Recommendation and decision on notification of resource consent application(s) under sections 95-95G of the Resource Management Act 1991 (RMA)

Summary

I recommend the application is processed on a publicly notified basis. This is because:

- The application is to expand an existing dairy platform to include an 80ha support block.
- The mitigations proposed do not adequately avoid, remedy or mitigate all the adverse effects on freshwater.
- The adverse effects on the environment, and in particular from the conversion of the 8ha support block, will be or are likely to be more than minor.

The application

Particulars

Applicant:	Cashmere Bay Dairy Limited
Application reference:	APP-20211381
Site address or location:	145 Jaffray Road, Otamita
New consent(s) for new activity(ies) (s88)	☒
New consent(s) for existing activity(ies) (s88)	☒
Change to conditions of existing consent(s) (s127)	☐

The proposal

The applicant is proposing to renew their discharge and water permits (AUTH-301811-V2 and AUTH-301812-V1) as well as expand their dairy platform to include one of their 80ha Support Blocks. It also requires a land use consent for a feed pad. The proposal is for:

- Discharge of dairy shed effluent from milking up to 1,140 cows from 1 August to 31 May (inclusive);
- Discharge of feed pad effluent from up to 150 cows during the months of August and September (inclusive);
- The discharge of liquid effluent via centre pivot, low rate cobra rain gun, K-line pods, slurry tanker and umbilical system onto 264ha;
- Take 136.8m^3/day of groundwater at a rate of <2L/sec;
- New land use consent for a feed pad; and
- New land use consent for an expanded dairy farm.

FDE discharge permit	
Relevant rule(s)	Rule 50(d) RWP – restricted discretionary Rule 35(c) pSWLP – discretionary
Cow numbers	1,140
Total platform area	from 344ha to 424ha
Stocking rate (cows/ha)	2.6
Winter milking proposed?	No

Other sources of effluent?	Feed pad
Effluent disposal area (ha)	Increasing from 155ha to 264ha
Application rate and depth	Centre pivot: 10mm/hr rate, 10mm depth Low rate rain gun: 10mm/hr, 10mm depth K-line pods: 10mm/hour, 10mm depth Umbilical system and slurry tanker: 5mm depth
Storage available (m^3)	1,943m^3.
Massey pond calculator 90% storage requirement (m^3)	893m^3

Water permit	
Relevant rule(s)	Rule 54(d) of the pSWLP – Discretionary Rule 23(d) of the RWP – Discretionary
Source of water (bore or watercourse)	F45/0422
Groundwater zone/name of watercourse	Knapdale (RWP), Croydon (pSWLP)
Aquifer type (for groundwater takes)	Lowland
Rate of take	<2L/s
Daily volume	136.8m^3/day
Consistent with 120 L/cow/day?	Yes
Yearly volume	49,932m^3/year
Discretionary allocation (m^3/year)	3,120,000 RWP 2,560,000 pSWLP
Amount currently allocated (m^3/year and % of discretionary allocation)	1,353,015 (43%) of the RWP allocation 1,186,313 (46.3%) of the pSWLP allocation

Land use consent to use a feed pad	
Relevant rule(s)	Rule 35A(b) pSWLP – discretionary Regulation 14 NES-F 2020 – discretionary
Size (m^2)	1,500m^2
Cow numbers	150
Time on pad	August and September
Base material	500mm woodchip/bark
Effluent management	The 500mm deep wood-based material is discharged in accordance with the permitted activity status of Rule 38 (pSWLP).

Land use consent – expanded dairy farm	
Relevant rule(s)	Rule 20(e) pSWLP - discretionary Regulation 19 NES-F - discretionary
Dairy platform increasing in size?	Yes, adding 80ha
Peak milking cow number increasing?	Yes, from 1000 to 1,140
Cows remain on farm during winter?	Yes
Intensive Winter Grazing?	51.5ha of crop (permitted)

Overall, the application is a **discretionary activity**.

