developed as part of the FEMP to reduce phosphorus losses.

2.0 Report purpose

The results of the nutrient budgets will be utilised to support a land use consent application for a dairy boundary realignment.

This report will emphasise the relevant requirements in the proposed Southland Water and Land Plan, and the National Environmental Standards from a nutrient budgeting perspective. The broader range of requirements should be captured in the Farm Environmental Management Plan (FEMP). This report will inform the FEMP which will be completed separately.

Potential environmental risks on the property have been considered and should be included in the FEMP. These include:

- Contamination of ground water
- Contamination of surface water
- Undesired changes in soil nutrient status
- Nutrient application to non-target land
- Accumulation of non-nutrient impurities in the soil profile
- Excess stocking rate
- Pugging and compaction

- Poor cultivation methods

3.0 Farm overview

3.1 Land Area

Opio Dairy		
Blocks	**Effective Area (ha)**	**Total Area (ha)**
1) Platform 22ha	22	
2) Platform 94ha non effluent	54	
3) Platform 94ha Effluent	40	
4) Platform 47ha	39	
6) Runoff 44ha	9	
Crop Blocks		
4) Platform Whole Crop	8	
5) Runoff 16ha	16	
6) Runoff Whole Crop	35	
35ha Sheep & Beef		
7) Sheep & Beef 32ha	32	
	255	**263.9**

3.2 Location of Blocks

Current Platform and runoff marked yellow and red. Yellow block will be given up in proposed system, and purple is included in the proposed system.

3.3 Farm particulars:

Address	237 Sinclair Road, RD1, Otautau
Legal Description	**Opio Dairy** • Fee Simple, 1/1, Section 152 Block V Wairio Survey District, 1,160,259 m2 • Fee Simple, 1/1, Section 153 Block V Wairio Survey District, 1,158,489 m2 **Sheep & Beef 35ha** • Fee Simple, 1/1, Lot 1 Deposited Plan 6203, 319,904 m2
Area	263.9 ha

3.4 Consent Application Modelling Requirements and Method

To inform the assessment of effects, nutrient budgets have been prepared to compare the consented baselines to the proposed land use.

Three nutrient budgets have been completed:

- Baseline Opio Dairy
  - Due to 3 years data available for only 70% of the dairy platform, the most stable system to use is where data is available for the full Dairy Platform = 23/24 year end.
  - 16ha + 44ha blocks only two full seasons where the system hasn't been changed mid season. Have taken the more conservative approach and also the system with the most accurate information available 23/24 yr end.

- Baseline Sheep & Beef
  - 32ha block SU/ha, beef cattle on farm and crop area data for the Sheep & beef block 23/24 season has been supplied by current owner. Due to this block being part of a bigger sheep and beef operation the data given has been used then assumptions have been made to make a viable farming system. Due to all other blocks using the 23/24 year to compare apples with apples the crop from the 23/24 year has also been used, this will be the conservative approach as is 4ha under the maximum in reference period.

- Proposed System
  - A nutrient budget has been modelled to represent the system the farm proposes to do going forward.

The table below data outlines the data available and the most realistic representation of contaminant losses. Where the system has changed numerous times the most conservative approach has been taken. Thus, then assuming the most practical approach to modelling the farm systems in OverseerFM.

Opio Dairy

Data	Dairy Platform 94ha + 22ha	Dairy Platform 47ha	Runoff Cut & Carry 16ha + 44ha	32ha Block
Stock Numbers	Supplied by Opio Dairy	Supplied Opio Dairy	22/23 SU/ha Supplied current owner 23/24 actual stock Supplied Opio Dairy	SU/ha supplied by owner
MS	Fonterra Records	Fonterra Records		
Crop area	No crop	W/C only Supplied by Opio Dairy	22/23 nothing supplied 23/24 Actuals Supplied Opio Dairy	23/24 Supplied by owner Verified by Opio Dairy – visual over fence check Max crop on this block in the reference period is 12ha supplied by current owner
Supplements	Supplied by Opio Dairy (In shed and supplements cut)	Supplied by Opio Dairy (In shed and supplements cut)	22/23 Nothing Supplied 23/24 Actuals harvested Supplied Opio Dairy	Assumed to make feasible system
Fertiliser Applied	Ballance Annual Summary	Ballance Annual Summary	Ballance Annual Summary + specified by Opio Dairy	Applied at maintenance
Olsen P	Ballance soil test Most recent 21/22	Ballance soil test Most recent 21/22	Ballance soil test Most recent 22/23	OverseerFM industry defaults used
Years data above can be supplied	21/22 22/23 23/24 Note feed pad first use was in June24	30ha leased from April 21 to Dec 22, remaining 17ha leased post Dec22, **First season with full data 23/24**	21 to mid 23 Sheep grazing, Opio Dairy took over July 23 Note: stock numbers supplied for 21-23 seasons but nothing else **First Season with full data 23/24**	**System data limited but can be comfortable the system has been in status quo over last 5years**

3.5 Farm system overview

A detailed description of the modelling methodology and Overseer input data is given in the appendices of this report. This section gives an overview of the farm system modelled in each budget.

3.5.1 Baseline Dairy Platform & runoff

Nutrient budget was completed using the following:

Stock and production:

- 60 beef bulls Sept/Oct
- 450 peak milked dairy cows
- 10 Breeding Bulls Dec/Jan
- 120 replacement heifers until weaning
- 268800 kg milksolids /yr (597kg ms / peak milked cow)

Feed

- From Storage
  - 653t DM Whole Crop Barley (37.5t DM fed to cows, 615.5 t DM exported)
- Imported
  - 264.4 t DM PKE (fed in milking shed)
  - 158.6 t DM DDG (fed in milking shed)
  - 105.8 t DM Barley Grain (fed in milking shed)
- Harvested
  - 287.5 t DM baleage (fed to dairy stock, on the feed pad and to storage)

Fertiliser

- The latest soil tests for blocks were used from Ballance. The tests found an average Olsen P between 30 - 42
- Fertiliser has been entered from the actuals for the 23/24 year from Ballance records – For the 16ha and 44ha blocks this has been split out from Ballance orders.
- Pastoral synthetic nitrogen was on average 183 kg N/ha/yr, applied Sept to March
  - Note: Overseer showing 197kg/ha N, this is because the last 9860kg of Sustain25K in March was applied to roughly 50ha of baleage cut from the platform, meaning this Nitrogen do not fall into the N cap for the grazed pasture blocks.

Structures

- Feed Pad (with rubber matting for resting/sleep) – 200 cows June

Effluent

- Effluent area 40ha
- Effluent for feed pad has been exported as it was not spread in the current year.

3.5.2 Baseline Sheep & Beef

Nutrient budget was completed using the following:

Stock and production:

- 20 Beef calves from weaning, wintered then sold following season.
- 250 Breeding ewes wintered with replacements and lambs
    - Note: Information supplied was 13SU/ha wintered June. Due to the block being run as part of a larger property this has been scaled back to represent a feasible system.

Feed

- Winter Crop
    - 8ha Swedes
- Imported
    - 10 t DM Baleage (fed to beef animals)

Fertiliser

- OverseerFM industry average defaults used Olsen P 16
- Fertiliser has been applied to maintenance
- Pastoral nitrogen assumed at 9 kg N/ha/yr, as per beef and Lamb Economic survey

3.5.3 Proposed Budget

A budget was completed for the proposed long term system taking into account land incorporated and sold.

Stock and production:

- 12 Breeding Bulls Dec/Jan
- 550 peak milked dairy cows
- 138 replacement heifers until weaning
- 330000 kg milksolids /yr (600kg ms / peak milked cow)

Feed

- Imported
    - 210 t DM PKE (fed in milking shed)
    - 165 t DM DDG (fed in milking shed)
    - 175 t DM Barley Grain (fed in milking shed)
- Harvested
    - 530t DM (450 t DM fed on feed pad, 80 t DM fed on pasture)

Fertiliser

- Average Olsen P ranging between 30 - 35
- fertiliser has been entered at maintenance levels using low solubility P fertiliser
- Synthetic nitrogen applied at 190 N/ha/yr applied August to April

Structures

- 2 x Wintering Feed Pads, used for wintering 400 cows, and on the shoulders of the season

Effluent Area

- Total of 217ha

4.0 OverseerFM nutrient loss estimates

4.1 OverseerFM loss estimates

Nutrient budgets have been prepared to support the assessment of effects of the current and proposed dairy systems. The table below shows the OverseerFM version 6.5.6 estimated nutrient losses from the baseline and proposed land use.

The tables below compare the estimated losses of nitrogen and phosphorus from the consented baseline with the estimated losses under the proposed system.

Consented baseline:

	Baseline Opio Dairy	Baseline Sheep & Beef	Total Baseline
Effective Area	223	32	255
Total Farm N Loss (kg)	11 604	603	12 207
N Loss/ha (kgN/ha/yr)	50	19	
Total Farm P Loss (kg)	235	22	257
P loss/ha (kgP/ha/yr)	1	0.7	
Pasture Grown (tDM/ha)	17.1	12.1	
RSU	5170	473	5643

Revised Consented Baseline compared to Proposed

	Total Baseline	Revised Total baseline	Proposed System	Difference between Baseline and Proposed
Effective Area (ha)	255	217	217	
Total Farm N Loss (kg)	12 207	9910 *(12 207 – 2297)*	7620	23% decrease
N Loss/ha (kgN/ha/yr)				
Total Farm P Loss (kg)	257	217 *(257 – 40)*	208	4% decrease
P loss/ha (kgP/ha/yr)				
Pasture Grown (tDM/ha)			17.1	
RSU	5643	4752 (5641- 889)	6512	37% increase

Estimated pasture grown

It should be noted that the estimated pasture grown outputs from Overseer are higher than expected. Overseer uses a default value for ryegrass/white clover pasture quality irrespective of the land use and management. The default Overseer value in Southland ranges from 10.5 to 11.17 MJ ME/ kg DM depending on the month (reference: Characteristics of pasture, June 2018, D M Wheeler AgResearch Ltd). Pasture cuts from a Central Southland monitor farm show MEs of 11.5 to 12.5 (reference: Pasture growth and quality on Southland and Otago dairy farms, D. E. Dalley and T. Geddes, DairyNZ, NZ Grasslands Publication 2012).

The Overseer default values have been used throughout the entirety of this modelling as the Best Practice Data Input Standards state that "there needs to be a very good long-term average evidence of clover content, pasture utilisation, pasture N content and pasture quality to justify changes from the default OVERSEER values. This level of information would be rare."

To ensure that comparisons are valid between the current and proposed the same method has been used to ensure that an "apples with apples" approach is taken.

Bio Fixation

Note bio fixation is increasing in the proposed due to a significant amount of crop area in the baseline budgets, so at overall farm scale bio fixation appears to be increasing however when you break it down at a block level fixation looks similar, this is an apples with apples approach.

5.0 Drivers of changes in nutrient losses

5.1 Nitrogen Loss estimates

5.1.1 Nitrogen loss estimates

Nitrogen losses from a farm system can have negative impacts on water quality downstream. This in turn can have negative implications on aquatic life and human health.

OverseerFM has estimated a 23% decrease in total nitrogen losses between the baseline and proposed scenarios. This is the cumulative result of many changes to the farm system including:

- Cropping
  - Remove winter cropping
- Stock
  - Slight reduction replacement rate
  - Remove sheep and beef cattle
  - Increase number of cows 450 to 550
  - Rotating all systems over the whole block
- Structures
  - Addition of second feed pad
  - Increase of months feed pads used
- Effluent
  - Increase effluent area
- Block Management
  - Management systems rotate through all blocks
- Nitrogen
  - Increase total N use across farm for pasture grazing

5.1.2 Phosphorus loss estimates

Phosphorus losses from the farm can cause algal growth in surface waterways. OverseerFM has estimated a 4% decrease in total phosphorus losses in the proposed system. Key changes include:

- Cropping
  - Remove winter cropping
- Stock
  - Slight reduction replacement rate
  - Remove sheep and beef cattle
  - Increase number of cows 450 to 550
  - Rotating all systems over the whole block
- Structures
  - Addition of second feed pad
  - Increase of months feed pads used
- Effluent
  - Increase effluent area
  - Spread solid effluent in lower risk time of year
- Block Management

    - Management systems rotate through all blocks
- Nitrogen
    - Increase total N use across farm for pasture grazing
- Fertiliser
    - Decrease in Olsen P to 30 to 35, increase Olsen P on 32ha block to 30
    - fertiliser applied to maintenance using low solubility phosphate fertiliser

OverseerFM is not spatially explicit and a phosphorus mitigation plan should be developed as part of the FEMP to reduce phosphorus losses.

6.0 Recommendations from here

OverseerFM can model a specific range of good management practices. Below is a summary of the potential environmental risks on this property and gives recommendations to mitigate these risks.

Good practice for fertiliser use:

- Regular soil testing is used to inform fertiliser recommendations that target agronomic optimum P, K, S, Mg, Na and Ca levels.
- Develop a fertiliser plan with your fertiliser representative. Recommend you make this OverseerFM modelling available to your fertiliser representative to assist them in developing the fertiliser recommendations.
- Apply using a Spreadmark accredited company for fertiliser application – apply at correct rate and with a buffer to waterways.
- Use of Fertmark registered products.
- Record fertiliser applications (location, date of application and amount applied).

Nitrogen:

- Apply nitrogen strategically to meet plant demand.
- Spring nitrogen applications should not be on soil less than 7 degrees Celsius.
- Nitrogen application where possible should be kept out of high drainage months May

Phosphorus:

- OverseerFM is not spatially explicit and a phosphorus mitigation plan should be developed to reduce phosphorus losses.

Critical source areas:

- These include laneways, gateways, swales in paddocks and wallows.
- Review your Farm Environmental Management Plan to update as required and take action on mitigating risk on any new critical source areas identified.

The Proposed Water and Land Plan is currently in the appeals process and is partially operative. It will be important to stay up to date with developments in Environment Southland policy and rules, including the limit setting process which will develop over the next few years.

A National Environmental Standard (NES) has been gazetted. This has implications for the wintering of stock on crop, stock exclusion from waterways, nitrogen fertiliser use, changes in landuse and the use of stockholding areas for cattle.

Both the Proposed Water and Land Plan and the National Environmental Standards require a farm of this size to have a farm environmental management plan. This should be updated to include the recommendations within this report.

