Decision Report

BSTGT Limited
A P McQuilkin Family Trust

RM19.151.01

Resource Consent Applications
to
Otago Regional Council

23 June 2021

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1 Introduction

[001] On 13 May 2019 BSTGT Limited and the A P McQuilkin Family Trust[1] (applicant or BSTGT) jointly lodged an application with the Otago Regional Council (ORC) to take surface water from the Royal Burn North Branch (RBNB) and New Chums Creek (NCC) for the purposes of irrigation, stock drinking water and 'base flow'.[2] The application is to replace deemed permits[3] which expire on 1 October 2021. The deemed permits are able to be exercised under s124 of the RMA.

[002] In November 2020 the applicant amended the application to reduce the applied for rate of take from the Royal Burn North Branch. In March 2021 the applicant amended the annual volume of abstraction sought.

[003] The applicant sought a 15-year consent duration for the replacement of the deemed permits.

The application is granted for the reasons herein.

2 Appointment

[004] The ORC, acting under s34A of the Resource Management Act 1991, appointed independent hearing commissioner Rob van Voorthuysen[4] to hear and decide the application.

3 Process Issues

3.1 Notification, submissions, written approvals, pre-hearing meetings, hearing and site visit

[005] The application was limited notified. Fifteen submissions were received and eleven submitters requested to be heard. The relief sought by each submitter is set out in the s42A Report prepared by ORC Team Leader Consents Alexandra King.[5]

[006] Unconditional written approval was provided by the Department of Conservation prior to the application being notified.

[007] The s42A Report, the applicant's opening legal submissions and evidence,[6] and submitter legal submissions[7] and evidence[8] were pre-circulated in conformance with a Minute I issued setting out a filing timetable. Other legal submissions and submitter evidence was tabled at the hearing.[9] I provided written questions to Ms King and her technical advisors on 27 May 2021 and received written answers to those questions on 10 June 2021. Those questions and answers were copied to all participants. I similarly posed written questions to the applicant's witnesses on 2 June 2021 and received written answers to those questions on 4 June 2021. Those questions and answers were also copied to all participants.

[008] At the hearing supplementary evidence (written and verbal) was provided by experts representing the applicant. As a part of her end of hearing report Ms King provided recommended amendments to some

[1] The trustees are A P McQuilkin, N J McQuilkin, K L Skeggs, S A McQuilkin and G M Todd and so the replacement consent will be in their names.
[2] The original application referred to water taken for domestic purposes, but the applicant has advised that water taken is not used for domestic purposes and the references to domestic use in the original application are incorrect. Answers to Written Questions, Ahika, 4 June 2021.
[3] Deemed Permits RM14.364.01, 96285, 3073B, 97029.V1 (all from Royal Burn North Branch) and 95696 (New Chums Gully).
[4] Commissioner van Voorthuysen is an experienced independent commissioner, having sat on over 320 hearings throughout New Zealand since 1998. He has qualifications in natural resources engineering and public policy. In 2020 he was appointed as a Freshwater Commissioner by the Minister for the Environment under Clause 65 of Schedule 1 to the RMA.
[5] Section 42A Report, section 3.2, Table 4.
[6] Phil Page (counsel), Tony McQuilkin (applicant representative), Matt Hickey (consultant scientist), Dr Dean Olsen (consultant freshwater ecologist), David Howard (agronomist), Hilary Lennox (consultant planner).
[7] Legal Submissions for John Baker and Bridget Steed, Asher Davidson, 14 June 2021.
[8] David Whyte (consultant hydrologist for John Baker and Bridget Steed), John Baker, Grant Richards (Glencoe Station), Berri Schroder (Bloomsbury Stud), Philip Blakely,
[9] Legal Submissions for Bloomsbury Stud (NZ) Ltd, Asher Davidson. 14 June 2021, Jeff Desbecker, Peter Clarke, Mark Weldon.

of the conditions contained in the s42A Report. The applicant responded to those recommendations in writing by way of a Memorandum dated 16 June 2021.

[009] At the hearing I asked counsel for submitters Baker and Stead to provide some further information regarding the average and maximum rates of take under consent 97042 (see section 4.12.5 of this Decision). I also asked her to provide the details of a report referred to by her hydrology expert David Whyte and the particular RPW:O rules that his evidence on nitrogen losses referred to. That information was provided on 21 June 2021 in the form of 'rebuttal evidence' from Mr Whyte in which he also responded to evidence on rates of take under 97042 provided by Hilary Lennox. I had not requested any 'rebuttal evidence' but I record that I read it and had regard to it. The applicant lodged reply submissions to the Whyte 'rebuttal evidence' on 21 June 2021.[10]

[010] Copies of the legal submissions and statements of evidence are held by ORC. I do not separately summarise the matters covered here, but I refer to or quote from that material as appropriate in the remainder of this Decision. .

[011] I held a hearing on 15 and 16 June 2021 in Queenstown. I closed the hearing on 22 June 2021 having decided I required no further information. I took my own notes of any answers given to verbal questions that I posed to hearing participants

[012] The application documentation and s42A Report included photographs of the points of take from both watercourses. However, to gain a better understanding of the issues raised by submitters I undertook a site visit on 14 June 2021 accompanied by Kate Whiting (ORC Consents Officer), Hilary Lennox (applicant's planning consultant), Tony McQuilkin (applicant representative) and Kit Gordon (applicant's property manager).

3.2 Section 92 requests

[013] No s92 requests for further information were made by ORC.

3.3 Officers' recommendations

[014] Ms King recommended that the applications be granted with a term expiring on 31 December 2035. I discuss Ms King's more detailed recommendations in subsequent parts of this Decision.

3.4 Description of the Activity

[015] The details of the applicant's intakes, raceways, pipelines, storage ponds and irrigated areas are fully described in the resource consent application[11] (RCA), the s42A Report[12] and the evidence of Tony McQuilkin. There is no need for me to repeat that level of detail here. Readers of this Decision should also read those documents for a full description of the applicant's proposal. However, some of the more salient points are:

- The watercourses and properties are located on the Crown Terrace. The main point of take is located in the upper part of the RBNB[13] where Deemed Permits RM14.364.01 and 96285 are exercised. The intake structure comprises of a pipeline located in the watercourse that is fitted with a screen to prevent debris entering the pipeline. The water flows through the pipeline to the applicant's 13,000 m^3 Royal Burn Pond. The take is controlled by a sliding gate valve and is metered at a location between the intake and the pond;
- A second point of take is located further downstream on the RBNB[14] where Deemed Permits 97029 and 3073B are exercised. The take is controlled by a sliding gate valve and a small channel diverts part of the flow down a measuring flume and into the Brodie Race;

[10] Further Submissions in Reply by Counsel for The Applicants (Reply to Evidence of D Whyte Dated 21 June).
[11] Resource Consent Application to Replace Various Deemed Permits, 26 April 2019 prepared by Consultant Hilary Lennox.
[12] Section 42A Report, section 4.1.
[13] Referred to as the "Upper RBNB" take.
[14] Referred to as the "Lower RBNB" take.

- The Brodie Race supplies the recently constructed 5,000m^3 Brodie Pond. Water can be pumped up from the Brodie Pond to the golf course and also gravity feeds farm irrigation onto the paddocks below;[15]
- There is an offtake from the Brodie Race immediately downstream of Glencoe Road where the McQuilkin Family Trust take water under Deemed Permit 3073B. The water is piped underground to the McQuilkin property and the 400m^3 McQuilkin Pond. WEX0129 authorises the metering of this take at a location near the entrance of the McQuilkin property;
- The third point of take is located on NCC by way of a small and rudimentary rock and sandbag weir structure that allows water to pool around a gated intake pipe. The water flows through an overground pipeline and into an open race once it leaves the gully. The take is measured further along the race, outside of the gully under WEX0184;
- A new 7,500m^3 pond to be known as the New Chums Pond is currently under construction;
- The New Chums race is ≈ 2 km long and enters into a 650 m-long underground pipe that transports any unused water from the New Chums race into the Brodie Race;
- The applicant intends to harvest higher flows when they are available and store the water in onsite ponds as required; and
- There are two properties included in the application. A lifestyle property is owned by the McQuilkin Family Trust and around 15.2 ha of this is and will be irrigated. The BSTGT property contains several dwellings, a 4 ha turf growing business and a private golf course. In total between the two properties 139.2 ha of pasture is proposed to be irrigated and a further 20 ha of golf course will be irrigated.

[016] The RCA states that the Lower RBNB intake structure may need to be upgraded to enable it to conform with abstraction limits, but any consents that may be required for that purpose were not sought as part of this application.

[017] Neither the RBNB nor NCC are listed in Schedules 1A,[16] 1B,[17] 1C,[18] 1D,[19] 2 or 9[20] of the RPW:O.

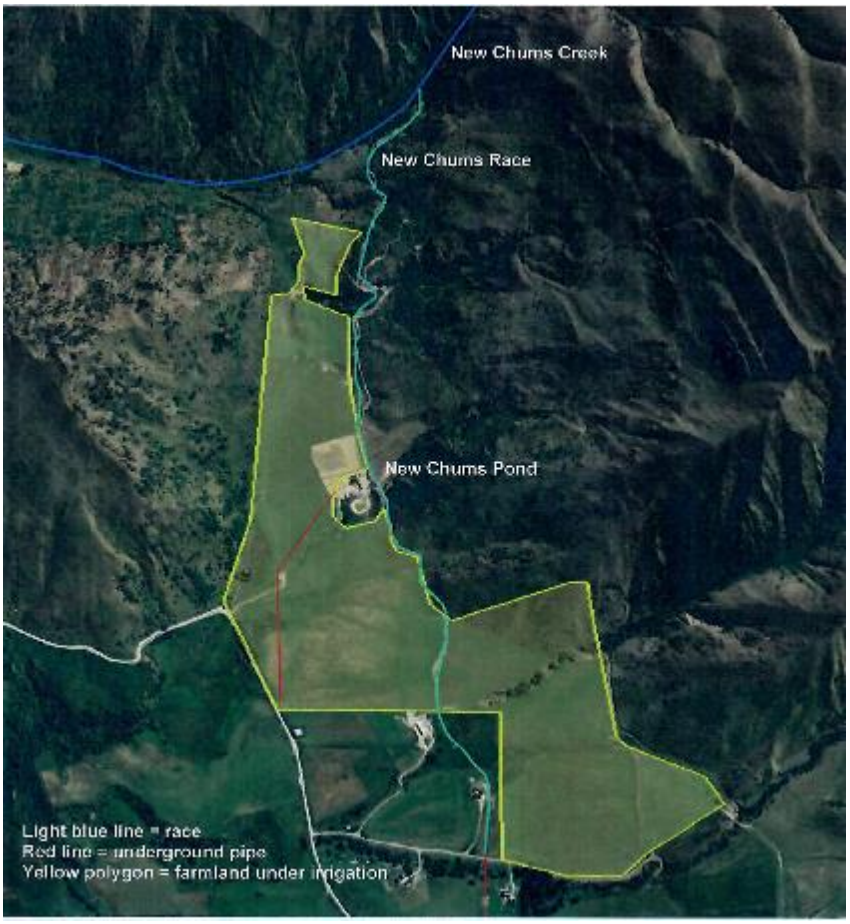
[018] The layout of the points of take and the water distribution system is shown in the figures below taken from the evidence of Mr McQuilkin.

[019] The applicant proposes to combine all of the existing deemed permits into a single resource consent. The existing consented rates of take, the rates originally sought and the rates of take[21] now proposed are set out below:

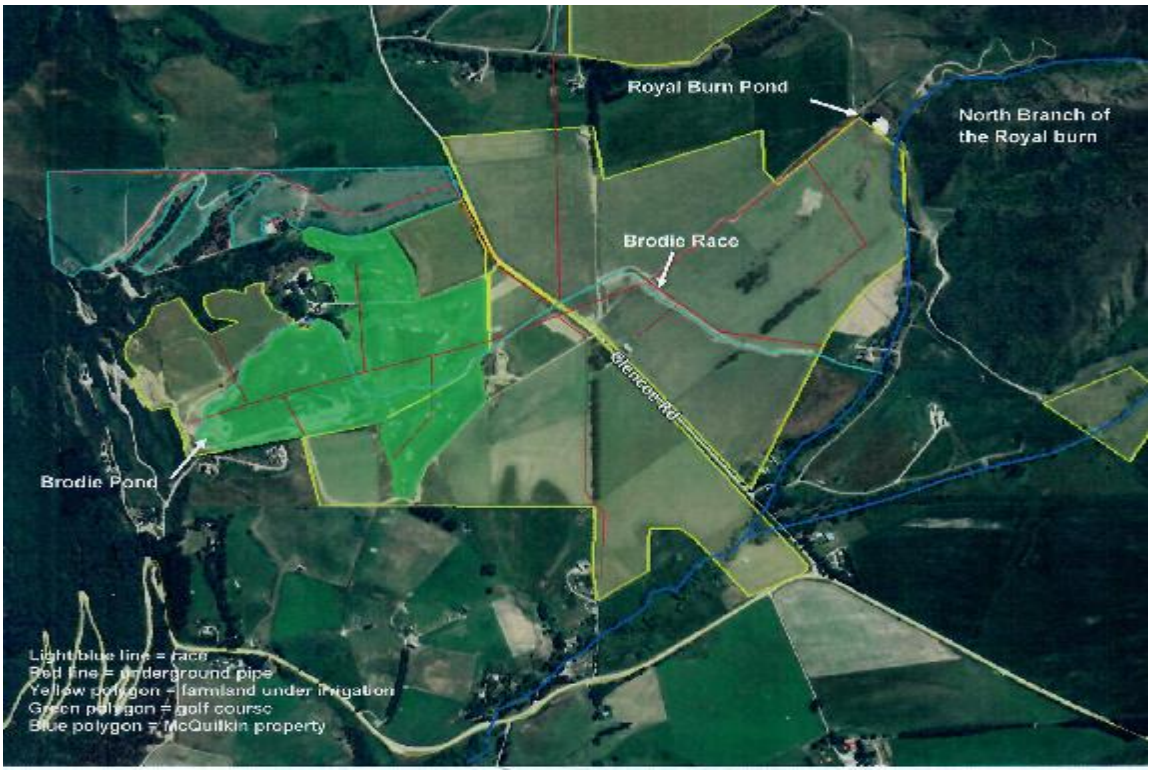
	Upper RBNB	Lower RBNB	NCC	Total
Current (L/s)	66.7	166.7	66.7	300.1
Originally sought (L/s)	15.0	100.0	45.0	160.0
Now proposed (L/s)	15.0	50.0	24.5	89.5

Table 1: Rates of take

[15] EIC McQuilkin, paragraph 17.
[16] Schedule 1A outlines natural and human use values.
[17] Schedule 1B lists Public water supplies.
[18] Schedule 1C lists registered historic places in or near waterbodies.
[19] Schedule 1D outlines the spiritual and cultural beliefs, values and uses associated with water bodies of significance to Kai Tahu.
[20] Schedule 9 lists Regionally Significant Wetlands.
[21] As amended in November 2020 (Amendments to Application RM19.151 since lodgement; Ahika, 27 November 2020).



New Chums Creek Infrastructure



Royal Burn Infrastructure

[020] On 3 March 2021 Ms Lennox advised ORC of proposed amendments to the volumes of water sought.[22] The rates of take set out above were not further amended, but the applicant reduced the annual volume sought from 1,822,608 m^3/year to 1,214,683 m^3/year. The reasons for this reduction were:

- Water is used to irrigate[23] 20 ha of a 36 ha private golf course. Water use data over the previous six years indicated a maximum annual irrigation demand of around 38,989 m^3/year for the golf course. The applicant noted that if the golf course land had remained in pasture, then the average annual irrigation demand would be 274,960 m^3/year. I note here that at a 90th percentile irrigation demand 20 ha of pasture would require 121,597 m^3/year, which is still significantly more than what has been sought for the golf course;
- Baseflow was no longer thought to be required in the Upper RBNB infrastructure and an average of 5 L/s in each of the New Chums and Brodie races equals 315,360 m^3/year;
- The remaining 139.2 ha of irrigation across the two properties has an annual irrigation demand of 1,074,608 m^3/year (at a100 percentile irrigation demand); and
- This resulted in a total annual irrigation demand of 1,428,957 m^3/year, which is higher than the volume originally sought and higher than the applicant's assessment of the maximum historical use over the last six years (1,214,683 m^3/year) and so the applicant sought an allocation of 1,214,683 m^3/year.

