Dingleburn Station Limited

Silver Burn Hydro-electricity Generation Consents

Resource Consent Application and Supporting Information



Prepared by McKeague Consultancy 31 August 2023



Quality Assurance Statement for: McKeague Consultancy Ltd John Wickliffe House Dunedin 9016	
Prepared by	Jared Brenssell
Reviewed by	Susie McKeague
Approved for issue by	Susie McKeague

This document has been prepared for the benefit of the applicant for the purpose of obtaining consent from the Otago Regional Council. No liability is accepted by this company or sub-consultant of this company with respect to its use by any other person.

All rights reserved. No part of this tool may be reproduced, stored in a retrieval system or transmitted in any form by any means electronic, mechanical, photocopying, recording or otherwise without the prior written permission of McKeague Consultancy Ltd.

© McKeague Consultancy Limited



Table of Contents

Table of Contents	1
Table of Tables	3
Table of Figures	3
Part One – Resource Consent Application Forms	4
Form 9 of the Resource Management Act	4
Form 4E of the Otago Regional Council	7
Part Two – Supporting Information	8
1. Introduction	8
2. Dingleburn Station	8
3. The Physical Setting	10
3.1. Lake Hāwea	10
3.2. Silver Burn	10
4. Description of Activity	
4.1 The water intake	12
4.1.1 Location of take	12
4.1.2 Description of intake	13
4.1.3 The weir design	15
4.2 Hydro-electricity Generation and scheme description.	15
4.2.1 Discharge into the Silver Burn	17
5. Status of Activity	19
5.1 Taking and Use of Water	19
5.2 The Intake Weir	19
5.3 Discharge from a consented dam	20
5.4 Permitted Activities	20
5.4.1 Discharge to the Silver Burn	20
6. Assessment of Environmental Effects	21
6.1 Introduction	21
6.2 Effects on Hydrology	21
6.3 Effects of the Intake Weir	21
6.4 Effects on Ecological Values	22
6.5 Effects on Wetlands	22



	6.6	Effects on Natural Character, Public Access and Amenity	23
	6.7	Effects on Recreational Values	
	6.8	Effects on Cultural Values	23
	6.9	Effects on other Water Users	25
	6.10	Effects specific to the weir	25
	6.10	0.1 Effects of Weir Failure	25
	6.10	0.2 Effects of Weir on Land and Property	25
	6.10	0.3 Effects on Water Level and other Water Users	26
	6.10	0.4 Effects of Discontinuing the Weir	26
	6.11	Economic and standard of living Effects	26
	6.12	Positive and Social effects	27
	6.13	Summary of Effects	27
7	. Le	egislative Analysis	28
	7.1	Queenstown Lakes District Council (QLDC)- Operative and Proposed District 28	Plans
	7.2	Regional Plan: Water in Otago	28
	7.2.	1 Chapters 5 and 6 – Natural and Human Use Values and Water Quantity	28
	7.2.	2 Chapter 7 – Water Quality	34
	7.2.	3 Chapter 8 – Beds and Margins	35
	7.2.	4 Chapter 10A – Take and use permits	35
	7.3	Otago Regional Council Regional Policy Statement	35
	7.3.	1 Partially Operative Regional Policy Statement	36
	7.3.	2 Proposed Otago Regional Policy Statement 2021	37
	7.4	National Policy Statement on Freshwater Management (2020)	38
	7.5	National Policy Statement for Renewable Energy Generation (2011)	42
	7.5.	1 Policy A	42
	7.5.	2 Policy B	43
	7.5.	3 Policy C1	44
	7.5.	4 Policy C2	44
	7.5.	5 Policy D	44
	7.5.	6 Policy E2 – Hydro-electricity resources	45
	7.5.	7 Policy F	45



7	5.8 Policy G
7.	
7.	5.9 Policy H245
7.6	Resource Management (National Environmental Standards for Freshwater
Regu	ulations) 202045
7.7	Resource Management (National Environmental Standards for Sources of Human
Drin	king Water) Regulations 200746
7.8	Resource Management (Stock Exclusion) Regulations 202046
7.9	Resource Management (Measurement and Reporting of Water Takes) Regulations
2010	0 47
7.10) Ngāi Tahu Claims Settlement Act 199847
7.	10.1 215 Purpose of statutory acknowledgements47
7.11	Kāi Tahu Policy Documents48
7.	11.1 Kāi Tahu Ki Otago Natural Resource Management Plan (2005)48
7.	11.2 Te Runanga o Te Ngāi Tahu's Freshwater Policy49
7.12	2 Section 104 (1-2A) of RMA
8.	Consideration of Alternatives
9.	Consultation with Affected Parties51
10.	Term of Consent
11.	Draft Permit and Conditions

Table of Tables

Table 1 Characteristics of Silver Burn at the intake site location.	۱1
---	----

Table of Figures

Figure 1 Dingleburn Station boundary and location of access road, homestead and farm y	/ard
areas	9
Figure 2 New Zealand topographic map showing point of take and waterfalls	11
Figure 3 Silver Burn and the Silver Burn Catchment boundary in relation to Lake Hāwea	12
Figure 4 Location of point of take on the applicant's property	13
Figure 5 Photographs of the Silver Burn intake	14
Figure 6 Schematic of the Silver Burn hydro-generation system	16
Figure 7 Overview of the Silver Burn Hydroelectricity generation system	17



Part One – Resource Consent Application Forms

Form 9 of the Resource Management Act

Application for Resource Consent under Section 88 of the Resource Management Act 1991.

To: **Otago Regional Council** Private Bag 1954 Dunedin Applicant: **Dingleburn Station Limited** Address: ICL Chartered Accountants Limited, Level 1, 69 Tarbert Street, Alexandra, 9320 Contact: Guy and Davida Mead Email: guymead@xtra.co.nz 027 777 0774 and 03 443 1558 Phone: Consultant: Jared Brenssell **Resource Management Planning Assistant McKeague Consultancy** jared@mckconsultancy.co.nz

The applicant applies for the resource consents required for an existing private hydroelectricity generation scheme:

- Water Permit To take and Use water from the Silver Burn for the purpose of hydroelectricity generation.
- Water Permit To dam the Silver Burn for the purpose of facilitating the taking of water for the purpose of hydro-electricity generation.
- Discharge Permit To discharge water over a consented weir.

1 The names and addresses of the owner and occupier which this application relates:

- Owner: Dingleburn Station Limited ICL Chartered Accountants Limited, Level 1, 69 Tarbert Street, Alexandra, 9320
- Occupiers: Guy and Davida Mead Dingleburn Station, Dingle Burn Station Road, Dingle Burn

2 The location of the proposed activity is:

Map reference of point of take (NZTM 2000): E5072286 N1311733



Legal description of land adjacent to the point of take:

Legal Description of land where water will be used:

Section 1-3, 5-12 Survey Office Plan 365657 and Lot 3 Deposited Plan 443814

Section 6 SO 365657

3 A description of the activities to which the application relates is:

To take and use water from the Silver Burn to generate hydro-electricity to supply Dingleburn Station and to use a weir (including a discharge) to facilitate the take and use of water to generate hydro-electricity.

4 The following additional resource consents are required in relation to this proposal and have or have not been applied for:

No others are required.

5 Assessment of environmental effects

Attached in accordance with the Fourth Schedule of the Resource Management Act 1991, is an assessment of environmental effects in the detail that corresponds with the scale and significance of the effects that the proposed activity may have on the environment in accordance with Section 88 of, and the Fourth Schedule to, the Act.

6 Further Information

Attached is information (if any), required to be included in the application by the district plan, regional plan, the Resource Management Act 1991, or any regulations made under the Act or regulations.

By signing this form the signatory is:

- a) agreeing to pay all actual and reasonable application processing costs incurred by the Otago Regional Council and,
- b) stating that the information given in the application is true and correct to the best of his/her knowledge and belief.

Signature of applicant or person authorised to sign on behalf of applicant:

vederenseelU.

31 August 2023

Address for Service:



McKeague Consultancy

Attention: Jared Brenssell Resource Management Planning Assistant

- Email: jared@mckconsultancy.co.nz
- Postal: Level 7 John Wickliffe House 265 Princes Street Dunedin 9016

Mobile No: 022 075 7017



Form 4E of the Otago Regional Council

The information required by Forms 2, 4E and 7 of the Otago Regional Council is included in Form 9 above and the supporting information and assessment of environmental effects following.



Part Two – Supporting Information

1. Introduction

This is an application for the consents needed to facilitate the generation of hydro-electricity from water abstracted from the Silver Burn. Once abstracted and used to generate electricity, the water is returned to the Silver Burn (approximately 175 m from the point of take). Water use is considered to be non-consumptive.

The hydro-electricity scheme subject to this application has been operational on Dingleburn Station since 1962. This scheme continues to be a fundamental component of electricity supply to Dingleburn Station. Infrastructure includes penstocks, a powerhouse, and powerlines. Given the remote location of this farm, this type of system is required to provide an ongoing, reliable source of energy.

The electricity generated by the scheme generally supplies enough power to meet the needs of all activities which occur on the farm. This includes providing electricity to two households, the woolshed, workshop, and to multiple accommodation facilities.

The applicants, Guy and Davida Mead of Dingleburn Station Limited believed they had a permit for this activity. However, a search of the ORC database shows there is no record of a consent for this activity. Following discussions with the ORC Consents team an application has been prepared. Therefore, this is an application for a new consent for an existing activity which has been occurring for many years.

This application seeks a 6-year term for the consents sought.

2. Dingleburn Station

Dingleburn Station is a 7,000 hectare sheep and cattle station which is located on the eastern side of Lake Hāwea. The farm has been owned by the Mead family since 1988. The Station runs over 10,000 head of merino sheep and 350 cattle. The farm is very isolated, with the only vehicle access being a narrow and winding gravel road (Dingleburn Station Road) up the side of Lake Hāwea which is very steep in places. Other access is by water or air. There are two families, both in separate houses, who live and work on the Dingleburn Station.

The figure below shows the Dingleburn Station boundary, the vehicle access road, and the location of the homestead and yard area.





Figure 1 Dingleburn Station boundary and location of access road, homestead and farm yard areas.



The Mead family welcome others to experience the farm and surrounding land for recreational use. Members of the public can take part in activities such as tramping, hunting, fishing, and mountain biking on Dingleburn Station. There is public access through the station to the surrounding conservation land.

Using the Silver Burn to generate hydro-electricity is an essential part of the everyday operations on Dingleburn Station. The farm currently relies on electricity generated by this scheme for the two households, woolshed, tourism cabins and workshop. There are no power lines to the property so generating their own power is the only option.

3. The Physical Setting

3.1. Lake Hāwea

Lake Hāwea is located in the upper Clutha/Mata-au catchment and has a surface area of approximately 125 km² and is up to 8 km wide¹. Lake Hāwea is primarily fed by the Hunter River, and other significant tributaries include the Timaru Creek and the Dingle Burn. A small lake was originally created around 10,000 years ago when a terminal moraine created a dam. The lake water level was raised artificially by 20 metres in 1958 by a dam at the Hāwea township. This was done to provide extra water to generate power at the Roxburgh dam. Water from Lake Hāwea leaves via the Hāwea River and joins the Clutha River/Mata-au 3 km downstream.