Appendices

Appendix 1. Modelling Methodology

Nutrient losses have been estimated using the OverseerFM Version 6.5.6 model. OverseerFM is a software application that models nutrient movements within a farm system. Input data detailing the farm system is entered into the software and interpreted through the use of a series of sub-model that calculate the flow of seven major farm nutrients (Nitrogen, Phosphorus, Potassium, Sulphur, Calcium, Magnesium and Sodium). Output data is reported for interpretation and to inform farm management practices. It currently requires an expert user to describe the physical and management details of a farm.

OverseerFM assumptions

Within the OverseerFM software, assumptions have been made of the farm management:

- Long term annual average model
  The model uses annual average input and produces annual average outputs.
- Near equilibrium conditions
  Model assumes that that the farm is at a state where there is minimal change each year.
- Actual and reasonable inputs
  It is assumed that input data is reasonable and a reflection of the actual farm system. If any parameter changes, it is assumed that all other parameters affected will also be changed.
- Good management practices are followed
  OverseerFM assumes the property is managed at industry agreed good management practice for a specific list of factors including effluent and fertiliser applications. OverseerFM does not assume that all industry agreed good management practices are undertaken on farm.

OverseerFM limitations

Key limitations of the OverseerFM model are:

- OverseerFM does not predict transformations, attenuation or dilution of nutrients between the root zone or farm boundary and the eventual receiving water body. A catchment model is needed to estimate the effects of the nutrient losses from farms on groundwater, river or lake water quality.
- OverseerFM does not calculate outcomes from extreme events (floods and droughts) but provides a typical years result based on a long-term average.
- OverseerFM does not calculate the impacts of a conversion process, rather it predicts the long-term annual average nutrient budgets for changed land use.
- OverseerFM is not spatially explicit beyond the level of defined blocks.
- Not all management practices or activities that have an impact on nutrient losses are captured in the OverseerFM model.
- OverseerFM does not represent all farm systems in New Zealand.
- Components of OverseerFM have not been calibrated against measured data from every combination of farm systems and environment.

Information on OverseerFM can be obtained from the following reports:

- Technical Description of OVERSEER for Regional Councils, September 2015
- Review of the phosphorus loss submodel in OVERSEER®, September 2016

- Using OVERSEER® in Regulation – Technical Resources and Guidance for Regional Councils, August 2016

Data input standards

Nutrient budgets have been constructed using the OverseerFM Version 6.5.6 model.

The nutrient budgets have been developed in accordance with the Overseer data input protocols - "Overseer, Best Practice Data Input Standards, March 2018" and the "OverseerFM User Guide, October 2019." No deviations have been made from these protocols.

Appendix 2. Modelling Inputs

Soil types

Soil type has a large bearing on nutrient loss levels from a property. This is due to different soil types having different water holding capacities, and drainage characteristics. It is therefore important that soil type is inputted correctly.

The table below gives a brief description of the soil types found on the properties.

S-map ref	Group	Soil Order	Drainage class	Description
Apar_6a.1	Sedimentary	Brown	Imperfect	Deep, imperfectly drained, silt
Pukem_6a.1	Recent/YGE/BGE	Pallic	Poor	Moderately deep, poorly drained, silt over clay
Makar_3b.1	Sedimentary	Gley	Poor	Deep, poorly drained, clay

The table below shows the area and the proportion of the block that the soils identified covered:

	Baseline Dairy Platform (ha)	Baseline Sheep& Beef (ha)	Current Total (ha)	Proposed (ha)
Apar_6a.1	128.3	19.2	147.5	127
Pukem_6a.1	79.6	12.8	92.4	84.6
Makar_3b.1	15.1		15.1	5.4

Climate Data

The following climate information has been used from the OverseerFM climate station tool:

Annual Rainfall (mm)	1051 - 1075
Mean Annual Temp (°C)	10
Annual PET (mm)	664 - 668

Blocks

The farms have been split into the following pastoral, riparian and fodder crop blocks based on soil type, contour, drainage and land use.

Blocks	Baseline Opio Dairy	Baseline Sheep & Beef	Proposed
1 Platform 22ha	22		
2 Platform 94ha non Effluent	54		54
3 Platform 94ha Effluent	40		40
4 Platform 47ha	39		47
6 Runoff 44ha	9		44
7 Runoff 32ha		**32**	32
Crop Blocks			
4 Platform Whole Crop	8		
5 Runoff 16ha	16		
6 Runoff Whole Crop	35		
Total Effective Area	**223**	**32**	**217**
Non effective area	8.9	0	8.9
Total Area	**231.9**	**32**	**225.9**
Rotation Fodder Crop		**8**	

Farm System Inputs

<table>
<tr><th>Description</th><th>Baseline Dairy Platform</th><th>Baseline Sheep & Beef</th><th>Proposed</th></tr>
<tr><td>Dairy cows (Stock numbers at month end)</td><td>Production: 268800kgMS
(597 kg ms / cow)
Breed – FJx

<table><tr><td>Month</td><td>Cows</td></tr><tr><td>Jul</td><td>100</td></tr><tr><td>Aug</td><td>350</td></tr><tr><td>Sep</td><td>450</td></tr><tr><td>Oct</td><td>450</td></tr><tr><td>Nov</td><td>450</td></tr><tr><td>Dec</td><td>450</td></tr><tr><td>Jan</td><td>450</td></tr><tr><td>Feb</td><td>450</td></tr><tr><td>Mar</td><td>400</td></tr><tr><td>Apr</td><td>346</td></tr><tr><td>May</td><td>346</td></tr><tr><td>Jun</td><td>200</td></tr><tr><td>Mean calving</td><td>14 Aug</td></tr><tr><td>Dry off</td><td>31 May</td></tr></table>
10 breeding Jersey bulls Dec/Jan</td><td>None</td><td>Production: 330000 kgMS
(600 kg ms / cow)
Breed – FJx

<table><tr><td>Month</td><td>Cows</td></tr><tr><td>Jul</td><td>400</td></tr><tr><td>Aug</td><td>580</td></tr><tr><td>Sep</td><td>550</td></tr><tr><td>Oct</td><td>550</td></tr><tr><td>Nov</td><td>550</td></tr><tr><td>Dec</td><td>550</td></tr><tr><td>Jan</td><td>550</td></tr><tr><td>Feb</td><td>550</td></tr><tr><td>Mar</td><td>500</td></tr><tr><td>Apr</td><td>450</td></tr><tr><td>May</td><td>400</td></tr><tr><td>Jun</td><td>400</td></tr><tr><td>Mean calving</td><td>14 Aug</td></tr><tr><td>Dry off</td><td>31 May</td></tr></table>
12 breeding Jersey Dec/Jan</td></tr>
<tr><td>Dairy grazing</td><td>60 Beef Bulls Sept/Oct</td><td></td><td></td></tr>
</table>

Description	Baseline Dairy Platform	Baseline Sheep & Beef	Proposed
Dairy replacements	120 calves to weaning		138 Calves to weaning
Sheep & beef		20 beef calves weaning, wintering then sold the following summer 250 breeding ewes and replacements Sept to May 400 ewes wintered June to August	
In shed feeding	100% of herd fed in shed Aug – May		100% of herd fed in shed Aug – May
Structures	Feed Pad 200 Cows June (effluent exported)		Winter feeding pads x 2 400 cows June 400 cows July 200 cows August 75 cows September
Animal distribution	No difference between blocks Based on Animals present	No difference between blocks	No difference between blocks
Pasture	Ryegrass / clover	Ryegrass / clover	Ryegrass / clover
Crop management	59ha Whole crop Barley Sown Nov – Con cult Yield 10.2 – 11.4 t DM / ha Maint + Captial Nov 500kg/ha Superten 2t/ha Lime At Sowing 346kg/ha Cropzeal16N 86kg/ha MOP Dec 259kg/ha Ammo36N Dec 173kg/ha Sustain25k post harvest Harvested Feb– 653 t DM exported (37.5 t DM imported back in)	8ha Swedes (ex pasture rotation) Sown Dec – Con cult 250kg / ha CZBB at sowing 100kg / ha Urea Jan Yield 12 t DM / ha Resown into Pasture Nov Grazed June - Aug	
Imported Supplements	264.4 t DM PKE (fed in milking shed) 158.6 t DM DDG (fed in milking shed) 105.8 t DM Barley Grain (fed in milking shed)	10 t DM Baleage (fed to beef stock)	210 t DM PKE (fed in milking shed) 165 t DM DDG (fed in milking shed) 175 t DM Barley Grain (fed in milking shed)
Harvested supplements	287.5 t DM Baleage (fed to dairy stock, on fed pad and stored)		530 t DM (450 t DM fed on feed pad rest fed on pastures)

Description	Baseline Dairy Platform	Baseline Sheep & Beef	Proposed
	Cereal silage - 653 t DM exported (37.5 t DM imported back in)		
Soil Fertility	Olsen P of 30 - 42 Balance soil tests 2021	Default Olsen P 16	Olsen P assumed ranging between 30 - 35
Fertiliser	Ex Ballance records 183 kg synthetic N / ha, applied Sept to March + 9860kg Sustain25k applied in March on Silage paddocks (197 kg N / ha) 189 kg N / ha per effective hectare at farm scale	Assumed applied at maintenance 9 kg synthetic N / ha	Assumed applied at maintenance (low solubility P fertiliser) 190 kg synthetic N / ha, applied August to April
Drainage	75% on whole block	75% on whole block	75% on whole block
Effluent system	Holding pond Solids separated Liquid effluent is applied to 40 ha - at less than 12mm Pond solids emptied once a year (applied in Dec) Solids applied to block 2 in sept		Holding pond Solids separated Liquid effluent is applied to 217 ha - at less than 12mm Pond solids emptied once every year applied (applied when conditions appropriate) Solids applied to whole farm

AGREEMENT FOR SALE AND PURCHASE OF REAL ESTATE

This form is approved by the Real Estate Institute of New Zealand Incorporated and by Auckland District Law Society Incorporated.

DATE: 2nd July 2024

VENDOR: Paul Ernest TURNER and Kayleen Amanda TURNER as trustees of the PAUL TURNER FARM TRUST

PURCHASER: WESTFIELD GRAZING COMPANY LIMITED **and/or nominee**

The vendor is registered under the GST Act in respect of the transaction and/or will be so registered at settlement: Yes/~~No~~
If "Yes", Schedule 1 must be completed by the parties.

Purchase price allocation (PPA) is relevant to the parties for income tax and/or GST purposes: Vendor Yes/No
If both parties answer "Yes", use of the PPA addendum for this agreement is recommended. Purchaser/Purchaser's Nominee Yes/No

PROPERTY
Address: Nightcaps Opio Road, Nightcaps

Estate: FREEHOLD ~~LEASEHOLD~~ ~~STRATUM IN FREEHOLD~~
~~STRATUM IN LEASEHOLD~~ ~~CROSS-LEASE (FREEHOLD)~~ ~~CROSS-LEASE (LEASEHOLD)~~
If none of the above are deleted, the estate being sold is the first option of freehold.

Legal Description:

Area (more or less):	*Lot/Flat/Unit:*	*DP:*	*Record of Title (unique identifier):*
approximately 22 ha (subject to survey)	part Section 152 Block V	Wairio Survey District	part SL9D/384 shown outlined in orange on the attached photo.

PAYMENT OF PURCHASE PRICE
Purchase price: $ 420,000.00

Plus GST (if any) ~~OR Inclusive of GST (if any)~~
If neither is deleted, the purchase price includes GST (if any).

GST date (refer clause 13.0):

Deposit (refer clause 2.0): $

Balance of purchase price to be paid or satisfied as follows:
~~(1) By payment in cleared funds on the settlement date which is:~~
OR
(2) In the manner described in the Further Terms of Sale. **Interest rate for late settlement:** 15 % p.a.

CONDITIONS (refer clause 9.0)

Finance required (clause 9.1):	~~Yes~~/No	**Finance date:**
LIM required (clause 9.3):	~~Yes~~/No	**LIM date:**
Building report required (clause 9.4):	~~Yes~~/No	**Building report date:**
Toxicology report required (clause 9.5):	~~Yes~~/No	**Toxicology report date:**
OIA consent required (clause 9.6):	~~Yes~~/No	**OIA date** (clause 9.8):
Land Act consent required (clause 9.7):	~~Yes~~/No	**Land Act date** (clause 9.8):

Ye

TENANCIES Yes/No
Particulars of any tenancies are set out in Schedule 3 or another schedule attached to this agreement by the parties.

It is agreed that the vendor sells and the purchaser purchases the property, and any chattels listed, on the terms and conditions of this agreement.

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GENERAL TERMS OF SALE

1.0 Definitions, time for performance, notices, and interpretation

1.1 Definitions

(1) Unless the context requires a different interpretation, words and phrases not otherwise defined have the same meanings ascribed to those words and phrases in the Goods and Services Tax Act 1985, the Property Law Act 2007, the Resource Management Act 1991 or the Unit Titles Act 2010.

(2) "Accessory unit", "owner", "principal unit", "unit", and "unit plan" have the meanings ascribed to those terms in the Unit Titles Act.

(3) "Agreement" means this document including the front page, these General Terms of Sale, any Further Terms of Sale, and any schedules and attachments.

(4) "Associated person", "conveyancer", "offshore RLWT person", "residential land purchase amount", "RLWT", "RLWT certificate of exemption" and "RLWT rules" have the meanings ascribed to those terms in the Income Tax Act 2007.

(5) "Building", "building consent", "code compliance certificate", "commercial on-seller", "compliance schedule" and "household unit" have the meanings ascribed to those terms in the Building Act.

(6) "Building Act" means the Building Act 1991 and/or the Building Act 2004.

(7) "Building report date" means the building report date stated on the front page of this agreement, or if no date is stated, means the fifteenth working day after the date of this agreement.

(8) "Building warrant of fitness" means a building warrant of fitness supplied to a territorial authority under the Building Act.

(9) "Cleared funds" means an electronic transfer of funds that has been made strictly in accordance with the requirements set out in the PLS Guidelines.

(10) "Commissioner" has the meaning ascribed to that term in the Tax Administration Act 1994.