[021] At that time BSTGT also sought an allocation of 239,716 m^3/month.

[022] In response to the s42A Report, in June 2021 the applicant further revised the annual volume sought. Allowing for baseflow only 50% of the time during the irrigation season, and including an allowance for stock drinking water when there would be no baseflow, resulted in an annual combined stock water and baseflow requirement of 213,145 m^3/year. The irrigation demand remained the same resulting in a total annual demand of 1,329,742 m^3/year.[24] This was still greater than the historical use so the amount sought remained at 1,214,683 m^3/year.

[023] At that time the monthly allocation was amended to 210,361 m^3/month. This comprised irrigation (187,915 m^3/month), golf course (8,889 m^3/month), baseflow (12,960 m^3/month) and stock water (597 m^3/month).

3.5 Consent category

[024] It was common ground that the water abstractions are categorised as restricted discretionary activities under Rule 12.1.4.5 of the Regional Plan: Water for Otago (RPW:O). Matters of discretion are set out in Rule 12.1.4.8 of the RPW:O. Maintenance of the applicant's intake infrastructure is a permitted activity under RPW:O Rule 13.5.1.1 and its ongoing use is permitted by Rule 13.1.1. Discharges from the water storage ponds are permitted under Rule 12.C.1.1.

[025] Under the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 any future modifications to the intake structures may require consent under the NESFM as a discretionary activity if not covered by Regulations 70 and 71.[25] If that is the case then I am satisfied any such consents can be applied for at a later date prior to any intake modification works being undertaken. It is not necessary to delay the consideration of the replacement of the Deemed Permits in the meantime. I also note that the Ms King advised that no consents are currently required under the NESFM.[26]

[026] In March 2020 ORC notified PPC7 to the RPW:O and, having called it in, the EPA re-notified it in July 2020. Under PPC7 the abstraction application is a non-complying activity under Rule 10A.3.2. However, under s88A(1A) of the RMA the consent categories outlined above continue to apply. On that basis I do not consider that a s104D analysis is required. However, if I am wrong about that I record that (as I will

[22] Amendments to Application RM19.151, Hilary Lennox, Ahika Consulting Limited, 3 March 2021.
[23] Excluding the bunkers and the rough.
[24] EIC Lennox, paragraph 124.
[25] Permitted activity rules for culverts and weirs.
[26] Section 42A Report, section 6.8.2.

discuss later) the adverse effects of the activity on the environment are minor and so the application passes through the s104D(1)(a) 'gateway' and can be assessed under s104 of the RMA.

[027] The objectives and policies of PPC7 are however a relevant s104 matter and I discuss that later in this Decision.

4 Section 104 and 104C matters

[028] I now address relevant aspects of the application in terms of s104 and 104C of the RMA.

[029] The RCA stated that the take and use of surface water as proposed will allow the applicants to continue to irrigate their properties, resulting in economic wellbeing for the landowners and associated staff and other industries.[27] Positive social and economic effects were also summarised in the s42A Report.[28] I accept that the value of investment[29] in irrigation infrastructure by the existing permit holders is significant at around $1.69 million.[30]

[030] Regarding cumulative effects, the s42A Report advised that the recommended residual flows, along with the recommended rates and volumes of abstraction, provided for no more than minor cumulative effects in relation to the abstraction of water from New Chums and Royal Burn. In relation to the Clutha River there was no evidence of a more than minor cumulative effect. [31]

[031] When forming an opinion for the purposes of subsection 104(1)(a) of the RMA I may disregard an adverse effect of the activity on the environment if a national environmental standard or a plan permits an activity with that effect.[32] Ms King suggested[33] that I could disregard the effects of taking up to 25,000 litres per day at a rate of 1 L/s from the Creeks as that is permitted under Rule 12.1.2.5 of the RPW:O. I have not disregarded those effects for the simple fact that they would be indistinguishable from the effects related to the remainder of the abstractions.

4.1 Available allocation

[032] Most submitters expressed concerns regarding the volumes of allocation sought.[34]

[033] The water allocation framework for the RBNB and NCC is contained in the RPW:O which establishes a primary allocation limit (a maximum instantaneous rate of take) by way of Policy 6.4.2. The allocation is the greater of:

- under Policy 6.4.2(a), because neither the RBNB nor NCC are listed in RPW:O Schedule 2A, 50% of the respective 7-day mean annual low flows (MALF); or
- under Policy 6.4.2(b) the sum of consented maximum instantaneous, or consented 7-day, takes of surface water from the Creeks as at 28 February 1998 plus any connected groundwater takes as at 10 April 2010 less any water that is immediately returned to the source water body.

[034] There are no flow records available for the Creeks so the applicant's and the ORC's technical advisors both used the Ministry for the Environment River Flow database to estimate the RBNB MALF to be 10.7 L/s and the NCC MALF to be 4.7 L/s.

[035] The primary allocation is therefore determined by Policy 6.4.2(b) as the applicant's authorised abstractions alone total 300.1 L/s[35] which greatly exceeds 50% of the combined 7-day MALFs.

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[27] RCA Part J
[28] Section 42A Report, section 6.1.
[29] A s104(2A) matter .
[30] EIC Lennox, paragraph 132.
[31] Section 42A Report, section 6.1.
[32] Section 104(2) of the RMA.
[33] Section 42A Report, section 6.1.
[34] Including James and Lynn Campbell, Jef Desbecker and Robina Bodle, Mark Weldon and Sarah Elliot.
[35] RCA, Part C – Volumes and Rates of Take. Note Glencoe Station have a 20% share of 96285 and 95696.

[036] RPW:O Policy 6.4.2 is however tempered by RPW:O Policy 6.4.2A which is to grant from within the primary allocation no more water than has been taken under the existing permits in at least the preceding five years (historical use). PPC7 introduced Method 10A.4 which requires historical use figures to be averaged over the period 1 July 2012 to 30 June 2017.

[037] ORC has undertaken an analysis of the applicant's historical water use.[36]

	Maximum rate (L/s)	Maximum monthly volume (m^3/month)	Maximum annual volume (m^3/year)
Upper RBNB	16.8	35,100	292,030
Lower RBNB	78.0	99,700	572,800
New CC	24.5	83,100	558,400
Total		**217,900**	**1,423,230**

Table 2: Historical use rates and volumes

[038] The rates of take (L/s) now sought (see Table 1 in section 3.4 of this Decision) are all less than the ORC's assessed maximum historical rates of take and so can be granted.

[039] In saying that I acknowledge that several submitters were concerned that the maximum rates of take now sought exceeded the mean annual flows for the Creeks. That is not unusual as takes that feed storage (as is the case here) are often pitched at a level that enables 'freshes' or high flows to be captured as and when they occur. That is often referred to as 'water harvesting'. It does not mean that the maximum rate of take will be abstracted at all times because, as pointed out by Ms Lennox, the flows in the Creeks can simply not support that.

[040] As discussed in Section 3.4 of this Decision, the applicant considers that maximum historical use over the last 6 years was 1,214,683 m^3/year and they have amended their application to tally with that amount. They also seek combined monthly and annual volumes for all takes from the Royal Burn and New Chums Creek.

[041] Consequently, the combined volumes of take that can now be granted is determined in part by RPW:O Policy 6.4.2A and in part by what was applied for. I find that the potentially allowable allocation volumes are:

- 210,361 m^3/month (as now applied for); and
- 1,214,683 m^3/year (as now applied for reflecting maximum historic use as determined by BSTGT).

[042] I see no need to consider a daily limit and note that no such limit has been imposed on the previous deemed permit replacement consents I have considered to date.

4.2 Stock drinking and base flows

[043] Matter of discretion 12.1.4.8(iii) addresses the rate, volume, timing and frequency of water to be taken and used. RPW:O Policy 6.4.0A is to ensure that the quantity of water granted is no more than that required for the purpose of use.

[044] The applicant initially sought[37] a combined amount of water for stock drinking and race base flows as follows:

- 15 L/s[38]
- 40,176 m^3/month

[36] Undertaken by Council's Systems and Information Analyst, Sean Leslie.
[37] RCA, Table 4.
[38] Interpolated from a daily volume sought of 1,296 m^3 as set out in Table 4 of the RCA. The RCA also states this to be around 5 L/s in the Upper RBNB pipe, 5 L/s the Brodie Race and 5 L/s the New Chums Race.

- 473,040 m^3/year

[045] Ms Lennox clarified that stock water is required for 2,500 sheep and 150 beef cattle. Using Ms King's stock drinking figures, she derived a stock water volume of 19.25 m^3/day which I estimate equates to ≈597 m^3/month and ≈7,026 m^3/year.

[046] In terms of baseflow, the RCA[39] stated that the scheme relies on gravity to transport water, and consequently flow needs need to be maintained in the pipes and races at all times to provide stock drinking water together with a continuous base flow to prevent weeds establishing and the races silting up.

[047] Prior to the hearing the applicant sought an amended baseflow allocation for each of the New Chums and Brodie races of 5 L/s which Ms King correctly determined to equate to 315,360 m^3/year.[40] Ms King did not consider that a separate allocation for race baseflow was necessary during the irrigation season because there would be irrigation water travelling through the race. She considered that outside the irrigation season a baseflow volume of 103,680 m^3 was appropriate.

[048] Reflecting that suggestion, the applicant now seeks baseflow of 12,960 m^3/month for 50% of the time which equates to 77,760 m^3/year. That is still a significant volume of water. Consequently, I asked Mr McQuilkin and Mr Gordon (the BSTGT property manager) about the stock water arrangements in place. They advised that around 50% of the irrigated area was serviced by a reticulated trough system and additionally some of the open races were fenced off so stock had no access to them. They expected that within 2 to 3 years the remaining area would be similarly serviced by a reticulated trough system. I clarified with Ms Lennox that her concern with baseflow now related solely to stock water and not about races silting up, drying out or becoming infested with weeds.

[049] For submitters Baker and Stead, hydrologist David Whyte considered that any 'base flow' would be provided by takes for stock water and/or irrigation and it was unnecessary and inefficient to provide a separate allocation just for that purpose.[41] For Glencoe Station, Grant Richards, a consultant with a company called Land and Water Limited, stated that the base flow in the New Chums race would be by-washed from the end of the water race, removing water from New Chums Creek that could otherwise be efficiently used elsewhere.[42] In her verbal end of hearing report Ms King recommended that baseflow only be granted for three years given the applicant's intention to fully reticulate the stock water system.

[050] On the evidence, particularly given the applicant's intention to shortly service all the irrigated area with a reticulated stock drinking water system, combined with the volume of water than can be stored in the various ponds and used for stock drinking purposes (I discuss this further in section 4.5.2 of this Decision), I see no need to provide for baseflow even in the interim three years period.

4.3 Irrigation demand

[051] The same RPW:O provisions described in section 4.2 above also apply to irrigation takes.

[052] The RCA advised that irrigation water is used for a private golf course and productive pasture (160 ha in total) and for a lifestyle property owned by the McQuilkin family (15.2 ha).[43] The amended application document stated that the majority of the irrigated area comprises productive farmland, but did not differentiate between the private golf course and the pasture areas.

[053] I note that several submitters were concerned that the proposed abstractions will also service a commercial turf growing business called Queenstown Turf Limited.[44] Ms Lennox advised that the turf

[39] Part C – Volume and Rates of Take
[40] As amended in March 2021.
[41] EIC Whyte, paragraph 23(d)(i)
[42] EIC Whyte, page 4.
[43] Part F – Water Use and Management
[44] The directors of Queenstown Turf Limited are Russell Coutts, Grant Coutts and Stephen Anderson.

growing operation had been active for around four years and was irrigated during November - February using K-line pods. Some of the turf is used on the golf course and the rest is sold.[45] She stated that the irrigation demand for the turf growing operation is included in the reduced are of 139.2 ha for which pasture irrigation now sought.[46]

4.3.1 Golf course and Queenstown Turf Limited

[054] Mr McQuilkin advised that a "TORO NSN" operating unit controls the golf course irrigation. Water is piped underground to 350 sprinkler heads that can be independently computer controlled in respect to volume delivered, duration and timing. Irrigation can be programmed to occur at night to reduce evaporative loss.[47] For the applicant David Howard, a Senior Agronomist at New Zealand Sports Turf Institute in Dunedin, advised that typically only 40% to 60% of a golf course is irrigated (tees, greens and fairways). Overwatering was avoided as it resulted in soft spongy greens, made fairways susceptible to disease invasion and poor turf health. He agreed that if the land occupied by golf course reverted back to irrigated pasture or cropping then the likely seasonal water demand would increase substantially. [48]

[055] As discussed in section 3.4 of this Decision, the March 2021 amendment to the application advised that an annual allocation of 38,989 m^3/year was now sought for the golf course. Ms Lennox advised that the monthly allocation sought was 8,889 m^3/month based on the maximum historical golf course irrigation volume.[49] Ms King was comfortable with the allocation volumes now sought for the golf course.[50]

[056] I find a volume of 38,989 m^3/year and 8,889 m^3/month to be appropriate for the golf course.

4.3.2 Pasture Irrigation

[057] The March 2021 amendments to the application stated that aside from the golf course, abstracted water was also used for 139.2 ha of pasture irrigation and that 'according to Aqualinc' the annual demand for that area was 1,074,608 m^3/yr. From the evidence of Ms Lennox, I have determined that relates to a 100 percentile annual demand.[51]

[058] Ms King has determined efficient seasonal irrigation demand figures that were based on a report previously commissioned by ORC from Aqualinc to determine reasonable monthly and seasonal irrigation water requirements.[52] She advised that for Otago the ORC considers that a one in ten-year drought or 90th percentile annual demand is the most appropriate when considering efficient water use.[53] Ms Lennox disagreed with that approach.[54]

[059] In my written questions to the BSTGT witnesses I noted that Environment Canterbury,[55] and regional councils in Southland,[56] Hawke's Bay,[57] Waikato[58] and Northland[59] all allocated irrigation water based on the 90th percentile (9 in 10 year) reliability of supply. I asked Ms Lennox if she could direct me to any regional plan in the country that provided for irrigation water to be allocated for a 100 percentile demand

[45] EIC Lennox, paragraph 110.
[46] EIC Lennox, paragraph 112 and confirmed in answers to my questions.
[47] EIC McQuilkin, paragraph 13.
[48] EIC Howard, paragraphs 11, 13 and 19.
[49] EIC Lennox, paragraph 127.
[50] Section 42A report, section 6.3.2, page 42.
[51] EIC Lennox, paragraphs 112 to 116.
[52] Aqualinc, Guidelines for Reasonable Irrigation Water Requirements in the Otago Region, Prepared for Otago Regional Council, C15000, 2017/07/24
[53] Section 42A report, section 6.3.2.
[54] EIC Lennox, paragraph 116.
[55] Land and Water Regional Plan (Schedule 10).
[56] Water and Land Plan (Appendix O).
[57] Regional Resource Management Plan, Policy 32 for groundwater. For surface water the security of supply is 1 in 5 years (Policy 42).
[58] Waikato Regional Plan, section 3.4.3 Policy 2.
[59] Northland Regional Plan, section D.4.13.

(namely a 10 in 10 year reliability of supply). She advised that she had not examined other regional plans recently.

[060] In terms of other qualified experts who I heard from, Mr Whyte also considered it was appropriate to calculate irrigation allocation levels at the 90th percentile annual demand, and not at 100% of stated demand.[60]

[061] I prefer Ms King's advice and find that irrigation water should be allocated for a 90th percentile annual demand, noting that to be consistent with other recent ORC deemed permit replacement applications for pastoral irrigation that I have acted on as a decision-maker.