Lake Hāwea, in combination with Lakes Wānaka and Wakatipu, and the Shotover River, makes up two-thirds of water in the Clutha River/Mata-au therefore is a large contributor to the Clutha/Mata-au catchment.

Lake Hāwea has many recreational values. These include fishing, boating, swimming, kayaking and water sports. The area surrounding Lake Hāwea is also used for picnicking, walking, biking, and other activities. There are many recreational options and Lake Hāwea is very popular, especially during the summer months.

3.2. Silver Burn

The Silver Burn is a small tributary of Lake Hāwea. The catchment is located in steep high country and extends up to Dingle Peak (1062 m). Before dropping down to Lake level, the creek takes a steep descent. There are a series of waterfalls approximately 1.5 km upstream of the confluence with Lake Hāwea, which are marked on the New Zealand topographic map as 72 m high. This is shown on the figure below.

¹ Malcolm McKinnon, 'Otago places - Lakes Wānaka and Hāwea', Te Ara - the Encyclopedia of New Zealand, http://www.TeAra.govt.nz/en/otago-places/page-19 (accessed 15 May 2023)





Figure 2 New Zealand topographic map showing point of take and waterfalls.

The hydro scheme utilises this steep gradient for the generation of electricity. The take location is part way down the sharp descent within a small, ponded area at the bottom of the first major waterfall.

The ORC has provided information on the Silver Burn Catchment developed by the Resource Science Uni (RSU) as part of incomplete application RM23.009. The science work undertaken concluded that the 7 day mean annual low flow (MALF) of the Silver Burn was 1151/s.

The table below describes the Silver Burn point of take.

Characteristic	Silver Burn at intake(waterfall pond)
Width of waterbody	10 metres (ponded)
Maximum depth of water	0.5 metre (in the pond)
Bed material	Gravel and large rocks
Flow description	Perennial flows with an estimated 7 day MALF of 115l/s
Water colour/clarity	Clear with good clarity.
Catchment characterises	Relatively small steep high-country catchment.
Fish and invertebrates	No species have been recorded in NIWA's Freshwater Fish Database. It
	is expected that there is instream life downstream of the waterfall

Table 1 Characteristics of Silver Burn at the intake site location.



	given its connection to Lake Hāwea. The steep nature of the majority
	of the catchment is expected to prohibit fish passage.
Food gathering sites	None known
Recreational activities	The Silver Burn is not known for recreation.
Areas significant to iwi	None known
Other water takes	There are no other water takes on the Silver Burn.
Signs of erosion	None present.

The figure below shows the Silver Burn in relation to Lake Hāwea and the Silver Burn Catchment.



Figure 3 Silver Burn and the Silver Burn Catchment boundary in relation to Lake Hāwea

4. Description of Activity

4.1 The water intake

4.1.1 Location of take

The hydroelectricity intake is located directly below a waterfall on the Silver Burn and consists of a small weir which directs water into the penstock. At the bottom of the waterfall there is a pool and the take is from within this. The point of take is located NZTM E5072286 N1311733 and this is shown on the figure below. The legal description of the land where the take is located is Section 1-3, 5-12 Survey Office Plan 365657 and Lot 3 Deposited Plan 443814 is the land freehold owned by Dingleburn Station Limited. A copy of the certificate of title is attached to this application as **Appendix A**.



The take point is approximately 1.5km upstream from the confluence of the Silver Burn and Lake Hāwea. A map showing the point of take is shown below.



Figure 4 Location of point of take on the applicant's property

4.1.2 Description of intake

There is a small intake weir located at the point of take which directs water over a grill and into a pipe. This acts as a screen for debris and vegetative matter and stops blockages within the pipeline. The diameter of the pipe is initially 45 cm narrowing to 18 cm which naturally creates a limit to abstraction rates.

A photo of the Silver Burn at the intake site and has been provided in the figure below.





Figure 5 Photographs of the Silver Burn intake

The photo above shows that water goes over the intake structure to the true right of the Silver Burn as well as over the weir. This demonstrates that the intake only has access to a portion of the Silver Burn as water continues to flow over the weir on the side that doesn't have the intake. The photo above also shows that any surplus water not taken by the intake flows over the grill back into the Silver Burn. Therefore, the way this system is set up means the intake only has access to water from a small portion of the Silver Burn rather than the whole creek.



This and the limitation of the intake pipe size ensure that there is always a residual flow left in the creek.

The hydrogeneration scheme requires a maximum of 60 l/s to operate at full capacity. This is approximately 50% of the MALF (as provided by the ORC). Therefore, by inference the remaining flow in the Silver Burn would rarely drop below 50-60L/sec and would more commonly be above that flow.

Fish screening is not required as there are no fish assessed to be present in the pool.

4.1.3 The weir design

The small weir sits at the bottom of a natural waterfall and the top of a steep decline in the creek. This natural formation has been utilised in the hydro scheme. A small weir approximately 35 cm high has been established with rocks and a little bit of concrete to form a wall and intake structure. The weir simply helps direct water from the pond into the pipeline. The ORC has previously considered similar structures to "impound water" and therefore consent is being sought. The applicants request that the consent reflects the very minor scale and nature of the impoundment resulting from the weir which is small and only a minor alteration to the pooling situation created by nature.

The current weir has been in place since 1996 when the scheme was upgraded. Throughout this time, there have been no signs of instability of the weir.

The volume of water pooled by this small weir is considered negligible. This is demonstrated by the maximum depth of the pooling which is estimated to be approximately 0.5m and the surface area of the dam which is estimated at $25m^2$.

The natural topography of the Silver Burn in the vicinity of take does not allow for fish passage. This is due to the creek's steep nature and waterfalls. The height of the intake weir is small compared to the height of the waterfalls above and below the intake and so is not considered to act as a fish barrier.

Photos of the weir have been provided in the section above.

4.2 Hydro-electricity Generation and scheme description

After the point of take, water moves down a penstock into the powerhouse. The first 10 metres of the penstock is 45 cm in diameter. The remaining length of the penstock is 18 cm in diameter. The penstock has a 91 m head which enables the system to have adequate water pressure to generate power.

The amount of water used to generate electricity is controlled by way of two interchangeable nozzles at the exit of the penstock. There are two small nozzles which are both 21 millimetres in size and two large nozzles which are both 31 millimetres in size. They can be used interchangeably to control the amount of water the system uses based on electricity needs. Generally, the 21 millimetre nozzles which use 13 L/sec each are used throughout the summer months when there is less demand for electricity. Throughout the winter when more electricity is required, the 31 millimetre nozzles which use 27L/sec each are used.



Once water is used to generate electricity at the power house, water moves through a concrete flume for approximately 2 metres and is then dropped back to the Silver Burn. The distance between the point of take and the discharge back to the Silver Burn is 180m.



The figure below provides a schematic of this system.

Figure 6 Schematic of the Silver Burn hydro-generation system

Power generation occurs continuously all year around. Power generated at the powerhouse is conveyed to two households, the woolshed, workshop, and accommodation facilities via overhead powerlines. Due to this scheme being the main source of power for Dingleburn Station, significant investment has been made to ensure that that powerlines are reliable and able to meet energy demands.

This power generation system can produce approximately 110 AMPS (approximately 27 KVA). The current electricity demand for this system ranges from 50 to 80 AMPS.

Given the taking of water is considered consumptive, water measuring is required. However, there is no locality between the point in which water is taken and discharge which provides a workable point for water measuring to occur accurately. The penstocks are steep and have air bubbles in the water, which compromises the accuracy of water measuring.



The electricity generated in the powerhouse is a direct response of the water taken. Therefore, this application seeks that water use of this scheme be measured via a calculation based on the amount of energy generated or the nozzles in use. The nozzle size in use also dictates the rate of take. Two 21mm nozzles use 26L/sec and two 31mm nozzles use 54L/sec.

In 1996, significant upgrades were made to the scheme to ensure power generation was reliable. This cost approximately \$25,000 excluding labour. Later, a new pelting wheel, alternator, and electric governor was installed at a cost of at least \$20,000. These costs are in addition to ongoing maintenance costs which are thought to be around \$10,000 in the years after these upgrades were undertaken.

The backup power generation systems (diesel and solar) are also able to supply these overhead powerlines if required.



Figure 7 Overview of the Silver Burn Hydroelectricity generation system

4.2.1 Discharge into the Silver Burn

The discharge back into the Silver Burn is located after the powerhouse. Water travels approximately 2 metres from the powerhouse back to the Silver Burn via a concrete flume. The point of discharge back into the Silver Burn has never shown any signs of flooding, erosion, land instability or property damage.



The discharge of water into the Silver Burn is water taken from the Silver Burn Catchment. The discharge back into the Silver Burn does not change the water level range or hydrological function of any Regionally Significant Wetland as there are none within the area.

When water is discharged back into the Silver Burn, there is no change to the colour or visual clarity and there is no increase in sedimentation in the receiving water. Furthermore, no floatable or suspended organic materials will be discharged, and water which is discharged will not have an odour, oil or grease film, scum or foam.



5. Status of Activity

5.1 Taking and Use of Water

Under Section 14 of the Resource Management Act (RMA) the taking and use of surface water can be authorised by a rule in a regional plan or by a resource consent.

The Otago Regional Council's Regional Plan: Water for Otago (RPW) contains rules for the taking and use of water. Chapter 12 and Chapter 10A of the RPW sets out rules relating to the take and use of surface water. As this application is for an activity that is not currently authorised the relevant rules are set out in Chapter 12.

Domestic water uses under 25,000 m³ a day and less than 1 l/s are permitted activity rule under 12.1.2.1. While this hydroelectric scheme could be considered a domestic use, the rate and daily volume are not considered a permitted activity. Therefore, this activity is not permitted by this rule.

The proposed activity seeks to take and use water for hydroelectricity purposes, with all of the water taken to be returned back to the same watercourse. The ORC has indicated that this activity would be treated as "consumptive take but non-consumptive use" of water. Because of this, hydroelectricity schemes sit within a grey area of the RPW in terms of consumptive vs non-consumptive water use. Consequently, there is no need to allocate water to this scheme as either a primary or supplementary allocation.

The taking of water for hydroelectricity has not previously been consented therefore cannot be considered under chapter 10 of the RPW. The taking and use of water for hydroelectricity generation is not explicitly provided for by any Chapter 12 rules. Specifically, when the same amount of water taken is discharged back into the same waterbody. Therefore, the taking and use of water is considered a *discretionary activity* under rule 12.1.5 of the RPW.

Given the status of this activity, any adverse effects of the taking and use of water can be assessed. Under section 108 of the Act, the Council may grant or decline the application and may impose conditions.

5.2 The Intake Weir

The intake weir at the location of the intake is considered to be a dam as the weir does impound a small amount of water. The waterfall upstream creates the pool behind the weir but the small additional weir enhances this effect. Therefore a consent is being sought.