(11) "Default GST" means any additional GST, penalty (civil or otherwise), interest, or other sum imposed on the vendor (or where the vendor is or was a member of a GST group its representative member) under the GST Act or the Tax Administration Act 1994 by reason of non-payment of any GST payable in respect of the supply made under this agreement but does not include any such sum levied against the vendor (or where the vendor is or was a member of a GST group its representative member) by reason of a default or delay by the vendor after payment of the GST to the vendor by the purchaser.

(12) "Electronic instrument" has the same meaning as ascribed to that term in the Land Transfer Act 2017.

(13) "Finance date" means the finance date stated on the front page of this agreement, or if no date is stated, means the tenth working day after the date of this agreement.

(14) "Going concern", "goods", "principal place of residence", "recipient", "registered person", "registration number", "supply", "taxable activity" and "taxable supply" have the meanings ascribed to those terms in the GST Act.

(15) "GST" means Goods and Services Tax arising pursuant to the Goods and Services Tax Act 1985 and "GST Act" means the Goods and Services Tax Act 1985.

(16) "Land Act date" means the Land Act date stated on the front page of this agreement, or if no date is stated, has the meaning described in clause 9.8.

(17) "Landonline Workspace" means an electronic workspace facility approved by the Registrar-General of Land pursuant to the provisions of the Land Transfer Act 2017.

(18) "Leases" means any tenancy agreement, agreement to lease (if applicable), lease, sublease, or licence to occupy in respect of the property, and includes any receipt or other evidence of payment of any bond and any formal or informal document or letter evidencing any variation, renewal, extension, review, or assignment.

(19) "LIM" means a land information memorandum issued pursuant to the Local Government Official Information and Meetings Act 1987.

(20) "LIM date" means the LIM date stated on the front page of this agreement, or if no date is stated, means the fifteenth working day after the date of this agreement, taking into account clause 1.1(45)(c).

(21) "LINZ" means Land Information New Zealand.

(22) "Local authority" means a territorial authority or a regional council.

(23) "OIA consent" means consent to purchase the property under the Overseas Investment Act 2005.

(24) "OIA date" means the OIA date stated on the front page of this agreement, or if no date is stated, has the meaning described in clause 9.8.

(25) "PLS Guidelines" means the most recent edition, as at the date of this agreement, of the New Zealand Law Society Property Law Section Guidelines, issued by the New Zealand Law Society.

(26) "Proceedings" means any application to any court or tribunal or any referral or submission to mediation, adjudication or arbitration or any other dispute resolution procedure.

(27) "Property" means the property described in this agreement.

(28) "Purchase price" means the total purchase price stated in this agreement which the purchaser has agreed to pay the vendor for the property and the chattels included in the sale.

(29) "Purchase price allocation" means an allocation of the purchase price, and (if applicable) any other consideration for the property and the chattels included in the sale, to the property, chattels or any part thereof that affects a person's tax position under the Income Tax Act 2007 and/or the GST Act.

(30) "Regional council" means a regional council within the meaning of the Local Government Act 2002.

(31) "REINZ" means the Real Estate Institute of New Zealand Incorporated.

(32) "Remote settlement" means settlement of the sale and purchase of the property by way of the purchaser's lawyer paying the moneys due and payable on the settlement date directly into the trust account of the vendor's lawyer, in consideration of the vendor agreeing to meet the vendor's obligations under clause 3.8(2), pursuant to the protocol for remote settlement recommended in the PLS Guidelines.

(33) "Residential (but not otherwise sensitive) land" has the meaning ascribed to that term in the Overseas Investment Act 2005.

(34) "Rules" means body corporate operational rules under the Unit Titles Act.

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(35) "Secure web document exchange" means an electronic messaging service enabling messages and electronic documents to be posted by one party to a secure website to be viewed by the other party immediately after posting.
(36) "Settlement" means (unless otherwise agreed by the parties in writing) the moment in time when the vendor and purchaser have fulfilled their obligations under clause 3.8.
(37) "Settlement date" means the date specified as such in this agreement.
(38) "Settlement statement" means a statement showing the purchase price, plus any GST payable by the purchaser in addition to the purchase price, less any deposit or other payments or allowances to be credited to the purchaser, together with apportionments of all incomings and outgoings apportioned at the settlement date.
(39) "Tax information" and "tax statement" have the meanings ascribed to those terms in the Land Transfer Act 2017.
(40) "Territorial authority" means a territorial authority within the meaning of the Local Government Act 2002.
(41) "Title" includes where appropriate a record of title within the meaning of the Land Transfer Act 2017.
(42) "Toxicology report date" means the toxicology report date stated on the front page of this agreement, or if no date is stated, means the fifteenth working day after the date of this agreement.
(43) "Unit title" means a unit title under the Unit Titles Act.
(44) "Unit Titles Act" means the Unit Titles Act 2010.
(45) "Working day" means any day of the week other than:
(a) Saturday, Sunday, Waitangi Day, Good Friday, Easter Monday, Anzac Day, the Sovereign's Birthday and Labour Day;
(b) If Waitangi Day or Anzac Day falls on a Saturday or Sunday, the following Monday;
(c) a day in the period commencing on the 24th day of December in any year and ending on the 5th day of January (or in the case of the LIM date, ending on the 15th day of January) in the following year, both days inclusive;
(d) the day observed as the anniversary of any province in which the property is situated;
(e) the day on which a public holiday is observed to acknowledge Matariki, pursuant to the Te Kāhui o Matariki Public Holiday Act 2022; and
(f) any other day that the Government of New Zealand declares to be a public holiday.
A working day shall be deemed to commence at 9.00 am and to terminate at 5.00 pm.

1.2 Unless a contrary intention appears on the front page or elsewhere in this agreement:
(1) the interest rate for late settlement is equivalent to the interest rate charged by the Inland Revenue Department on unpaid tax under the Tax Administration Act 1994 during the period for which the interest rate for late settlement is payable, plus 5% per annum; and
(2) a party is in default if it did not do what it has contracted to do to enable settlement to occur, regardless of the cause of such failure.

1.3 Time for Performance
(1) Where the day nominated for settlement or the fulfilment of a condition is not a working day, then the settlement date or the date for fulfilment of the condition shall be the last working day before the day so nominated.
(2) Any act done pursuant to this agreement by a party, including service of notices, after 5.00 pm on a working day, or on a day that is not a working day, shall be deemed to have been done at 9.00 am on the next succeeding working day.
(3) Where two or more acts done pursuant to this agreement, including service of notices, are deemed to have been done at the same time, they shall take effect in the order in which they would have taken effect but for clause 1.3(2).

1.4 Notices
The following apply to all notices between the parties relevant to this agreement, whether authorised by this agreement or by the general law:
(1) All notices must be served in writing.
(2) Any notice under section 28 of the Property Law Act 2007, where the purchaser is in possession of the property, must be served in accordance with section 353 of that Act.
(3) All other notices, unless otherwise required by the Property Law Act 2007, must be served by one of the following means:
(a) on the party as authorised by sections 354 to 361 of the Property Law Act 2007, or
(b) on the party or on the party's lawyer:
(i) by personal delivery; or
(ii) by posting by ordinary mail; or
(iii) by email; or
(iv) in the case of the party's lawyer only, by sending by document exchange or, if both parties' lawyers have agreed to subscribe to the same secure web document exchange for this agreement, by secure web document exchange.
(4) In respect of the means of service specified in clause 1.4(3)(b), a notice is deemed to have been served:
(a) in the case of personal delivery, when received by the party or at the lawyer's office;
(b) in the case of posting by ordinary mail, on the third working day following the date of posting to the address for service notified in writing by the party or to the postal address of the lawyer's office;
(c) in the case of email:
(i) when sent to the email address provided for the party or the party's lawyer on the back page; or
(ii) any other email address notified subsequently in writing by the party or the party's lawyer (which shall supersede the email address on the back page); or
(iii) if no such email address is provided on the back page or notified subsequently in writing, the office email address of the party's lawyer's firm appearing on the firm's letterhead or website;
(d) in the case of sending by document exchange, on the second working day following the date of sending to the document exchange number of the lawyer's office;
(e) in the case of sending by secure web document exchange, on the first working day following the date of sending to the secure web document exchange.
(5) Any period of notice required to be given under this agreement shall be computed by excluding the day of service.

1.5 Interpretation and Execution

(1) If there is more than one vendor or purchaser, the liability of the vendors or of the purchasers, as the case may be, is joint and several.

(2) Where the purchaser executes this agreement with provision for a nominee, or as agent for an undisclosed or disclosed but unidentified principal, or on behalf of a company to be formed, the purchaser shall at all times remain liable for all obligations on the part of the purchaser.

(3) If any inserted term (including any Further Terms of Sale) conflicts with the General Terms of Sale the inserted term shall prevail.

(4) Headings are for information only and do not form part of this agreement.

(5) References to statutory provisions shall be construed as references to those provisions as they may be amended or re-enacted or as their application is modified by other provisions from time to time.

(6) Reference to a party's lawyer includes reference to a conveyancing practitioner (as defined in the Lawyers and Conveyancers Act 2006), engaged by that party, provided that all actions of that conveyancing practitioner (including without limitation any actions in respect of any undertaking or in respect of settlement) must strictly accord with the PLS Guidelines.

2.0 Deposit

2.1 The purchaser shall pay the deposit to the vendor or the vendor's agent immediately upon execution of this agreement by both parties or at such other time as is specified in this agreement.

2.2 If the deposit is not paid on the due date for payment, the vendor may at any time thereafter serve on the purchaser notice requiring payment. If the purchaser fails to pay the deposit on or before the third working day after service of the notice, time being of the essence, the vendor may cancel this agreement by serving notice of cancellation on the purchaser. No notice of cancellation shall be effective if the deposit has been paid before the notice of cancellation is served.

2.3 The deposit shall be in part payment of the purchase price.

2.4 The person to whom the deposit is paid shall hold it as a stakeholder until the latest of those of the following matters which are applicable to this agreement:

(1) the requisition procedure under clause 6.0 is completed without either party cancelling this agreement; and/or

(2) where this agreement is entered into subject to any condition(s) expressed in this agreement, each such condition has been fulfilled or waived; and/or

(3) where the property is a unit title:

(a) a pre-contract disclosure statement that complies with section 146 of the Unit Titles Act, and a pre-settlement disclosure statement that complies with section 147 of the Unit Titles Act, have been provided to the purchaser by the vendor within the times prescribed in those sections; and/or

(b) all rights of delay or cancellation under sections 149, 149A, 151, or 151A of the Unit Titles Act that have arisen have been waived or have expired without being exercised; and/or

(c) this agreement is cancelled pursuant to sections 149A or 151A of the Unit Titles Act; and/or

(4) this agreement is:

(a) cancelled pursuant to clause 6.2(3)(c); and/or

(b) avoided pursuant to clause 9.10(5).

2.5 Where the person to whom the deposit is paid is a real estate agent, the period for which the agent must hold the deposit as a stakeholder pursuant to clause 2.4 shall run concurrently with the period for which the agent must hold the deposit under section 123 of the Real Estate Agents Act 2008, but the agent must hold the deposit for the longer of those two periods, or such lesser period as is agreed between the parties in writing as required by section 123 of the Real Estate Agents Act 2008, but in no event shall the deposit be released prior to the expiry of the requisition period under clause 6.0, unless the requisition period is expressly waived in writing.

3.0 Possession and Settlement

Possession

3.1 Unless particulars of a tenancy are included in this agreement, the property is sold with vacant possession and the vendor shall so yield the property on the settlement date.

3.2 If the property is sold with vacant possession, then subject to the rights of any tenants of the property, the vendor shall permit the purchaser or any person authorised by the purchaser in writing, upon reasonable notice:

(1) to enter the property on one occasion prior to the settlement date for the purposes of examining the property, chattels and fixtures which are included in the sale; and

(2) to re-enter the property no later than the day prior to the settlement date to confirm compliance by the vendor with any agreement made by the vendor to carry out any work on the property, the chattels and the fixtures.

3.3 Possession shall be given and taken on the settlement date. Outgoings and incomings in respect of the settlement date are the responsibility of and belong to the vendor.

3.4 On the settlement date, the vendor shall make available to the purchaser keys to all exterior doors that are locked by key, electronic door openers to all doors that are opened electronically, and the keys and/or security codes to any alarms. The vendor does not have to make available keys, electronic door openers, and security codes where the property is tenanted and these are held by the tenant.

Settlement

3.5 The vendor shall prepare, at the vendor's own expense, a settlement statement. The vendor shall tender the settlement statement to the purchaser or the purchaser's lawyer a reasonable time prior to the settlement date. If the property is a unit title, the vendor's settlement statement must show any periodic contributions to the operating account that have been struck prior to the settlement date (whether or not they are payable before or after the settlement date) and these periodic contributions to the operating account shall be apportioned. There shall be no apportionment of contributions to any long-term maintenance fund, contingency fund or capital improvement fund.

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3.6 The purchaser's lawyer shall:

(1) within a reasonable time prior to the settlement date create a Landonline Workspace for the transaction, notify the vendor's lawyer of the dealing number allocated by LINZ, and prepare in that workspace a transfer instrument in respect of the property; and

(2) prior to settlement:

(a) lodge in that workspace the tax information contained in the transferee's tax statement; and

(b) certify and sign the transfer instrument.

3.7 The vendor's lawyer shall:

(1) within a reasonable time prior to the settlement date prepare in that workspace all other electronic instruments required to confer title on the purchaser in terms of the vendor's obligations under this agreement; and

(2) prior to settlement:

(a) lodge in that workspace the tax information contained in the transferor's tax statement; and

(b) have those instruments and the transfer instrument certified, signed and, where possible, pre-validated.

3.8 On the settlement date:

(1) the balance of the purchase price, interest and other moneys, if any, shall be paid by the purchaser in cleared funds or otherwise satisfied as provided in this agreement (credit being given for any amount payable by the vendor under clause 3.12 or 3.13, or for any deduction allowed to the purchaser under clause 5.2, or for any compensation agreed by the vendor in respect of a claim made by the purchaser pursuant to clause 10.2(1), or for any interim amount the purchaser is required to pay to a stakeholder pursuant to clause 10.8);

(2) the vendor's lawyer shall immediately thereafter:

(a) release or procure the release of the transfer instrument and the other instruments mentioned in clause 3.7(1) so that the purchaser's lawyer can then submit them for registration;

(b) pay to the purchaser's lawyer the LINZ registration fees on all of the instruments mentioned in clause 3.7(1), unless these fees will be invoiced to the vendor's lawyer by LINZ directly; and

(c) deliver to the purchaser's lawyer any other documents that the vendor must provide to the purchaser on settlement in terms of this agreement, including where this agreement provides for the property to be sold tenanted, all leases relating to the tenancy that are held by the vendor and a notice from the vendor to each tenant advising them of the sale of the property and directing them to pay to the purchaser as landlord, in such manner as the purchaser may prescribe, all rent or other moneys payable under the leases.