Public notification consideration

1. Is notification mandatory?

1.1 Has the applicant requested that the application	☐ Yes	Application must be publicly

	be publicly notified? (s95(3)(a))		notified. Go to 10.2
		☒ No	Go to 1.2
1.2	**Was further information, or commissioning of a report, requested under s92?**	☒ Yes	Go to 1.3
		☐ No	Go to step 2.1
1.3	**If yes, was the request refused, or did the applicant fail to respond or fail to provide the information by the deadline?**	☐ Yes	Public notification is required by s95C. Go to 10.2
		☒ No	Go to step 2.1

2. Is notification precluded?

2.1	**Is each activity subject to a rule or NES that precludes public notification?**	☐ Yes	Go to 4.1
		☒ No	Go to step 2.2
2.2	**Is each activity a controlled activity?**	☐ Yes	Application must not be publically notified unless there are special circumstances. Go to 4.1
		☒ No	Go to 3.1

3. Is notification required?

3.1	**Are any of the activities subject to a rule or NES that requires notification?**	☐ Yes	Application must be publicly notified. Go to 10.2
		☒ No	Go to 3.2
3.2	**Will the activity have, or is it likely to have, adverse effects on the environment that are more than minor?**	☒ Yes	Application must be publicly notified. Complete 3.3 and go to 10.2
		☐ No	Complete 3.3 and go to 4.1.

3.3 Reasons adverse effects on the environment are less than minor / minor / more than minor

The existing environment

The existing site is an operational dairy farm located approximately 14km north west of Gore. Currently the applicant holds discharge permit AUTH-301811-V2 and water permit AUTH-301812-V1. Both these permits expire 19 December 2022. The discharge permit authorises the discharge of dairy shed effluent from 1000 cows onto 100ha via two centre pivots, k-line pods, cobra rain gun and umbilical system. The water permit authorises the abstraction of 120,000L/day of groundwater.

The landholding is made up of the dairy platform, Support Block 1 and Support Block 2. The applicant purchased the 80ha Support Block 2 from the neighbouring farm in June 2018. This parcel of land had been historically sheep farmed and has never been included in a dairy platform. Since the purchase in 2018 the applicant has been using this block of land for grazing beef cattle and growing winter crop. I undertook a pre-application site visit on the 9th July 2021, before the application was lodged on the 7th October 2021, and at that time Support Block 2 was in crop.

Figure 1: *Map showing the locations of the Dairy Platform (white), Support Block 1 (yellow) and Support Block 2 (red)*

Soils and Physiographic Zones

	Soil Type	Vulnerability Factors		
		Structural Compaction	**Nutrient Leaching**	**Waterlogging**
Soils	Mataura	Very Severe	Moderate	Slight
	Oreti	Slight	Very Severe	Nil
	Fleming	Severe	Slight	Severe
	Jacobstown	Severe	Slight	Severe
	Gore	Moderate	Very Severe	Nil
	Pyramid	Severe	Severe	Nil

	Glenure	Very Severe	Slight	Severe
	Dipton	Severe	Slight	Severe
Physiographic Zones	Oxidising (69%) Gleyed (16%) Old Mataura (11%) Bedrock/Hill Country (4%)			

In the Oxidising physiographic zone, the main risk is to groundwater due to contaminant movement via deep drainage. The soils in this zone may accumulate nitrogen during the drier months and then leach into the groundwater during the wetter months.

Soils in the Gleyed physiographic zone are poorly drained and prone to water logging. The soils may accumulate and store nitrogen during summer and early autumn months when soil moisture levels are low. This 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. However, some nitrogen will be removed from the soil and aquifers via denitrification, resulting in relatively low groundwater nitrate concentrations.

The Old Mataura physiographic zone poses a high risk to groundwater via deep drainage allowing water and contaminants to drain straight down to the underlying aquifers.

In the Bedrock/Hill Country Physiographic zone, the main risk is to surface water quality from contaminant movement via overland flow. Water and contaminants quickly flow downslope during heavy or prolonged rainfall.

Groundwater quality
There are two groundwater monitoring bore on the property, F45/0422 and F45/0172. F45/0422 (16.75m deep) was tested 20 times between Nov 2011 and Nov 2021 with groundwater nitrate levels ranging between 6.6mg/L and 9.2mg/L. Monitoring bore F45/0172 (4.6m deep) was tested 35 times between Dec 2010 and Dec 2019 and showed nitrate levels ranging between 8.8mg/L and 24mg/L. Of the 35 samples, the groundwater nitrate levels exceeding New Zealand Drinking Water Standards (NZDWS) 32 times. The applicant has confirmed it no longer uses F45/0172 and will decommission this bore. It also provided potential reasons for the elevated nitrate levels detected which include the bore being shallow and being located approximately 80m south of a domestic wastewater septic tank disposal field.