[062] I understand that the use of the Aqualinc report yields a 90th percentile seasonal or annual demand for 139.2 ha of irrigation of 846,316 m^3/year.[61] The monthly volume should be based on the estimated peak monthly demand for any one month, noting that only occurs for one to two months in an irrigation season. I understand that the use of the Aqualinc report yields a peak monthly demand of 187,915 m^3/month.[62]

4.4 Overall allocations

[063] The applicants have sought a single resource consent to replace five deemed permits. Based on the above discission I find that the overall volumetric demand to be:

	Monthly (m^3/month)	Annual (m^3/year)
Stock drinking water	597	7,026
Golf course	8,889	38,989
Pasture irrigation and turf business	187,915	846,316
Total	197,401	892,331

Table 3: Total volumetric allocations

[064] The monthly and annual volumetric demand figures in Table 3 are less than the allowable allocation figures in Table 2 and are also less than the volumes now sought (as set out at the end of section 3.4 of this Decision). Consequently, the Table 3 figures can be granted.

[065] I note that Mr Whyte contended[63] that the applicant's historical usage (prior to 10 November 2020) averaged 842,957 m^3/year, which coincidentally is within 5% of the total annual volumetric demand in Table 3. This gives me comfort that the Table 3 annual volume is both realistic and obtainable.

[066] Ms King recommended separate volumes for 'during the irrigation season' and 'outside the irrigation season' to ensure that the quantity of water granted to take was no more than that required for the purpose of use. I do not find that to necessary as water will presumably not be taken for the purposes of irrigation (either on the pasture or on the golf course) when it is not needed and the relatively limited size of the storage ponds precludes any substantial 'banking' of water. Ms Lennox came to a similar conclusion, adding that the applicant may choose to start harvesting flood flows in late winter or spring (as a result of snow melt), but the regime proposed by Ms King would not allow for that to occur.[64]

[067] There was significant concern from submitters regarding what they considered to be an excessive amount of water sought for the irrigation of the golf course. This was perhaps most strongly expressed by Mark Weldon. I asked him if it would that satisfy his concerns if the consent conditions were to specify a

[60] EIC Whyte, paragraph 23(d)(iii).
[61] Section 42A Report, section 6.3.2, page 42.
[62] Section 42A Report, section 6.3.2, page 42.
[63] EIC Whyte, paragraph 71.
[64] EIC Lennox, paragraph 128.

maximum annual volume of water for the golf course of 39,989 m^3/year (as now sought by the applicant). He responded that would be "a lot more reasonable".

[068] Accordingly, I find that the consent conditions should specify the volumes (monthly maximum and annual) that are allocated for irrigation of the golf course.

[069] The stock water volumes are relatively small and so I do not see any benefit in separately specifying them in the conditions. The applicant was of the same view and also advised that "*There is a difficulty in creating separate volumetric allocations for "pasture irrigation" and stock water. It is not currently possible to differentiate between those two uses on the meter*."[65]

[070] Ms King's recommended conditions require details of the water used for irrigation to be supplied to ORC as part of a "water use efficiency report". I find that to be appropriate and I agree with Ms King that it might also go some way to addressing the concerns of submitters.[66]

[071] Finally, I record that Mr Whyte suggested that I needed to provide for potential future users when determining the volume of water allocated to BSTGT.[67] However, when I questioned him on that he conceded that was more properly the role of regional planning processes and the setting of allocable volumes or rates of abstraction therein.

4.5 Residual flows

[072] The need for appropriate residual flows below the applicant's intakes was raised by a number of submitters.[68]

[073] Matter of discretion 12.1.4.8(xi) is the need for a residual flow at the point of take. RPW:O Policy 6.4.7 is "*The need to maintain a residual flow at the point of take will be considered with respect to any take of water, in order to provide for the aquatic ecosystem and natural character of the source water body*."

[074] Examination of the New Zealand Freshwater Fish Database and surveys undertaken by ORC and the applicant's technical advisors indicate that neither Creek contains native fish. This is not surprising given the steep, cliff-type terrain between the Arrow River and the Crown Terrace on which the Creeks are located, and the steep terrain in the upper part of New Chums Gully, which makes it impossible for any fish to move upstream from the Arrow River.

[075] The amended RCA stated that downstream of the confluence of its North and South branches, the Royal Burn gains flows from groundwater and appears to flow permanently. I note that is disputed by several submitters who state that since the inception of the golf course, the Royal Burn runs dry in the summer when it never used to do so previously. I discuss that further in section 4.5.2 below.

[076] Several small brown trout were recorded in the Royal Burn in a survey commissioned by the applicant.[69] The applicant considers that as there is no fish passage from the Arrow up the Crown Terrace to the Royal Burn, those trout must have been liberated into the Royal Burn. That view was endorsed by the ORC aquatic ecology technical reviewer Bryony Miller.[70] It is highly unlikely that this trout population is contributing to the wider Arrow fishery, nor are they of a size to be a recreational asset. I note that in answer to my questions Dr Olsen agreed that trout are an introduced predator species that eat native fish and invertebrates and in overall terms the health and well-being of the Royal Burn would be enhanced if there were no trout present.

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[65] Memorandum of Counsel in Reply to Recommended condition changes dated 16 June 2021.
[66] Including Bridget Wolter, Barry Hodges Patrick and Liisa Garceau, John Baker and Bridget Steed.
[67] EIC Whyte, paragraph 154.
[68] Including Bloomsbury Stud, Peter Clarke and Niki Mason, Patrick and Liisa Garceau, John Baker and Bridget Steed, Philip Blakely and Mary Wallace.
[69] Fish Survey of the Royal Burn and New Chums Creek, Matt Hickey, 30 January 2019 (sic).
[70] Appendix 2 to the Section 42A Report, paragraph 6.

[077] Given the absence of native fishery values in the Creeks at and around the points of abstraction I consider that the requirements for a residual flow relate to:

- maintaining natural character;
- providing for macroinvertebrate communities; and
- providing for authorised downstream abstractions.[71]

4.5.1 Natural character and macroinvertebrate communities

[078] Regarding natural character and macroinvertebrate communities, it is apparent from the evidence that the RBNB exhibits gains and losses and at times there is a dry stretch below the 97029/3073B point of take and the confluence of the Royal Burn North and South branches. I note that Bryony Miller, the ORC aquatic ecology advisor to the s42A Report author, and Bas Veendrick, ORC's technical advisor on hydrology, both disputed whether the drying reach was 'natural' or was a result of the Deemed Permit abstractions. However, Mr Veendrick agreed with the general pattern of losses and gains as described by the applicant.[72]

[079] RPW:O Policy 5.4.8 requires me to have regard to the natural flow characteristics of the waterbodies, subject to the extent to which use and development has influenced those characteristics. So even if the historical abstractions have influenced the extent of drying, I must nevertheless consider the drying of the RBNB to be part of the Creek's existing flow characteristics.

[080] The applicant identified that both NCC and RBNB support macroinvertebrates dominated by large body specimens such as mayflies (Ephemeroptera) and stoneflies (Plecoptera) along with caddis flies (Trichoptera) which are collectively known as EPT taxa that are typically associated with sites with good water quality. [73] None of those invertebrates are threatened.[74]

[081] In the vicinity of the RBNB take points the type and cover of periphyton (and bryophytes) are typical of this sort of small stream. However, downstream of the lower RBNB take there are willows and other exotic trees and the aquatic habitat is poor, the bed is heavily shaded with a large amount of organic matter (leaves, twigs, roots) and fine sediment accumulations.[75] My site visit confirmed that.

[082] The applicant had previously agreed to a June 2020 recommendation from ORC scientist Pete Ravenscroft to maintain a connected visible flow immediately downstream of each point of take for a distance of no less than 50m to ensure that adverse effects on significant instream values were no more than minor.[76] I understand that the Department of Conservation supported that approach.

[083] Dr Olsen and Mr Hickey supported Mr Ravenscroft's recommended residual flows, with Dr Olsen stating that they would provide for the life supporting capacity of the Creeks. Mr Hickey advised that a "50m visible flow" was dynamic because differing amounts of water would need to be released past the intakes to achieve it in response to climatic conditions.

[084] For their part Aukaha did not support the visual residual flow conditions proposed by Mr Ravenscroft as they considered that there was no certainty that they would provide for the health and well-being of the RBNB or NCC[77]. While respecting that view, I note that Aukaha did not provide any technical evidence in support of their position.

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[71] A number of submitters raised this issue including Glencoe Station Limited, Bridget Wolter, Barry Hodges, Bloomsbury Stud, John Baker and Bridget Steed, Philip Blakely and Mary Wallace, Lindsay and Gaya Irwin, Jef Desbecker and Robina Bodle, Glenn and Kerryn Russell, Mark Weldon and Sarah Elliot, Patrick and Liisa Garceau.

[72] Appendix 3 to the Section 42A Report, paragraph 30.

[73] EIC Hickey, paragraph 35; Fish Survey of the Royal Burn and New Chums Creek, Matt Hickey, 30 January 2019 (sic). Also EIC Olsen, paragraphs 16 and 18.

[74] Memorandum from ORC scientist Pete Ravenscroft dated 13/6/201 (sic), page 6 of 8.

[75] EIC Olsen, paragraphs 24 and 25.

[76] Memorandum from ORC scientist Pete Ravenscroft dated 13/6/201 (sic), page 7 of 8.

[77] EIC Tim Vial, paragraph 11.

[085] Jeff Desbecker suggested that residual flows equal to 95% of the flow in the Creeks at any one time should be imposed, but he provided no technical evidence in support of that proposition. When I questioned him, he said his suggestion was based on the permitted activity take for the LOFTS water scheme which allowed only 1 L/s as a maximum rate of take. However, that is not relevant here as I am dealing with a consented take.

[086] Ms Miller did not support Mr Ravenscroft's recommendation because in her view it was not adequate based on her concern about the potential for adverse ecological effects to occur from exacerbated intermittency or hydrological alteration of the Creeks.[78] She instead recommended[79] residual flows of 90% of MALF for the upper RBNB and NCC intakes, based on the draft National Environmental Standard on Ecological Flows and Water Levels (MfE, 2008). I note that draft NES carries no statutory weight and has not been advanced by MfE in the 13 years since it was published, but it is often referred to by practitioners. The draft NES set default values for minimum flows that were intended to be used in the absence of site-specific investigations. For the lower RBNB Ms Miller recommended a "50:50 flow sharing" regime because on her site visit she observed that the flow at the intake was spilt by a large rock and 50% of the flow was abstracted and 50% carried on downstream.[80]

[087] I do not consider that a residual flow of 90% of MALF is appropriate for the upper RBNB or the NNC due to their paucity of fishery values. As noted by Mr Hickey, the draft NES default values were designed to protect fishery values of which none exist in the vicinity of the takes. Furthermore, during Mr Hickey's January 2020 survey only a seepage flow[81] was passing the NCC intake, but in the middle reach flows had gained to be more than 10 L/s and at the confluence with the Arrow River flows were estimated to be in excess of 30 L/s.[82]

[088] Dr Olsen considered that a residual flow of 90% of MALF would not would result in a materially different outcome to a visually connected flow of 50m past the intakes as the 'visually connected flow' would adequately provide for macroinvertebrate habitat and life-supporting capacity.

[089] I asked Mr Hickey and Dr Olsen about macroinvertebrates and how they might be affected by a drying reach. They both advised that a dry reach would be readily recolonised by upstream macroinvertebrates once flows resumed. If the dry reach only lasted for a short period of time, then the macroinvertebrates could even burrow into the wet substrate in the Creek beds and survive there.

[090] On the weight of evidence, I find Mr Ravenscroft's recommended "50m visually connected flow" to be appropriate for the upper RBNB and the NNC, noting again that the Department of Conservation agreed with that approach and provided unconditional written approval for the application in April 2020 on that basis,[83] which gives me added reassurance that Mr Ravenscroft's approach is not inadequate from a natural character perspective.

[091] In making that finding I note that a requirement for a "visually connected flow" has often been recommended for other similar streams by the ORC. Adopting that approach here alleviates the need to install a gauging site on the remote and difficult to access NCC as the "visually connected flow" can be verified by simple periodic observations and photographs.

[092] Turning now to the lower RBNB take, the applicant opposed Ms Miller's recommended "50:50 flow sharing" regime. Ms Lennox advised that photos and videos complied by the applicant showed multiple occasions where more than 50% of the flow was left in the Creek, but the flows still went to ground before Glencoe Road. Ms Lennox was of the view that Ms Miller's proposed regime would not add any value to

[78] Appendix 2 to the Section 42A Report, paragraph 49.
[79] Appendix 2 to the Section 42A Report, paragraph 52.
[80] Appendix 2 to the Section 42A Report, paragraph 47 and 53.
[81] Which could be equated to a "50m visually connected flow".
[82] Fish Survey of the Royal Burn and New Chums Creek, Matt Hickey, 30 January 2019 (sic), page 3 of 7.
[83] EIC Lennox, paragraph 27(e).

Mr Ravenscroft's original recommendation in terms of allowing existing instream values to persist. Ms Lennox was also understandably concerned about how Ms Miller's recommendation could be monitored with any degree of compliance certainty in the absence of instream flow gauges being installed above and below the point of take.[84]

[093] On the weight of evidence about the ecological values of the lower Royal Burn I find Mr Ravenscroft's recommended "50m visually connected flow" to also be appropriate for the lower take on the RBNB.

[094] It would be remiss of me not to record that Ms Miller[85] suggested that the residual flows recommended by her were also important for maintaining the wetland values of a 'swamp' situated either side of and adjacent to the Royal Burn below Glencoe Road. I am not persuaded by that evidence. Firstly, I received no qualified evidence regarding the wetland values of the 'swamp'. While in no way determinative, my site inspection revealed it to more akin visually to an area of reasonably steeply sloped dry rank grass. Secondly, I received no evidence of probative value that the integrity of the 'swamp' was reliant on flows in the RBNB below the lower point of take and I note that the majority of the 'swamp' appears to reside on the true left bank of the Creek and so any groundwater input it receives might equally be derived from the more regularly flowing Royal Burn South Branch. Thirdly, even if the applicant's abstractions do affect the wetness of the 'swamp' then those abstractions have been occurring for quite some time and in the future their effects will be mitigated as new requirements for residual flows will be imposed and volumes of abstraction will be reduced.

[095] Given my findings on these residual flow matters there is no need for me to consider additional monitoring weirs or flow recorders as sought by Mr Vial and Mr Whyte.

4.5.2 Downstream abstractors

[096] Regarding authorised downstream abstractions matters of discretion 12.1.4.8(vii) and (xvi) respectively relate to "*competing lawful local demand for that water*" and "*any adverse effect on any lawful take of water, if consent is granted, including potential bore interference*". There are a number of downstream abstractors[86] who rely on flow in the Royal Burn as a source of domestic water, including ten shareholders in the LOFTS Water Scheme.[87]

[097] The applicant's March 2021 RCA amendment stated that based on their observations, they were confident that even when the RBNB was dry at Glencoe Road, there would still be water downstream of the applicant's property for permitted activity users to access. Their monitoring work showed losses to ground between the lower RBNB point of take and the 'swamp paddock', but gains of at least 31.9 L/s between the 'swamp paddock' and the Crown Range Road crossing.

[098] Nevertheless, to provide certainty for the downstream abstractors the applicant offered the following consent condition:

> Water must not be abstracted from the Royal Burn North Branch for irrigation purposes when flows in the Royal Burn drop below 5 L/s at NZTM2000 1274996E 5011547N.

[099] The abstraction cessation trigger site was selected because it is well downstream of the observed losing reach and because a notched weir can be more easily placed, monitored and maintained there as the Creek flows under a roadway through a large culvert. My site visit confirmed that to be a sensible monitoring location.

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[84] Answers to Written Questions, ahika, 4 June 2021
[85] And several of the lay submitters, including most notably Peter Clarke and Jef Desbecker.
[86] Including permitted activity takes and one consented deemed permit 97042.
[87] A Certificate of Compliance exists for this abstraction allowing the take and use up to 25,000 litres per day for domestic and animal drinking water.