3.9 All obligations under clause 3.8 are interdependent.

3.10 The parties shall complete settlement by way of remote settlement in accordance with the PLS Guidelines. Where the purchaser considers it is necessary or desirable to tender settlement, this may be effected (in addition to any other valid form of tender) by the purchaser's lawyer providing to the vendor's lawyer a written undertaking that:

(1) the purchaser is ready, willing, and able to settle;

(2) the purchaser's lawyer has certified and signed the transfer instrument and any other instruments in the Landonline Workspace for the transaction that must be signed on behalf of the purchaser; and

(3) the purchaser's lawyer holds in their trust account in cleared funds the amount that the purchaser must pay on settlement.

Last-Minute Settlement

3.11 If due to the delay of the purchaser, settlement takes place between 4.00 pm and 5.00 pm on the settlement date ("last-minute settlement"), the purchaser shall pay the vendor:

(1) one day's interest at the interest rate for late settlement on the portion of the purchase price paid in the last-minute settlement; and

(2) if the day following the last-minute settlement is not a working day, an additional day's interest (calculated in the same manner) for each day until, but excluding, the next working day.

Purchaser Default: Late Settlement

3.12 If any portion of the purchase price is not paid upon the due date for payment, then, provided that the vendor provides reasonable evidence of the vendor's ability to perform any obligation the vendor is obliged to perform on that date in consideration for such payment:

(1) the purchaser shall pay to the vendor interest at the interest rate for late settlement on the portion of the purchase price so unpaid for the period from the due date for payment until payment ("the default period"); but nevertheless, this stipulation is without prejudice to any of the vendor's rights or remedies including any right to claim for additional expenses and damages. For the purposes of this clause, a payment made on a day other than a working day or after the termination of a working day shall be deemed to be made on the next following working day and interest shall be computed accordingly; and

(2) the vendor is not obliged to give the purchaser possession of the property or to pay the purchaser any amount for remaining in possession, unless this agreement relates to a tenanted property, in which case the vendor must elect either to:

(a) account to the purchaser on settlement for incomings in respect of the property which are payable and received during the default period, in which event the purchaser shall be responsible for the outgoings relating to the property during the default period; or

(b) retain such incomings in lieu of receiving interest from the purchaser pursuant to clause 3.12(1).

(3) If the parties are unable to agree upon any amount payable under this clause 3.12, either party may make a claim under clause 10.0.

Vendor Default: Late Settlement or Failure to Give Possession

3.13 (1) For the purposes of this clause 3.13:

(a) the default period means:

(i) in clause 3.13(2), the period from the settlement date until the date when the vendor is able and willing to provide vacant possession and the purchaser takes possession; and

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(ii) in clause 3.13(3), the period from the date the purchaser takes possession until the date when settlement occurs; and

(iii) in clause 3.13(5), the period from the settlement date until the date when settlement occurs; and

(b) the vendor shall be deemed to be unwilling to give possession if the vendor does not offer to give possession.

(2) If this agreement provides for vacant possession but the vendor is unable or unwilling to give vacant possession on the settlement date, then, provided that the purchaser provides reasonable evidence of the purchaser's ability to perform the purchaser's obligations under this agreement:

(a) the vendor shall pay the purchaser, at the purchaser's election, either:

(i) compensation for any reasonable costs incurred for temporary accommodation for persons and storage of chattels during the default period; or

(ii) an amount equivalent to interest at the interest rate for late settlement on the entire purchase price during the default period; and

(b) the purchaser shall pay the vendor an amount equivalent to the interest earned or which would be earned on overnight deposits lodged in the purchaser's lawyer's trust bank account on such portion of the purchase price (including any deposit) as is payable under this agreement on or by the settlement date but remains unpaid during the default period less:

(i) any withholding tax; and

(ii) any bank or legal administration fees and commission charges; and

(iii) any interest payable by the purchaser to the purchaser's lender during the default period in respect of any mortgage or loan taken out by the purchaser in relation to the purchase of the property.

(3) If this agreement provides for vacant possession and the vendor is able and willing to give vacant possession on the settlement date, then, provided the purchaser provides reasonable evidence of the purchaser's ability to perform the purchaser's obligations under this agreement, the purchaser may elect to take possession in which case the vendor shall not be liable to pay any interest or other moneys to the purchaser but the purchaser shall pay the vendor the same amount as that specified in clause 3.13(2)(b) during the default period. A purchaser in possession under this clause 3.13(3) is a licensee only.

(4) Notwithstanding the provisions of clause 3.13(3), the purchaser may elect not to take possession when the purchaser is entitled to take it. If the purchaser elects not to take possession, the provisions of clause 3.13(2) shall apply as though the vendor were unable or unwilling to give vacant possession on the settlement date.

(5) If this agreement provides for the property to be sold tenanted then, provided that the purchaser provides reasonable evidence of the purchaser's ability to perform the purchaser's obligations under this agreement, the vendor shall on settlement account to the purchaser for incomings which are payable and received in respect of the property during the default period less the outgoings paid by the vendor during that period. Apart from accounting for such incomings, the vendor shall not be liable to pay any other moneys to the purchaser but the purchaser shall pay the vendor the same amount as that specified in clause 3.13(2)(b) during the default period.

(6) The provisions of this clause 3.13 shall be without prejudice to any of the purchaser's rights or remedies including any right to claim for any additional expenses and damages suffered by the purchaser.

(7) If the parties are unable to agree upon any amount payable under this clause 3.13, either party may make a claim under clause 10.0.

Deferment of Settlement and Possession

3.14 If:

(1) this is an agreement for the sale by a commercial on-seller of a household unit; and

(2) a code compliance certificate has not been issued by the settlement date in relation to the household unit,

then, unless the parties agree otherwise (in which case the parties shall enter into a written agreement in the form (if any) prescribed by the Building (Forms) Regulations 2004), the settlement date shall be deferred to the fifth working day following the date upon which the vendor has given the purchaser notice that the code compliance certificate has been issued (which notice must be accompanied by a copy of the certificate).

3.15 In every case, if neither party is ready, willing, and able to settle on the settlement date, the settlement date shall be deferred to the third working day following the date upon which one of the parties gives notice it has become ready, willing, and able to settle.

3.16 If:

(1) the property is a unit title; and

(2) the settlement date is deferred pursuant to either clause 3.14 or clause 3.15; and

(3) the vendor considers on reasonable grounds that an extension of time is necessary or desirable in order for the vendor to comply with clause 8.3,

then the vendor may extend the settlement date:

(a) where there is a deferment of the settlement date pursuant to clause 3.14, to the tenth working day after the date upon which the vendor gives the purchaser notice that the code compliance certificate has been issued, provided the vendor gives notice of the extension to the purchaser no later than the second working day after such notice; or

(b) where there is a deferment of the settlement date pursuant to clause 3.15, to the tenth working day after the date upon which one of the parties gives notice that it has become ready, willing, and able to settle, provided the vendor gives notice of the extension to the purchaser no later than the second working day after such notice.

New Title Provision

3.17 (1) Where:

(a) the transfer of the property is to be registered against a new title yet to be issued; and

(b) a search copy, as defined in section 60 of the Land Transfer Act 2017, of that title is not obtainable by the tenth working day prior to the settlement date,

then, unless the purchaser elects that settlement shall still take place on the agreed settlement date, the settlement date shall be deferred to the tenth working day after the later of the date on which:

(i) the vendor has given the purchaser notice that a search copy is obtainable; or
(ii) the requisitions procedure under clause 6.0 is complete.

(2) Clause 3.17(1) shall not apply where it is necessary to register the transfer of the property to enable a plan to be deposited and title to the property to be issued.

4.0 Residential Land Withholding Tax

4.1 If the vendor does not have a conveyancer or the vendor and the purchaser are associated persons, then:

(1) the vendor must provide the purchaser or the purchaser's conveyancer, on or before the second working day before the due date for payment of the first residential land purchase amount payable under this agreement, with:

(a) sufficient information to enable the purchaser or the purchaser's conveyancer to determine to their reasonable satisfaction whether section 54C of the Tax Administration Act 1994 applies to the sale of the property; and

(b) if the purchaser or the purchaser's conveyancer determines to their reasonable satisfaction that section 54C of the Tax Administration Act 1994 does apply, all of the information required by that section and either an RLWT certificate of exemption in respect of the sale or otherwise such other information that the purchaser or the purchaser's conveyancer may reasonably require to enable the purchaser or the purchaser's conveyancer to determine to their reasonable satisfaction the amount of RLWT that must be withheld from each residential land purchase amount;

(2) the vendor shall be liable to pay any costs reasonably incurred by the purchaser or the purchaser's conveyancer in relation to RLWT, including the cost of obtaining professional advice in determining whether there is a requirement to withhold RLWT and the amount of RLWT that must be withheld, if any; and

(3) any payments payable by the purchaser on account of the purchase price shall be deemed to have been paid to the extent that:

(a) RLWT has been withheld from those payments by the purchaser or the purchaser's conveyancer as required by the RLWT rules; and

(b) any costs payable by the vendor under clause 4.1(2) have been deducted from those payments by the purchaser or the purchaser's conveyancer.

4.2 If the vendor does not have a conveyancer or the vendor and the purchaser are associated persons and if the vendor fails to provide the information required under clause 4.1(1), then the purchaser may:

(1) defer the payment of the first residential land purchase amount payable under this agreement (and any residential land purchase amount that may subsequently fall due for payment) until such time as the vendor supplies that information; or

(2) on the due date for payment of that residential land purchase amount, or at any time thereafter if payment has been deferred by the purchaser pursuant to this clause and the vendor has still not provided that information, treat the sale of the property as if it is being made by an offshore RLWT person where there is a requirement to pay RLWT.

4.3 If pursuant to clause 4.2 the purchaser treats the sale of the property as if it is being made by an offshore RLWT person where there is a requirement to pay RLWT, the purchaser or the purchaser's conveyancer may:

(1) make a reasonable assessment of the amount of RLWT that the purchaser or the purchaser's conveyancer would be required by the RLWT rules to withhold from any residential land purchase amount if the sale is treated in that manner; and

(2) withhold that amount from any residential land purchase amount and pay it to the Commissioner as RLWT.

4.4 Any amount withheld by the purchaser or the purchaser's conveyancer pursuant to clause 4.3 shall be treated as RLWT that the purchaser or the purchaser's conveyancer is required by the RLWT rules to withhold.

4.5 The purchaser or the purchaser's conveyancer shall give notice to the vendor a reasonable time before payment of any sum due to be paid on account of the purchase price of:

(1) the costs payable by the vendor under clause 4.1(2) that the purchaser or the purchaser's conveyancer intends to deduct; and

(2) the amount of RLWT that the purchaser or the purchaser's conveyancer intends to withhold.

5.0 Risk and insurance

5.1 The property and chattels shall remain at the risk of the vendor until possession is given and taken.

5.2 If, prior to the giving and taking of possession, the property is destroyed or damaged, and such destruction or damage has not been made good by the settlement date, then the following provisions shall apply:

(1) if the destruction or damage has been sufficient to render the property untenantable and it is untenantable on the settlement date, the purchaser may:

(a) complete the purchase at the purchase price, less a sum equal to any insurance moneys received or receivable by or on behalf of the vendor in respect of such destruction or damage, provided that no reduction shall be made to the purchase price if the vendor's insurance company has agreed to reinstate for the benefit of the purchaser to the extent of the vendor's insurance cover; or

(b) cancel this agreement by serving notice on the vendor in which case the vendor shall return to the purchaser immediately the deposit and any other moneys paid by the purchaser, and neither party shall have any right or claim against the other arising from this agreement or its cancellation;

(2) if the property is not untenantable on the settlement date, the purchaser shall complete the purchase at the purchase price less a sum equal to the amount of the diminution in value of the property which, to the extent that the destruction or damage to the property can be made good, shall be deemed to be equivalent to the reasonable cost of reinstatement or repair;

(3) if the property is zoned for rural purposes under an operative District Plan, damage to the property shall be deemed to have rendered the property untenantable where the diminution in value exceeds an amount equal to 20% of the purchase price; and

(4) if the amount of the diminution in value is disputed, the parties shall follow the same procedure as that set out in clause 10.8 for when an amount of compensation is disputed.

5.3 The purchaser shall not be required to take over any insurance policies held by the vendor.

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6.0 Title, boundaries and requisitions

6.1 The vendor shall not be bound to point out the boundaries of the property except that on the sale of a vacant residential lot which is not limited as to parcels the vendor shall ensure that all boundary markers required by the Cadastral Survey Act 2002 and any related rules and regulations to identify the boundaries of the property are present in their correct positions at the settlement date.

6.2 (1) The purchaser is deemed to have accepted the vendor's title except as to objections or requisitions which the purchaser is entitled to make and notice of which the purchaser serves on the vendor on or before the earlier of:
- (a) the tenth working day after the date of this agreement; or
- (b) the settlement date.

(2) Where the transfer of the property is to be registered against a new title yet to be issued, the purchaser is deemed to have accepted the title except as to such objections or requisitions which the purchaser is entitled to make and notice of which the purchaser serves on the vendor on or before the fifth working day following the date the vendor has given the purchaser notice that the title has been issued and a search copy of it as defined in section 60 of the Land Transfer Act 2017 is obtainable.

(3) If the vendor is unable or unwilling to remove or comply with any objection or requisition as to title, notice of which has been served on the vendor by the purchaser, then the following provisions will apply:
- (a) the vendor shall notify the purchaser ("a vendor's notice") of such inability or unwillingness on or before the fifth working day after the date of service of the purchaser's notice;
- (b) if the vendor does not give a vendor's notice the vendor shall be deemed to have accepted the objection or requisition and it shall be a requirement of settlement that such objection or requisition shall be complied with before settlement;
- (c) if the purchaser does not on or before the fifth working day after service of a vendor's notice notify the vendor that the purchaser waives the objection or requisition, either the vendor or the purchaser may (notwithstanding any intermediate negotiations) by notice to the other, cancel this agreement.