Adverse effects of the proposed activities on the environment

Consideration of the following effects is required:
- effects on water quality;
- effects on water quantity;
- soil health; and
- odour.

Water Quality

Discharge
The applicant has proposed good management practices that will be adopted to minimise adverse effects arising from the activity:

- Storage of effluent in the sufficiently sized pond when conditions are not suitable for discharge;
- The pond is synthetically lined, was authorised by land use consent AUTH-301813-01 and has passed a Pond Drop Test

- Adhering to buffer distances from surface waterways and bores;
- Avoiding irrigating over tile drains;
- Application of effluent at low rates and depths; and
- Use of a slurry tanker and umbilical system as required.

Land Use – Expanded dairy farm

The applicant has provided nutrient budgets of the current scenario and proposed scenario as required by Part B section 4 of Appendix N in the proposed Southland Water and Land plan. These budgets have been created by Miranda Hunter, who is a Certified Nutrient Management Advisor, using the Overseer Software. Council commissioned Nicky Watt, who is a Certified Nutrient Management Advisor, to review the nutrient budgets for a 'sensibility check'. She has confirmed that the figures that have been used in the budgets are appropriate and that the Overseer Best Practice Data Input Standards have been followed.

The table below shows the nutrient losses from the current dairy platform and current Support Block 2 combined vs the proposed scenario of Support Block 2 amalgamated into the platform. It also shows the nutrient losses from the current Support Block 1 vs proposed Support Block 1. A version change within Overseer occurred since the application was lodged resulting in changes shown in red.

	Combined platform + S2 (433.3ha)	**Proposed platform (433.3ha)**	**Difference**	**Current Support 1 (89.6ha)**	**Proposed Support 1 (89.6ha)**	**Difference**
N Loss to water (kg/ha/yr)	52	~~45~~ 46	-9.8%	~~24~~ 25	~~26~~ 27	+8%
N Loss to water (kg/yr)	~~21,813~~ 22,689	~~19,563~~ 20,060	-11.6%	~~2,186~~ 2,282	~~2,344~~ 2,453	+7.5%
P Loss to water (kg/ha/yr)	0.9	0.8	-11.1%	0.3	0.3	0
P Loss to water (kg/yr)	373	357	-4.3%	32	27	-15.6%

The table below outlines a number of standard good management practices (GMPs) and additional mitigation measures which either currently occur or are proposed to be undertaken on the landholding Each GMP/mitigation has a varying degree of effectiveness in terms of nitrogen, phosphorus, microbes (e.g. E. coli) and sediment loss. The mitigation measures and GMPs for the landholding have been selected by the applicant based on specific characteristics of the physiographic zones and key contaminant pathways present on farm. As a result, the applicant has identified that both loss of P via overland flow and leaching of N to groundwater are concerning contaminant pathways in different areas of the property.

Mitigation/GMP	**Implementation timeframe**	**Mitigation measure or GMP?**
Fence off all waterways	Done	Good management practice
Plant all riparian margins	Main creek between paddocks 53 and 13 to be completed by 2025	Good management practice
Plant wetland/pond area by paddock 63 with natives	After the main creek between paddocks 53 and 13 is completed	Mitigation measure
Removal of beef cattle from the property	From first exercise of new consent	Mitigation measure
Provide sufficient effluent	Done	Good management