With respect to the proposed weir at the intake site, Rule 12.3.2.1 of the RPW states that the damming of water is a *permitted* activity, providing:

- a) The size of the catchment upstream of the dam, weir or diversion is no more than 50 hectares in area; and
- b) In the case of damming, the water immediately upstream of the dam is no more than 3 metres deep, and the volume of water stored by the dam is no more than 20,000 cubic metres; and



- c) In the case of diversion, the water is conveyed from one part of any lake or river, or its tributary, to another part of the same lake, river or tributary; and
- *d)* No lawful take of water is adversely affected as a result of the damming or diversion; and
- e) Any damming or diversion within a Regionally Significant Wetland was lawfully established prior to 2 July 2011; and
- *f)* There is no change to the water level range or hydrological function of any Regionally Significant Wetland; and
- g) There is no damage to fauna, or New Zealand native flora, in or on any Regionally Significant Wetland; and
- *h)* The damming or diversion does not cause flooding of any other person's property, erosion, land instability, sedimentation or property damage; and
- *i)* The damming or diversion is not within the Waitaki catchment.

The catchment upstream of the small weir associated with this activity exceeds 50 ha and so the weir does not meet Rule 12.3.2.1 of the RPW.

Rule 12.3.3.1 of the RPW states that the damming of water which has previously been carried out by a resource consent or other lawful authority, is a *restricted discretionary* activity. This activity does not align with Rule 12.3.3.1 as the activity has not previously been carried out by a resource consent or other lawful authority.

The small weir is therefore a *discretionary* activity in accordance with Rule 12.3.4.1 of the RPW. It must be noted that this activity only requires consent due to the size of the upstream catchment being more than 50 hectares.

5.3 Discharge from a consented dam

The intake weir continuously discharges water into the Silver Burn downstream. This discharge does not comply with Rule 12.C.1.2 because the damming activity is not permitted. The discharge of water to water is a *discretionary* activity under Rule 12.C.3.2 of the RPW.

5.4 Permitted Activities

5.4.1 Discharge to the Silver Burn

The discharge of water into the Silver Burn associated with the generation of hydro-electricity has been explained in detail above. To summarise, the discharge consists of water from the Silver Burn Catchment and does not result in flooding, erosion, land instability, or property damage. The discharge does not result in any change in visual clarity or increased sedimentation. The discharge does not have any odour, oil, or grease film.

The discharge of water is therefore considered a *permitted activity* under rule 12.C.1 of the RPW. No resource consent is required.



6. Assessment of Environmental Effects

6.1 Introduction

An assessment of the effects of the activity on the environment has been prepared in accordance with the scale and significance of the activity. Specifically, the following matters are addressed in the Assessment of Environmental Effects:

- Effects on hydrology
- Effects of the intake weir
- Effects on ecological values
- Effects on wetlands
- Effects on natural character, public access and amenity
- Effects on recreational values
- Effects on cultural values
- Effects on other water users
- Effects specific to the weir
- Economic and standard of living effects
- Positive and social effects

6.2 Effects on Hydrology

The Silver Burn is a tributary of Lake Hāwea. The taking of water has the potential to alter the flow characteristics for a small stretch of the stream (180m). The maintenance of a residual flow will limit the effects on the creek including the impacts on ecological values, cultural values, amenity and natural character, and recreational values.

The ORC has provided information on the hydrology of the stream. They found that the 7 day mean annual low flow (MALF) of the Silver Burn is 115 l/s. If the maximum rate of abstraction (60l/sec) was occurring during the dry periods then the residual flow will be about 50l/sec in the 180m stretch of the stream. At all other times the flow in the stream will be higher than that. In all stretches upstream and downstream of this area the flow is unaffected. The higher electricity demand generally occurs in winter so the rate of take in summer when the stream may have lower flows is more often the lower rate.

The flow left in the stream after abstraction is approximately 55 l/s during low flow times if the take is operating at maximum rate.

The rate of water used for electricity is calculated to be 60 l/s. Given this is a steep highaltitude catchment it is expected this creek would experience relatively extreme high flow events.

Therefore, any effects on hydrology are considered to be not more than minor.

6.3 Effects of the Intake Weir

The intake weir is approximately 35 cm high but is not expected to raise the water level of the creek to this extent. The weir is located immediately after a waterfall pool. Downstream of the weir, the creek descends sharply to another waterfall. There are several large boulders



within the intake area which act against the flow of the creek in a similar way as the intake weir. At all times, water that is not abstracted is able to pass over the weir and the weir does not extend across the full width of the creek. The effect on the Silver Burn hydrology as a result of the weir is no more than minor because the topography of the creek and the weir's design.

6.4 Effects on Ecological Values

The taking and use of water and the use of damming structures has the potential to affect the ecological values of the Silver Burn. A search of NIWA's Freshwater Fish Database for the Silver Burn shows that one fish survey has been completed and this was below the point of take. No species were recorded.

The Silver Burn is a small tributary of Lake Hāwea. The lake is home to several freshwater fish species including rainbow trout, brown trout and tuna. The flows of the Silver Burn are significantly smaller than that of the Lake so although ecologically linked, these two waterbodies have very different ecological values.

The take and weir are located within a very steep section of the Creek. There are significant waterfalls present both upstream and downstream of the take which are expected to impede fish passage. No fish have been observed in the pool which the take is located. The Silver Burn is a steep, high-altitude catchment so a landlocked population of fish is highly unlikely. The size of the small weir wall is in keeping with the bounders present within the Creek and so does not present additional fish passage concerns.

Water is returned to the Silver Burn after taking approximately 180 m downstream. This means that there is only a small stretch of the creek affected by the abstraction and a small stretch of creek where ecological values have the potential to be affected.

The scheme has been operational since 1962 and so the existing values downstream of the take have established with the scheme and existing flow regime in place. Since becoming operational, a flow has been maintained below the take. This is estimated to be about 55 l/s. The applicant is able to ration back the amount of water used to generate electricity to ensure that the residual flow is maintained.

The topography of the creek upstream and downstream of the take and weir, the lack of fish species recorded, the continuous flow past the take and the small stretch of the creek effected means the effects on the ecological values of the Silver Burn are expected to be no more than minor.

6.5 Effects on Wetlands

There is a wetland located at Dingleburn Station. This wetland is identified as Regionally Significant in Schedule 9 of the RPW and is listed as the "Dingle Lagoon". All activities proposed by this application include the take, the weir, and the discharge of water back to the Silver Burn after use, are all approximately 500 m away from Dingle Lagoon.



There are no natural inland wetlands in the vicinity. This application has a no more than minor effect on wetlands.

6.6 Effects on Natural Character, Public Access and Amenity

Natural character is influenced by the extent to which the natural elements, patterns and processes occur and the nature and extent of modification to the ecosystems and landscape. In terms of amenity values, these are known to include those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.

The infrastructure associated with this activity includes a small weir, penstocks, a small powerhouse, discharge channel, and overhead powerlines. This infrastructure has been in place for many years. It is well established and accepted in the current landscape. The generation infrastructure is relatively hidden and is looks like a small shed similar in style to other farm infrastructure anticipated on a high-country station. Overhead powerlines are anticipated around dwellings and farm sheds such as those at Dingleburn Station.

These activities are within a catchment which has historically been modified for much larger scale hydroelectricity schemes. This includes the artificially raised Lake Hāwea. The natural character in the lower stretches of the Silver Burn would have been affected by these activities. This scheme and effects on natural character and amenity are minuscule in compassion.

Public access will not be affected by the proposal. The scheme is on private land. The effects on natural character, public access and amenity are no more than minor.

6.7 Effects on Recreational Values

The Silver Burn is not known for any recreational values. The pool above the weir may be a paddling location and that is slightly enhanced by the weir. The 180m stretch where the water is abstracted is a steep mountain stream. It is unlikely any recreation activities are undertaken in this stretch. Lake Hāwea is highly valued for its recreational uses. The Silver Burn contributes an extremely small proportion of flow to Lake Hāwea. The level of Lake Hāwea is manipulated by controlled releases in the Hāwea River for the much larger scale hydroelectricity schemes downstream.

The applicant actively provides recreational opportunities at Dingleburn Station such as tramping and overnight accommodation and the generation of electricity from the Silver Burn enables this. The activities proposed by this application are considered to have a no more than minor effect on recreational values.

6.8 Effects on Cultural Values

Kai Tahu is the principal Māori iwi of the southern region of New Zealand. In Otago the four Papatipu Rūnaka and associated whānau and rōpū are:

- Te Rūnanga o Moeraki
- Kāti Huirapa Rūnaka ki Puketeraki



- Te Rūnanga o Ōtākou
- Hokonui Rūnanga

Associated whānau and ropū include:

- Moturata Taieri Whānau
- Waikoau Ngāi Tahu Rūnanga

The four Papatipu Rūnaka of Otago developed the Kāi Tahu Ki Otago Natural Resource Management Plan (2005). This is the principal planning document for Aukaha, a consultancy service acting on behalf of these Rūnaka.

The over-arching principles governing this document include that of manawhenua, kaitiakitaka (guardianship, care, and wise management) and the protection of Mauri, or the protection of the life giving essence of an ecosystem.

This document identifies issues for the Otago Region as a whole, and these include overallocation of water and inefficient use of water. Relevant policies focus on only granting the amount of water necessary for the proposed use of water and to encourage efficient use of water. The ability for the applicant to adjust the water abstracted based on the electricity requirements at the time and the water availability ensures this.

The Silver Burn is a tributary of Lake Hāwea. This document includes a number of issues and associated objectives and policies for Lake Hāwea. It recognises that traditionally, Lake Hāwea was a rich tuna (eel) fishery, with many thousands of fish at once being caught.

There are four Lake Hāwea is also known to have many Nohoaka Sites, lakeshores used to facilitate the gathering of natural resources in a modern context.

In addition, a number of Kai Tahu values a recognised in the RPW in Schedule 1D. These values are listed for the Lake Hāwea and are:

- Kaitiakitanga the exercise of guardianship by Kai Tahu in accordance with tikanga Maori in relation to Otago's natural and physical resources, includes the ethic of stewardship;
- *Mauri* life force;
- *Waahi tapu and/or Waiwhakaheke* sacred places, sites areas and values associated with water bodies that hold spiritual values of importance;
- Waahi taoka treasured resource;
- Mahikia kai places where food is procured or produced;
- *Kohanga* important nursery/spawning area for native fish or birds, and/or breeding grounds for birds; and
- Trails sites and water bodies that formed part of traditional routes; and
- *Cultural materials* water bodies that are sources of traditional weaving materials (such as raupo and paru) and rongoa (medicines).



As explained throughout this section, the nature and location of the proposed activity means that the effects on the values of Lake Hāwea are considered to be no more than minor. The values and importance to iwi in the Lake Hāwea catchment area will not be affected as a result of this proposal. The full amount of water requested by the applicant is considered to be efficient and reasonable for the associated hydro-electric generation scheme. Furthermore, all water taken and used will be returned to the Silver Burn before the confluence with Lake Hāwea.