6.3 In the event of cancellation under clause 6.2(3), the purchaser shall be entitled to the immediate return of the deposit and any other moneys paid under this agreement by the purchaser and neither party shall have any right or claim against the other arising from this agreement or its cancellation. In particular, the purchaser shall not be entitled to any interest or to the expense of investigating the title or to any compensation whatsoever.

6.4 (1) If the title to the property being sold is a cross-lease title or a unit title and there are:
- (a) in the case of a cross-lease title:
  - (i) alterations to the external dimensions of any leased structure; or
  - (ii) buildings or structures not intended for common use which are situated on any part of the land that is not subject to a restricted use covenant;
- (b) in the case of a unit title, encroachments out of the principal unit or accessory unit title space (as the case may be):

then the purchaser may requisition the title under clause 6.2 requiring the vendor:
- (c) in the case of a cross-lease title, to deposit a new plan depicting the buildings or structures and register a new cross-lease or cross-leases (as the case may be) and any other ancillary dealings in order to convey good title; or
- (d) in the case of a unit title, to deposit an amendment to the unit plan, a redevelopment plan or new unit plan (as the case may be) depicting the principal and/or accessory units and register such transfers and any other ancillary dealings in order to convey good title.

(2) The words "alterations to the external dimensions of any leased structure" shall only mean alterations which are attached to the leased structure and enclosed.

6.5 The vendor shall not be liable to pay for or contribute towards the expense of erection or maintenance of any fence between the property and any contiguous land of the vendor but this proviso shall not enure for the benefit of any subsequent purchaser of the contiguous land; and the vendor shall be entitled to require the inclusion of a fencing covenant to this effect in any transfer of the property.

7.0 Vendor's warranties and undertakings

7.1 The vendor warrants and undertakes that at the date of this agreement the vendor has not:

(1) received any notice or demand and has no knowledge of any requisition or outstanding requirement:
- (a) from any local or government authority or other statutory body; or
- (b) under the Resource Management Act 1991; or
- (c) from any tenant of the property; or
- (d) from any other party; or

(2) given any consent or waiver,

which directly or indirectly affects the property and which has not been disclosed in writing to the purchaser.

7.2 The vendor warrants and undertakes that at the date of this agreement the vendor has no knowledge or notice of any fact which might result in proceedings being instituted by or against the vendor or the purchaser in respect of the property.

7.3 The vendor warrants and undertakes that at settlement:

(1) The chattels included in the sale listed in Schedule 2 and all plant, equipment, systems or devices which provide any services or amenities to the property, including, without limitation, security, heating, cooling, or air-conditioning, are delivered to the purchaser in reasonable working order, but in all other respects in their state of repair as at the date of this agreement (fair wear and tear excepted).

(2) All electrical and other installations on the property are free of any charge whatsoever and all chattels included in the sale are the unencumbered property of the vendor.

(3) There are no arrears of rates, water rates or charges outstanding on the property and where the property is subject to a targeted rate that has been imposed as a means of repayment of any loan, subsidy or other financial assistance made available by or through the local authority, the amount required to remove the imposition of that targeted rate has been paid.

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(4) Where an allowance has been made by the vendor in the settlement statement for incomings receivable, the settlement statement correctly records those allowances including, in particular, the dates up to which the allowances have been made.

(5) Where the vendor has done or caused or permitted to be done on the property any works:
  (a) any permit, resource consent, or building consent required by law was obtained; and
  (b) to the vendor's knowledge, the works were completed in compliance with those permits or consents; and
  (c) where appropriate, a code compliance certificate was issued for those works.

(6) Where under the Building Act, any building on the property sold requires a compliance schedule:
  (a) the vendor has fully complied with any requirements specified in any compliance schedule issued by a territorial authority under the Building Act in respect of the building;
  (b) the building has a current building warrant of fitness; and
  (c) the vendor is not aware of any reason, that the vendor has not disclosed in writing to the purchaser, which would prevent a building warrant of fitness from being supplied to the territorial authority when the building warrant of fitness is next due.

(7) Since the date of this agreement, the vendor has not given any consent or waiver which directly or indirectly affects the property.

(8) Any notice or demand received by the vendor, which directly or indirectly affects the property, after the date of this agreement:
  (a) from any local or government authority or other statutory body; or
  (b) under the Resource Management Act 1991; or
  (c) from any tenant of the property; or
  (d) from any other party,

  has been delivered forthwith by the vendor to either the purchaser or the purchaser's lawyer, unless the vendor has paid or complied with such notice or demand. If the vendor fails to so deliver or pay the notice or demand, the vendor shall be liable for any penalty incurred.

7.4 If the property is or includes part only of a building, the warranty and undertaking in clause 7.3(6) does not apply. Instead the vendor warrants and undertakes at the date of this agreement that, where under the Building Act the building of which the property forms part requires a compliance schedule:
  (1) to the vendor's knowledge, there has been full compliance with any requirements specified in any compliance schedule issued by a territorial authority under the Building Act in respect of the building;
  (2) the building has a current building warrant of fitness; and
  (3) the vendor is not aware of any reason, that the vendor has not disclosed in writing to the purchaser, which would prevent a building warrant of fitness from being supplied to the territorial authority when the building warrant of fitness is next due.

7.5 The vendor warrants and undertakes that on or immediately after settlement:
  (1) If the water and wastewater charges are determined by meter, the vendor will have the water meter read and will pay the amount of the charge payable pursuant to that reading; but if the water supplier will not make special readings, the water and wastewater charges shall be apportioned.
  (2) Any outgoings included in the settlement statement are paid in accordance with the settlement statement and, where applicable, to the dates shown in the settlement statement, or will be so paid immediately after settlement.
  (3) The vendor will give notice of sale in accordance with the Local Government (Rating) Act 2002 to the territorial authority and regional council in whose district the land is situated and will also give notice of the sale to every other authority that makes and levies rates or charges on the land and to the supplier of water.
  (4) Where the property is a unit title, the vendor will notify the body corporate in writing of the transfer of the property and the name and address of the purchaser.

8.0 Unit title and cross-lease provisions

Unit Titles

8.1 If the property is a unit title, sections 144 to 153 of the Unit Titles Act require the vendor to provide to the purchaser a pre-contract disclosure statement and a pre-settlement disclosure statement in accordance with the Unit Titles Act. The requirements of this clause 8 are in addition to, and do not derogate from, the requirements of that Act.

8.2 If the property is a unit title, then except to the extent the vendor has disclosed otherwise to the purchaser in writing prior to the parties entering into this agreement, the vendor warrants and undertakes as follows as at the date of this agreement:
  (1) The information in the pre-contract disclosure statement provided to the purchaser was complete and correct to the extent required by the Unit Titles Act.
  (2) Apart from regular periodic contributions, no contributions have been levied or proposed by the body corporate.
  (3) There are no unsatisfied judgments against the body corporate and no proceedings have been instituted against or by the body corporate.
  (4) No order or declaration has been made by any Court or Tribunal against the body corporate or the vendor under any provision of the Unit Titles Act.
  (5) The vendor has no knowledge or notice of any fact which might result in:
    (a) the vendor or the purchaser incurring any other liability under any provision of the Unit Titles Act; or
    (b) any proceedings being instituted by or against the body corporate; or
    (c) any order or declaration being sought against the body corporate or the vendor under any provision of the Unit Titles Act.
  (6) The vendor is not aware of proposals to pass any body corporate resolution relating to its rules nor are there any unregistered changes to the body corporate rules.
  (7) No lease, licence, easement, or special privilege has been granted by the body corporate in respect of any part of the common property.

(8) No resolution has been passed and no application has been made and the vendor has no knowledge of any proposal for:
- (a) the transfer of the whole or any part of the common property;
- (b) the addition of any land to the common property;
- (c) the cancellation of the unit plan;
- (d) the deposit of an amendment to the unit plan, a redevelopment plan, or a new unit plan in substitution for the existing unit plan; or
- (e) any change to utility interest or ownership interest for any unit on the unit plan.

8.3 If the property is a unit title, not less than five working days before the settlement date, the vendor will provide:
- (1) a certificate of insurance for all insurances effected by the body corporate under the provisions of section 135 of the Unit Titles Act; and
- (2) a pre-settlement disclosure statement from the vendor, certified correct by the body corporate, under section 147 of the Unit Titles Act.

8.4 If the property is a unit title, then except to the extent the vendor has disclosed otherwise to the purchaser in writing prior to the parties entering into this agreement, the vendor warrants and undertakes as at the settlement date:
- (1) Other than contributions to the operating account, long-term maintenance fund, contingency fund, or capital improvements fund that are shown in the pre-settlement disclosure statement, there are no other amounts owing by the vendor under any provision of the Unit Titles Act.
- (2) All contributions and other moneys payable by the vendor to the body corporate have been paid in full.
- (3) The warranties at clause 8.2(2), (3), (4), (5), (6), (7), and (8) are repeated.

8.5 If the property is a unit title and if the vendor does not provide the certificates of insurance and the pre-settlement disclosure statement under section 147 of the Unit Titles Act in accordance with the requirements of clause 8.3, then in addition to the purchaser's rights under sections 150, 151 and 151A of the Unit Titles Act, the purchaser may:
- (1) postpone the settlement date until the fifth working day following the date on which that information is provided to the purchaser; or
- (2) elect that settlement shall still take place on the settlement date, such election to be a waiver of any other rights to delay or cancel settlement under the Unit Titles Act or otherwise.

8.6 If the property is a unit title, each party specifies that:
- (1) any email address of that party's lawyer provided on the back page of this agreement, or notified subsequently in writing by that party's lawyer shall be an address for service for that party for the purposes of section 205(1)(d) of the Unit Titles Act; and
- (2) if that party is absent from New Zealand, that party's lawyer shall be that party's agent in New Zealand for the purposes of section 205(2) of the Unit Titles Act.

8.7 Unauthorised Structures – Cross-Leases and Unit Titles
- (1) Where structures (not stated in clause 6.0 to be requisitionable) have been erected on the property without:
  - (a) in the case of a cross-lease title, any required lessors' consent; or
  - (b) in the case of a unit title, any required body corporate consent,

  the purchaser may demand within the period expiring on the earlier of:
  - (i) the tenth working day after the date of this agreement; or
  - (ii) the settlement date,

  that the vendor obtain the written consent of the current lessors or the body corporate (as the case may be) to such improvements ("a current consent") and provide the purchaser with a copy of such consent on or before the settlement date.
- (2) Should the vendor be unwilling or unable to obtain a current consent, then the procedure set out in clauses 6.2(3) and 6.3 shall apply, with the purchaser's demand under clause 8.6(1) being deemed to be an objection and requisition.

9.0 Conditions and mortgage terms

9.1 Finance condition
- (1) If the purchaser has indicated that finance is required on the front page of this agreement, this agreement is conditional upon the purchaser arranging finance for such amount as the purchaser may require from a bank or other lending institution of the purchaser's choice on terms and conditions satisfactory to the purchaser in all respects on or before the finance date.
- (2) If the purchaser avoids this agreement for failing to arrange finance in terms of clause 9.1(1), the purchaser must provide a satisfactory explanation of the grounds relied upon by the purchaser, together with supporting evidence, immediately upon request by the vendor.

9.2 Mortgage terms
- (1) Any mortgage to be arranged pursuant to a finance condition shall be upon and subject to the terms and conditions currently being required by the lender in respect of loans of a similar nature.

9.3 LIM condition
- (1) If the purchaser has indicated on the front page of this agreement that a LIM is required:
  - (a) that LIM is to be obtained by the purchaser at the purchaser's cost; and
  - (b) this agreement is conditional upon the purchaser approving that LIM by the LIM date, provided that such approval must not be unreasonably or arbitrarily withheld.
- (2) If, on reasonable grounds, the purchaser does not approve the LIM, the purchaser shall give notice to the vendor ("the purchaser's notice") on or before the LIM date stating the particular matters in respect of which approval is withheld and, if those matters are capable of remedy, what the purchaser reasonably requires to be done to remedy those matters. If the purchaser does not give a purchaser's notice the purchaser shall be deemed to have approved the LIM. If through no fault of the purchaser, the LIM is not available on or before the LIM date and the vendor does not give an extension when requested, then unless the purchaser waives this condition, this condition shall not have been fulfilled and the provisions of clause 9.10(5) shall apply.

(3) The vendor shall give notice to the purchaser ("the vendor's notice") on or before the third working day after receipt of the purchaser's notice advising whether or not the vendor is able and willing to comply with the purchaser's notice by the settlement date.

(4) If the vendor does not give a vendor's notice, or if the vendor's notice advises that the vendor is unable or unwilling to comply with the purchaser's notice, and if the purchaser does not, on or before the fifth working day after the date on which the purchaser's notice is given, give notice to the vendor that the purchaser waives the objection to the LIM, this condition shall not have been fulfilled and the provisions of clause 9.10(5) shall apply.

(5) If the vendor gives a vendor's notice advising that the vendor is able and willing to comply with the purchaser's notice, this condition is deemed to have been fulfilled, and it shall be a requirement of settlement that the purchaser's notice shall be complied with, and also, if the vendor must carry out work on the property, that the vendor shall obtain the approval of the territorial authority to the work done, both before settlement.

9.4 Building report condition

(1) If the purchaser has indicated on the front page of this agreement that a building report is required, this agreement is conditional upon the purchaser obtaining at the purchaser's cost on or before the building report date a report on the condition of the buildings and any other improvements on the property that is satisfactory to the purchaser, on the basis of an objective assessment.

(2) The report must be prepared in good faith by a suitably-qualified building inspector in accordance with accepted principles and methods and it must be in writing.

(3) Subject to the rights of any tenants of the property, the vendor shall allow the building inspector to inspect the property at all reasonable times upon reasonable notice for the purposes of preparation of the report.

(4) The building inspector may not carry out any invasive testing in the course of inspection without the vendor's prior written consent.

(5) If the purchaser avoids this agreement for non-fulfilment of this condition pursuant to clause 9.10(5), the purchaser must provide the vendor immediately upon request with a copy of the building inspector's report.

9.5 Toxicology report condition

(1) If the purchaser has indicated on the front page of this agreement that a toxicology report is required, this agreement is conditional upon the purchaser obtaining at the purchaser's cost on or before the toxicology report date, a toxicology report on the property that is satisfactory to the purchaser, on the basis of an objective assessment.