storage to enable deferred application		practice
Defer effluent application when soil conditions are unsuitable	Currently happens	Good management practice
Increased effluent discharge area	From first exercise of new consent	Good management practice
Minimising run-off from tracks, gateways, and crossings by ensuring they are designed and maintained adequately	From first exercise of new consent – culvert repairs done	Good management practice
Use of feed pad to take cows off pasture during adverse weather	From first exercise of new feed pad consent	Good management practice
Apply effluent at low rates and depths	Centre pivot, K-line pods and rain gun used	Good management practice
Avoid irrigating over tile drains	From first exercise of new consent	Good management practice
Re-sow bare soils as soon as possible	From first exercise of new consent	Good management practice
Catch crop	To be used on an as required/where practicable basis	Mitigation measure
Back fence stock off land that has already been grazed	From first exercise of new consent	Good management practice
Use portable water troughs and portable feeders when baleage is fed on crop paddocks.	From first exercise of new consent	Good management practice
Mob sizes less than 120 cattle when intensively winter grazing	From first exercise of new consent	Good management practice
Graze from the top to the bottom of any slope when intensively winter grazing	From first exercise of new consent	Good management practice
CSAs are identified and protected	Tile drain unblocked in paddock 77, future drainage to be installed in paddocks 31 – 34 and temp fencing in paddock 76 when wet.	Good management practice
Reduction in synthetic fertiliser use to 190kg/ha/yr	From first exercise of new consent	Good management practice
Fertiliser only applied if conditions are suitable	Currently occurs	Good management practice
Fertiliser application matches plant requirements	From first exercise of new consent	Good management practice
Reducing Olsen P levels to 30	From first exercise of new consent	Good management practice
Decommission bore F45/0172	From first exercise of new consent	Mitigation measure

The table above shows which measures are identified as mitigations and which are GMPs. Overseer assumes that GMPs are being used, which means some of the GMPs are already accounted for in

Overseer. Others are not accounted for in Overseer and are therefore not taken into account by the budget, and so they can be considered a mitigation as they represent something additional that the applicant is putting in place to mitigate the effects.

In light of the Government's Science Advisory Panel's review of the effectiveness of Overseer in assessing and predicting farm-scale nitrogen losses, and the conclusion that the current Overseer model is not fully fit for purpose in the way it is being currently used in the consenting process, mitigation measures are of the utmost importance when assessing this application. This is because they represent additional steps that can be taken to offset or compensate for the effects of the change or intensification of land use. Those crucial mitigations are:

- Removal of beef cattle;
- Increased native plants in paddock 63 (Support 2) wetland/pond area;
- Catch crops; and
- Decommissioning bore F45/0172.

Nitrogen

The budgets show that the N losses on the landholding are expected to decrease by 2,458kg/year or -9.8% when the 80ha dairy support 2 block is amalgamated into the platform in comparison with the current scenario. Notably though the N losses on Support Block 1 are expected to increase by 171kg/year and by 2kg/ha/year. The applicant has provided an explanation for the increase – "*Minimal effects from a possible increase in contaminants on Support Block 1 are in the same waterbody and same catchment as that on Support Block 2 and the milking platform where significant reductions in contaminants are proposed*."

The removal of some of the beef stock from the property is one measure the applicant has offered in order to mitigate N losses to water. However, this measure was necessary in order to provide capacity within the nutrient budget to increase the maximum dairy herd. This measure has actually resulted in a higher revised stock units (RSU) for the proposed scenario compared to the current scenario. The RSU for the landholding for the current scenario is 13,979, whereas the RSU for the landholding for the proposed scenario is 15,032. Another factor to be considered is with an increase in the milking herd comes a need for more replacement R1s and R2s to maintain the herd at the maximum herd size. The nutrients budgets show an increase from 210 R1s to 265 R1s.

Catch crops is another measure that the applicant has offered to mitigate N losses to water. However, the applicant has also stated that it will only "*use catch crops on an as required/where practicable basis*." This suggests the applicant is not considering including this measure in consent conditions nor has it offered a condition regarding catch cropping. Therefore, I have placed less weight on this mitigation in terms of my recommendation due to the uncertainty of it occurring when excess nitrogen is available in the deep draining soils. Considering the landholding is approximately 80% deep draining and 20% overland flow, I consider the property suitable for catch crops post annual intensive winter grazing on any of the deep draining soils.

Decommissioning bore F45/0172 is another measure the applicant has offered to mitigate N losses to water. F45/0172 showed groundwater nitrate results that exceeded the New Zealand Drinking Water Standards between 2010 and 2019 when the bore stopped being tested. The applicant has agreed to decommission this bore as it is no longer in use. This gives Council reassurance that this bore will never be used again for irrigation water or drinking water, both human and stock. However, this mitigation does not mitigate any of the actual or potential adverse effects arising from the change in land use proposed by way of this application. In short, decommissioning F45/0172 will not in itself improve water quality nor mitigate adverse effects on groundwater quality from the proposed activities.