Overall, any effects associated with cultural values of the proposed activity are considered to be no more than minor.

6.9 Effects on other Water Users

There are no other consented water abstractions on the Silver Burn. No effects on other water users have been identified as all of the water taken will be returned to the creek within the property boundary. It is considered that any adverse effects on other water users will be no more than minor.

6.10 Effects specific to the weir

The small scale and extremely limited water impoundment potential of the weir at the intake site has been explained in more detail in section 4.1.3 above.

6.10.1 Effects of Weir Failure

Given its small scale, the weir is on damming the smallest amount of extra water. Accordingly, the weir does not have a Potential Impact Classification rating (PIC). This is because they are designed to assess a hypothetical failure break or uncontrolled release of the contents stored within a dam, or in this case, a weir. The result of a failure or uncontrolled release of contents stored within this weir will be so minor that they do not fit in the PIC scale. This is due to the limited amount of water this weir can impound given that it does not go across the width of the creek and is only approximately 35cm high. Because of this, it is thought that any failure of the weir would not result in flow which were more than the flow carrying capacity of the Silver Burn at high times of flow.

Therefore, the effects of weir failure are assessed to be no more than minor.

6.10.2 Effects of Weir on Land and Property

Land adjacent to the weir and land surrounding the Silver Burn downstream of the weir is owned by the applicant. The existence of the weir has not been observed to exacerbate any flooding, erosion, land instability, sedimentation, or property damage throughout its lifetime. As previously explained, the dam is very small scale, does not go across the width of the creek, and the creek is very steep in this area. Therefore, water can move over the weir easily if required at times of high flow.



Any effects of the weir on land and property are therefore considered to be no more than minor.

6.10.3 Effects on Water Level and other Water Users

The weir is located in the Silver Burn, a river which holds little recreational value. However, the Silver Burn catchment contributes to Lake Hāwea which also holds significant recreational value.

The weir is small and allows water to pass over and therefore has a minimal effect on the flow level of the creek. There is a natural pool behind the weir that has been utilised in the system. Any effects on the flows and water levels, as a result of the weir are therefore minor. The majority of the water which comes from the waterfall immediately upstream of the weir is able to pass over the weir. This means that water levels within the Silver Burn are generally consistent.

Therefore, any effects of the weir on water level and other water users are no more than minor.

6.10.4 Effects of Discontinuing the Weir

Discontinuing the intake weir would require a separate consent process and some instream works. Due to the reliance of the electricity generating scheme on this weir, it would also result in adverse social and economic effects on the applicant. This includes the loss of electricity to the farm, surrounding households, and accommodation. This would therefore result in a loss of productivity and farm value.

The discontinuation of this weir would result in some very minor positive effects on the mauri of the Silver Burn. Effects would be considered minor due to the very small amount of water which is currently impounded by the weir. The minor positive effects on the mauri would come as a result of restoring the natural flow in the 180m of creek that is missing the water. However, discontinuation would not restore continuity from the 'mountains to the sea' due to the Lake Hāwea dam.

Overall, while discontinuation of the weir would result in a mix of positive and adverse effects on a range of values, based on the foregoing the negative effects of loss of power to the farm, are likely to significantly out weight any positive effects.

6.11 Economic and standard of living Effects

Dingleburn Station Limited have invested a significant amount of money into the existing scheme over time. The applicant has estimated that approximately \$55,000 has been invested in past years. There are also ongoing maintenance costs associated with this scheme.

This activity also makes the functioning of Dingleburn Station and the associated economic activities viable. The hydroelectric generation scheme supports two family households, the woolshed, workshop, and the accommodation facilities which provide another source of income for the applicant. Electricity is a utility that is needed for quality of life.



All of these facilities rely on power to function. The hydroelectric generation scheme ensures that all activities on Dingleburn Station including basic daily needs such as heating, cooling and communication are able to operate. In turn this enables Dingleburn Station to operate as a functioning and sustainable business.

Without the reliable supply of electricity that the hydroelectric generation scheme provides, the applicant would be significantly adversely affected economically, and their living standards would be compromised. Furthermore, the applicant would be required to rely on less efficient and more environmentally damaging sources of energy such as a diesel generator.

6.12 Positive and Social effects

The taking of water to generate hydroelectricity enables Dingleburn Station to be a viable business. Not only does this scheme provide power for farming activities, but also the accommodation facilities which have recently been put on Dingleburn Station. In turn, this supports the social wellbeing of the applicants as a source of income, provides a utility to live in the area and also provides recreational opportunities for those who use the accommodation facilities.

The taking and non-consumptive use of water has the potential to degrade water quality if managed improperly. This can have adverse social effects on the local community by limiting their ability to enjoy local lakes in rivers in the area. Due to how this scheme functions, it is highly unlikely that the proposed activity will result in the degradation of water quality.

The taking and non-consumptive use of water for hydro-electricity generation also creates a low carbon emission alternative to other sources of energy such as diesel generation. This is positive as it allows Dingleburn Station to have a lower carbon footprint when generating electricity.

Overall, the taking and use of this water results in positive effects overall.

6.13 Summary of Effects

The taking and use of this water results in significant positive effects for the applicant's family, employees and the wider operations which occur on and around Dingleburn Station. Overall, the nature and location of the take means that the effects on the hydrological, ecological, cultural, and recreational values of the Silver Burn are no more than minor.

Overall, it is considered that any adverse effects on the environment as a result of the weir and the taking and non-consumptive use of water will be no more than minor and can be adequately addressed through the recommended consent conditions.



7. Legislative Analysis

7.1 Queenstown Lakes District Council (QLDC)- Operative and Proposed District Plans

The QLDC is undergoing a plan review, therefore the district currently works under two District Plans, the Operative District Plan (ODP) and the Proposed District Plan (PDP). Rules from both the ODP and PDP apply to this application. The activities are located on land at the northern end of Lake Hāwea which has been identified as a rural zone in the ODP. The proposed activities fit within the permitted activity rules for the Rural Zone.

The Proposed Queenstown Lakes District Council Plan has identified the lower stretches on the Silver Burn which lie within the Dingle Burn Delta to be within a Wāhi Tūpuna area. However, the activity subject to this application seeks to take and return water to the Silver Burn before it enters the Wāhi Tūpuna area.

7.2 Regional Plan: Water in Otago

The Otago Regional Council's Regional Plan: Water for Otago (RPW) became operative on 1 January 2004 and contains objectives, policies and rules managing activities associated with water in Otago, including rules which require a resource consent for the works occurring within the beds of rivers. Since it become operative it has been subject to several amendments, some relevant to the whole region, and others focused on specific catchments (including minimum flow plan changes). One amendment was to ensure compliance with the provisions of the original NPS-FM 2011. There have also been two recent plan changes including the Water Permits Plan Change (Plan Change 7, referred to here as PC7) and Plan Change 8 – Discharge Management (PC8).

Key provisions in the RPW that are of relevance to this application are discussed below.

7.2.1 Chapters 5 and 6 – Natural and Human Use Values and Water Quantity

7.2.1.1 Schedule 1 Values

Objective 5.3.1 To maintain or enhance the natural and human use values, identified in Schedules 1A, 1B and 1C, that are supported by Otago's lakes and rivers.

As discussed in the Assessment of Environmental Effects, the proposed taking and nonconsumptive use of water will not result in any adverse effects that are more than minor on natural or human use values provided adherence to abstraction limits proposed by this application.

The long history of taking and using water on the Silver Burn for the purpose of generating power has impacted on the flow characteristics and ecology of the river. However, the Silver Burn maintains a high degree of natural character as there is only one small hydro scheme which effects the flow for 180 m. Therefore, much of the natural character is maintained.

Policy 5.4.8 clearly directs that this use, and associated developments are to be taken into account and acknowledged when assessing the natural character of waterways within the catchment.



The abstraction limits proposed by this application are anticipated to avoid or mitigate the potential effects of abstraction on ecology by maintaining flow within the river. These measures are anticipated to maintain and enhance the natural values present in the Silver Burn.

Accordingly, this application is considered to be consistent with this objective and policy.

Objective 5.3.2 To maintain or enhance the spiritual and cultural beliefs, values and uses of significance to Kāi Tahu, identified in Schedule 1D, as these relate to Otago's lakes and rivers.

Schedule 1D of the RPW identifies spiritual or cultural beliefs, values or uses associated with water bodies of significance to Kāi Tahu. The Silver Burn is a tributary of Lake Hāwea, therefore the following Schedule 1D values have been identified;

7.2.1.2 Schedule 1D: Spiritual and Cultural Beliefs, Values, and Uses of Significance to Kai Tahu

- Mana Interests
 - Kaitiakitanga the exercise of guardianship by Kai Tahu in accordance with tikanga Maori in relation to Otago's natural and physical resources, includes the ethic of stewardship;
 - *Mauri* life force;
 - Waahi tapu and/or Waiwhakaheke sacred places, sites areas and values associated with water bodies that hold spiritual values of importance;
 - Waahi taoka treasured resource;
- Access/Customary Use Interests
 - Mahikia kai places where food is procured or produced;
 - Kohanga important nursery/spawning area for native fish or birds, and/or breeding grounds for birds; and
 - Trails sites and water bodies that formed part of traditional routes; and
 - *Cultural materials* water bodies that are sources of traditional weaving materials (such as raupo and paru) and rongoa (medicines).

The Assessment of Environmental Effects addresses the above schedule 1D values for the Lake Hāwea Catchment. Water abstracted from the Silver Burn is returned well before it enters Lake Hāwea. This means that the cultural impact is limited to the small section between where water is taken and discharged back into the Silver Burn. Furthermore, the cultural impacts have previously been assessed to be no more than minor.

Therefore, this application is considered consistent with this objective.



7.2.1.3 Natural Character

Objective 5.3.3 To protect the natural character of Otago's lakes and rivers and their margins from inappropriate subdivision, use or development.

Policy 5.4.8 To have particular regard to the following features of lakes and rivers, and their margins, when considering adverse effects on their natural character:

(a) The topography, including the setting and bed form of the lake or river;

(b) The natural flow characteristics of the river;

(c) The natural water level of the lake and its fluctuation;

(d) The natural water colour and clarity in the lake or river;

(e) The ecology of the lake or river and its margins; and

(f) The extent of use or development within the catchment, including the extent

to which that use and development has influenced matters (a) to (e) above.

This application is for the taking of water. Taking of water occurs within a rural environment and supports activities which are undertaken on Dingleburn Station. Infrastructure associated with the taking of water is well established in the present environment and is within modified high-country farmland.

This activity also involves a small intake weir enables water to enter the intake. The small intake weir is well established in the present environment.

Therefore, there are no changes to the natural character of the area.

Accordingly, this application is considered to be consistent with this objective and policy.

7.2.1.4 Amenity Values

Objective 5.3.4 To maintain or enhance the amenity values associated with Otago's lakes and rivers and their margins.