[100] Mr Hickey advised that, based on his understanding of the hydrology of the Arrow Catchment, low flows approaching the 5 L/s cutoff trigger were likely to be infrequent and would probably only occur in very dry seasons. He also estimated that flow in the Royal Burn at the Crown Range road bridge could be at least 10 to 20 L/s when flows at the proposed flow cessation trigger site were 5 L/s.[88] In answer to my questions he advised that he had based his opinion on his observations that when flows at the proposed flow cessation trigger site were 10 L/s flows at the downstream staff gauge near Crown Range Road were around 40 L/s. Therefore, a flow that was ½ of 10 L/s might be expected to yield a downstream flow that was ½ of 40 L/s. That seems sensible to me and no one suggested that it was not.

[101] I understand that LOFTS' Certificate of Compliance RM20.330 states that their rate of take is ≈0.3 L/s.[89] There are other abstractions from the Royal Burn as it traverses the Crown Terrace that are for 'domestic' purposes[90] and these were quantified by Byron Pretorius, ORC Team Leader Compliance Central.[91] Those other permitted activity takes are unlikely to cumulatively amount to more than 1 to 2 L/s.[92] This lends weight to the adequacy of the applicant's proposed 5 L/s trigger flow.

[102] Nevertheless, it might be tempting to adopt an abstraction cessation trigger flow of 10 L/s as a cautionary measure. Indeed, that was advocated by some submitters. To better understand the implications of doing so I asked Mr Hickey how long, in his opinion, it would take receding flows in the Royal Burn to drop from 10 L/s to 5 L/s. He considered it would be in the order of "one to two weeks". So, adopting 10 L/s as a cautionary measure (in lieu of 5 L/s) could result in an irrigation take 'ban' of up to two weeks for no additional environmental benefit. I consider that to be disproportionately onerous.

[103] On the weight of evidence, I find that an abstraction cessation trigger flow of 5 L/s is sufficient to provide for the LOFTS scheme and other downstream surface water abstractors, particularly as the Royal Burn continues to gain significant flow from groundwater below the proposed abstraction cessation trigger flow site.

[104] Lending weight to my finding, Bas Veendrick[93] for the ORC considered that the applicant's offered condition was sufficient to ensure that effects on other surface water users (including the joint holders of Deemed Permit 97402) would be less than minor, based on his assumption that the applicant's domestic and stock drinking water take was small to negligible,[94] which it will be (certainly in comparison to the irrigation take).

[105] Again, it would be remiss of me not to record Ms Miller contention that the 5 L/s trigger flow was insufficient to avoid "adverse ecological effects" and she recommended a flow of 10 L/s. I enquired as to the technical basis for her recommendation. She advised that it was based on discussions with Ms Lough and Mr Veendrick regarding the hydrology of the Royal Burn and the alignment of the abstraction cessation trigger flow with the mean annual low flow (MALF) of the Creek.[95] That argument might be relevant if the purpose of the abstraction cessation trigger was to protect the health and wellbeing of the Creek. However, that is not its purpose.

[106] In response to Ms Miller's suggestion Ms Lennox correctly observed that the abstraction cessation trigger flow was proposed for the purpose of minimising potential adverse effects on downstream users, and not for the purpose of protecting instream values. She considered that further protection of instream values was unnecessary due to the perennial nature of the Creek downstream of that point.[96]

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[88] Answers to Written Questions, ahika, 4 June 2021.
[89] 0.2684 L/s to be precise.
[90] A non-consumptive take for an ornamental pond occurs above the minimum flow site (387 Crown Range Road) and another yet to be exercised take is for a water wheel (30 Jeffery Road) reportedly to generate electricity.
[91] Appendix 6 to the Section 42A Report.
[92] Royal Burn water take investigation re RM19.151.01 Water Permit application, Byron Pretorius, Team Leader Compliance Central, 22 October 2020.
[93] ORC's technical advisor on hydrology.
[94] Appendix 3 to the Section 42A Report, paragraphs 11 and 36.
[95] Minute 2 response from Bryony Miller, Hilary Lough, Michelle Mehlhopt and Alexandra King, page 2.
[96] EIC Lennox, paragraph 40.

[107] Nevertheless, for the sake of completeness I note that in terms of the matters of concern to Ms Miller, Dr Olsen was of the opinion that there was no technical basis for her suggested 10 L/s flow. He advised that the downstream habitat for macroinvertebrates was poor and an increase in flow was unlikely to result in a tangible increase in the quantity or quality of macroinvertebrate habitat in that part of the Royal Burn. He also considered that given the presence of small trout in the vicinity of the gaining reach (namely below the abstraction cessation trigger flow site), dissolved oxygen and water temperatures appeared to be of little concern, as trout are typically considered to be intolerant of low oxygen and high water temperatures.[97]

[108] I accept the evidence of Dr Olsen and see no need to depart from my previous finding that an abstraction cessation trigger of 5 L/s is appropriate.

[109] The applicant contended that they would still be able to take water for stock drinking water purposes as a permitted activity even if the 5 L/s flow was reached. I am not convinced that their contention is correct. The sole Objective 2.1 of the NPSFM 2020 is:

> *(1) The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way 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*

[110] Human drinking water needs are clearly a higher priority than stock drinking water. Furthermore, while RMA s14(3)(b)(ii) enables the taking of water for the reasonable needs of a person's animals for drinking water, that is tempered by the requirement that "the taking or use does not, or is not likely to, have an adverse effect on the environment." The inability for downstream users to abstract water for domestic use would undoubtably be an adverse effect on the environment. In any case, the taking of stock drinking water here is a consented activity (both as part of the deemed permits and their replacement) and does not rely on s14(3)(b)(ii).

[111] I find that the applicant's RBNB abstractions for both irrigation and stock drinking water purposes should cease when the Royal Burn abstraction cessation trigger of 5 L/s at NZTM2000 1274996E 5011547N is reached.

[112] In that regard I note Ms Miller's recommendation that the applicant's 13,000 m^3 Royal Burn Pond should be primarily utilised for stock drinking purposes, prior to any further water abstraction at times of low flow. In terms of animal welfare that seems a sensible proposition and I note that the annual stock water demand is only 7,026 m^3/year. Lending weight to the practicality of my finding regarding stockwater, I note from the evidence of Mr McQuilkin that the applicant has (or will soon have) an additional 12,900 m^3 of pond storage available (over and above the 13,000 m^3 referred to earlier). So, all of the irrigable areas' stock drinking needs can be (or soon will be able to be) met from storage should the abstraction cessation flow be triggered.

[113] Having made the above findings, I record that BSTGT will nevertheless still be able to abstract from NCC when the abstraction cessation flow is triggered on the Royal Burn.

4.6 Groundwater

[114] Matter of discretion 12.1.4.8(xv) refers to any actual or potential effects on any groundwater body and matter of discretion 12.1.4.8(xvi) refers to any adverse effect on any lawful take of water, if consent is granted, including potential bore interference.

[97] EIC Olsen, paragraphs 29 and 31.

[115] No assessment of effects on groundwater was undertaken by the applicant, but the ORC engaged Hillary Lough[98] to address groundwater issues. Referring to available bore log data Ms Lough concluded that the Crown Terrace aquifer alluvium could be over 85m thick near the range and could reduce to zero thickness towards the terrace edge. The incised nature of NCC and the Royal Burn near the terrace edge and the likely impermeable basement rock made it likely that the groundwater system discharged back to the Royal Burn near the terrace edge. Ms Lough concluded that the applicant's abstractions could reduce groundwater recharge, which could in turn reduce potential gains in flow further downstream and impact on groundwater users via reduced aquifer recharge. [99]

[116] Ms Lough advised that there is only one groundwater bore[100] downstream of the NCC take. Given the proposed reduction in the rate of abstraction from NCC and the gaining nature of that Creek (as described in section 4.5.1 of this Decision), she concluded that effects on that bore may not be significant. Ms Lough observed that the owner of the bore was notified, but did not lodge a submission.[101]

[117] Ms Lough advised that the RBNB takes are located upgradient of five domestic/small community groundwater supply bores[102] that flank the Royal Burn within the terrace aquifer area. She considered that those bores may rely on a groundwater resource that, in the long term, may have limited sustainability and rely heavily on natural surface water losses from the Royal Burn, although effects on the bores near the edge of the terrace may be limited due to groundwater inflows.[103]

[118] A submission was received from Jef Desbecker and Robina Bodle, the owners of bore F41/0249. Ms Lough considered that the applicant's proposal to limit abstraction volumes to match historic use and the 5 L/s abstraction cessation trigger would decrease the risk of adverse effects on existing bores generally including F41/0249. Also, the location of bore F41/0249 near the terrace edge meant it was less likely to be adversely affected by the BTSGT abstractions due to gains in flow in the Royal Burn, reflecting higher groundwater levels in that location.

[119] In her s42A Report appendix Ms Lough appeared to recommend that long term monitoring of groundwater levels should be undertaken by the applicant, utilising a 29.3 m deep bore F41/0176. However, she also stated that because the proposed volume of take is now consistent with historic use the magnitude of effects on groundwater would not be expected to increase.[104] I asked her to clarify if she was definitely recommending long term monitoring of bore F41/0176 by the applicant. She confirmed that she was and that daily measurements with a pressure transducer were appropriate, if bore F41/0176 was suitable for that purpose. If it was not, she recommended the use of a new purpose-built monitoring bore in the vicinity of Glencoe Road.[105]

[120] It is apparent from the evidence of Mr McQuilkin that bore F41/0176 is not suitable for monitoring purposes. It supplies domestic water to residents along Glencoe Road. The bore is managed by a recently formed water company and not the applicant. So, the issue becomes whether on the evidence a new purpose-built bore is required to monitor the effects of the applicant's surface water takes. The RPW:O provides some guidance.

[98] Technical Director (Water Resources) with the consultancy firm Pattle Delamore Partners Ltd (PDP).
[99] Appendix 4 to the Section 42A Report, paragraphs 28, 30 and 31.
[100] F41/0307 is a 28 m deep domestic supply bore with a depth to groundwater of about 12.5 m.
[101] Appendix 4 to the Section 42A Report, paragraph 33.
[102] Bore F41/0176 and F41/0277 are at the confluence of the South and North Branch of the Royal Burn while the other three are further downstream and flank the main stem of Royal Burn above the terrace drop off (F41/0271, F41/0249, and F41/0218).
[103] Appendix 4 to the Section 42A Report, paragraph 34.
[104] Appendix 4 to the Section 42A Report, paragraphs 38 and 39.
[105] Minute 2 response from Bryony Miller, Hilary Lough, Michelle Mehlhopt and Alexandra King, page 3.

[121] The RPW:O section titled "Groundwater" contains only three objectives:[106]

> *9.3.1 To sustain the recognised uses of Otago's groundwater.*
>
> *9.3.2 To maintain the quality of Otago's groundwater*
>
> *9.3.3 To avoid degradation of soils arising from the inappropriate application of poor quality groundwater*

[122] Objective 6.3.2A (located in section 6 of the RPW:O) is also relevant:

> *6.3.2A To maintain long term groundwater levels and water storage in Otago's aquifers.*

[123] Objectives 9.3.2 and 9.3.3 are not relevant to the issue of water availability effects on bore users. Objectives 9.3.1 and 6.3.2A are relevant, however given Ms Lough's conclusion that the magnitude of effects of an ongoing BSTGT abstraction on groundwater levels would not be expected to increase, I am not persuaded that long term monitoring of groundwater levels with a new purpose bult monitoring bore on the Crown Terrace is appropriately occasioned by the BSTGT application. If anything, long term groundwater monitoring might be something ORC undertakes as part of its mandatory state of the environment monitoring obligations under ss35(1)(a), (b) and (d) of the RMA.

[124] Lending weight to my finding, Ms Lennox noted it would be impossible to isolate effects on groundwater levels in a single monitoring bore that might result from the applicants' upstream RBNB surface water takes from other influences on groundwater levels.[107] I agree and note those influences could include natural long and short term variations in rainfall and Creek flows together with abstractions by other surface and groundwater users in the area.

4.7 Groundwater quality

[125] A number of submitters[108] expressed concern regarding the potential impact of fertiliser, pesticides and herbicides used on the applicant's golf course on groundwater quality and thereafter on surface water quality, presumably on an assumption the groundwater under the golf course enters the Royal Burn. However, I received no evidence that groundwater from under the golf course does enter the Royal Burn and as noted by Mr McQuilkin, another small surface water catchment exists between the golf course and the Royal Burn making that an unlikely outcome.

[126] I note that the discharge of fertiliser to production land is a permitted activity under RPW:O Rule 12.B.1.5. That rule has no limits on the amount of fertiliser that may be discharged. The NESFM also controls the discharge of synthetic nitrogen fertiliser to pastoral land. Under Regulation 33 the application of up to 190kgN/ha/year is a permitted activity. The golf course may not necessarily qualify as production land or a pastoral land use, but the provisions referred to indicate that the discharge of fertiliser is governed by RMA section 15 discharge rules and regulations and not by RMA section 14 water takes. Similarly, the discharge of pesticide and herbicide to land in circumstances where it might end up in water is permitted by RPW:O rules 12.B.1.2, 12.B.1.3, and 12.B.1.4, subject to conditions. As counsel for BSTG submitted, there is no suggestion that the applicants have not been, or will not, comply with the conditions.[109]

[127] Nevertheless, Ms Lough noted submitter concerns regarding the effects on groundwater quality arising from of the use of water for irrigation on the golf course. She recommended that ORC consider appropriate consent conditions to control these potential water quality effects.[110] In response Ms King recommended a condition requiring BSTGT to provide an annual report to ORC detailing the amount of fertiliser and nitrogen applied to the irrigated land.

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[106] The associated Policies 9.4.1 to 9.4.24 merely expand on the matters addressed by these objectives.
[107] EIC Lennox, paragraphs 54 and 55.
[108] Including Berri Schroder, Peter Clarke
[109] Opening Submissions, paragraph 122.
[110] Appendix 4 to the Section 42A Report, paragraph 35.

[128] For the applicant Ms Lennox opposed Ms King's recommended condition as she considered there was no evidence demonstrating that water quality in the Royal Burn was being adversely affected by nutrient run-off from the applicants' properties. On the contrary, she suggested that Dr Olsen's evidence indicated that water quality in the Royal Burn was not being impacted by nutrient enrichment to any discernible degree.[111]

[129] Mr Whyte speculated on the impact that the golf course might have on groundwater quality. He seemed to be suggesting that the presence of the golf course should lead the ORC to declare the Crown Terrace a Nitrogen Sensitive Zone (NSZ) as defined in the Proposed Plan Change 6A (Water Quality) thereby limiting any groundwater contribution to below 10 kgN/Ha/yr. I asked him what RPW:O rules he was referring to and if he was aware of PC6AA which deferred the implementation date for the RPW:O's nitrogen loss rules until 1 April 2026. He was not and conceded that rendered moot the 10 kgN/Ha/yr limit that he had referred to. In his 21 June 2021 'rebuttal evidence' he advised that his primary evidence on that matter was in error and amended[112] the offending text. However, I consider that even his amended text is speculative and not directly relevant to the matters before me. I have weighed it accordingly.

[130] Mr Whyte went on to suggest that prior to there being approval to irrigate the golf course there should be a ring of groundwater monitoring bores that encircle the boundary edge of the golf course, plus a further series of bores some distance away from that boundary in the direction of the groundwater gradient, plus bores upgradient of the golf course to ensure that background levels are monitored.[113] When asked, Mr Whyte could point to no other golf course in NZ that had that level of intense groundwater quality monitoring associated with it. Nor could he point to any dairy farms in NZ that were subject to that scale of monitoring. I do not find his evidence on this matter to be either objective or credible.

[131] Ms King advised that there are other lifestyle blocks on the Crown Terrace which may have fertilisers and nitrogen inputs and there is a consented wastewater discharge (RM16.035) located 50m from the Royal Burn. She stated that full consideration of the effects of land use and nitrogen input would be considered under Plan Change 6AA which comes into effect 2026 and/or the future Land and Water Plan which will be in notified 2023.[114]

[132] In order the assess the relevance of this issue I asked Mr McQuilkin and Mr Gordon about the nitrogenous fertiliser regime for the golf course. They advised that they use a liquid fertiliser with a low nitrogen content and use very little dry fertiliser. Mr Gordon considered that the areas of the golf course that were fertilised would receive only one third of the amount of nitrogenous fertiliser that would be applied to a pastoral farm.