It is also worth noting that the applicant has decreased their synthetic nitrogen fertiliser use from 268kg/ha on the platform and 244kg/ha on Support Block 1 down to below the 190kg/ha/year cap set by Regulation 33 of the National Environmental Standards for Freshwater 2020. This is obviously a significant contributor to the decrease in N losses from the landholding but I consider it should be regarded as a good management practice as opposed to a mitigation as the applicant suggests.

Phosphorus

The budgets show that the P losses on the landholding are expected to decrease by 21kg/year or -5.2% when the 80ha Support Block 2 is amalgamated into the platform in comparison with the current scenario.

Planting more native plants in the wetland/pond area south of paddock 63 and adjacent to main dairy lane is a measure the applicant has offered to mitigate P losses to water. This is especially important as themain dairy lane that runs to the milking shed runs adjacent to this wetland area and enhanced planting would filter and catch effluent and stormwater run-off from this lane. However, the applicant notes their "*current priority is to plant the area between paddocks 53 and 13 that is currently not planted*". As a result, the benefits to water quality that will arise from enhancing the planting around the wetland/pond area adjacent to the main dairy lane will be delayed while the land use activity will have commenced. However, since purchasing Support Block 2 the applicant has made an effort to permanently fence off and protect a large CSA located directly north of the wetland/pond area.

Figure 2: *CSA located in Support Block 2 paddock 63 which drains directly to a wetland/pond area.*

Water Quantity

The applicant is proposing to increase its abstracted volume from 120m^3/day to 136.8m^3/day and their yearly volume from 43,800m^3/year to 49,932m^3/year. The increase in water abstraction is driven by the

increase in milking herd size from 1,000 cows to 1,140 cows. The daily take is the equivalent of 120L/cow/day which is considered industry standard of efficient use for shed and stock water use. The rate of abstraction is than 2L/sec from bore F45/0422. The groundwater zones from which the water would be taken (Croydon and Knapdale) are not over-allocated, and the proposed abstraction will not result in over-allocation. The closest waterway to the abstraction bore (F45/0422) is a small tributary of Otama Creek located 100m north and with the proposed maximum rate of abstraction of 2L per second, I consider the effects on water quantity are less than minor.

Soil Health

The liquid effluent disposal field is proposed to increase from 155ha to 264ha to include Support Block 2. The proposed discharge area is more than the area needed to meet the minimum requirement of 4 hectares per 100 cows, which is calculated to achieve a maximum loading of 150 kg of nitrogen/hectare/year from effluent irrigation and more than the 8 hectares per 100 cows as recommended in the Best Practice Guidelines Booklet[1]. Therefore, I consider the adverse effects on soil health to be less than minor.

Odour

As long as the effluent is applied in accordance with the specified application rates and depths, and the buffers specified by recommended consent conditions are maintained, then there should little risk of adverse effects from odour and spray drift on surrounding land owners and occupiers. Effluent storage and wintering facilities can cause problems with odour, however, the closest dwelling on another property is located over 750m and 600m from the effluent storage pond and feed pad, respectively. Additionally, all facilities are located more than 480m from the property boundary. Therefore, I consider the adverse effects that may arise from odour are less than minor.

Adverse effects that have been disregarded

Policy 39 of the proposed Southland Water and Land Plan states:

"*When considering any application for resource consent for the use of land for a farming activity, the Southland Regional Council should consider all adverse effects of the proposed activity on water quality, whether or not this Plan permits an activity with that effect*".

As such, **all effects** related to the use of land for farming and the associated activities undertaken as part of the entire farming operation have been considered, and **no effects have been disregarded**.

Planning provisions (policies and objectives) relevant to adverse effects

A policy assessment has been included in the consent application. I have reviewed this assessment and also examined the relevant planning documents. The following are the most relevant provisions:

- National Policy Statement for Freshwater Management 2020 (NPS-FM)
  - Objective 1 seeks to ensure that natural and physical resources are managed in a way that prioritises first, the health and well-being of water bodies and freshwater ecosystems, second, the health needs of people, third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.
  - Policy 1 seeks to manage freshwater in a way that gives effect to Te Mana o te Wai.
  - Policy 2 seeks to actively involve Tangata Whenua in freshwater management and Māori freshwater values are identified and provided for.