(2) The purpose of the toxicology report shall be to detect whether the property has been contaminated by the preparation, manufacture or use of drugs including, but not limited to, methamphetamine.

(3) The report must be prepared in good faith by a suitably-qualified inspector in accordance with accepted principles and methods and it must be in writing.

(4) Subject to the rights of any tenants of the property, the vendor shall allow the inspector to inspect the property at all reasonable times upon reasonable notice for the purposes of carrying out the testing and preparation of the report.

(5) The inspector may not carry out any invasive testing in the course of the inspection without the vendor's prior written consent.

(6) If the purchaser avoids this agreement for non-fulfilment of this condition pursuant to clause 9.10(5), the purchaser must provide the vendor immediately upon request with a copy of the inspector's report.

9.6 OIA consent condition

(1) If the purchaser has indicated on the front page of this agreement that OIA consent is required, this agreement is conditional upon OIA consent being obtained on or before the OIA date on terms and conditions that are satisfactory to the purchaser, acting reasonably, the purchaser being responsible for payment of the application fee. This condition is inserted for the benefit of both parties, but (subject to clause 9.6(2)) may not be waived by either party, and the vendor is not required to do anything to enable this condition to be fulfilled.

(2) If the purchaser has indicated on the front page of this agreement that OIA consent is not required, or has failed to indicate whether it is required, then the purchaser warrants that the purchaser does not require OIA consent.

9.7 If this agreement relates to a transaction to which the Land Act 1948 applies, this agreement is conditional upon the vendor obtaining the necessary consent by the Land Act date.

9.8 If the Land Act date or OIA date is not shown on the front page of this agreement that date shall be the settlement date or that date 65 working days after the date of this agreement whichever is the sooner, except where the property comprises residential (but not otherwise sensitive) land in which case that date shall be the settlement date or that date 20 working days after the date of this agreement, whichever is the sooner.

9.9 Resource Management Act condition

If this agreement relates to a transaction to which section 225 of the Resource Management Act 1991 applies then this agreement is subject to the appropriate condition(s) imposed by that section.

9.10 Operation of conditions

If this agreement is expressed to be subject either to the above or to any other condition(s), then in relation to each such condition the following shall apply unless otherwise expressly provided:

(1) The condition shall be a condition subsequent.

(2) The party or parties for whose benefit the condition has been included shall do all things which may reasonably be necessary to enable the condition to be fulfilled by the date for fulfilment.

(3) Time for fulfilment of any condition and any extended time for fulfilment to a fixed date shall be of the essence.

(4) The condition shall be deemed to be not fulfilled until notice of fulfilment has been served by one party on the other party.

(5) If the condition is not fulfilled by the date for fulfilment, either party may at any time before the condition is fulfilled or waived avoid this agreement by giving notice to the other. Upon avoidance of this agreement, the purchaser shall be entitled to the immediate return of the deposit and any other moneys paid by the purchaser under this agreement and neither party shall have any right or claim against the other arising from this agreement or its termination.

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(6) At any time before this agreement is avoided, the purchaser may waive any finance condition and either party may waive any other condition which is for the sole benefit of that party. Any waiver shall be by notice.

10.0 Claims for compensation

10.1 If the purchaser has not purported to cancel this agreement, the breach by the vendor of any term of this agreement does not defer the purchaser's obligation to settle, but that obligation is subject to the provisions of this clause 10.0.

10.2 The provisions of this clause apply if:

(1) the purchaser claims a right to compensation (and in making such a claim, the purchaser must act reasonably, but the vendor taking the view that the purchaser has not acted reasonably does not affect the purchaser's ability or right to make such a claim) for:

(a) a breach of any term of this agreement;

(b) a misrepresentation;

(c) a breach of section 9 or section 14 of the Fair Trading Act 1986;

(d) an equitable set-off, or

(2) there is a dispute between the parties regarding any amounts payable:

(a) under clause 3.12 or clause 3.13; or

(b) under clause 5.2.

10.3 To make a claim under this clause 10.0:

(1) the claimant must serve notice of the claim on the other party on or before the last working day prior to the settlement date, time being of the essence (except for claims made after the settlement date for amounts payable under clause 3.12 or clause 3.13, in respect of which the claimant may serve notice of the claim on the other party at any time after a dispute arises over those amounts); and

(2) the notice must:

(a) state the particular breach of the terms of this agreement, or the claim under clause 3.12, clause 3.13 or clause 5.2, or for misrepresentation, or for breach of section 9 or section 14 of the Fair Trading Act 1986, or for an equitable set-off; and

(b) state a genuine pre-estimate of the loss suffered by the claimant; and

(c) be particularised and quantified to the extent reasonably possible as at the date of the notice; and

(3) the claimant must not have made a prior claim under this clause 10.0 (to the intent that a claimant may make a claim under this clause 10.0 on only one occasion, though such claim may address one or more of the elements in clause 10.2).

10.4 If the claimant is unable to give notice under clause 10.3 in respect of claims under clause 10.2(1) or clause 10.2(2)(b) on or before the date that notice is due under clause 10.3(1) by reason of the conduct or omission of the other party, the notice may be served on or before the working day immediately preceding the last working day on which settlement must take place under a settlement notice served by either party under clause 11.1, time being of the essence.

10.5 If the amount of compensation is agreed, it shall be deducted from or added to the amount to be paid by the purchaser on settlement.

10.6 If the purchaser makes a claim for compensation under clause 10.2(1) but the vendor disputes that the purchaser has a valid or reasonably arguable claim, then:

(1) the vendor must give notice to the purchaser within three working days after service of the purchaser's notice under clause 10.3, time being of the essence; and

(2) the purchaser's right to make the claim (on the basis that such claim is valid or reasonably arguable) shall be determined by an experienced property lawyer or an experienced litigator appointed by the parties. If the parties cannot agree on the appointee, the appointment shall be made on the application of either party by the president for the time being of the Auckland District Law Society. The appointee's costs shall be met by the party against whom the determination is made or otherwise as determined by the appointee.

10.7 If the purchaser makes a claim for compensation under clause 10.2(1) and the vendor fails to give notice to the purchaser pursuant to clause 10.6, the vendor is deemed to have accepted that the purchaser has a valid or reasonably arguable claim.

10.8 If it is accepted, or determined under clause 10.6, that the purchaser has a right to claim compensation under clause 10.2(1) but the amount of compensation claimed is disputed, or if the claim is made under clause 10.2(2) and the amount of compensation claimed is disputed, then:

(1) an interim amount shall be paid on settlement by the party required to a stakeholder until the amount of the claim is determined;

(2) if the parties cannot agree on a stakeholder, the interim amount shall be paid to a stakeholder nominated on the application of either party by the president for the time being of the Auckland District Law Society;

(3) the interim amount must be a reasonable sum having regard to the circumstances, except that:

(a) where the claim is under clause 3.13 the interim amount shall be the lower of the amount claimed, or an amount equivalent to interest at the interest rate for late settlement for the relevant default period on such portion of the purchase price (including any deposit) as is payable under this agreement on or by the settlement date;

(b) neither party shall be entitled or required to undertake any discovery process, except to the extent this is deemed necessary by the appointee under clause 10.8(4) for the purposes of determining that the requirements of clauses 10.3(2)(b)-(c) have been met.

(4) if the parties cannot agree on the interim amount, the interim amount shall be determined by an experienced property lawyer, an experienced litigator, or, where the claim for compensation is made under clause 5.2, an experienced registered valuer or quantity surveyor appointed by the parties. The appointee's costs shall be met equally by the parties, or otherwise as determined by the appointee. If the parties cannot agree on the appointee, the appointment shall be made on the application of either party by the president for the time being of the Auckland District Law Society;

(5) the amount of the claim determined to be payable shall not be limited by the interim amount;

(6) the stakeholder shall lodge the interim amount on an interest-bearing call deposit with a bank registered under the Reserve Bank of New Zealand Act 1989 in the joint names of the vendor and the purchaser;

(7) the interest earned on the interim amount net of any withholding tax and any bank or legal administration fees and commission charges shall follow the destination of the interim amount; and

(8) apart from the net interest earned on the interim amount, no interest shall be payable by either party to the other in respect of the claim for compensation once the amount of the claim has been determined, provided that if the amount determined is in excess of the interim amount, the party liable to make payment of that excess shall pay interest to the other party at the interest rate for late settlement on the amount of that excess if it is not paid on or before the third working day after the date of notification of the determination, computed from the date of such notification until payment.

10.9 Where a determination has to be made under clause 10.6(2) or clause 10.8(4) and the settlement date will have passed before the determination is made, the settlement date shall be deferred to the second working day following the date of notification to both parties of the determination. Where a determination has to be made under both of these clauses, the settlement date shall be deferred to the second working day following the date on which notification to both parties has been made of both determinations. However, the settlement date will only be deferred under this clause 10.9 if, prior to such deferral, the purchaser's lawyer provides written confirmation to the vendor's lawyer that but for the resolution of the claim for compensation, the purchaser is ready, willing, and able to complete settlement.

10.10 The procedures prescribed in clauses 10.1 to 10.9 shall not prevent either party from taking proceedings for specific performance of this agreement.

10.11 A determination under clause 10.6 that the purchaser does not have a valid or reasonably arguable claim for compensation under clause 10.2(1) shall not prevent the purchaser from pursuing that claim following settlement.

10.12 Where a determination is made by an appointee under either clause 10.6 or clause 10.8, that appointee:

(1) shall not be liable to either party for any costs or losses that either party may claim to have suffered in respect of the determination; and

(2) may make an order that one party must meet all or some the reasonable legal costs of the other party, and in making such an order the appointee may without limitation take into account the appointee's view of the reasonableness of the conduct of the parties under this clause.

11.0 Notice to complete and remedies on default

11.1 (1) If the sale is not settled on the settlement date, either party may at any time thereafter serve on the other party a settlement notice.

(2) The settlement notice shall be effective only if the party serving it is at the time of service in all material respects ready, willing, and able to proceed to settle in accordance with this agreement, or is not so ready, willing, and able to settle only by reason of the default or omission of the other party.

(3) If the purchaser is in possession, the vendor's right to cancel this agreement will be subject to sections 28 to 36 of the Property Law Act 2007 and the settlement notice may incorporate or be given with a notice under section 28 of that Act complying with section 29 of that Act.

11.2 Subject to clause 11.1(3), upon service of the settlement notice the party on whom the notice is served shall settle:

(1) on or before the twelfth working day after the date of service of the notice; or

(2) on the first working day after the 13th day of January if the period of twelve working days expires during the period commencing on the 6th day of January and ending on the 13th day of January, both days inclusive,

time being of the essence, but without prejudice to any intermediate right of cancellation by either party.

11.3 (1) If this agreement provides for the payment of the purchase price by instalments and the purchaser fails duly and punctually to pay any instalment on or within one month from the date on which it fell due for payment then, whether or not the purchaser is in possession, the vendor may immediately give notice to the purchaser calling up the unpaid balance of the purchase price, which shall upon service of the notice fall immediately due and payable.

(2) The date of service of the notice under this clause shall be deemed the settlement date for the purposes of clause 11.1.

(3) The vendor may give a settlement notice with a notice under this clause.

(4) For the purposes of this clause a deposit is not an instalment.

11.4 If the purchaser does not comply with the terms of the settlement notice served by the vendor then, subject to clause 11.1(3):

(1) Without prejudice to any other rights or remedies available to the vendor at law or in equity, the vendor may:

(a) sue the purchaser for specific performance; or

(b) cancel this agreement by notice and pursue either or both of the following remedies, namely:

(i) forfeit and retain for the vendor's own benefit the deposit paid by the purchaser, but not exceeding in all 10% of the purchase price; and/or

(ii) sue the purchaser for damages.

(2) Where the vendor is entitled to cancel this agreement, the entry by the vendor into a conditional or unconditional agreement for the resale of the property or any part thereof shall take effect as a cancellation of this agreement by the vendor if this agreement has not previously been cancelled and such resale shall be deemed to have occurred after cancellation.

(3) The damages claimable by the vendor under clause 11.4(1)(b)(ii) shall include all damages claimable at common law or in equity and shall also include (but shall not be limited to) any loss incurred by the vendor on any bona fide resale contracted within one year from the date by which the purchaser should have settled in compliance with the settlement notice. The amount of that loss may include:

(a) interest on the unpaid portion of the purchase price at the interest rate for late settlement from the settlement date to the settlement of such resale;

(b) all costs and expenses reasonably incurred in any resale or attempted resale; and

(c) all outgoings (other than interest) on or maintenance expenses in respect of the property from the settlement date to the settlement of such resale.

(4) Any surplus money arising from a resale shall be retained by the vendor.

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11.5 If the vendor does not comply with the terms of a settlement notice served by the purchaser, then, without prejudice to any other rights or remedies available to the purchaser at law or in equity the purchaser may:
(1) sue the vendor for specific performance; or
(2) cancel this agreement by notice and require the vendor forthwith to repay to the purchaser any deposit and any other money paid on account of the purchase price and interest on such sum(s) at the interest rate for late settlement from the date or dates of payment by the purchaser until repayment.

11.6 The party serving a settlement notice may extend the term of the notice for one or more specifically stated periods of time and thereupon the term of the settlement notice shall be deemed to expire on the last day of the extended period or periods and it shall operate as though this clause stipulated the extended period(s) of notice in lieu of the period otherwise applicable; and time shall be of the essence accordingly. An extension may be given either before or after the expiry of the period of the notice.

11.7 Nothing in this clause shall preclude a party from suing for specific performance without serving a settlement notice.

11.8 A party who serves a settlement notice under this clause shall not be in breach of an essential term by reason only of that party's failure to be ready, willing, and able to settle upon the expiry of that notice.

12.0 Non-merger

12.1 The obligations and warranties of the parties in this agreement shall not merge with:
(1) the giving and taking of possession;
(2) settlement;
(3) the transfer of title to the property;
(4) delivery of the chattels (if any); or
(5) registration of the transfer of title to the property.