[133] There are also legal matters to consider.

[134] Legal advice from Wynn Williams lawyer Michelle Mehlhopt for ORC was that effects on water quality are consequential on the use of water for irrigation and those effects could be considered (despite an absence of policy support in the RPW:O) provided that matters of discretion enabled that to occur. In this case Matter of discretion 12.1.4.8(xv), which refers to any actual or potential effects on any groundwater body, provides scope to consider those effects.[115]

[135] Ms Mehlhopt also observed that the High Court had noted that the separate control of the effects of an activity under the RMA may indicate that those effects are too remote to be considered. I noted that RMA section 30(1)(f) explicitly refers to the control of discharges of contaminants into or onto land, air, or water and discharges of water into water. That is implemented by section 15(1)(b) of the Act. I also noted that

[111] EIC Lennox, paragraphs 59 and 63.
[112] To read "Nitrogen Sensitive Zone (NSZ) ~~as defined in the Proposed Plan Change 6A (Water Quality)~~ and be mapped in Section H of the Regional Plan: Water. If this is enacted, then, from 1 April 2026, any groundwater contribution must be kept below ~~10~~ 15 or 20 kgN/Ha/y depending on to which category the land was assigned."
[113] EIC Whyte, paragraphs 139 and 140.
[114] Section 42A Report, page 35.
[115] Appendix 5 to the Section 42A Report, Executive Summary.

RMA section 30(1)(c)(ii) explicitly refers to the control of the use of land for the purpose of the maintenance and enhancement of the quality of water in water bodies and coastal water. That is implemented by section 9(2) of the Act. I asked Ms Mehlhopt if, given those explicit ORC functions, that meant in this case the effect of irrigation on groundwater quality is "too remote to be considered" under a RMA section 14(2) water take.

[136] Ms Mehlhopt helpfully submitted that the effect of the use of water for irrigation on groundwater quality was not "too remote to be considered" as the BSTGT application is both for the take and use of water and the effects on groundwater quality are a direct consequence of the use of water for irrigation, She added that the recently released decision of the Environment Court in *Clutha District Council v Otago Regional Council* [2020] NZEnvC 194 has highlighted to ORC the importance of being able to consider end use effects when determining an application to take and use water (particularly in respect of the effects on water quality). Since the release of that decision, ORC had started to consider the effects of applications to take water for irrigation on groundwater quality and impose conditions of consent accordingly.[116]

[137] I accept that I have legal jurisdiction to impose Ms King's recommended condition and thank counsel for her assistance in that regard.

[138] The applicant opposed the imposition of Ms King's condition. Counsel advised[117] "*The applicants could comply with condition 16 but do not accept in principle that it is an appropriate condition. As discussed in Counsel's oral closing submissions, the discharge of fertiliser, herbicides, pesticides, and nitrogen (which is presumably a fertiliser), is a permitted activity under the Regional Plan Water*."

[139] Ms King's recommended condition does not impose a nitrogen leaching limit or any restrictions on the levels of fertiliser that may be applied. Instead, it merely requires the consent holder to record the amounts and location of fertiliser and nitrogen applied and to report that information to the ORC annually. I do not consider that to be overly onerous and the information will no doubt be of interest to submitters who contended (mostly based on anecdotal or hearsay evidence to which I gave little weight) that excessive use of fertiliser was occurring with consequential adverse effects on ground water quality.

[140] In response to submitter concerns, as part of her end of hearing report Ms King recommended that the condition be expanded to include pesticides and herbicides. I note that there is a commonly held concern about effects of nitrate-nitrogen on groundwater. However, pesticides and herbicides are another matter and in the absence of any evidence that those chemicals are a real issue in the Crown Terrace groundwater I am not persuaded that it is necessary to include them in the consent condition.

[141] I find that Ms King's recommended original condition is appropriate in the circumstances.

4.8 Minimum flow

[142] A minimum flow is the flow in a river below which all consented abstractions must cease. In other words, consented abstractions are progressively restricted (reduced or rationed) to ensure that the abstractions do not cause the minimum flow to be breached at a designated minimum flow monitoring site usually located below the point(s) of take. On occasion, due to natural low flow (drought) conditions, minimum flows are breached even in the absence of abstractions.

[143] The RPW:O does not set a minimum flow for these Creeks. The effect of RPW:O Policies 6.4.4. and 6.4.5(d) is that a minimum flow would need to be established by way of a plan change that added the watercourses to RPW:O Schedule 2A. Until that occurs a minimum flow is not able to be imposed, notwithstanding the fact that matters of discretion 12.1.4.8(viii) and (ix) refer to minimum flows.

[144] However, in this case, as discussed in section 4.5.2 of this Decision, the applicant has offered a low flow abstraction cessation condition when flows in the Royal Burn drop below 5 L/s at NZTM2000 1274996E

[116] Minute 2 response from Bryony Miller, Hilary Lough, Michelle Mehlhopt and Alexandra King, page 3.
[117] Memorandum of Counsel in Reply to Recommended condition changes dated 16 June 2021.

5011547N. As that is an offered condition (sometimes referred to as an *Augier* condition) I am able to impose it. As noted by Ms Lennox in response to my questions, it differs from a traditional minimum flow (which applies to all consented abstractors) whereas the one offered by the applicant here applies only to them.

[145] I understand that it is likely that in the future a minimum flow will be set for the Arrow River. The applicant has agreed to a review condition whereby if that occurs, then the abstractions will all be subject to that minimum flow. I find that to be appropriate.

4.9 Rationing at times of low flow

[146] The RPW:O discusses rationing in several places[118] but does not specify a preferred regime. Policy 6.4.12B states that the ORC may instigate its own water rationing regime. I understand that to mean I may impose a rationing regime if one is found to be appropriate. The applicant did not offer a rationing regime in their RCA. However, the low flow abstraction cessation condition discussed in section 4.5.2 of this Decision will require BSTGT to 'ration' their Royal Burn abstractions to ensure that 5 L/s flow is not breached by those abstractions.

4.10 Fish screens

[147] The experts concurred that there is no need for fish screens as the Creeks do not contain fish at or around the points of abstraction.[119] I note that Aukaha withdrew their request for fish screens.[120]

4.11 Conveyance system

[148] The Ms King noted that open water races are not efficient and can lose water through seepage and evaporation.[121] However, due to the age of the races she considered it is likely their bases would have hardened and created a natural lining. For the irrigated pasture the applicant currently uses efficient spray irrigation methods (k-line and four travelling hoses). The golf course uses an extensive network of pop-up sprinklers. I am satisfied those conveyance systems are sufficiently efficient.

4.12 Other issues raised by submitters

[149] There were a number of other issues raised by submitters that have not been addressed earlier in this Decision. These include:

- Notification;
- The intake structures;
- Effects of BSTGT races on overland flows; and
- Glencoe Station's 20% share in Deemed Permits 96285 and 95696;
- Permit 97402; and
- LOFTS scheme.

4.12.1 Notification

[150] Counsel for John Baker and Bridget Steed made extensive legal submissions suggesting that under s104(3)(d) of the RMA I must decline the application because in her view it should have been publicly notified when in this case it was limited notified.[122] I am not persuaded by those submissions and note counsel herself referred to an Environment Court[123] decision made by the Principle Judge in 2019 where

[118] Including Policies 6.4.12, 6.4.12A, 6.4.12B, 6.4.12C and 6.4.13 and matter of discretion 12.1.4.8(x).
[119] Appendix 2 to the Section 42A Report, paragraph 50; Fish Survey of the Royal Burn and New Chums Creek, Matt Hickey, 30 January 2019 (sic).
[120] EIC Vial, paragraph 15.
[121] Section 42A Report, section 6.4.
[122] Other lay submitters were of the same view, including Mark Weldon, Peter Clarke and Philip Blakely.
[123] *Te Runanga o Ngati Awa v Bay of Plenty Regional Council* [2019] NZEnvC 196.

the Court said " *the definition of notification in s2AA RMA means public notification or limited notification of the application or matter. We think that the meaning of notified in s104(3)(d) is to be interpreted consistently with that definition."*

[151] Even if I am wrong to favour that particular Court ruling (Ms Davidson also pointed to older Environment Court decisions that came to a different conclusion), I record that on the evidence I have found that, subject to the imposition of appropriate conditions of consent, the applicant's proposed abstractions from the NCC and the RBNB are unlikely to have adverse effects on the environment that are more than minor. That being the case retrospective public notification would not seem necessary. In that regard, as submitted by Ms Mehlhopt as part of the ORC's end of hearing report, it is not my role to review or 'look behind' ORC's notification decision, but to assess the effects of the application as it now stands before me.

[152] Ms Mehlhopt and Mr Page both also helpfully submitted that in any case, given the absence of native fish in the Creeks, public notification of these particular applications is precluded by RPW:O Rule 12.1.4.8's "Notification and written approvals" clause (a)(ii). Having now read that provision myself I conclude they are correct.

[153] Finally, on a more practical level, while acknowledging it to be of little relevance to the notification issue discussed above, I note that Ms Davidson could not identify any other affected parties who might be 'missing out' and nor could she identify any issues that might have been raised by public notification that are not currently on the table.[124]

4.12.2 Intake structures

[154] The intake structure on the Upper RBNB (RM14.364.01 and 96285) is reasonably sophisticated in terms of many of the takes on Otago streams to which deemed permits apply. It comprises a screened pipeline sitting in the main channel of the RBNB. A small weir structure allows water to pond around this intake pipe, which then diverts water into a holding chamber sitting on the bank of the creek. A gated outlet allows water to flow from the holding chamber, through an underground pipe, into the applicant's 13,000 m^3 storage pond (which sits outside of the bed of the creek). The diversion structure on the Lower RBNB is rudimentary, comprising a few boulders in the stream bed. There is now however a gated intake pipe which regulates the amount of water abstracted. The diversion and take structure on New Chums Creek is slightly more sophisticated comprising a rock and sand bag dam and intake pipe with a manually operated gate.

[155] I see no issues with the BSTGT intakes structures that would either weigh against a grant of consent or require the imposition of specific additional conditions.

4.12.3 Minor tributaries

[156] Several submitters[125] raised the issue of the new Chums Race collecting water from minor tributaries along its path. Mr Whyte contended that the New Chum's race collects almost 100% of up to four permanent tributaries which previously had flowed across the race. However, Ms Lennox's Reply Evidence advised that Mr Whyte's contention was incorrect as the New Chums race does not collect water from any other creeks, because any tributaries along the path of the race downstream of the metering location have been piped under the race.[126] Therefore the existing meter measures the total NCC take.

[124] Mr Weldon referred to two parties who might have wished to submit but I assigned little weight to that hearsay evidence.
[125] Including Mark Weldon, Jef Desbecker and Berri Schroder (Bloomsbury Stud).
[126] Lennox Reply, paragraph 6.

[157] To address this issue, as part of her end of hearing report, Ms King recommended a new condition as follows:

> 1A. This consent (RM19.151.01) does not provide for the take and use of water from any named or unnamed tributaries of the Royal Burn or New Chums Creek that could be intercepted New Chums Race and subsequently flow into the New Chums Race on the Crown Terrace.

[158] I find that to be an appropriate response in principle to the submitters' concerns. However, I consider that its wording could be improved to ensure that the focus is on actual watercourses (whether they flow permanently or intermittently) rather than gullies and swales that night only contain water after heavy rain, for example. The amended wording I have settled on is:

> This permit does not provide for the take and use of water from any named or unnamed continually or intermittently flowing stream that has a defined bed and that is intercepted by the New Chums Race.

[159] However, counsel for BSTGT helpfully advised[127] "*It is submitted that although the content of condition 1A is a correct statement of the legal position, that is not functionally a condition of resource consent authorised by section 108. A condition of resource consent may only be applied to control the exercise of the consented activity. It does not serve the purposes of controlling the exercise of activities that are not consented. Should the Commissioner be minded, the text condition on 1A could be reformulated as a advice note.*"

[160] On that basis I find that the amended wording I outlined above should be imposed as an Advice Note.

[161] Some submitters[128] contended that other unauthorised diversions and abstractions were occurring, including from a watercourse they referred to as Fairhall Creek. As noted by Mr Page and Ms King, those are enforcement matters for the ORC to investigate.

4.12.4 Glencoe Station's 20% share in Deemed Permits 96285 and 95696

[162] Glencoe Station has a 20% share in Permits 96285 and 95696. I understand from their submission and the evidence provided by Grant Richards that they have not as yet sought to replace their share of those permits with new resource consents and do not intend to. Instead, Glencoe Station might apply for a Supplementary Allocation take from NCC some 1,000m or so downstream of the applicant's take site should they negotiate access to NCC in the future. If that occurs, they might seek to take 5 to 8 L/s for irrigation purposes.

[163] Mr Richards suggested that BSTGT should be allowed no more than 22.2 L/s from NCC (they have sought 24.5 L/s as a maximum rate of take). He explained that to be based on 80% of "one head" of water where "one head" of water equated to around 27 L/s. I did not find that to be a persuasive argument.

[164] On that note Mr Richards opined[129] that Glencoe Station " … *have every right and intention to make a new water permit application from a point downstream closer to their irrigable land in the knowledge that their share in 95696 would be surrendered as a part of the new application process that would focus on Supplementary Allocation*." Glencoe Station may of course make such an application which would be assessed on its merits. I fail to see how that affects the BSTGT application before me. Mr Richards sought[130] a condition whereby if Glencoe Station proceeded to irrigate their land BSTGT would be required to "*pass 20% of water taken at the intake back into the wet bed of New Chums Creek*" presumably for Glencoe to abstract as a Supplementary Allocation. I am not persuaded that is necessary as under the RPW:O supplementary allocations relate to high flow takes and associated water storage facilities.

[127] Memorandum of Counsel in Reply to Recommended condition changes dated 16 June 2021.
[128] Including Jef Desbecker.
[129] EIC Richards, page 3.
[130] EIC Richards, page 5.

[165] I asked Ms King if she had any comments regarding Glencoe Station's submission. She advised[131] that "*Glencoe currently hold shares but have provided nil returns for seasons 2016/2017, 2017/2018, 2018/2019 and no response received yet to overdue returns letters for 2019/2020 season. Further to this no meters have been installed. I am uncertain where the intake would be located on the watercourse, specifically the Royal Burn as Glencoe own no property near the watercourse, I am therefore unable to provide any meaningful mitigation conditions to protect the potential takes*."

[166] Counsel for BSTGT made the following points regarding Glencoe Station's [132] submission and evidence:[133]

- Glencoe Station does not own any interest in land with access to the authorised point of take on NCC. Consequently, Glencoe Station's existing deemed permits cannot be exercised;
- Glencoe Station does not have legal frontage to New Chums Creek;
- The applicants made enquiry of the ORC for any records of Glencoe Station's records of water take and none were found. Glencoe Station does not have a 'continued use' to lose because it is not using it share of the deemed permits. Glencoe Station's interest in the deemed permits is best characterised as a paper allocation;
- Regarding any future application to take water from NCC, such as that mooted by Mr Richardson, considering as yet unmade applications is inconsistent with the priority approach in the allocation of limited resources;[134] and
- PPC7 to the RWP:O addresses the NPSFM 2020 by requiring water users seeking to replace deemed permits to demonstrate actual water used. Glencoe Station does not and cannot use its paper allocation. As a result, Glencoe Station is unable to demonstrate actual use, let alone efficient use.

[167] As part of his Reply submissions Mr Page made the interesting observation that Glencoe's stated desire (to have 20% of the NCC flow bypassing the BSTGT intake) is already occurring as Glencoe's 20% share of the Deemed Permits has not been exercised.

[168] Mr Page's submissions were persuasive and I find that a consideration of the matters raised by Glencoe Station does not weigh against a grant of consent. Nor do they warrant the type of consent condition advocated by Mr Richards.