Policy 5.4.9 To have particular regard to the following qualities or characteristics of lakes and rivers, and their margins, when considering adverse effects on amenity values:

(a) Aesthetic values associated with the lake or river; and

(b) Recreational opportunities provided by the lake or river, or its margins.

As with natural character, the amenity values associated with the affected waterway is strongly influenced by the history of abstraction on the Silver Burn and its ability to provide power to the land which surrounds it.

The proposed activities will not result in a change to existing amenity and recreational values. Based on the factors discussed in the Assessment of Environmental Effects and the measures proposed by the applicant, the amenity values of the Silver Burn will be maintained and enhanced. Therefore, this application is consistent with these provisions.



7.2.1.5 Providing for sustainable use and development

Objective 5.3.6 To provide for the sustainable use and development of Otago's water bodies, and the beds and margins of Otago's lakes and rivers.

This proposal aims to enable the existing user to continue utilising the water resource, subject to measures which ensure that this continued use is sustainable. The rate restrictions proposed by this application and the short stretch the water is out of the creek will support the natural values for the future generations while also enabling the applicant and the community that they are part of to provide for their social, living and economic well-being.

7.2.1.6 Approach to effects

Policy 5.4.2 In the management of any activity involving surface water, groundwater or the bed or margin of any lake or river, to give priority to avoiding, in preference to remedying or mitigating:

(1) Adverse effects on:

- (a) Natural values identified in Schedule 1A;
- (b) Water supply values identified in Schedule 1B;

(c) Registered historic places identified in Schedule 1C, or archaeological sites in, on, under or over the bed or margin of a lake or river;

(d) Spiritual and cultural beliefs, values and uses of significance to Kāi Tahu identified in Schedule 1D;

(e) The natural character of any lake or river, or its margins;

(f) Amenity values supported by any water body; and

(2) Causing or exacerbating flooding, erosion, land instability, sedimentation or property damage.

Schedule 1 values have been assessed, with no more than minor adverse effects anticipated. The proposed take and infrastructure associated with hydro-electric generation is existing and has not caused exacerbated flooding, erosion, land instability, sedimentation, or property damage. On this basis, this application is considered to be consistent with this policy, as adverse effects have been avoided.

7.2.1.7 *Life-supporting capacity*

Objective 6.3.1 To retain flows in rivers sufficient to maintain their life-supporting capacity for aquatic ecosystems, and their natural character.

Based on the assessment undertaken in the Assessment of Environmental Effects, the proposed rate of take are assessed to be adequate in maintaining the life-supporting capacity of the Silver Burn. The application is considered consistent with this objective.



7.2.1.8 User needs

Objective 6.3.2 To provide for the water needs of Otago's primary and secondary industries, and community domestic water supplies.

Abstraction by the applicant uses water to support domestic needs, agricultural demands, and business needs – the accommodation facilities. This water is essential for these activities to occur and remain viable. This application is consistent with this objective.

7.2.1.9 Maximising opportunity for diverse consumptive water use

Objective 6.3.4 To maximise the opportunity for diverse consumptive uses of water which is available for taking.

As previously explained, the taking of water is considered a consumptive take. The taking of water enables a hydroelectricity scheme to generate electricity before being discharged back into the Silver Burn. There are no other water users on the Silver Burn, therefore the water subject to this application is considered available for taking. This objective states that the benefits derived from water taken should be as diverse as the community demands.

The use of water for hydroelectric generation could be considered a diverse community need as it is not common for a residential dwelling, agricultural operation, and accommodation facilities to all be completely reliant on electricity which is generated onsite. Therefore not only does this scheme maximise the opportunity of a diverse use of water available for taking, it also heavily relies on it.

This application is consistent with this objective.

7.2.1.10 Minimise conflict between users

Objective 6.3.3 To minimise conflict among those taking water.

There are no other water users on the Silver Burn. However, there are other water users on Lake Hāwea. The water returning to the Silver Burn means that no other water user will be effected.

The application is considered to be consistent with this objective.

7.2.1.11 Hydrological characteristics

Policy 6.4.0 To recognise the hydrological characteristics of Otago's water resources, including behaviour and trends in: (a) The levels and flows of surface water bodies; and

(b) The levels and volumes of groundwater; and



(c) Any interrelationships between adjoining bodies of water, when managing the taking of water.

The hydrological characteristics of the catchment has been given consideration throughout the development of this application. These have been considered in the Assessment of Environmental Effects.

This application is therefore considered consistent with this policy.

7.2.1.12 Required amount

Policy 6.4.0A - To ensure that the quantity of water granted to take is no more than that required for the purpose of use taking into account:
(a) How local climate, soil, crop or pasture type and water availability affect the quantity of water required; and
(b) The efficiency of the proposed water transport, storage and application system.

The electricity requirements of Dingleburn Station along with the volume of water required to operate the hydro-electricity generation system are the two key factors which have affected the quantity of water required for the proposed activity. The amount of water sought in this application reflects the amount of water required to operate the system and to provide Dingleburn Station with sufficient electricity.

This application is considered to be consistent with this policy.

7.2.1.13 Residual Flow

Policy 6.4.7 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.

The nature of this take set up and rate means there will consistently be water in the stream at all times. The lowest it will get is about 55L/sec but more commonly it will be higher. This application is considered to be consistent with this policy.

7.2.1.14 Duration of Resource Consents

Policy 6.4.19 When setting the duration of a resource consent to take and use water, to consider:

- (a) The duration of the purpose of use;
- (b) The presence of a catchment minimum flow or aquifer restriction level;

(c) Climatic variability and consequent changes in local demand for water;

(d) The extent to which the risk of potentially significant, adverse effects arising from the activity may be adequately managed through review conditions;

(e) Conditions that allow for adaptive management of the take and use of water;



(f) The value of the investment in infrastructure; and (g) Use of industry best practice.

The duration of the proposed activity is overridden by Policy 10A.2.2.

7.2.2 Chapter 7 – Water Quality

Chapter 7 contains several general policies and objectives for water quality management in Otago some of which are which are relevant to the irrigation use part of this application.

Policy 7.A.1 To maintain water quality in Otago lakes, rivers, wetlands, and groundwater, but enhance water quality where it is degraded.

Policy 7.A.2 To enable the discharge of water or contaminants to water or land, in a way that maintains water quality and supports natural and human use values, including Kāi Tahu values.

Policy 7.A.3 To have individuals and communities manage their discharges to reduce adverse effects, including cumulative effects, on water quality

Objective 7.B.1 Manage the quality of water in Otago lakes, rivers, wetlands and groundwater by:

(a) Describing, in Table 15.1 of Schedule 15, characteristics indicative of Good Quality Water; and

(b) Setting, in Table 15.2 of Schedule 15, receiving water numerical limits and targets for achieving Good Quality Water; and

(c) Maintaining, from the dates specified in Schedule 15, Good Quality Water; and (d) Enhancing water quality where it does not meet Schedule 15 limits, to meet those limits by the date specified in the Schedule; and

(e) Recognising the differences in the effects and management of point and nonpoint source discharges; and

(f) Recognising discharge effects on groundwater; and

(g) Promoting the discharge of contaminants to land in preference to water.

Objective 7.B.2 Avoid objectionable discharges of water or contaminants to maintain the natural and human use values, including Kāi Tahu values, of Otago lakes, rivers, wetlands, groundwater and open drains and water races that join them.

Objective 7.B.4 When considering any discharge of water or contaminants to land, have regard to:

(a) The ability of the land to assimilate the water or contaminants; and

(b) Any potential soil contamination; and

(c) Any potential land instability; and

(d) Any potential adverse effects on water quality; and

(e) Any potential adverse effects on use of any proximate coastal marine area for contact recreation and seafood gathering.

Objective 7.B.7 Encourage land management practices that reduce the adverse effects of water or contaminants discharged into water.

Objective 7.B.8 Encourage adaptive management and innovation that reduces the level of contaminants in discharges.

Discharges as a result of this application include the discharge of water from the small weir, and the discharge of water from the hydro-electricity generation system back into the Silver Burn. This has the potential to decrease water quality in Silver Burn if not managed correctly.


Water from the Silver Burn is discharged over the small weir at the point of take back into the Silver Burn. Due to the short duration of impoundment, there is no degradation of water quality or increase of sedimentation from when it is impounded to when it is discharged. Therefore, the natural and human use values are maintained.

The water which is discharged into the Silver Burn is water which has been taken from the Silver Burn. There is no degradation of water quality from the point of take to where it is discharged. The discharge will not result in an increase of sedimentation. This therefore enables the natural and human use values of the water to be maintained.

Overall, the use of water on this property is consistent with the general policies and objectives of Chapter 7 of the RPW.

7.2.3 Chapter 8 – Beds and Margins

The take, discharge, and hydropower generation infrastructure is already in place. This application does not introduce any new effects to the bed or margin of the Silver Burn. Therefore, Chapter 8 is not considered directly relevant to this application.

7.2.4 Chapter 10A – Take and use permits

Chapter 10A was introduced to the RPW in October 2022 following a decision from Environment Court. Although this chapter focuses on the replacement of Deemed and Water Permits, which is not this purpose of this application, it contains some provisions which are relevant to the taking and use of water. These include:

Objective 10A.1.1 Facilitate an efficient and effective transition from the operative freshwater planning framework toward a new integrated regional planning framework, by managing: (a) The take and use of freshwater; and (b) The replacement of Deemed Permits, and (c) The replacement of water permits for takes and uses of freshwater where those

(c) The replacement of water permits for takes and uses of freshwater where t water permits expire prior to 31 December 2025

Policy 10A.2.2 Irrespective of any other policies in this Plan concerning consent duration, only grant resource consents for takes and uses of freshwater, where this activity was not previously authorised by a Deemed Permit or by a water permit expiring prior to 31 December 2025, for a duration of no more than six years.

The term for the proposed activity is 6 years. This facilitates the transition into the new integrated regional planning framework as required by Objective 10A.1.1.

Overall, the proposed activity is consistent with the relevant objectives and policies of Chapter 10A of the RPW.

7.3 Otago Regional Council Regional Policy Statement

At the time of writing there are two versions of the Otago Regional Policy Statement to consider. The proposed Regional Policy Statement (pRPS) was notified on 23 May 2015 and



a decision was released 1 October 2016. The pRPS was made partially operative on the 14 January 2019 (PO-RPS), with the exception of all provisions and explanatory material in *Chapter 3: Otago has high quality natural resources and ecosystems*. This is the key chapter of relevance to this application.

The Council, following recommendations from the Minister for the Environment and updated national directions, notified the Proposed Otago Regional Policy Statement 2021 (PORPS) on 26 June 2021 and once operative, will replace the Partially Operative Regional Policy Statement 2019. The freshwater instrument components of the statement have since been re-notified.