[1] Farm Dairy Effluent, Best Practice Guidelines (2007), Environment Southland

- Policy 3 seeks to manage freshwater in an integrated way that considers the effects of the use and development of land, including the effects on receiving environments.
- Policy 8 seeks to protect the significant values of outstanding water bodies.
- Policy 9 seeks to protect the habitats of indigenous freshwater species.
- Policy 10 seeks to protect the habitat of trout and salmon.
- Policy 11 seeks to ensure freshwater is allocated and used efficiently, all existing over-allocation is phased out and future over-allocation avoided.
- Policy 15 seeks to enable communities to provide for their social, economic, and cultural well-being in a way that is consistent with the NPS.

➢ Proposed Water and Land Plan 2018 (pSWLP)

- Objective 1 - Land and water and associated ecosystems are sustainably managed as integrated natural resources, recognising the connectivity between surface water and groundwater, and between freshwater, land and the coast.
- Objective 2 - The mauri of water provides for te hauora o te taiao (health and mauri of the environment), te hauora o te wai (health and mauri of the waterbody) and te hauora o te tangata (health and mauri of the people).
- Objective 3 - Water and land are recognised as enablers of the economic, social and cultural wellbeing of the region.
- Objective 4 - Tangata whenua values and interests are identified and reflected in the management of freshwater and associated ecosystems.
- Objective 6 - Water quality in each freshwater body, coastal lagoon and estuary will be maintained where the water quality is not degraded and improved where the water quality is degraded by human activities.
- Objective 8 - The quality of groundwater that meets both the Drinking Water Standards for New Zealand 2005 (revised 2008) and any freshwater objectives, including for connected surface water bodies, established under Freshwater Management Unit processes is maintained. The quality of groundwater that does not meet those standards and objectives because of the effects of land use or discharge activities is progressively improved so that groundwater meets the Drinking Water Standards for New Zealand 2005 (revised 2008) and any freshwater objectives and freshwater quality limits established under Freshwater Management Unit processes.
- Objective 11 - The amount of water abstracted is shown to be reasonable for its intended use and water is allocated and used efficiently.
- Objective 12 - Groundwater quantity is sustainably managed, including safeguarding the life-supporting capacity, ecosystem processes and indigenous species of surface water bodies where their flow is, at least in part, derived from groundwater.
- Objective 13 - Provided that the quantity, quality and structure of soil resources are not irreversibly degraded through land use activities or discharges to land; and the health of people and communities is safeguarded from the adverse effects of discharges of contaminants to land and water; and ecosystems (including indigenous biological diversity and integrity of habitats), are safeguarded, then land and soils may be used and developed to enable the economic, social and cultural wellbeing of the region.
- Objective 18 - All persons implement environmental practices that optimise efficient resource use, safeguard the life supporting capacity of the region's land and soils, and maintain or improve the quality and quantity of the region's water resources.
- Policy 6 seeks to avoid, remedy, or mitigate adverse effects on water quality from contaminants in the Gleyed and Bedrock/Hill Country Physiographic zones by requiring implementation of GMPs to manage contaminants transported via artificial drainage, and overland flow where relevant and having particular regard to adverse effects from these contaminant pathways when assessing resource consent applications and Farm Environmental Management Plans.

- Policy 9 seeks to avoid, remedy, or mitigate adverse effects on water quality in the Old Mataura Physiographic zone by requiring implementation of GMP's to manage contaminants transported via deep drainage and having particular regard to adverse effects from these contaminant pathways when assessing resource consent applications and Farm Environmental Management Plans and decision makers generally not granting consents for additional dairy farming of cows where contaminant losses will increase.
- Policy 10 seeks to avoid, remedy, or mitigate adverse effects on water quality in the Oxidising Physiographic zone by requiring implementation of GMP's to manage contaminants transported via deep drainage, and overland flow and artificial drainage where relevant and having particular regard to adverse effects from these contaminant pathways when assessing resource consent applications and Farm Environmental Management Plans and decision makers generally not granting consents for additional dairy farming of cows where contaminant losses will increase.
- Policy 13 seeks to manage land use activities to enable the achievement of Policies 15A, B and C.
- Policy 15A-C seek to main water quality where standards are met and improve water quality where standards are not met.
- Policy 16 seeks to minimise the adverse environmental effects, including cumulatively, on groundwater and surface water quality from farming activities and require all farming activities to implement a Farm Environmental Management Plan.
- Policy 17 seeks to avoid adverse effects on water quality from FDE discharges, and to manage FDE systems by operating at best practice.
- Policy 20 seeks to manage groundwater abstraction to avoid adverse effects on aquifer sustainability, other existing water users, groundwater quality and surface water, particularly instream habitat.