4.12.5 Permit 97042

[169] John Baker and Bridget Steed have a property adjacent to the Gibbston Highway at the base of the Crown Terrace. I understand that they have a share in Deemed Permit 97402 along with Barry Hodges, Philip Blakely and Mary Wallace, and Troy and Vera Stewart. Their take point is ≈4km downstream of the applicant's lower RBNB take and is also located near the base of the Crown Terrace escarpment. That permit has a deemed maximum daily take rate of 300 L/hour or 83.3 L/s[135] and expires on 1 October 2021. In January 2020 the permit holders applied to replace Deemed Permit 97402 with a new water permit (Consent Application RM20.033). They have sought a rate of take of 25 L/s. They use water abstracted from the Royal Burn for growing and selling lucerne, meadow hay, raising and selling cattle and sheep and horse grazing.[136]

[170] Mr Baker and Ms Steed submitted against the BSTG proposal seeking that it be declined, as did Philip Blakely and Mary Wallace. They had concerns about the consent process which are beyond my scope to address. They also raised numerous concerns in their submissions (including contending that the

[131] Minute 2 response from Bryony Miller, Hilary Lough, Michelle Mehlhopt and Alexandra King, 10 May 2021, page 4.
[132] Which the referred to as the Glencoe Companies.
[133] Opening Submissions, paragraphs 73 to 107.
[134] *Fleetwing Farms Ltd v Marlborough District Council* [1997] 3 NZLR 257 at 268.
[135] EIC Whyte, Table 2 and EIC Baker, paragraph 6.
[136] EIC Baker.

applicant's abstraction had caused the Creek to run dry in the summer months in 2017/18 and at other times since), but the outcome Mr Baker appeared to seek[137] was that "*if consent was granted, it should be on conditions that allow downstream users, including submitters, reasonable access to water*".

[171] In response Ms Lennox provided water take records for WM1285 which measures the abstraction under Deemed Permit 97402. My analysis of that record[138] shows that in the 2017/2018 summer months there were only 5 days when no abstraction occurred (2 to 6 February 2018)[139] and over those three months the rate of abstraction averaged 7.5 L/s.[140] In the summer of 2018/2019 there were no days of nil abstraction and the rate of take averaged 6.3 L/s. The available data does not support Mr Baker's view that "*water availability has regularly been low to non-existent during the summer months since that time [namely since 2017/2018]*". Nor does it support Mr Blakely's recollection that "*the Royal Burn was dry for six weeks*" over the 2017/2018 summer.[141]

[172] I note that Mr Whyte's 'rebuttal evidence' sought to establish that the applicant's takes on the RBNB were the cause of the 97042 consent holders not being able to abstract water at various times. However, as tellingly pointed out in the applicant's response[142] to that 'rebuttal evidence':

> *"Mr Whyte's evidence about the impact of the lower Royal Burn intake on his clients is predicated on the unspoken assumption that the applicants' Royal Burn lower intake was capable of dewatering the Royal Burn. The lower intake is not so capable. This is apparent from the section 42A officer's report photograph at figure 4 (page 17) and her discussion in the first paragraph on page 31, in which the officer observes an approximate 50/50 flow sharing regime that "looks to be largely occurring already".*

[173] I find that the issues raised by the submitters who have a share in permit 97042 do not weigh against a grant of consent. Furthermore, I consider that the flow cessation trigger discussed in section 4.5.2 of this Decision imposes a sufficient obligation on BSTGT to ensure that their actions will not frustrate the achievement of Mr Baker's desired outcome referred to above.

4.12.6 LOFTS Water Ltd

[174] LOFTS Water Ltd abstract water from the lower Royal Burn primarily for domestic supply and stock water purposes. A number of submitters[143] receive water from the LOFTS scheme and some them parties also have bores on their properties or allow their stock to drink from the Royal Burn.[144] I discussed effects on the LOFTS abstraction in section 4.5.2 of this Decision.

4.13 National environment standards and other regulations

[175] The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 were amended by the Resource Management (Measurement and Reporting of Water Takes) Amendment Regulations 2020, which came into force on 3 September 2020. These apply and Ms King advised that all three of the applicant's takes are currently measured[145] by telemetry water monitoring stations and this is proposed to continue. This achieves compliance with both the NES and Policy 6.4.16 of the RPW:O,

[137] Submission, paragraph 42 on page 5.
[138] Which for some reason ceases in August 2019 – presumably due to a faulty meter as referred to verbally by Mr Baker.
[139] Ms Lennox noted that the Arrow River was in flood at that time and was flowing at over 10,000 L/s and perhaps similar flooding issues in the Royal Burn may have contributed to the absence of abstractions.
[140] Based on apportioning the daily volume over 24 hours.
[141] Mr Whyte's 'rebuttal evidence' advised that the annual average rate of take for 97042 over the last five years varied between 3.4 to 6.0 L/s which accords with the 2017 to 2019 summer rates of take outlined here. The maximum instantaneous rate was 27.6 L/s.
[142] Further Submissions in Reply by Counsel for The Applicants (Reply to Evidence of D Whyte Dated 21 June), paragraph 6.
[143] Jef Desbecker and Robina Bodle, James and Lyn Campbell, Dinah Eastwood and Angus Sutherland, Patrick and Lisa Garceau, Bridget Wolter, Mylore Family Trust, Bloomsbury Stud, Glen Russell, and Mark Weldon.
[144] Including Patrick and Lisa Garceau, Jef Desbecker and Robina Bodle, and James and Lyn Campbell.
[145] The applicant has two authorised notice of exemptions, WEX0129 and WEX0184.

and should satisfy the concerns of some submitters who raised issues around monitoring and recording.[146]

[176] I briefly addressed the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-FM) in section 3.5 of this Decision. I note Ms King advised that no consents are required under the NES-F. In saying that I note some submitters[147] were of the view that there were wetlands below Glencoe Road that would be affected by the BSTGT takes, but as discussed in section 4.5.1 of this Decision, I received no evidence of probative value that supported those contentions.

[177] Regarding the National Environmental Standard for Sources of Human Drinking Water, Ms King advised that there are no registered drinking supplies within the vicinity of the applicant's proposed takes.[148]

[178] No other relevant national environmental standards or regulations were brought to my attention and I am not aware of any.

4.14 National policy statements

[179] The New Zealand Coastal Policy Statement 2010 (NZCPS) is not relevant.

[180] The NPS for Freshwater Management 2020 (NPSFM) commenced on 3 September 2020 and so I have had regard to its objective and policies as set out in Part 2 of that document. I note that Part 3 largely relates to implementation actions required by ORC in terms of its regional plan and other executive functions.

[181] The sole Objective 2.1 of the NPSFM 2020 is set out in Section 4.5 of this Decision.

[182] In this case the health and well-being of the freshwater ecosystem of the RBNB and NCC are prioritised by adherence to the primary allocation limit established under the RPW:O and the imposition of residual flows below each of BSTGT's three take points.

[183] Objective 2.1(1)(b) requires people's drinking water needs are to be prioritised over other uses of the abstracted water. This will be achieved by the imposition of an abstraction cessation condition of consent on the Royal Burn, as outlined in sections 4.5.2 and 4.8 of this Decision.

[184] I consider that relevant NPSFM policies are 1, 3, 7, 9, 10, 11 and 15.[149]

[185] Policy 1 is to manage freshwater in a way that gives effect to Te Mana o te Wai. The NPSFM states that Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. This largely replicates Objective 2.1.

[186] Policy 3 is to manage freshwater in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis. In this case I find that is primarily achieved by ensuring that the allocation for irrigation is limited to the 90th percentile annual (or seasonal) demand, as discussed in section 4.3.2 of this Decision, and by having regard to the needs of downstream water users.

[187] Policy 7 is that the loss of river extent and values is avoided to the extent practicable and Policy 9 is that the habitats of indigenous freshwater species are protected. Policy 10 is that the habitat of trout and salmon is protected, insofar as this is consistent with Policy 9. This relates primarily in this case to the imposition of residual flows which I discussed in section 4.5.1 of this Decision.

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[146] Including Jef Desbecker and Robina Bodle, Mark Weldon and Sarah Elliot.
[147] Including Peter Clarke.
[148] Section 42A Report, section 6.8.1.
[149] The remaining policies relate to procedural matters; ORC plan making, monitoring and information provision; or features that are not present here (natural inland wetlands and outstanding water bodies).

[188] Policy 11 is that freshwater is allocated and used efficiently and all existing over allocation is phased out. I understand that the applicant utilises efficient irrigation systems and the rates of take now sought are well is within each Creek's available primary allocation as dictated by the provisions of the RPW:O. Therefore, there is no over allocation.

[189] Policy 15 is that communities are enabled to provide for their social, economic, and cultural well-being in a way that is consistent with the NPSFM. The water abstraction will enable the applicants to do just that, but it is also necessary to consider the well-being of downstream water users who rely on flow in the Royal Burn for domestic and stock drinking water. That is what I have done.

[190] I am satisfied that having regard to the NPSFM does not weigh against a grant of consent.

[191] Ms King addressed the National Policy Statement on Renewable Electricity Generation 2011. She noted that BSTGT has applied to take 89.5 L/s combined which is below 100 L/s permitted rate of from Lake Dunstan (RPW:O Rule 12.1.2.2). She concluded that, taking into account the permitted baseline, the proposed takes will have a less than minor effect on renewable electricity generation. I agree.

4.15 Regional Policy Statement

[192] I understand that as of 15 March 2021 the former Regional Policy Statement for Otago 1998 has been completely revoked and the Partially Operative Otago Regional Policy Statement 2019 now comprises the Regional Policy Statement for Otago.

[193] I note that in a recent Environment Court decision the Court declined to assess a water take abstraction under the RPS stating "*There seems to be little point to the exercise if the Regional Policy Statement does not give effect to the National Policy Statement for Freshwater Management as amended in 2017 or the new National Policy Statement for Freshwater Management released in 2020. We understand that the Regional Council intends on a complete review of this policy document …*".[150]

[194] It is tempting to adopt the same approach as the Court, but out of an abundance of caution I briefly turn to the RPS which was also comprehensively considered by Ms King.[151] In general, and unsurprisingly, the relevant provisions focus on recognising and providing for Kāi Tahu values; maintaining or enhancing the range and extent of habitats provided by fresh water and the natural functioning of rivers; ensuring the efficient allocation and use of water; and encouraging water harvesting and storage so as to reduce demand on water bodies during periods of low flows. I have had regard to all of those matters earlier in this Decision. I note that the Ms King considered that the application was generally consistent with the RPS provisions.[152]

4.16 Regional plans

4.16.1 Operative Regional Plan

[195] The relevant operative plan is the RPW:O which I have had regard to as set out in sections 4.1 to 4.12 of this Decision. The chapter of most relevance is Chapter 6 Water Quantity.[153] The introduction to Chapter 6 outlines that the water allocation and minimum flow provisions are intended to provide for the maintenance of aquatic ecosystems and natural character values while providing for sustainable use.

[196] The Ms King addressed the provisions of the RPW:O concluding that the application was consistent with them, subject to the imposition of suitable conditions of consent.[154] I note that in the recent *Lindis* decision

[150] *Clutha District Council vs Otago Regional Council* ENV-2019-CHC-132 at [25].
[151] Section 42A Report, section 6.8.6.
[152] Section 42A Report, section 6.8.6, page 53.
[153] Also relevant are Chapter 4 (Kai Tahu ki Otago Water Perspective and Chapter 5 Natural and Human Use Values of Lakes and Rivers).
[154] Section 42A Report, section 6.8.7, page 56.

the Court found the RPW:O to be "*out of date*" because it did not give effect to the NPSFM or the RPS.[155] I have nevertheless had regard to the Ms King's assessment and concur with it.

[197] In terms of RPW:O matters not addressed earlier in this Decision, I note that RPW:O Policy 6.4.0C is to promote and give preference, as between alternative sources, to the take and use of water from the nearest practicable source. The RCA states that the cost of installing a bore or pumping uphill from the Arrow River would be cost prohibitive.[156] Ms King considered that the applicant's proposal utilised the nearest practical source, notwithstanding the fact that some submitters wished to see BSTGT utilise groundwater.[157] I agree.

4.16.2 Proposed Plan Change 7

[198] PPC7 was notified by the ORC in March 2020 and again by the EPA in July 2020. The BSTGT application was lodged before those dates and consequently under s88A(1A) of the RMA the application's consent categories are governed by the operative RPW:O which was in force when the application was lodged. However, the PPC7 rules affect water quantity and so under RMA s86B(3) the PPC7 rules have immediate legal effect. Consequently, PPC7 Rule 10A.3.2.1 (non-complying activity) also applies to the application. I discussed s104D matters in section 3.5 of this Decision.

[199] Under s88A(2)[158] the objectives and policies in PPC7 must be had regard to, notwithstanding that they have yet to proceed through the First Schedule process.

[200] PPC7 Objective10A.1.1 is procedural only.

[201] Policy 10A.2.1 applies to the replacement of the applicant's 'deemed permits'. Importantly, Policy 10A.2.1(b) requires there to be no increase in the area under irrigation. That means that any land that was not currently being irrigated (namely land targeted for future development) cannot be allocated any water. I understand that in this case no additional irrigable area is sought[159] and that was confirmed by Ms King's answers to my written questions.

[202] Policy 10A.2.1(c) requires there to be no increase in the instantaneous rate of abstraction (namely the rate of take in L/s). In this case the rates of abstraction now sought (see section 3.4 of this Decision) are considerably less than those 'authorised' by the Deemed Permits.

[203] Policy 10A.2.1(d) requires any existing residual flow, minimum flow and take cessation conditions to essentially be 'rolled over'. Ms Lennox responsibly advised that Deemed Permit 96285 requires that "not more than one half of the flow in the Royal Burn North Branch shall be taken under this permit". Having regard to Policy 10A.2.1(d) would suggest the continuation of that approach, however, I prefer the residual flow outcomes discussed in section 4.5.1 of this Decision as they have an evidential foundation.[160]

[204] Policy 10A.2.1(e) requires that there is a reduction in the volume of water allocated. In this case the applicant will be granted monthly and annual limits that are significantly lower than what the Deemed Permits would allow to be taken and on that basis the policy requirement is met.

[205] I discuss Policy 10A.2.3 in section 6 of this Decision.

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[155] *Lindis* at [117].
[156] Part H – Alternative Water Supplies
[157] Section 42A Report,
[158] Which cross-refers to RMA s104(1)(b).
[159] EIC Lennox, paragraph 139.
[160] Ms Lennox also makes the point that BSTGT is also replacing Water Permit RM14.364.01, which does not include any residual flow conditions. Water Permit RM14.364.01 allows up to 55.6 L/s to the abstracted at the upper point of take on the NBRB, and the proposal is for only 15 L/s at that location. There is no need, therefore, to replace Deemed Permit 96285 if the residual flow condition on that consent causes concern. I find that further militates against "rolling over" the existing condition.

4.17 Iwi and hapū management plans

[206] The "Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008 - The Cry of the People, Te Tangi a Tauira" is relevant, as are the Kāi Tahu ki Otago Natural Resource Management Plan 2005 and the Te Runanga o Te Ngāi Tahu's Freshwater Policy. I consider that the application is in general accordance with the provisions of those documents, particularly those relating to water take measuring devices, consent durations not exceeding 25 years, justifiable volumes of abstraction being used efficiently, and avoiding compromising fishery and biodiversity values. All of those matters have been considered earlier in this Decision.

4.18 Other matters

[207] Regarding cumulative effects, Ms King considered that the residual flows, along with the rates and volumes of abstraction, provide for no more than minor cumulative effects in relation to the abstraction of water from New Chums and Royal Burn. In relation to the Clutha River, she considered there was no evidence of a more than minor cumulative effect.[161] I agree.

[208] There are no other relevant matters that I am aware of.

5 Part 2 matters

[209] I note that in the recent *Lindis* decision the Court concluded that notwithstanding the Court of Appeal decision in *RJ Davidson Family Trust v Marlborough District Council,* it was desirable to assess Part 2 matters because of inconsistencies in the RPW:O. I take the same approach here, noting that s5 is not itself an operative provision.[162].