7.3.1 Partially Operative Regional Policy Statement

The relevant provisions (with amendments as a result of appeals included below) of the PO-RPS include:

- Use resources sustainably to promote economic, social and cultural well-being for its people and communities (Objective 1.1)
- Provide for economic wellbeing by enabling resilient and sustainable use and development (Policy 1.1.1)
- Provide for social and cultural wellbeing and health and safety by recognising and providing for a number of matters including Kāi Tahu values, values of other cultures, and diverse needs of communities. (Policy 1.1.2)
- Taking the principles of Te Tiriti o Waitangi into account (Objective 2.1)
- Kāi Tahu values, interests and customary resources are recognised and provided for (Objective 2.2)
- Managing the natural environment to support Kāi Tahu wellbeing (Policy 2.2.1)
- Recognise and provide for the protection of sites of cultural significance to Kāi Tahu (Policy 2.2.2)
- Enable Kāi Tahu relationships with wāhi tupuna (Policy 2.2.3)
- Ensure communities are able to mitigate and adapt to the effects of climate change, including by applying a precautionary approach and by encouraging activities that assist to reduce or mitigate the effects of climate change (Policy 4.2.2)
- Manage activities in rural areas to support the region's economy and communities including by enabling primary production and other rural activities (Policy 5.3.1)
- Apply an adaptive management approach (Policy 5.4.2)
- Apply a precautionary approach to adverse effects where effects are uncertain, not able to be determined, or a poorly understood but are potential significant or irreversible (Policy 5.4.3)
- Control the adverse effects of pest species including to safe-guard the viability of indigenous species and their habitats (Policy 5.4.5)

This proposal seeks to recognise and provide for Kāi Tahu values, including by managing the natural environment to support Kāi Tahu well-being. It does so by acknowledging the effects



of using water, and through the applicant's commitment to ensuring all aspects of this proposal are managed correctly in order to minimise effects.

This proposal supports economic and social well-being by providing sufficient reliability of electricity to the applicant while using the existing infrastructure. This proposal supplies the applicant with electricity therefore enabling economic activities to occur on the farm and provides electricity to households on the farm.

The activities that form this proposal are well established, and the associated effects resulting from these activities are also existing. Accordingly, an adaptive management or precautionary approach is not considered necessary. This application to take and use water supports the efficient use of water, as the rate and volume proposed is the optimal amount of water the applicant requires to meet the electricity demands of Dingleburn Station while also leaving an adequate flow after the point of take.

On this basis this application is considered to be generally consistent with these provisions.

7.3.2 Proposed Otago Regional Policy Statement 2021

This Policy Statement has overarching mana whenua and integrative management provisions. The ORC is currently completing a full review on how water is managed in Otago and the PORPS is one part of this. Many of these policies and objectives rely on the implementation of the LWRP and ongoing input from iwi, and community groups, in order to be given full effect. Without the LWRP in place and appropriate direction from the ORC, it is difficult for the applicant to give effect to. Instead, the short-term nature of these consents will mean the activities will expire shortly after the LWRP (expected to be notified June 2024) is in place.

The POPRS also contains a domain for Land and Freshwater which is relevant to this application and the project as a whole. To summarise, these provisions focus on prioritising the health and wellbeing of waterbodies and freshwater, upholding Te Mana o te Wai, the integrative management of freshwater between waterbodies and between land and water and natural character.

In the time of transition, this application has considered values which have already been known or have been established for the Silver Burn and the wider Lake Hāwea catchment. These are considered in the Assessment of Environmental Effects. To protect these values, the applicant proposes a range of mitigation strategies which assist with instream flow retention.

There are also visions and management objectives specific to the Clutha/Mata-au FMU. Where relevant this is outlined below:

LF–VM–O2 – Clutha Mata-au FMU vision

In the Clutha Mata-au FMU:



- **1.** management of the FMU recognises that:
 - **a.** the Clutha Mata-au is a single connected system ki uta ki tai, and
 - **b.** the source of the wai is pure, coming directly from Tawhirimatea to the top of the mauka and into the awa,
- 2. fresh water is managed in accordance with the LF–WAI objectives and policies,
- 3. the ongoing relationship of Kāi Tahu with wāhi tūpuna is sustained,
- **4.** water bodies support thriving mahika kai and Kāi Tahu whānui have access to mahika kai,
- **5.** indigenous species migrate easily and as naturally as possible along and within the river system,
- **6.** ...
- 7. in addition to (1) to (6) above:
 - a. in the Upper Lakes rohe, the high quality waters of the lakes and their tributaries are protected, recognising the significance of the purity of these waters to Kāi Tahu and to the wider community,

 ...
 - **b.** ...
- 8. the outcomes sought in (7) are to be achieved within the following timeframes:
 a. by 2030 in the Upper Lakes rohe,

Many of these provisions are relevant to this proposal. The applicant does not intend to obstruct the sustained relationship between Kāi Tahu with wāhi tupuna. As previously explained, the NIWA Freshwater Fish Database has not identified any instream life in the Silver Burn and the applicant has not observed instream life. However connected surface flow and returning abstracted flow ensures if there was instream life there is no obstruction to migration.

The applicant seeks to maintain the high-quality waters of the lakes and rivers within the Upper Lakes Rohe by ensuring that there is no change to water quality between the point of take and discharge of the proposed activity.

Overall, application is expected to be generally consistent with the Proposed Otago Regional Policy Statement.

7.4 National Policy Statement on Freshwater Management (2020)

The NPSFM (2020) sets out the objectives and policies for freshwater management under the Resource Management Act 1991. It came into effect on 3 September 2020 and replaces the National Policy Statement for Freshwater Management 2014 (amended 2017).

7.4.1.1 Te Mana o te Wai

The fundamental concept underpinning the NPSFM (2020) is Te Mana o te Wai, recognising the importance of water and the health of water in protecting the health and well-being of the wider environment. Within the context of the NPSFM this encompasses 6 principles relating to the roles of tangata whenua and New Zealand in the management of freshwater and the implementation of the NPSFM.



These principles are (at 1.3(4))

"(a) **Mana whakahaere**: the power, authority, and obligations of tangata whenua to make decisions that maintain, protect, and sustain the health and well-being of, and their relationship with, freshwater

(b) *Kaitiakitanga:* the obligation of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations

(c) **Manaakitanga:** the process by which tangata whenua show respect, generosity, and care for freshwater and for others

(d) **Governance:** the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future

(e) **Stewardship:** the obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations

(f) **Care and respect:** the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation."

The NPSFM (2020) also sets out (at 1.3(5) and at Objective 2.1) a hierarchy of obligations and an objective for Te Mana o Te Wai that prioritises:

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

The applicant anticipates that tangata whenua will exercise mana whakahaere, kaitiakitanga and manaakitanga through this process.

A number of the principles set out for Te Mana o te Wai are directly relevant to Councils in giving effect to the NPSFM (for example through the plan making processes), as they focus on tangata whenua's authority and responsibility and actions, as well as governance by the council. However, the principles are more difficult for an applicant to give effect to through a resource consent process. The principles that can be achieved by an applicant are stewardship, care and respect.

Clause 1.6 of the NPSFM requires the use of the best information available. A hierarchy is set up in terms of 'best information' starting with complete and scientifically robust data (1.6(1)) and then information obtained from modelling, partial data, local knowledge (1.6(2)). This application is based on scientific data where it is available and is also based on local knowledge. Local knowledge is a vital component to understanding water management within the catchment and the effects of water management.



Policies for freshwater management to achieve Te Mana o te Wai and Objective 2.1 are listed in 2.2 of the NPSFM (2020).

7.4.1.2 Policy 1 – Te Mana o te Wai

Policy 1: Freshwater is managed in a way that gives effect to Te Mana o te Wai.

This proposal aims to maintain the health of Silver Burn and the wider Lake Hāwea Catchment. The health of freshwater will be sustained (for present and future generations) through a range of measures including retention of instream flows, ensuring there is no degradation of water which discharged back into the Silver Burn, and careful management of water.

7.4.1.3 Policy 2 – Tangata whenua

Policy 2: Tangata whenua are actively involved in freshwater management (including decision making processes), and Māori freshwater values are identified and provided for.

This application identifies Māori freshwater values where possible and seeks to provide for them. This is addressed further in the Assessment of Environmental Effects.

7.4.1.4 Policy 3 – Integrated management

Policy 3: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.

This application includes considerations of the effects of using the water in the catchment. The applicant's willingness to ensure there is flow in the stream and ensure there is no degradation in the quality of water which is discharged addresses the management of freshwater in an integrated way.

7.4.1.5 Policy 4 – Climate Change

Policy 4: Freshwater is managed as part of New Zealand's integrated response to climate change.

The proposed activity demonstrates means of generating renewable energy through the use of water. This prevents emissions from alternative methods of power generation such as a diesel generator from adding to climate change.

7.4.1.6 Policy 5 – National Objectives Framework

Policy 5: Freshwater is managed through a National Objectives Framework to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.



This application is made prior to the development of a planning framework under the National Objectives Frameworks set out in the NPSFM (2020), or any earlier NPSFM.

7.4.1.7 Policy 7 – Loss of extent and values

Policy 7: The loss of river extent and values is avoided to the extent practicable.

This proposal will not result in the loss of the extent of a waterway.

Overall, this proposal is considered to be generally consistent with this policy.

7.4.1.8 Policy 9 – Indigenous speciesPolicy 9: The habitats of indigenous freshwater species are protected.

There have been no indigenous freshwater species identified by the NIWA freshwater fish database or observed by the applicant. However, the habitat of any indigenous species is expected to be provided for via the continual flow in the stream.

7.4.1.9 Policy 10 – Trout and Salmon

Policy 10: The habitat of trout and salmon is protected, insofar as this is consistent with Policy 9.

Similar to indigenous freshwater species, no trout or salmon species have been identified by the NIWA freshwater fish database or observed by the applicant. The stream is steep with many waterfalls in the vicinity of the abstraction. However, habitat is expected to be provided for by continual flow in the stream.

7.4.1.10 Policy 11 - Allocation and efficiency

Policy 11: Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided.

This is application is considered non-consumptive use therefore this policy does not apply.

7.4.1.11 Policy 12 – Water Quality

Policy 12: The national target (as set out in Appendix 3) for water quality improvement is achieved.

Water quality is addressed throughout this application. This proposal is expected to result in no changes to water quality.

Overall, this application is consistent with this policy.



7.4.1.12 Policy 15 – Social, economic and cultural wellbeing

Policy 15: Communities are enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with this National Policy Statement.

This proposal has been developed to enable the effected community to provide for it's social, economic and cultural wellbeing whilst first prioritising the health and well-being of the wider environment. It does so by understanding and seeking to protect instream ecology and natural values.

Overall, this application is considered to be consistent with the relevant policies in the NPSFM (2020).

7.5 National Policy Statement for Renewable Energy Generation (2011)

The NPSREG (2011) sets out objectives and policies to enable the sustainable management of renewable electricity generation under the Resource Management Act 1991. This NPS came into effect on 13 May 2011.

The NPSREG (2011) highlights matters of national significance;

- a) The need to develop, operate, maintain, and upgrade renewable electricity generation activities throughout New Zealand; and
- b) the benefits of renewable electricity generation.

This application seeks a resource consent for the non-consumptive use of water to generate renewable electricity. This application also outlines the benefits this renewable electricity generation provides for both the applicant and recreational users of Dingleburn Station. While the relatively small scale of the proposed activity does not make it a matter of national significance, the proposed activity is a step towards the matters of national significance outlines in (a) and (b) above.