➢ Regional Water Plan (RWP)
- Policy 28 seeks to manage groundwater abstraction to avoid significant adverse effects on long term aquifer volumes, existing water users, surface water flows, aquatic ecosystems and habitats and ground water quality.
- Policy 31C seeks to manage discharges of contaminants onto land to avoid, remedy or mitigate adverse effects on soil, habitats, ecosystems, indigenous biodiversity, outstanding natural landscapes and historical and cultural values;
- Policy 42 seeks to avoid adverse effects on water quality by aligning effluent storage and irrigation rates with soil and topography.

➢ Te Tangi a Tauira (2008)
- Policy 3.5.1.3 seeks to ensure all discharges of dairy farm effluent to land must have a resource consent.
- Policy 3.5.1.8 requires best practice for land application to manage farm effluent in order to minimise adverse effects on the environment.
- Policy 3.5.1.11 seeks to avoid any surface run off/overland flow, ponding or contamination of water resulting from the application of dairy shed effluent to pasture.
- Policy 3.5.1.14 requires a buffer of at least 100m be established between discharge activities and bores.
- Policy 3.5.1.15 seeks that all spray drift be managed and contained within the boundaries of the consent area.
- Policy 3.5.10.3 seeks to protect and enhance the mauri, or life supporting capacity, of freshwater resources throughout Murihiku.
- Policy 3.10.5.5 seeks to promote the management of freshwater according to the principle of ki uta ki tai, and thus the flow of water from source to sea.

- Policy 3.5.11.14 seeks to use riparian enhancement, buffer zones, fencing, and related streamside management tools as conditions of consent to ensure that human use of rivers and their water does not compromise river health.
- Policy 3.5.13.1 seeks to ensure the role of Ngāi Tahu ki Murihiku as tangata whenua and kaitiaki of water must be recognised and provided for in all water quality management.
- Policy 3.5.13.7 ensures when assessing the effects of an activity on water quality, where the water source is in a degraded state, the effects should be measured against the condition that the water source should be, and not the existing condition of the water source.
- Policy 3.5.13.8 promote the restoration of wetlands and riparian areas as part of maintaining and improving water quality, due to the natural pollution abatement functions of such ecosystems.
- Policy 3.5.14.4 prefers, in the Southland Plains region, water takes are from bores, as opposed to surface water abstractions.
- Policy 3.5.14.11 seeks to avoid excessive drawdown of aquifer levels as a result of groundwater abstractions.
- Policy 3.5.18.3 seeks to advocate for the restoration and enhancement of wetland areas, as part of any consent application where it is deemed feasible to include such conditions.
- Policy 3.5.19.3 seeks to promote riparian zone establishment and management as a tool to improve water quality in the waterways of Murihiku.

There is clear policy direction in the pSWLP that water quality should be maintained or improved where water quality is degraded by human activities. The water quality in the receiving environment is degraded, in particular the Mataura River at Gore sits in the worst 25% of all sites for E.coli, Total Nitrogen and Nitrate Nitrogen[2]. The Knapdale groundwater zone has a Nitrate nitrogen 5-year median of 4.0mg/L and a Disolved reactive phosphorus 5 year median of 0.02mg/L (sampled from bore F45/0168)[3]. The applicant has offered mitigations in an attempt to mitigate the adverse effects, however even though the applicant has proposed to remove beef cattle from the property, the RSUs are increasing. Another mitigation which was offered in catch cropping. However, the applicant has not, at this stage, made any formal commitments to this mitigation, therefore I consider the effectiveness of this measure as a mitigation for increased nitrogen losses is uncertain. Decommissioning bore F45/0172 gives Council reassurance the groundwater it draws from will never been used as part of the farming operation but does not mitigate any of the actual or potential adverse effects arising from the change in land use. Lastly, enhancing the wetland/pond area that Support Block 2 drains to will help mitigate P losses within the catchment, however the applicant does not have a deadline for the planting and thus the benefits from this mitigation will not be seen for an extended period of time. The reduction in nitrogen and Phosphorus losses to freshwater shown in the applicant's Overseer modelling is the only expert evidence that offers reassurance that water quality will be improved as a result of the proposed activites. However, this type of reassurance is of less value than it once was due to the Science Advisory Panel's peer review report on Overseer which was released on 11 August 2021. Hence, as outlined above, recognising the uncertainties around Overseer, I have considered the extent and certainty of the mitigations and good management practices closely in forming my recommendation below.