[210] The natural character values of the watercourses will be sustained by the residual flows and annual volumes of allocation (s6(a)). Similar conclusions can be made regarding the Creeks' amenity values (s7(c)), the quality of their environments (s7(f)) and the habit for the stunted brown trout in the downstream reach of the Royal Berm (s7(h)). The applicant utilises efficient irrigation methods and I have allocated water at a 90th percentile reliability of supply and rejected the application for a significant volume of baseflow, so in that regard the efficient use of water is addressed (s7(b)). The imposition of monthly and annual allocation limits will have particular regard to the finite characteristics of the water resource (s7(g)). The abstractions will not affect any outstanding natural features or landscapes (s6(b)) and the Creeks do not support any significant habitats of indigenous fauna that require protection (s6(c)). I understand there is limited public access currently available (s6(d)). I have sought to recognise and provide for the relationship of Maori and their culture and traditions with the Creek within the extent of the relief sought by submitter Aukaha (ss6(e), 7(a) and 8).

[211] I find that a consideration of Part 2 matters does not weigh against a grant of consent provided appropriate consent conditions are imposed.

6 Consent Duration

[212] The applicant seeks a consent duration of 15 years and is happy for the consent term to expire on 31 December 2035.[163]

[213] Several submitters[164] sought a duration of 6 years (based as I understand it on PPC7 Policy 10A.2.3 amongst other things).

[214] Policy 6.4.19 of the RPW:O addresses consent durations for consents to take and use water. It does not recommend actual durations but instead contains seven criteria for me to consider. In this case the

[161] Section 42A Report, section 6.1.
[162] *Environmental Defence Society v NZ King Salmon* [2014] NZSC 38 at [8] and [149].
[163] EIC Lennox, paragraph 143.
[164] Including Aukaha, Philip Blakley and Mary Wallace, Jef Desbecker and Robina Bodle, Mark Weldon and Sarah Elliot, and John Baker and Bridget Steed (as set out in their counsel's legal submissions).

proposed long-term purposes of the abstractions are enduring, namely stock drinking water and irrigation (criteria (a)). There is no Schedule 2A catchment minimum flow for either of the affected watercourses (criteria (b)). If the RPW:O is ever changed to include a minimum flow for the Arrow River (or the RBNB or NCC), then the applicant has agreed to a condition that would impose that minimum flow on the abstractions. So, criteria (a) and (b) favour a longer duration.

[215] Climatic variability is certain to occur (criteria (c)). I understand that climate change may result in a reduced snowpack which may in turn affect the flows in the watercourses given the high elevation of their headwaters in the Crown Range. Based on the climate change projections for the Otago region prepared by the Ministry for the Environment in 2018 and available on their website, temperatures (and therefore evapotranspiration) are expected to increase and while precipitation may also increase, changes in the timing (largest increases in winter and spring) and form (more rain and less snow) may reduce water security in the region. More frequent droughts are predicted. The applicant has not proposed adaptive management (criteria (e)). Criteria (c) and (e) therefore favour a shorter duration in my view.

[216] On the evidence I have found there are no significant adverse effects arising from the proposal (criteria (d)) and so that favours a longer duration. The applicant has invested heavily in water conveyance and irrigation infrastructure (criteria (f)) and they utilise an efficient irrigation system (criteria (g)). These criteria favour a longer duration.

[217] In my subjective view Policy 6.4.19 alone would weigh in favour of a duration within the range of at least 15 years. I also record my view that allocation volumes and residual flows are both matters that can be revisited in the future if a suitably worded s128 review condition is imposed, which will be the case here.

[218] However, as alluded to in section 4.16.2 of this Decision, PPC7 Policy 10A.2.3 is relevant.

[219] PPC7 Policy 10A.2.3 is to not grant a duration exceeding six years, irrespective of any other policies in the Plan, except where Rule 10A.3.2.1 applies and the abstraction will have no more than minor adverse effects (including no more than minor cumulative effects) on the ecology and the hydrology of the surface water body (and any connected water body) from which the abstraction is to occur and the resource consent granted will expire before 31 December 2035. PPC7 Rule 10A.3.2.1 does apply[165] and on the weight of evidence before me I have concluded that the applicant's abstraction will have no more than minor adverse effects on the ecology and the hydrology of the watercourses, particularly due to the absence of fishery values, the residual flows below each point of take and the Royal Burn 5 L/s low flow abstraction cessation trigger offered by the applicant.

[220] That leaves Policy 10A.2.3(b) requiring the consent to expire before 31 December 2035. PPC7 is currently before the Environment Court as part of its RMA Schedule 1 process and normally that would lead me to assign it little weight. However, Policy 10A.2.3(b) is a very directive policy and its application results in a consent duration of ≈14 years from the date of grant. In my experience a duration of that order is not inconsistent with irrigation water take durations commonly granted in other regions and it is close to the range (albeit at the lower end) of durations indicated as being suitable by my assessment of RPW:O Policy 6.4.19.

[221] Lending weight to my assessment, I note that in a recent Environment Court decision that addressed PPC7, the Court stated that PPC7 Policy 10A.2.3 is plainly directive and that to the extent that the matters listed in Policy 6.4.19 are relevant, they are to be considered in addition to Policy 10A.2.3. The Court decided to give weight to Policy 10A.2.3 and apply the policy according to its tenor.[166]

[222] Consequently, I find the consent should expire on 30 December 2035.

[165] Although it has no material effect as the application remains a restricted discretionary activity.
[166] *Clutha District Council vs Otago Regional Council* ENV-2019-CHC-132 at [35 and 36].

7 Consent Conditions

[223] I was provided with recommended consent conditions by the Ms King. Ms Lennox provided comments on those conditions and suggested a number of sensible amendments.[167] Ms King recommended further changes as part of her end of hearing report and the applicant responded to those amendments. The conditions I have imposed are contained in Appendix 1 to this Decision and they reflect my various findings.

[224] It is conceivable that the amended conditions set out in Appendix 1 may contain errors. Accordingly, should the applicant or the ORC identify any minor mistakes or defects in the attached amended conditions, then I am prepared to issue a revised schedule of amended conditions under s133A of the RMA correcting any such matters. Consequently, any minor mistakes or defects in the amended conditions should be brought to my attention prior to the end of the 20-working day period specified in section 133A of the RMA.

8 Determination

[225] My determination on the application is set out below. My reasons are detailed in the body of this Decision, but in summary they include:

(a) a significant decrease in the currently consented rates of abstraction (L/s);

(b) the imposition of monthly limits and annual allocation limits primarily based on the 90th percentile irrigation seasonal demand;

(c) efficient irrigation practices;

(d) the imposition of residual flows for the watercourses which reflect the evidence regarding their natural character, ecological values and hydrological nature; and

(e) the imposition of a low flow take cessation condition that affords priority to downstream users of water for domestic supply purposes.

[226] I **grant** the application lodged by BSTGT Limited and the A P McQuilkin Family Trust to abstract water from the Royal Burn North Branch and New Chums Gully for the purposes of irrigation and stock drinking water, with an expiry date of 30 December 2035 subject to the conditions in Appendix 1.

Signed by the commissioner:

Rob van Voorthuysen
Dated: 23 June 2021

[167] EIC Lennox, paragraphs 144 to 159.

Appendix 1: Consent Conditions

Our Reference: A1479918 Consent No. RM19.151.01

WATER PERMIT

Pursuant to Section 104C of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name:	~~Share XX~~ BSTGT Limited
Address:	Barley Station Investments Limited, Hurstmere Office Suite, Level 3, 95 Hurstmere Road, Takapuna
Name:	~~Share XX~~ Antony Patrick McQuilkin, Nicola Jane McQuilkin, Kate Louise Skeggs, Samuel Angus McQuilkin and Graeme Morris Todd being Trustees of the A P McQuilkin Family Trust
Address:	141 Glencoe Road, RD 1, Queenstown

To take and use primary allocation surface water from Royal Burn and New Chums Creek for the purpose of irrigation and stock water supply

For a term expiring on 30 December ~~June~~ 2035

Location of Point of Abstraction:	Site 1: Upper Royal Burn North Branch, approximately 1.2 kilometres north of the intersection of Glencoe Road and Crown Range Road, Arrowtown Site 2: Lower Royal Burn North Branch, approximately 600 metres north of the intersection of Glencoe Road and Crown Range Road, Arrowtown Site 3: New Chums Creek, approximately 3.4 kilometres north west of the intersection of Glencoe Road and Crown Range Road, Arrowtown
Legal Description of land at points of abstraction:	Site 1: Lot DP 458870 Site 2: Lot 102 DP 473144 – Access Road Site 3: Section 29 Block X Shotover SD
Legal Description of lands where water is to be used:	Lot 1 DP 482448 Lot 2 DP 26283
Map Reference at point of abstraction (NZTM2000):	Site 1: E1275616 N5012955 Site 2: E1275632 N5012344 Site 3: E1274643 N5015072

Conditions

Specific

1. a) The take and use of surface water as primary allocation from New Chums Creek and Royal Burn North Branch and the retake of water from water races and storage ponds ~~a reservoir~~ for the irrigation of 139.2 hectares of pasture, 20 hectares of golf course and stock water supply at the map references and land legally described above must be carried out in accordance with the plans and all information submitted with the application, detailed below and all referenced by the Consent Authority as consent number RM19.151:

   i. The application and supporting information received by the Consent Authority on 13 May 2019;

   ii. Amendments dated 27 November 2020 and 3 March 2021; and

   iii. Hearing evidence 15 June 2021.

   b) If there are any inconsistencies between any conditions of this consent and the application, the conditions of consent must prevail.

2. This permit must not commence until Deemed Permits RM14.364.01, 96285, 3073B, 97029.V1 and 95696 have been surrendered or expired.

   Advice Note: This permit does not provide for the take and use of water from any named or unnamed continually or intermittently flowing stream that has a defined bed and that is intercepted by the New Chums Race.

3. a) The rate of abstraction as primary allocation from Upper Royal Burn (Site 1) must not exceed 15 litres per second;

   b) The rate of abstraction as primary allocation from Lower Royal Burn (Site 2) must not exceed 50 litres per second;

   c) The rate of abstraction as primary allocation from New Chums Creek (Site 3) must not exceed 24.5 litres per second;

   d) The ~~combined~~ total volume of abstraction under this permit ~~during the irrigation season~~ for irrigation and stock drinking water must not exceed:

   i. ~~193,164~~ 197,401 cubic metres per month;
   ii. ~~888,305~~ 892,331 cubic metres per year.

   e) The volume of abstraction under this permit for the purpose of irrigating the golf course must not exceed:

   i 8,889 cubic metres per month;

   ii 38,989 cubic metres per year.

   ~~e) The combined volume of abstraction under this permit outside the irrigation season must not exceed:~~
   ~~i. 25,920 cubic metres per month;~~
   ~~ii. 103,680 cubic metres per year~~.

~~4~~. ~~The Consent Holder must maintain a residual flow of at least 9.6 litres per second below the intake on Upper Royal Burn (Site 1) take at NZTM 2000 E1275616 N5012955 at all times when the Consent Holder is exercising this consent to abstract water from the Creek~~.

5. ~~The Consent Holder must maintain 50:50 flow sharing at the intake on the Lower Royal Burn (Site 2) at all times when the Consent Holder is exercising this consent to abstract water from the Creek~~.

4 ~~6~~. The Consent Holder must maintain a visual residual flow for at least 50 metres ~~of at least 4.2 litres per second~~ below ~~the intake on New Chums Creek (Site 3) at NZTM 2000 E1274643 N5015072~~ a Location of Point of Abstraction at all times when the Consent Holder is exercising this ~~consent~~ permit to abstract water from a Location of Point of Abstraction ~~the Creek~~.

~~7~~. ~~a) The Consent Holder must install a pipe below the intake at the Upper Royal Burn take at NZTM 2000 E1275616 N5012955 provide the residual flow specified in Condition 4 prior to the first exercise of this consent.~~
~~b) The Consent Holder must provide the Consent Authority photographs of the pipe within 10 working days following installation. Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.~~
~~c) The pipe must have the following minimum specifications:~~
~~i. 5 centimetre diameter;~~
~~ii. Made of plastic;~~
~~iii. Length of 2.5 metres; and~~
~~iv. Fall drop of 1 metres.~~

~~8~~. ~~a) The Consent Holder must install a pipe below the intake on New Chums Creek at NZTM 2000 E1274643 N5015072 provide the residual flow specified in Condition 6 prior to the first exercise of this consent.~~
~~b) The Consent Holder must provide the Consent Authority photographs of the pipe within 10 working days following installation. Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.~~
~~c) The pipe must have the following minimum specifications:~~
~~i. 5 centimetre diameter;~~
~~ii. Made of plastic;~~
~~iii. Length of 4.5 metres; and~~
~~iv. Fall drop of 0.4 metres~~.

5 ~~9~~. The Consent Holder must not abstract water from the Royal Burn for irrigation or stock water drinking purposes when flows in the Royal Burn drop below ~~10~~ 5 litres per second at NZTM2000 E1274996 N5011547.

Performance Monitoring

6 ~~10~~. a) The Consent Holder must maintain at each of the ~~Upper~~ Royal Burn takes (Sites 1 and 2) and the New Chums Creek take (Site 3):
i. A water meter~~(s)~~, capable of output to a datalogger, that ~~which~~ will measure the rate and the volume of water taken to within an accuracy of:

- +/- 5% at NZTM 2000 E1275616 N5012970 Site 1
- +/- 10% at NZTM 2000 E1275610 N5012358 Site 2
- +/- 10% at NZTM 2000 E1274453 N5014595 Site 3

~~The water meter must be capable of output to a datalogger~~.
ii. A datalogger that time stamps a pulse from the flow meter at least once every 15 minutes and has the capacity to hold at least twelve months data of water taken.

iii. A telemetry unit which sends all of the data to the Consent Authority.
b) The Consent Holder must provide telemetry data once daily to the Consent Authority. The Consent Holder must ensure data compatibility with the Consent Authority's time-series database and conform with Consent Authority's data standards.
c) Within 20 working days of ~~the installation of the water meter / datalogger/ telemetry unit,~~ any subsequent replacement of ~~the~~ a water meter / datalogger/ telemetry unit and at 5-yearly intervals from the commencement of this consent ~~thereafter~~, and at any time when requested by the Council, the Consent Holder must provide written certification to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
i. Each device is installed in accordance with the manufacturer's specifications;
ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and
iii. That the water meter has been verified as accurate.
d) ~~The~~ Each water meter / datalogger / telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.
e) All practicable measures must be taken to ensure that the water meters and recording device(s) are fully functional at all times.
f) The Consent Holder must report any malfunction of ~~the~~ a water meter / datalogger/ telemetry unit to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired within 10 working days of observation of the malfunction and the Consent Holder must provide proof of the repair, including photographic evidence of any physical repairs, to the Consent Authority within 5 working days of the completion of repairs. Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.
g) The Consent Holder must ensure the water meter returns accurate readings at all times including by routinely checking the device and removing any ice or debris build up.

Advice Note: the water meter, data logger and telemetry units should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.

~~11~~. ~~a) The Consent Holder must maintain at the Lower Royal Burn (Site 2) take a:~~
~~i. Water meter(s) that will measure the rate and the volume of water taken to within an accuracy of +/- 10% at NZTM 2000 E1275610 N5012358. The water meter must be capable of output to a datalogger.~~
~~ii. Datalogger(s) that time stamps a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least twelve months data of water taken.~~
~~iii. Telemetry unit which sends all of the data to the Consent Authority.~~
~~b) The Consent Holder must provide telemetry data once daily to the Consent Authority. The Consent Holder must ensure data compatibility with the Consent Authority's time-series database and conform with Consent Authority's data standards.~~
~~c) Within 20 working days of the installation of the water meter/data logger/telemetry unit, any subsequent replacement of the water meter/data logger/telemetry unit, and at annual intervals thereafter, and at any time when requested by the Council, the Consent Holder must provide written certification~~

to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
i. Each device is installed in accordance with the manufacturer's specifications;
ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and
iii. that the water meter has been verified as accurate.
d) The water meter/data logger/telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.
e) All practicable measures must be taken to ensure that the water meter and recording device(s) are fully functional at all times.
f) The Consent Holder must ensure the water meter returns accurate readings at all times including by routinely checking the device and removing any ice or debris build up.
g) The Consent Holder must report any malfunction of the water meter/data logger/telemetry unit, to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired within 10 working days of observation of the malfunction and the Consent Holder must provide proof of the repair, including photographic evidence, to the Consent Authority within 5 working days of the completion of repairs.
Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.
Note: the water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.