Overall, this activity is consistent with the matters of national significance explained above.

7.5.1 Policy A

Decision-makers shall recognise and provide for the national significance of renewable electricity generation activities, including the national, regional and local benefits relevant to renewable electricity generation activities. These benefits include, but are not limited to:

a) maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;

b) maintaining or increasing security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation;

c) using renewable natural resources rather than finite resources;

d) the reversibility of the adverse effects on the environment of some renewable electricity generation technologies;



e) avoiding reliance on imported fuels for the purposes of generating electricity.

As explained above, the small scale of the proposed activity means that it is not considered to be a matter of national significance. However, this activity does take a step towards New Zealand becoming a country which relies predominantly on renewable electricity.

The proposed activity provides an alternative to using other sources of electricity on Dingleburn Station which produce greenhouse gas emissions, namely diesel powered electricity generation. The proposed activity therefore displaces greenhouse gas emissions.

The proposed activity has also allowed the applicant to diversify the electricity supply which Dingleburn Station is reliant on. While the hydro-electric generation scheme is the primary source of electricity generation.

By utilizing water from the Silver Burn, a renewable natural resource, the proposed activity means that Dingleburn Station is not reliant on finite resources to generate electricity such as diesel.

Given the proposed activity is long established and is very small scale, no adverse effects on the environment are considered to be present.

Overall, this application is consistent with Policy A of the NPSREG.

7.5.2 Policy B

Decision-makers shall have particular regard to the following matters:

a) maintenance of the generation output of existing renewable electricity generation activities can require protection of the assets, operational capacity and continued availability of the renewable energy resource; and

b) even minor reductions in the generation output of existing renewable electricity generation activities can cumulatively have significant adverse effects on national, regional and local renewable electricity generation output; and

c) meeting or exceeding the New Zealand Government's national target for the generation of electricity from renewable resources will require the significant development of renewable electricity generation activities.

The proposed activity is long established and over time has been subject to maintenance and upgrades by the applicant. Therefore, this scheme is considered to be an asset of Dingleburn Station. The applicant has also become reliant on the generation output as this is the primary source of electricity for Dingleburn Station. Therefore, the continued availability of this renewable energy source is required for activities on Dingleburn Station to be viable.

A reduction of water allocation would result in less electricity generation output by the proposed scheme. This would affect power users at a local level, being those who use power on Dingleburn Station.

The proposed scheme is a small step towards meeting or exceeding the New Zealand Government's national target for the generation of electricity from renewable resources.



Overall, the proposed activity is considered to be consistent with Policy B.

7.5.3 Policy C1

Decision-makers shall have particular regard to the following matters:

a) the need to locate the renewable electricity generation activity where the renewable energy resource is available;

b) logistical or technical practicalities associated with developing, upgrading, operating or maintaining the renewable electricity generation activity;

c) the location of existing structures and infrastructure including, but not limited to, roads, navigation and telecommunication structures and facilities, the distribution network and the national grid in relation to the renewable electricity generation activity, and the need to connect renewable electricity generation activity to the national grid;

The proposed activity is well established and is located where power generation is available. Given this activity has been occurring for a long period, farm tracks have been created in order for each component of the scheme to be accessed, and structures associated with the scheme such as the intake weir and power lines are well established.

Overall, the proposed activity is considered consistent with Policy C1.

7.5.4 Policy C2

When considering any residual environmental effects of renewable electricity generation activities that cannot be avoided, remedied or mitigated, decision-makers shall have regard to offsetting measures or environmental compensation including measures or compensation which benefit the local environment and community affected.

The Assessment of Environmental Effects only identified effects which we no more than minor. Furthermore, the surrounding communities were not considered to be affected. Therefore, no offsetting measure or environmental compensation was required.

Overall, the proposed activity is considered consistent with Policy C2.

7.5.5 Policy D

Decision-makers shall, to the extent reasonably possible, manage activities to avoid reverse sensitivity effects on consented and on existing renewable electricity generation activities.

Given the remote location of Dingleburn Station, the only people who are near the hydroelectricity scheme are the applicants, those who work on Dingleburn Station, and those who use Dingleburn Station for recreation. Any activities proposed near the scheme will be initiated by the owners or managers of Dingleburn Station and it is likely they will be reliant on this scheme for electricity. Therefore, it is anticipated that reverse sensitivity effects will be avoided. Overall, the proposed activity is considered consistent with Policy D.



7.5.6 Policy E2 – Hydro-electricity resources

Regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for the development, operation, maintenance, and upgrading of new and existing hydro-electricity generation activities to the extent applicable to the region or district.

7.5.7 Policy F

As part of giving effect to Policies E1 to E4, regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for the development, operation, maintenance and upgrading of small and community-scale distributed renewable electricity generation from any renewable energy source to the extent applicable to the region or district.

7.5.8 Policy G

Regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for activities associated with the investigation, identification and assessment of potential sites and energy sources for renewable electricity generation by existing and prospective generators.

Provisions from regional policy statements and regional and district plans relevant to this activity have been explained above.

Overall, the proposed activity is considered consistent with Policies E2, F and G.

7.5.9 Policy H2

Unless already provided for within the relevant regional or district plans or proposed plans, plan changes or variations, local authorities shall give effect to Policies A, B, C, D, E, F and G by notifying using Schedule 1 of the Act, a change or variation (whichever applies) within the following timeframes:

a) where the relevant regional policy statement or proposed regional policy statement already provides for the Policies, 24 months of the date on which this national policy statement takes effect; or

b) where a change or variation to the regional policy statement or proposed regional policy statement is required by Policy H1, 12 months of the date on which the change or variation becomes operative

There are limited provisions in the RPW directly relating to small scale hydro-generation activities such as that proposed. Therefore, policy H2 applies.

This application is considered consistent with policy H2.

7.6 Resource Management (National Environmental Standards for Freshwater Regulations) 2020



The Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (referred to here as the NESF). The NESF regulates activities that pose risk to the health of freshwater and freshwater ecosystems. The NESF come into force on 3 September 2020, although clauses relating to intensive winter grazing, stocking holding areas other than feedlots and application of synthetic nitrogen fertiliser to pastoral land come into force in mid-2021.

Clause 72 of the NES relates to the placement, use, alteration, extension, or reconstruction of a weir in, on, over, or under the bed of any river or connected area is a permitted activity if it complies with the conditions;

(a) the weir must provide for the same passage of fish upstream and downstream as would exist without the weir, except as required to carry out the works to place, alter, extend, or reconstruct the weir; and

(b) the fall height of the weir must be no more than 0.5 m; and

(c) the slope of the weir must be no steeper than 1:30; and

(d) the face of the weir must have roughness elements that are mixed grade rocks of 150 to 200 mm diameter and irregularly spaced no more than 90 mm apart to create a hydraulically diverse flow structure across the weir (including any wetted margins); and

(e) the weir's lateral profile must be V-shaped, sloping up at the banks, and with a low-flow channel in the centre, with the lateral cross-section slope between 5° to 10°.

The weir design has previously been discussed in this application. The weir is an existing structure and is well established in the surrounding environment. A full consideration of the rules is provided in section 5.

Overall, this application is considered to be consistent with the NESF.

7.7 Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007

The NES for Sources of Human Drinking Water (2007) sets requirements for protecting sources of human drinking water from becoming contaminated.

A human drinking water site is located adjacent to the Lake Hāwea Township. The applicant's activities are a long way from the Hāwea township and there are no impacts on water quality or Lake Hāwea water quantity.

7.8 Resource Management (Stock Exclusion) Regulations 2020

These regulations set out stock exclusion rules which came into force on 3 September 2020 but will be phased in over time as explained below. Stock means beef cattle, dairy cattle, dairy support cattle, deer or pigs. The applicant has direct responsibility for compliance with these regulations.



7.9 Resource Management (Measurement and Reporting of Water Takes) Regulations 2010

This application considers that taking of water for hydroelectricity generation to be consumptive in the take but non-consumptive in the use. The monitoring of the water abstracted would be required by this regulation.

This application seeks to use the power generated to derive the rate and volume of water abstracted. Regulation 6 requires that the permit holder musts keep records of water taken. These records must comprise of volume of water taken (in cubic metres) and be in either 15-minute periods or each week (if approval is granted under regulation 9). Regulation 7A requires the water take data is telemetered to the ORC at least daily. There is phone coverage at the pump shed so we anticipate this may be possible but will need confirmation from a service provider.

7.10 Ngāi Tahu Claims Settlement Act 1998

The Ngāi Tahu Claims Settlement Act 1998 identifies Lake Hāwea as an area of statutory acknowledgement. Section 208 of the NTCLA state that local authorities and must have regard to statutory acknowledgements. Section 215 of the act outlines the purpose of statutory acknowledgements;

7.10.1 215 Purpose of statutory acknowledgements

Without limiting sections 216 to 219, the only purposes of the statutory acknowledgements are—

(a) to require that consent authorities forward summaries of resource consent applications to Te Rūnanga o Ngāi Tahu, as required by regulations made pursuant to section 207; and

(b) to require that consent authorities, Heritage New Zealand Pouhere Taonga, or the Environment Court, as the case may be, have regard to the statutory acknowledgements in relation to the statutory areas, as provided in sections 208 to 210; and

(c) to empower the Minister of the Crown responsible for management of the statutory areas, or the Commissioner of Crown Lands, as the case may be, to enter into deeds of recognition, as provided in section 212; and

(d) to enable Te Rūnanga o Ngāi Tahu and any member of Ngāi Tahu Whānui to cite statutory acknowledgements as evidence of the association of Ngāi Tahu to the statutory areas, as provided in section 211.

Schedule 30 of the act sets out Ngāi Tahu's cultural, spiritual, historic, and traditional values associated with Lake Hāwea. To summarise, the traditions that Ngāi Tahu associate with Lake Hāwea represent the link between the world of the gods and the present generations. This reinforces tribal identity and solidarity, and continuity between generations. Therefore, the



health and wellbeing of Lake Hāwea is imperative for the wellbeing and longevity of Ngāi Tahu.

Schedule 30 also notes Lake Hāwea as being an area of rich tuna (eel) fishery, with many thousands of fish once being caught, preserved, and transported back to the kāinga nohoanga (settlements) of Coastal Otago. There is also considerable knowledge of whakapapa, traditional trails and tauranga waka, places for gathering kai and other taonga which remain important to Ngāi Tahu today. Therefore, the way in which resources of Lake Hāwea are used, the relationship of people with the lake and their dependence on it, and tikanga for the proper and sustainable utilisation of resources are important in relation to the proposed activity.

While the proposed activity is not directly in an area of statutory acknowledgment, the application recognises that the Silver Burn is a small tributary of Lake Hāwea and the flow contribution to the lake is not effected. This has been explained in more detail within the Assessment of Environmental effects.

Overall, this application is considered consistent with the Ngāi Tahu Claims Settlement Act 1998.