The NPS-FM has a hierarchy of obligations in Te Mana o te Wai that prioritises:

(a) first, the health and well-being of water bodies and freshwater ecosystems
(b) second, the health needs of people (such as drinking water)
(c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

Giving effect to Te Mana o te Wai means the first priority is to protect the life supporting capacity and wellbeing of water. The applicant's proposed mitigations will not fully mitigate all of the potential or

[2] https://www.lawa.org.nz/explore-data/southland-region/river-quality/mataura-river/mataura-river-at-gore/
[3] https://www.lawa.org.nz/explore-data/southland-region/groundwater-quality/knapdale/f450168/

actual adverse effects on freshwater and as a result I consider that the proposal is inconsistent with the hierarchy of obligations above. Notably the application is lacking mitigations that prioritise and protect the health and well-being of the water body and freshwater ecosystems in Support Block 1, in particular contaminant loss to groundwater under and the surface water body within Support Block 1.

Conclusion: significance of adverse effects on the environment

The above objectives and policies have been used to inform and determine the level of adverse effects associated with the proposed activity, as the direction of the policies help establish what effects are acceptable and therefore whether the adverse effects of the proposed activities are less than minor, minor or more than minor.

The applicant has demonstrated that there will be sufficient storage available in the pond when the land is not suitable to discharge effluent to. The existing pond is synthetically lined, was authorised by land use consent AUTH-30183-01, has a leak detection system and has passed a Pond Drop Test. Also effluent can be discharged at low rates and depths which is consistent with the key policies in avoiding and mitigating effects on water quality. The water abstraction volume is considered efficient and reasonable for its end use which is consistent with key water quantity policies. The feed pad allows the applicant to stand 150 cows off pasture during adverse weather and the effluent generated on the pad is collected in the effluent system which ensures it can be managed and will not flow beyond the perimeter of the pad.

With regard to the dairy farm expansion, in my opinion the mitigations provided either do not adequately avoid, remedy or mitigate all the potential and/or actual adverse effects that may arise from the change in land use, or the applicant has not committed to, or provided a deadline for, implementing them on farm.

Lastly, no consultation has been undertaken with iwi who hold mana whenua of the area. This is inconsistent with Policy 2 of the NPS-FM and multiple policies within the Te Tangi a Tauira plan. In the absence of detail in the application and lack of assessment by a suitably qualified person of the potential cultural effects of the proposal I am unable to conclude on the scale of potential effects on cultural values. However, in light of my conclusions above, I consider that there is risk of more than minor adverse effects on cultural values.

I consider the adverse effects from the discharge of agricultural effluent to land, the daily abstraction of groundwater and the use of land for a calving pad will be less than minor. However, as a result of the above, I consider that the adverse effects from the proposed expansion of a dairy farm will be or are likely to be more than minor.

Recommendation and decision

10. Officer's recommendation

10.1	**The application be processed non-notified**	☐
10.2	**Public notification is required/recommended**	☒
10.3	**The application be placed on hold while the applicant tries to obtain written approvals from the affected persons**	☐
10.4	**Limited notification is required. Persons to be served notice are those listed in 8.2**	☐

Jade McRae
Senior Consents Officer

Date: 26 January 2022

Decision under Delegated Authority

11.1	**I agree with the recommendation**	☒
11.2	**The application will be processed non-notified**	☐
11.3	**The application will be publicly notified**	☒
11.4	**The application shall be placed on hold while the applicant tries to obtain written approvals from the affected persons**	☐
11.5	**The application will be limited notified. The parties to be served notice are those listed in section 8.2**	☐

This decision is made under delegated authority by:

Bruce Halligan
Acting Consents Manager

Date: 16 February 2022