12. a) The Consent Holder must maintain at the New Chums race (Site 3) take a:
i. Water meter(s) that will measure the rate and the volume of water taken to within an accuracy of +/- 10% at NZTM 2000 E1274453 N5014595. The water meter must be capable of output to a datalogger.
ii. Datalogger(s) that time stamps a pulse from the flow meter at least once every 15 minutes and have the capacity to hold at least twelve months data of water taken.
iii. Telemetry unit which sends all of the data to the Consent Authority.
b) The Consent Holder must provide telemetry data once daily to the Consent Authority. The Consent Holder must ensure data compatibility with the Consent Authority's time-series database and conform with Consent Authority's data standards.
c) Within 20 working days of the installation of the water meter/data logger/telemetry unit, any subsequent replacement of the water meter/data logger/telemetry unit, and at annual intervals thereafter, and at any time when requested by the Council, the Consent Holder must provide written certification to the Consent Authority signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
i. Each device is installed in accordance with the manufacturer's specifications;
ii. Data from the recording device can be readily accessed and/or retrieved in accordance with the conditions above; and
iii. that the water meter has been verified as accurate.
d) The water meter/data logger/telemetry unit must be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.
e) All practicable measures must be taken to ensure that the water meter and recording device(s) are fully functional at all times.

~~f) The Consent Holder must ensure the water meter returns accurate readings at all times including by routinely checking the device and removing any ice or debris build up.~~

~~g) The Consent Holder must report any malfunction of the water meter/data logger/telemetry unit, to the Consent Authority within 5 working days of observation of the malfunction. The malfunction must be repaired within 10 working days of observation of the malfunction and the Consent Holder must provide proof of the repair, including photographic evidence, to the Consent Authority within 5 working days of the completion of repairs.~~

~~Photographs must be in colour and be no smaller than 200 x 150 millimetres in size and be in JPEG form.~~

~~Note: the water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website~~

~~13~~. ~~The pipe as required by Conditions 7 and 8 must be maintained in good working order, to ensure the pipe is performing as designed. Records must be kept of all inspections and maintenance and these should be available to the Consent Authority on request~~.

7 ~~14~~. The Consent Holder must install a weir at NZTM2000 E1274996 N5011547 to measure the ~~residual~~ flow required by Condition ~~9~~ 5. The weir must be maintained in good working order to ensure the weir is performing as designed. Records must be kept of all inspections and maintenance and these should be available to the Consent Authority on request.

8 ~~15~~. A water use efficiency report must be provided to the Consent Authority by 31 July each year for the period commencing 1 July the previous year and ending 30 June the current year. The report must assess the water use over the previous 12 months in respect of the efficient use of water for the purposes consented. This report must include, but not necessarily be limited to:

a) Area and crop type irrigated including a scaled map, aerial photograph (or Google Earth image) of the irrigated areas;

b) Annual summary of the combined monthly volume of water abstracted from New Chums Creek and the Royal Burn ~~Poison Creek and the unnamed tributary of Poison Creek~~;

c) Reasons why use may have varied from the previous year;

d) Information demonstrating irrigation equipment that has been used and decision-making regarding efficiency of use (e.g. soil moisture data, irrigation scheduling, meter accuracy checks, computer control of irrigation) and any changes planned for the coming year;

e) Measures undertaken to avoid loss or wastage of water including any bypass of water;

f) Any changes or modifications to irrigation (and water conveyance) infrastructure; and

g) Water conservation steps taken.

9 ~~16~~ A fertiliser and nitrogen application report must be provided to the Consent Authority by 31 July each year for the period commencing 1 July the previous year and ending 30 June the current year. The report must assess the fertiliser and nitrogen application over the previous 12 months. This report must include, but not necessarily be limited to:

a) Area and crop type where fertiliser and/or nitrogen were applied including a scaled map, aerial photograph (or Google Earth image) of the irrigated areas;

b) Annual summary of the combined monthly volume of fertiliser and/or nitrogen used;

c) Reasons why use may have varied from the previous year; and
d) Information demonstrating application equipment that has been used and decision-making regarding the use (e.g. soil moisture data, irrigation scheduling) and any changes planned for the coming year.

~~17~~. ~~The Consent Holder must monitor groundwater levels from bore F41/0176:~~
~~a) Daily via a pressure transducer; and~~
~~b) Quarterly via manual measurements~~
~~These results must be provided to the Consent Authority by 31 July each year or upon request~~.

General

10 ~~18~~. The Consent Holder must take all practicable steps to ensure that at all times:
a) There is no leakage from pipes and structures;
b) The use of water is confined to targeted areas, as illustrated on the attached plan as Appendix 1 to this consent;
c) That the volume of water used for irrigation does not exceed that required for the soil to reach field capacity and avoids the use of water onto non-productive land such as impermeable surfaces; and
d) That irrigation to land must not occur when the moisture content of the soils is at or above field capacity.

Review

11 ~~19~~. 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 resource consent within three months of each anniversary of the commencement of this resource consent or within two months of any enforcement action taken by the Consent Authority in relation to the exercise of this resource consent, for the purpose of:
a) Determining whether the conditions of this resource consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the resource consent and which it is appropriate to deal with at a later stage, or which becomes evident after the date of commencement of the resource consent;
b) Ensuring the conditions of this resource consent are consistent with any National Environmental Standards, relevant plans, and/or the Otago Regional Policy Statement;
c) Reviewing the frequency of monitoring or reporting required under this resource consent;
d) Reducing the consented instantaneous rate of abstraction, maximum monthly abstraction volume, and/or maximum annual abstraction volume (Condition 3); and/or changing the monitoring, operating, and reporting requirements (Conditions 6, 7, 8 or 9, ~~10, 11, 12, 13, 14, 15, 16 or 17~~), in response to and/or to implement:
i. the results of monitoring carried out under this resource consent;
ii. water availability, including alternative water sources;
iii. actual water use;
iv. efficiency of water use;
v. effects of water use;
vi. surface water allocation limits and minimum flows set out in any future regional plan, including any review of the Regional Plan: Water for Otago;
vii. surface water quality limits set out in any future regional plan, including any review of the Regional Plan: Water for Otago; and/or
viii. new statutory requirements for measuring, recording or data transmission.
e) Imposing a minimum flow restriction as a condition on this resource consent

if and when an operative regional plan sets a minimum flow for the catchment.

Notes to Consent Holder

1. *If you require a replacement water permit upon the expiry date of this water permit, any new application should be lodged at least 6 months prior to the expiry date of this water permit. Applying at least 6 months before the expiry date may enable you to continue to exercise this permit until a decision is made on the replacement application. Failure to apply at least 3 months in advance of the expiry date may result in any primary allocation status being lost. A late application may result in the application being treated as supplementary allocation if any such allocation is available.*

2. *For the purposes of Condition 18, 'Field Capacity' means the amount of water that is able to be held in the soil after excess water has runoff.*

3. *For the purposes of Condition~~s~~ 6 ~~10, 11 and 12~~, the water meter, data logger and telemetry unit should be safely accessible by the Consent Authority and its contractors at all times. The Water Measuring Device Verification Form and Calibration Form are available on the Consent Authority's website.*

4. *Section 126 of the Resource Management Act 1991 provides that the Consent Authority may cancel this consent by written notice served on the Consent Holder if the consent has been exercised in the past but has not been exercised during the preceding five years.*

5. *The Consent Holder is responsible for obtaining all other necessary consents, permits, and licences, including those under the Building Act 2004, the Biosecurity Act 1993, the Conservation Act 1987, and the Heritage New Zealand Pouhere Taonga Act 2014. This consent does not remove the need to comply with all other applicable Acts (including the Property Law Act 2007 and the Health and Safety at Work Act 2015), regulations, relevant Bylaws, and rules of law. This consent does not constitute building consent approval. Please check whether a building consent is required under the Building Act 2004.*

6. *Under section 125 of the RMA, this consent lapses five years after the date it is granted unless:*
   a. The consent is given effect to; or
   b. The Consent Authority extends the period after which the consent lapses.

7. *Where information is required to be provided to the Consent Authority, this is to be provided in writing to watermetering@orc.govt.nz, and the email heading is to reference RM19.345 and the condition/s the information relates to.*

8. *The Consent Holder will be required to pay the Consent Authority an annual administration and monitoring charge to recover the actual and reasonable costs incurred to ensure ongoing compliance with the conditions attached to this consent, collected in accordance with Section 36 of the Resource Management Act 1991.*

9. *The Consent Holder must be aware of any rules that relate to the control of farm contaminants in runoff and leaching of nutrients to groundwater in*

relevant Otago regional plans and National Environmental Standards.

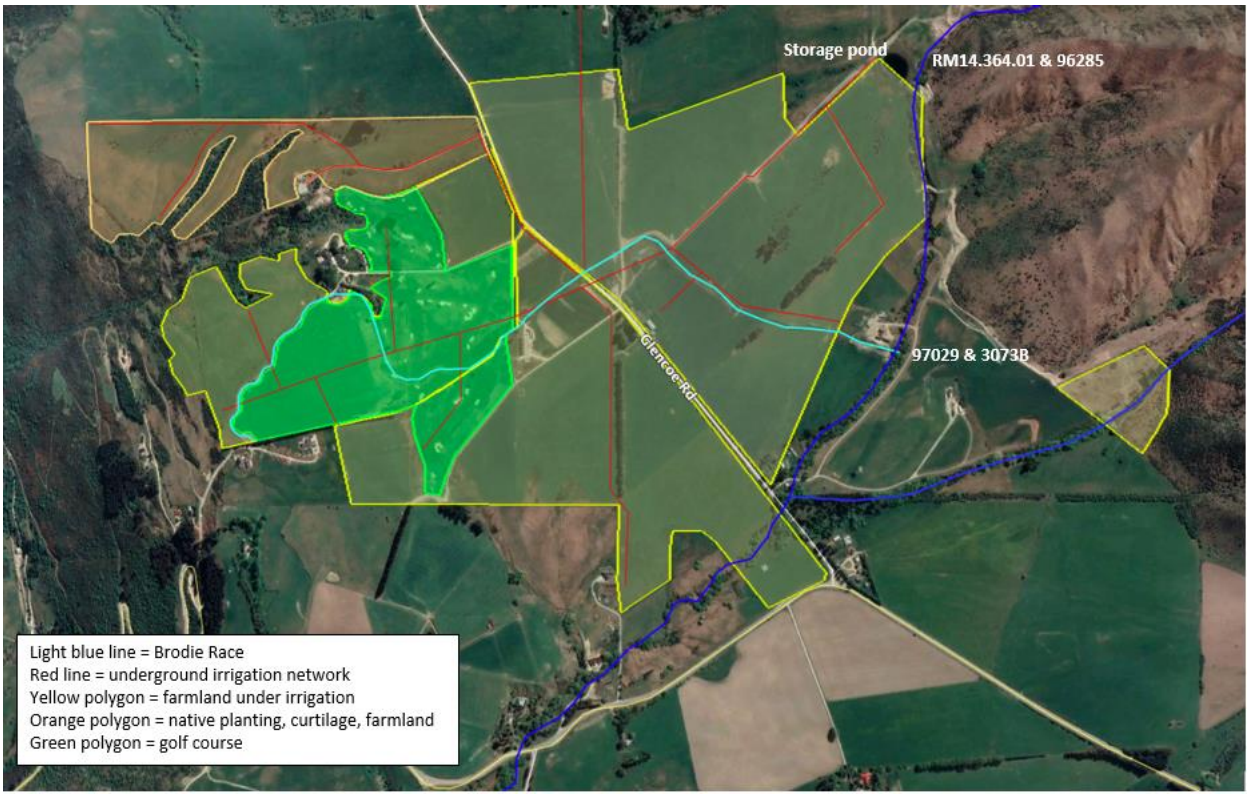
10. *Water may be taken at any time for reasonable domestic or stock water purposes where and the taking or use does not, or is not likely to, have an adverse effect on the environment in accordance with Section 14 of the Resource Management Act 1991.*

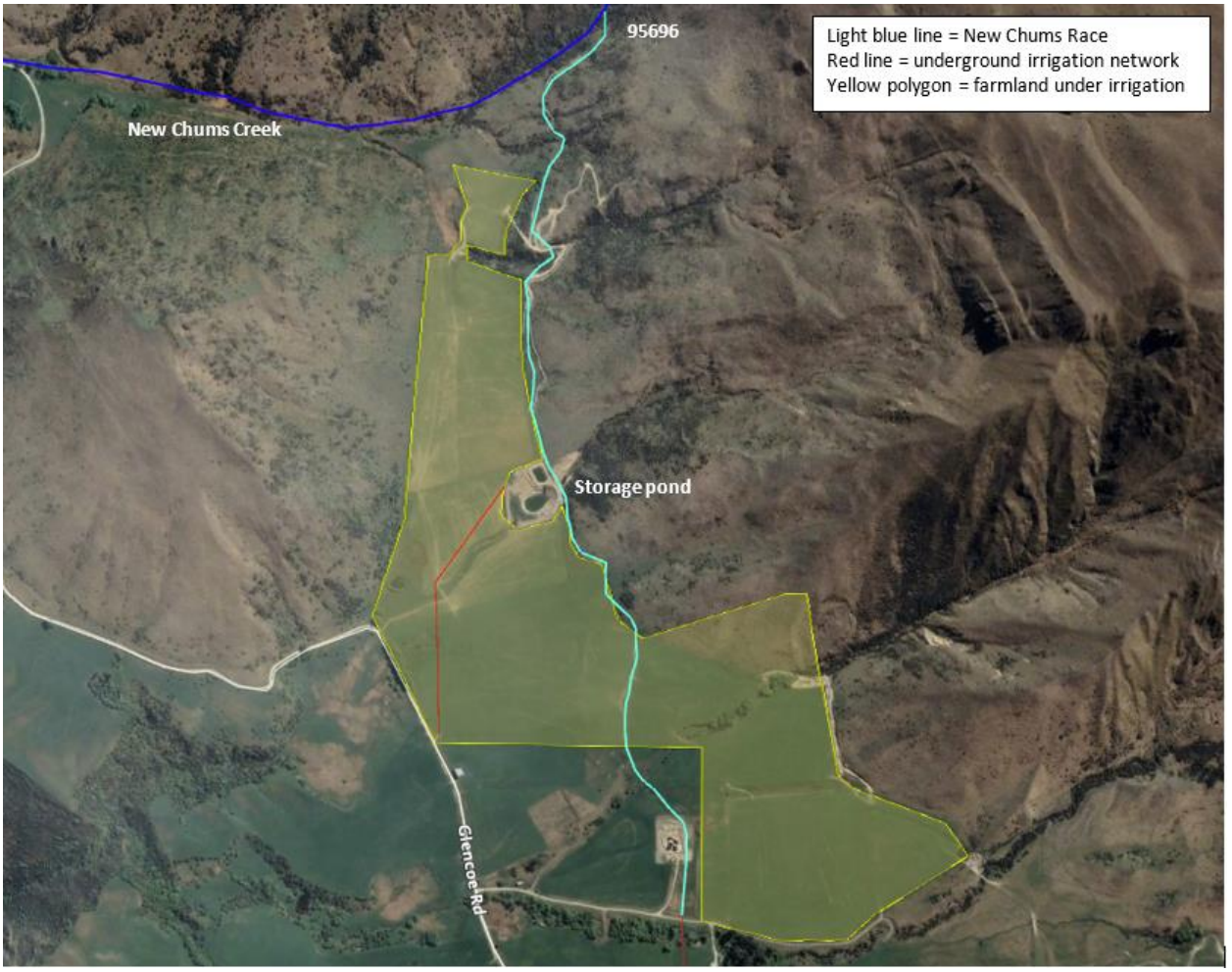
11. *Notice of Exemption WEX0129 and WEX0184 applies to this Water Permit.*

Issued at Dunedin this # day of # 2021

Joanna Gilroy
Manager Consents

Appendix 1: Irrigation area




95696
Light blue line = New Chums Race
Red line = underground irrigation network
Yellow polygon = farmland under irrigation
New Chums Creek
Storage pond
Glencoe Rd

Otago Regional Council