13.0 Goods and Services Tax and Purchase Price Allocation

13.1 If this agreement provides for the purchaser to pay (in addition to the purchase price stated without GST) any GST which is payable in respect of the supply made under this agreement, then:
(1) the purchaser shall pay to the vendor the GST which is so payable in one sum on the GST date;
(2) where the GST date has not been inserted on the front page of this agreement the GST date shall be the settlement date;
(3) where any GST is not so paid to the vendor, the purchaser shall pay to the vendor:
(a) interest at the interest rate for late settlement on the amount of GST unpaid from the GST date until payment; and
(b) any default GST;
(4) it shall not be a defence to a claim against the purchaser for payment to the vendor of any default GST that the vendor has failed to mitigate the vendor's damages by paying an amount of GST when it fell due under the GST Act; and
(5) any sum referred to in this clause is included in the moneys payable by the purchaser on settlement pursuant to clause 3.8(1).

13.2 If the supply under this agreement is a taxable supply, the vendor will deliver a tax invoice to the purchaser on or before the GST date or such earlier date as the purchaser is entitled to delivery of an invoice under the GST Act.

13.3 (1) Without prejudice to the vendor's rights and remedies under clause 13.1, where any GST is not paid to the vendor on or within one month of the GST date, then whether or not the purchaser is in possession, the vendor may immediately give notice to the purchaser calling up any unpaid balance of the purchase price, which shall upon service of the notice fall immediately due and payable.
(2) The date of service of the notice under this clause shall be deemed the settlement date for the purposes of clause 11.1.
(3) The vendor may give a settlement notice under clause 11.1 with a notice under this clause.

13.4 Each party warrants that their response to the statement on the front page regarding purchase price allocation being relevant to the vendor or purchaser/purchaser's nominee for income tax and/or GST purposes is correct.

14.0 Zero-rating

14.1 The vendor warrants that the statement on the front page regarding the vendor's GST registration status in respect of the supply under this agreement and any particulars stated by the vendor in Schedule 1 are correct at the date of this agreement and will remain correct at settlement.

14.2 The purchaser warrants that any particulars stated by the purchaser in Schedule 1 are correct at the date of this agreement.

14.3 Where the particulars stated on the front page and in Schedule 1 indicate that:
(1) the vendor is and/or will be at settlement a registered person in respect of the supply under this agreement;
(2) the recipient is and/or will be at settlement a registered person;
(3) the recipient intends at settlement to use the property for making taxable supplies; and
(4) the recipient does not intend at settlement to use the property as a principal place of residence by the recipient or a person associated with the recipient under section 2A(1)(c) of the GST Act,
GST will be chargeable on the supply under this agreement at 0% pursuant to section 11(1)(mb) of the GST Act.

14.4 If GST is chargeable on the supply under this agreement at 0% pursuant to section 11(1)(mb) of the GST Act, then on or before settlement the purchaser will provide the vendor with the recipient's name, address, and registration number if any of those details are not included in Schedule 1 or they have altered.

14.5 (1) If any of the particulars stated by the purchaser in Schedule 1:
(a) are incomplete; or
(b) alter between the date of this agreement and settlement,
the purchaser shall notify the vendor of the particulars which have not been completed and the altered particulars as soon as practicable before settlement.
(2) The purchaser warrants that any added or altered particulars will be correct as at the date of the purchaser's notification.

(3) If the GST treatment of the supply under this agreement should be altered as a result of the added or altered particulars, the vendor shall prepare and deliver to the purchaser or the purchaser's lawyer an amended settlement statement, if the vendor has already tendered a settlement statement, and a credit note or a debit note, as the case may be, if the vendor has already issued a tax invoice.

14.6 If

(1) the particulars in Schedule 1 state that part of the property is being used as a principal place of residence at the date of this agreement; and

(2) that part is still being so used at the time of the supply under this agreement,

then, the supply of that part will be a separate supply in accordance with section 5(15)(a) of the GST Act.

14.7 If

(1) the particulars stated in Schedule 1 indicate that the recipient intends to use part of the property as a principal place of residence by the recipient or a person associated with the recipient under section 2A(1)(c) of the GST Act; and

(2) that part is the same part as that being used as a principal place of residence at the time of the supply under this agreement,

then the references in clauses 14.3 and 14.4 to "the property" shall be deemed to mean the remainder of the property excluding that part and the references to "the supply under this agreement" shall be deemed to mean the supply under this agreement of that remainder.

14.8 If the particulars stated on the front page and in Schedule 1 indicate in terms of clause 14.3 that GST will be chargeable on the supply under this agreement at 0% pursuant to section 11(1)(mb) of the GST Act, but any of the particulars stated by the purchaser in Schedule 1 should alter between the date of this agreement and settlement, such that GST no longer becomes chargeable on the supply at 0%, then:

(1) the purchase price shall be plus GST (if any), even if it has been expressed as being inclusive of GST (if any) on the front page of this agreement; and

(2) if the vendor has already had to account to the Inland Revenue Department for the GST which is payable in respect of the supply under this agreement and did so on the basis that in accordance with clause 14.3 the GST would be chargeable at 0%, the purchaser shall pay GST and any default GST to the vendor immediately upon demand served on the purchaser by the vendor (and where any GST or default GST is not so paid to the vendor, the purchaser shall pay to the vendor interest at the interest rate for late settlement on the amount unpaid from the date of service of the vendor's demand until payment).

15.0 Supply of a Going Concern

15.1 If there is a supply under this agreement to which section 11(1)(mb) of the GST Act does not apply but which comprises the supply of a taxable activity that is a going concern at the time of the supply, then, unless otherwise expressly stated in this agreement:

(1) each party warrants that it is a registered person or will be so by the date of the supply;

(2) each party agrees to provide the other party by the date of the supply with proof of its registration for GST purposes;

(3) the parties agree that they intend that the supply is of a taxable activity that is capable of being carried on as a going concern by the purchaser; and

(4) the parties agree that the supply made pursuant to this agreement is the supply of a going concern on which GST is chargeable at 0%.

15.2 If it subsequently transpires that GST is payable in respect of the supply and if this agreement provides for the purchaser to pay (in addition to the purchase price without GST) any GST which is payable in respect of the supply made under this agreement, then the provisions of clause 13.0 of this agreement shall apply.

16.0 Limitation of Liability

16.1 If a person enters into this agreement as trustee of a trust and is not a beneficiary of the trust, then that person will be known as an "independent trustee" and clauses 16.2 and 16.3 will apply.

16.2 The liability of an independent trustee under this agreement is limited to the extent of the indemnity from the assets of the trust available to the independent trustee at the time of enforcement of that indemnity.

16.3 However, if the entitlement of the independent trustee to be indemnified from the trust assets has been lost or impaired (whether fully or in part) by reason of the independent trustee's act or omission (whether in breach of trust or otherwise), then the limitation of liability in clause 16.2 does not apply, and the independent trustee will be personally liable up to the amount that would have been indemnified from the assets of the trust had the indemnity not been lost.

17.0 Counterparts

17.1 This agreement may be executed and delivered in any number of counterparts (including scanned and emailed PDF counterparts).

17.2 Each executed counterpart will be deemed an original and all executed counterparts together will constitute one (and the same) instrument.

17.3 This agreement shall not come into effect until each person required to sign has signed at least one counterpart and both vendor and purchaser have received a counterpart signed by each person required to sign.

17.4 If the parties cannot agree on the date of this agreement, and counterparts are signed on separate dates, the date of the agreement is the date on which the last counterpart was signed and delivered to all parties.

18.0 Agency

18.1 If the name of a licensed real estate agent is recorded on this agreement, it is acknowledged that the sale evidenced by this agreement has been made through that agent whom the vendor has appointed as the vendor's agent according to an executed agency agreement.

18.2 The scope of the authority of the agent under clause 18.1 does not extend to making an offer, counteroffer, or acceptance of a purchaser's offer or counteroffer on the vendor's behalf without the express authority of the vendor for that purpose. That authority, if given, should be recorded in the executed agency agreement.

18.3 The vendor shall be liable to pay the agent's charges including GST in accordance with the executed agency agreement.

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19.0 Collection of Sales Information

19.1 Once this agreement has become unconditional in all respects, the agent may provide certain information relating to the sale to REINZ.

19.2 This information will be stored on a secure password protected network under REINZ's control and may include (amongst other things) the sale price and the address of the property, but will not include the parties' names or other personal information under the Privacy Act 2020.

19.3 This information is collected, used and published for statistical, property appraisal and market analysis purposes, by REINZ, REINZ member agents and others.

19.4 Despite the above, if REINZ does come to hold any of the vendor's or purchaser's personal information, that party has a right to access and correct that personal information by contacting REINZ at info@reinz.co.nz or by post or telephone.

20.0 COVID-19 / Pandemic Provisions

20.1 The parties acknowledge that the Government of New Zealand or a Minister of that Government may, as a result of public health risks arising from a Pandemic, order restrictions on personal movement pursuant to the COVID-19 Public Health Response Act 2020 (or other legislation), and the effect of such restrictions may be that personal movement within or between particular regions is unlawful for the general population of those regions.

20.2 Where such a legal restriction on personal movement exists either nationally or in the region or district where the property is located:

(1) The date for satisfaction of any condition that has not yet been satisfied or waived will be the later of:

(a) the date that is 10 working days after the restriction on personal movement in the region or district in which the property is located is removed; or

(b) the date for satisfaction of the condition as stated elsewhere in this agreement.

(2) The settlement date will be the later of:

(a) the date that is 10 working days after all conditions are satisfied or waived; or

(b) the date that is 10 working days after the date on which the restriction on personal movement in the region or district in which the property is located is removed; or

(c) the settlement date as stated elsewhere in this agreement.

(3) Nothing in the previous provisions of this clause is to have the effect of bringing forward a date specified in this agreement.

20.3 Clause 20.2 applies whether such legal restriction on personal movement exists at, or is imposed after, the date of this agreement, and on each occasion such restriction is imposed.

20.4 Neither party will have any claim against the other for a deferral of a condition date or the settlement date under this clause 20.0.

20.5 For the purposes of this clause 20.0, "Pandemic" means the COVID-19 pandemic, or such other pandemic or epidemic that gives rise to Government orders restricting personal movement.

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FURTHER TERMS OF SALE

see attached.

PT KT.

FURTHER TERMS OF SALE

21.0 Solicitor Approval

21.1 This agreement is subject to and conditional upon both parties solicitors approval as to the form of this agreement and the Title to the property within 5 working days from the date of this agreement.

22.0 Subdivision

Resource Consent for Subdivision

22.1 This agreement is subject to and conditional upon the Southland District Council granting resource consent to the boundary adjustment plan (as attached) on terms and conditions acceptable to all parties on or before 1 August 2024.

Costs of Subdivision

22.2 All costs involved in the said subdivision, including the surveying and legal costs are to be the Vendors. The surveyor will be True South.

Unders and Overs

22.3 If, on final survey, the area of the property varies up or down, the purchase price will be adjusted at the rate of $20,000.00 per hectare.

23.0 Contemporaneous Sale and Purchase Agreements and Settlement

23.1 This agreement is subject to and conditional on:

(a) The Vendor entering into an unconditional Agreement for the Sale and Purchase to purchase the balance part of the property legally described as 95 ha more or less being part Section 153 Block V Wairio Survey District and contained in Record of Title SL9D/704 and 31.9904 ha more or less being Lot 1 DP 6203 contained in Record of Title SLA1/619 with **Keith Ian Clark and Vickie Michelle Clark as Vendor ("the first Agreement")**; and

(b) The Purchaser entering into an unconditional Agreement for the Sale and Purchase to purchase the balance part of the property legally described as 20. ha more or less being part Section 153 Block V Wairio Survey District and contained in Record of Title SL9D/704 and 10.5560 ha more or less being Lot 1 DP 15398 and contained in Record of Title SL12B/307 with **Keith Ian Clark and Vickie Michelle Clark as Vendor**; **("the second Agreement")** and

(c) Settlement under each of the above agreements being completed contemporaneously with this agreement.

24.0 Possession and Settlement Date

24.1 Possession date for the Property is 1 August 2024 with the Purchaser having full operational and management control of the property pursuant to the Lease Agreement in clause 25.

PK KJ

24.2 Settlement date will be upon issue of the new amalgamated title for the Property in accordance with clause 26.

25.0 Lease Pending Final Settlement

25.1 Pending settlement, the Purchaser will lease the Property from 1 August 2024 to 31 July 2025 at rental equivalent to interest at 7% per annum on the purchase price plus GST. The Purchaser will also pay their share of any territorial rates and utility costs calculated as at Possession Date 1 August 2024.

25.2 The rental will be paid in advance in equal monthly instalments to a bank account nominated by the Vendor.

25.3 The lease will terminate on Settlement Date and any rental paid in advance adjusted on settlement.

25.4 Public Liability Cover: Lessees to hold a public liability cover of not less than **$5,000,000.**

25.5 Farm Operational Costs: As from the commencement of the lease, all farm running costs will be met by the Lessee at their expense.

25.6 Good Farming Practice: Good farming practices are to be observed in all farming operations with particular emphasis on the following:

(i) Maintenance of fences and improvements to a standard equivalent to at the commencement of the lease;

(ii) Pastures to be properly grazed and managed and when pugging occurs damage is to be remedied and where necessary re-sown; and

(iii) Roads, races, and gateways to be properly maintained and where necessary metalled.

25.7 Maintenance of Buildings and Improvements: to be maintained to a standard equivalent to that at the commencement of the lease.

25.8 Disputes: Where a dispute cannot be resolved by mutual agreement the parties agree to refer the matter to an independent arbitrator whose decision is final. The cost of which will be shared equally between the parties.

25.9 In all other respects the lease will be on the same terms and conditions applying to farm lease in Southland.

26.0 Settlement

26.1 The Vendor and the Purchaser record that the transfer of the Property will require an amalgamation of the Property with the land highlighted in Pink on the attached photo marked "A" ("the Amalgamated Property") which the Purchaser has entered into under the second Agreement. The Vendor and the Purchaser therefore record their agreed process for settlement of the transaction.

26.2 Prior to the lodgement of the dealing to transfer of the Amalgamated Property to the Purchaser, the Purchaser's solicitor shall provide the Vendor's solicitor with the following undertakings:

(a) That they have signed and certified and where required released the instruments in their control that are required to lodge the dealing and issue the new Record of Title;

(b) That they are in receipt of full settlement funds in accordance with the settlement statement provided by the Vendor's solicitor and will hold such funds undisbursed in their interest bearing Trust Account pending issue of title at which time they will pay those funds to the Vendor's solicitor in accordance with their settlement requirements (interest to follow funds held);

(c) That upon notification to them of issue of titles they will immediately attend to the payment of full settlement funds in accordance with the settlement statement provided by the Vendor's solicitor in full and without deduction to the Vendor's solicitors Trust Account together with the interest earned thereon. Payment is to be by SCP in accordance with Guideline 5.7 of the Property Transactions Practice Guidelines promulgated by the Property Law Section of the New Zealand Law Society; and

(d) If the eDealing is rejected or requisitioned, they will assist in relation to the instruments they have signed and certified and take all reasonable steps within their control to correct the instruments so registration is completed as soon as possible.

together "the Required Undertakings."

26.3 Upon receipt of the Required Undertakings the Vendor's solicitor shall provide the following undertakings to the Purchaser's solicitor that they will:

(a) Release the instruments in their control from the Landonline Workspace;

(b) Attend to lodgement of the eDealing;

(c) Not cancel or withdraw such instruments or any other instrument in the dealing or attempt any alteration of such instruments in the eDealing prior to the release at lodgement;

(d) If the eDealing is rejected or requisitioned, they will assist in relation to the instruments they have signed and certified and will take all reasonable steps within their control to correct the instruments so registration is completed as soon as possible; and.

(e) Where circumstances beyond their control result in delay, they will:

(i) Advise the Purchaser's solicitor of the delay and the cause of delay; and

(ii) Take all available steps to effect the release as soon as possible.

27.0 <u>Good Husbandry</u>

27.1 From the date of this agreement to the possession date, the Vendor will properly farm the property and attend to the livestock in accordance with the accepted and usual practices

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of the district in so far as those practices relate to the operations and work being carried out on the property and in particular not overstock the property, do anything to impoverish the soil or remove any improvement or fixture from the property. The Vendor will maintain the property to the same or higher standard as inspected by the Purchaser.

28.0 Accruals

28.1 The Vendor and the Purchaser agree that where in relation to this agreement it is or becomes necessary to determine the "consideration" for the purposes of the accrual rules contained in Sub-Part EW of the Income Tax Act 2007, subject to Section GB21 of that Act, the purchase price is the "lowest price" the parties would have agreed upon for the property at the date of this Agreement in terms of sub-sections EW 32(3) and EW 34(2) of the Income Tax Act 2007.

29.0 Depreciation

29.1 The Vendor will make available such details as are necessary for the Purchaser to claim depreciation for tax purposes on any capital development expenditure not written off by the Vendor as at the settlement date. To assist in this regards, the Vendor hereby authorises the Vendor's accountant to supply to the Purchaser's accountant following the settlement date such information as the Purchaser's accountant will reasonably require for the completion of correct Income Tax Returns on behalf of the Purchaser.

30.0 Investigations

30.1 The Purchaser acknowledges that they have completed their own investigations in relation to the property and it is agreed that whilst the Vendor has disclosed all information in good faith the Purchaser has taken all responsible steps to verify that information and ascertain that the property is suitable for their own purposes.

31.0 Gravel

31.1 The Vendor will have access to gravel for the Vendor's own use for a period of two (2) years from settlement with the maximum amount to be removed to be 1,500m^3 per annum.

32.0 Land Use Warranty

32.1 The Vendor currently holds a resource consent to milk 450 cows on land which includes the Property and the adjoining land to the south outlined in blue on the **attached** Plan (part of SL9D/704). Following completion of this transaction, the Vendor will be applying for a new consent or a Certificate of Compliance to milk 450 dairy cows and undertake dairy support grazing activities including intensive winter grazing on the Vendor's remaining land and adjoining land to the south to be purchased from Clark ("*New Dairy Platform*").

32.2 The Purchaser warrants that the Purchaser will not use or permit the use of the Purchaser's land in a manner that would prevent the issue of any new consent or a Certificate of Compliance for the New Dairy Platform and the purchaser acknowledges that all existing use rights and associated nutrients related to dairy grazing, dairy support and intensive winter grazing, have been passed over to the Vendor.

33.0 Trees

33.1 The Vendor and the Purchaser agree that any trees on the Property are of only ornamental value and therefore have a nil value relating to the purchase price within this agreement.

34.0 Vendor Warranties

34.1 The Vendor warrants that:

34.1.1 The Vendor holds all resource consents and permission necessary to permit the use of the property for the acitivites currently being undertaken on the property;

34.1.2 The Vendor's use of the property complies in all respects with the resource consents and permissions it holds, or the use may be undertaken as of right pursuant to the provisions of the existing district and regional plans applicable to the property.

34.1.3 No claims, prosecutions or legal proceedings of any kind have been brought or, to its knowledge, threatened against the Vendor in repect of the Vendor's use or ownership of the property;

34.1.4 The Vendor is not aware of any aspect of the Vendor's use or non-use or any farmer owners use or non-use or any contemplated use of the property which may reasonably be expected to give rise to claims, prosecution or legal proceedings against either of the parties;

34.1.5 As far as the Vendor is aware, no portion of the property has ever been used as a landfill or dump to receive refuse or waste (except for occasional and immaterial random disposal by individuals) and there is no toxic or hazardous waste stored, installed, generated or transported from or disposed of in or on the property;

34.1.6 The Vendor will sign such papers or documents as are necessary to enable the transfer to the Purchaser of such of the resource consents and permissions as are selected by the Purchaser for that purpose;

34.1.7 All mechanical, electrical, electronic and other working equipment fixtures and fittings will be in full operative order on possession date;

34.1.8 The Vendor will provide to the Purchaser on or before possession, all required nitrate application details for the season which is reasonably required by the Purchaser to complete all any any reporting obligations in respect of the Property.

SCHEDULE 1

(GST Information – see clause 14.0)

This Schedule must be completed if the vendor has stated on the front page that the vendor is registered under the GST Act in respect of the transaction evidenced by this agreement and/or will be so registered at settlement. Otherwise there is no need to complete it.

Section 1 Vendor		
1(a)	The vendor's registration number (if already registered): 081-788-502	
1(b)	(i) Part of the property is being used as a principal place of residence at the date of this agreement.	~~Yes~~/No
	(ii) That part is: (e.g. "the main farmhouse" or "the apartment above the shop")	Yes/No
	(iii) The supply of that part will be a taxable supply.	Yes/No
Section 2 Purchaser		
2(a)	The purchaser is registered under the GST Act and/or will be so registered at settlement.	Yes/~~No~~
2(b)	The purchaser intends at settlement to use the property for making taxable supplies.	Yes/~~No~~
If the answer to either or both of questions 2(a) and 2(b) is "No", go to question 2(e)		
2(c)	The purchaser's details are as follows: (i) Full name: WESTFIELD GRAZING COMPANY LIMITED	
	(ii) Address: BDO Christchurch Limited, 287-293 Durham Street, Christchurch 8013	
	(iii) Registration number (if already registered):	
2(d)	The purchaser intends at settlement to use the property as a principal place of residence by the purchaser or by a person associated with the purchaser under section 2A(1)(c) of the GST Act (connected by blood relationship, marriage, civil union, de facto relationship or adoption). **OR** The purchaser intends at settlement to use part of the property (and no other part) as a principal place of residence by the purchaser or by a person associated with the purchaser under section 2A(1)(c) of the GST Act. That part is: (e.g. "the main farmhouse" or "the apartment above the shop")	Yes/No Yes/No
2(e)	The purchaser intends to direct the vendor to transfer title to the property to another party ("nominee").	~~Yes~~/No
If the answer to question 2(e) is "Yes", then please continue. Otherwise, there is no need to complete this Schedule any further.		
Section 3 Nominee		
3(a)	The nominee is registered under the GST Act and/or is expected by the purchaser to be so registered at settlement.	Yes/No
3(b)	The purchaser expects the nominee at settlement to use the property for making taxable supplies.	Yes/No
If the answer to either or both of questions 3(a) and 3(b) is "No", there is no need to complete this Schedule any further.		
3(c)	The nominee's details (if known to the purchaser) are as follows: (i) Full name:	
	(ii) Address:	
	(iii) Registration number (if already registered):	
3(d)	The purchaser expects the nominee to intend at settlement to use the property as a principal place of residence by the nominee or by a person associated with the nominee under section 2A(1)(c) of the GST Act (connected by blood relationship, marriage, civil union, de facto relationship or adoption). **OR** The purchaser expects the nominee to intend at settlement to use part of the property (and no other part) as a principal place of residence by the nominee or by a person associated with the nominee under section 2A(1)(c) of the GST Act. That part is: (e.g. "the main farmhouse" or "the apartment above the shop")	Yes/No Yes/No

Map Prepared

Proposed subdn
SL9D/384
SL9D/704

DISCLAIMER: This map/plan is illustrative only and all information should be independently verified on site before taking any action. Whilst due care has been taken, Grip gives no warranty as to the accuracy and plan completeness of any information on this map/plan and accepts no liability for any error, omission or use of the information.

SOURCES: Property & Imagery: LINZ CC BY 4.0

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June 4, 2024

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SCHEDULE 2

List all chattels included in the sale

(Strike out or add as applicable. If necessary complete on a separate schedule or the further terms of sale)

Stove	( )	Rangehood	( )	Wall/under bench oven	( )	Cooktop	( )
Dishwasher	( )	Kitchen waste disposal	( )	Light fittings	( )	Smoke detectors	( )
Burglar alarm	( )	Heated towel rail	( )	Heat pump	( )	Garage door remote control	( )
Garden shed	( )	Blinds		Curtains		Drapes	
Fixed floor coverings		Bathroom extractor fan					

Both parties should check that Schedule 2 (list of chattels) includes an accurate list of all items which are included with the sale and purchase (in addition to, or as part of any building).

SCHEDULE 3

Residential Tenancies

Name of Tenant(s):

Rent: Term: Bond:

Commercial/Industrial Tenancies

(If necessary complete on a separate schedule)

1. Name of Tenant(s):

Rent: Term: Right of Renewal: Other:

2. Name of Tenant(s):

Rent: Term: Right of Renewal: Other:

3. Name of Tenant(s):

Rent: Term: Right of Renewal: Other:

WARNING AND DISCLAIMER

- This agreement is a standard form document. It is therefore likely that amendments and additions may need to be made in order to suit the circumstances of each of the vendor and the purchaser, and to suit the particular property involved. It is also important that you are certain that any amendments made correctly reflect your understanding of what has been agreed. **You should always get legal advice before you sign the agreement and throughout the buying and selling process.**
- ADLS and REINZ accept no liability whatsoever in respect of this document and any agreement which may arise from it.
- The vendor should check the correctness of all warranties made under clause 7, clause 8, and elsewhere in this agreement.
- In the case of a unit title, before the purchaser enters into the agreement, the vendor **must** provide to the purchaser a pre-contract disclosure statement under section 146 of the Unit Titles Act.
- The transaction may have tax implications for the parties and it is recommended that both parties seek their own professional advice regarding the tax implications of the transaction before signing, including:
  - the GST treatment of the transaction, which depends upon the GST information supplied by the parties and could change before settlement if that information changes; and
  - the income tax treatment of the transaction, including any income tax implications of purchase price allocation.

PROFESSIONAL ADVICE SHOULD BE SOUGHT REGARDING THE EFFECT AND CONSEQUENCES OF ANY AGREEMENT ENTERED INTO BETWEEN THE PARTIES.

Acknowledgements

Where this agreement relates to the sale of a residential property and this agreement was provided to the parties by a real estate agent, or by a licensee on behalf of the agent, the parties acknowledge that they have been given the guide about the sale of residential property approved by the Real Estate Authority and a copy of the agency's in-house complaints and dispute resolution process.

The person or persons signing this agreement acknowledge that either:

(a) they are signing in a personal capacity as the 'vendor' or 'purchaser' named on the front page, or

(b) they have authority to bind the party named as 'vendor' or 'purchaser' on the front page.

WARNING *(This warning does not form part of this agreement)*

Before signing, each party should read this entire contract and should obtain all relevant professional advice.
This is a binding contract. Once signed, you will be bound by the terms of it and there may be no, or only limited, rights to terminate it.

Signature of Purchaser(s):

Name:

Director /~~Trustee~~/ Authorised Signatory /~~Agent~~/~~Attorney*~~

Delete the options that do not apply
If no option is deleted, the signatory is signing in their personal capacity

Name:

Director /~~Trustee~~/ Authorised Signatory /~~Agent~~/~~Attorney*~~

Delete the options that do not apply
If no option is deleted, the signatory is signing in their personal capacity

Signature of Vendor(s):

Name:

~~Director~~/ Trustee /~~Authorised Signatory~~/~~Agent~~/~~Attorney*~~

Delete the options that do not apply
If no option is deleted, the signatory is signing in their personal capacity

Name:

~~Director~~/ Trustee /~~Authorised Signatory~~/~~Agent~~/~~Attorney*~~

Delete the options that do not apply
If no option is deleted, the signatory is signing in their personal capacity

*If this agreement is signed under:

(i) a Power of Attorney – please attach a **Certificate of non-revocation** (available from ADLS: 4098WFP or REINZ); or

(ii) an Enduring Power of Attorney – please attach a **Certificate of non-revocation and non-suspension of the enduring power of attorney** (available from ADLS: 4997WFP or REINZ).

Also insert the following wording for the Attorney's Signature above:
Signed for [full name of the donor] by his or her Attorney [attorney's signature].

6

AGREEMENT FOR SALE AND PURCHASE OF REAL ESTATE

VENDOR: Paul Ernest TURNER and Kayleen Amanda TURNER as trustees of the PAUL TURNER FARM TRUST

Contact Details:

VENDOR'S LAWYERS:
Firm: CRUICKSHANK PRYDE
Individual Acting: Rex Chapman
Email: rex.chapman@cplaw.co.nz
Contact Details: PO Box 857
Invercargill

Email address for service of notices (clause 1.4):

PURCHASER: WESTFIELD GRAZING COMPANY LIMITED

Contact Details:

PURCHASER'S LAWYERS:
Firm: PR LAW
Individual Acting: Gareth Davis
Email: gareth.davis@prlaw.co.nz
Contact Details:

Email address for service of notices (clause 1.4):

SALE BY LICENSED REAL ESTATE AGENT: PRIVATE TREATY

Manager:
Salesperson:
Second Salesperson:
Contact Details:

Licensed Real Estate Agent under Real Estate Agents Act 2008