7.11 Kāi Tahu Policy Documents

7.11.1 Kāi Tahu Ki Otago Natural Resource Management Plan (2005).

The four Papatipu Rūnaka of Otago developed the Kāi Tahu Ki Otago Natural Resource Management Plan (2005). This is the principle planning document for Aukaha, a consultancy service acting on behalf of these Rūnaka.

The kaupapa of the plan is "Ki Uta Ki Tai", "Mountains to the Sea". This emphasises holistic management of the interrelated elements within and between catchments, from the air and atmosphere to the land and the coastal environment (p11). The over-arching principles governing this document include that of manawhenua, kaitiakitaka (guardianship, care, and wise management) and the protection of Mauri, or the protection of the life-giving essence of an ecosystem.

Relevant objectives and policies focus on recognition of cultural and spiritual significance of water to Kāi Tahu, protection and restoration of the mauri of all water, only granting the amount of water necessary for the proposed use of water and the efficient use of water (refer 5.3.4 Wai Māori).

Relevant policies at 5.3.4 relate to water quality as a result of the taking, use, and discharge of water associated with the proposed activity. Due to the scale of the proposed activity and as explained in the assessment of environmental effects, it is anticipated that any risk to water quality as a result of this application is low. Therefore, this activity is considered to be generally consistent with these policies. However, as the proposal is being made under the interim planning framework of Chapter 10A, it is expected that a full assessment of Kāi Tahu



Ki Otago Natural Resource Management Plan (2005) will be undertaken as part of the next consent renewal process for this permit under the LWPR.

7.11.2 Te Runanga o Te Ngāi Tahu's Freshwater Policy

Kāi Tahu's Freshwater Policy provides an indication of the issues and values relating to freshwater management that are of particular concern to Kāi Tahu and the interested Papatipu Runanga.

Values identified in the Freshwater Policy that can be affected by the abstraction, diversion or damming of water include:

- Mauri life-giving essence of a resource. Maintenance and enhancement of Mauri is identified as the primary management principal for Kāi Tahu. One method of doing so is ensuring there are sufficient flows after water is taken that afford protection to instream values.
- Kaitiakitanga responsibility for the preservation of the integrity of valued waterways
- Rahui places where restrictions were placed on an area or resource for a given purpose the prohibits a specific human activity.

Water quantity is one of the key issues identified for freshwater. A number of objectives and policies are included within the Freshwater Policy to ensure values of importance are protected. These emphasise the importance of protecting, maintaining, and restoring the Mauri of waterways, and Mahinga Kai, as well as the identification and protection of Wahi Tapu sites and the support and facilitation of Kaitiakitanga.

Given this application is for a non-consumptive use, the effects are not more than minor and are considered to be generally consistent with the abovenamed provisions.

As this proposal is being made under the interim planning framework of Chapter 10A and all consents sought are short term, it is expected that a full assessment of Te Runanga o Te Ngāi Tahu's Freshwater Policy will be undertaken as part of the next consent renewal process for this permit under the new LWRP.

7.12 Section 104 (1-2A) of RMA

Section 104 sets out those matters the consent authority must have regard to when considering a resource consent application.

104 Consideration of applications:

(1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to-

a) any actual and potential effects on the environment of allowing the activity; and



- ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and
- b) any relevant provisions of
 - *i.* a national environmental standard:
 - *ii.* other regulations:

...

- *iii.* a national policy statement:
- *iv.* a New Zealand coastal policy statement:
- v. a regional policy statement or proposed regional policy statement:
- vi. a plan or proposed plan; and
- c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

(2A) When considering an application affected by section 124 or 165ZH(1)(c), the consent authority must have regard to the value of the investment of the existing consent holder.

With regard to s104(1)(a), the actual and potential effects of the activity as constrained by the matters of discretion have been addressed earlier in the document.

With regard to s104(1)(ab), the application does not propose offsets and compensation.

With regard to s104(1)(b)(i) the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 are directly relevant to these applications and are considered in earlier in this section. The Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 are relevant to this application.

In terms of any other regulations under s104 (1)(b)(ii) the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 are relevant to this application. These are addressed above as part of this application.

With regard to s104(1)(b)(iii), the National Policy Statement on Freshwater Management (2020) and the National Policy Statement for Renewable Electricity Generation 2011 are relevant to this application.

Under s104(1)(b)(v) and (vi), the Proposed Otago Regional Policy Statement 2021 (PORPS) and the Partially Operative Regional Policy Statement 2019 are relevant to this application, as is the Regional Plan: Water for Otago (RPW) and the Queenstown Lakes District Council Proposed and Operative District Plans. These have all been considered in developing and accessing this application.

Under s104(1)(c) other relevant matters are considered to include Kāi Tahu policy documents relating to freshwater. These are addressed earlier in this Section.



In terms of s104(2A), this application is not affected by section 124 as it does not involve the replacement of an existing consent.

Section 104B directs the Consent Authority on how to determine applications for discretionary or non-complying activities. When considering an application for a resource consent for a discretionary or non-complying activity, a consent authority

- (a) must grant or refuse the application
- (b) if it grants the application, may impose conditions under section 108

8. Consideration of Alternatives

The Hydropower generation scheme on the Silver Burn is currently the primary source of electricity on Dingleburn Station. This provides electricity to two households, accommodation facilities, farm workshops, and the woolshed. The main alternative which has been considered is diesel powered generation. However, given the input of diesel required to produce constant power and the price of diesel, this was not viable for the current operations on Dingleburn Station.

9. Consultation with Affected Parties

This application is being lodged without seeking written approval from affected parties. It is for a small activity that has less than minor impacts for a 6-year term. We would envisage there are no affected parties.

10. Term of Consent

There will be minimal adverse effects as a result of this activity. Taking this into account, and to provide sufficient surety and confidence for farm management and investment decisions, the applicant requests a term of 6 years for the replacement consent.



11. Draft Permit and Conditions

Based on the information in this application document, the applicant seeks the following consents:

WATER PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional

Council grants consent to:

Name:	Dingleburn Station Limited
Address:	ICL Chartered Accountants Limited, Level 1, 69 Tarbert Street, Alexandra, 9320

To take and use water from the Silver Burn for the purpose of hydro-electricity generation.

For a term expiring (6 years from issuing date)

Location of Point of Abstraction:	The Silver Burn, a tributary of Lake Hāwea, approximately 20km northeast of the Lake Hāwea township.
Legal Description of land adjacent to point of abstraction:	Section 6 SO 3653657
Legal Description of land where water will be used:	Section 1-3, 5-12 Survey Office Plan 365657 and Lot 3 Deposited Plan 433814
Map Reference at point of abstraction:	E5072286 N1311733
Conditions: Specific	

The rate of abstraction shall not exceed:

(a) 60 litres per second

Performance Monitoring

(a) The consent holder shall utilise electricity generation records converted to water take rate and volume. A datalogger with at least 12 months data storage to record and rate of take, and the date and time the water was taken shall be installed.



- (b) The consent holder shall ensure that was use can be calculated at all times during the exercise of this consent. All malfunctions of the water meter and/or datalogger during the exercise of this consent shall be reported to the Consent Authority within 5 days of observation and appropriate repairs shall be performed within 5 days or otherwise as soon as is practicable following the observation of malfunction
- (c) The consent holder shall provide records from the datalogger to the Consent Authority on or before 31 July each year and on request. Data shall be available electronically, giving date, time and flow rates in no more than 15 minute increments, via a datalogger approved by the Consent Authority

Notes to Consent Holder

1. If you require a replacement consent upon the expiry date of this consent, any new application should be lodged at least 6 months prior to the expiry date of this consent. Applying at least 6 months before the expiry date may enable you to continue to exercise this consent under section 124 of the Resource Management Act 1991 until a decision is made on the replacement application (and any appeals are determined).

2. 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.

Issued at Dunedin on XX 2023



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

Name:	Dingleburn Station Limited
Address:	ICL Chartered Accountants Limited, Level 1, 69 Tarbert Street, Alexandra, 9320

To dam the Silver Burn for the purpose of facilitating the taking of water for the purpose of hydro-electricity generation.

For a term expiring (6 years from issuing date)

Location of Point of damming:	The Silver Burn, a tributary of Lake Hāwea, approximately 20km northeast of the Lake Hāwea township.
Legal Description of land adjacent to point of damming:	Section 6 SO 3653657
Map Reference at point of abstraction:	E5072286 N1311733

Conditions

Specific

1. The damming of water at the map reference(s) specified above must be carried out in accordance with the plans and all information submitted with the application and any amendments to the application lodged, detailed below, and all referenced by the Consent Authority as consent number $\frac{x}{x}$:

a) Resource consent application and supporting information report signed by the applicant dated X;

If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.

2. The weir structure and associated appurtenant structures must maintained in accordance with consented plans and reports referenced in Condition 1 and the following dimensions and standards:

a) A 35cm high weir from the base to the crest, with a crest width of 30 centimetres.



b) The Consent Holder must ensure that each dam or weir and all its appurtenant component and accessory structures must be operated and maintained to ensure that, at all times, they are structurally sound, pose no undue risk to human life, property, or the natural environment, and are able to perform satisfactorily to their approved design standard.

Performance monitoring

4. The Consent Holder must undertake a visual inspection of the integrity of the weir and their appurtenant structures every three months, beginning three months from the commencement of this consent, to confirm compliance with Condition 3, and must notify the Consent Authority if any risk is identified.

5. The damming of water via the weir must not cause flooding, erosion, land instability, sedimentation, or property damage of any other person's property.

Notes to Consent Holder

1. If you require a replacement consent upon the expiry date of this consent, any new application should be lodged at least 6 months prior to the expiry date of this consent. Applying at least 6 months before the expiry date may enable you to continue to exercise this consent under section 124 of the Resource Management Act 1991 until a decision is made on the replacement application (and any appeals are determined).

2. 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.



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

Name:	Dingleburn Station Limited	
Address:	ICL Chartered Accountants Limited, Level 1, 69 Tarbert Street, Alexandra, 9320	
To discharge water o	over a consented weir.	
For a term expiring (6 years from issuing date	e)
Location of Point of discharge:		The Silver Burn, a tributary of Lake Hāwea, approximately 20km northeast of the Lake Hāwea township.
Legal Description o point of discharge:	f land adjacent to	Section 6 SO 3653657
Map Reference at	point of discharge:	E5072286 N1311733

Conditions

Specific

1. The discharge of water at the map reference(s) specified above must be carried out in accordance with the plans and all information submitted with the application and any amendments to the application lodged, detailed below, and all referenced by the Consent Authority as consent number X:

a) Resource consent application and supporting information report signed by the applicant dated X;

If there are any inconsistencies between the above information and the conditions of this consent, the conditions of this consent will prevail.

General

2. The discharge must not cause flooding of any other person's property, erosion, land instability, sedimentation, or property damage.



Notes to Consent Holder

1. If you require a replacement consent upon the expiry date of this consent, any new application should be lodged at least 6 months prior to the expiry date of this consent. Applying at least 6 months before the expiry date may enable you to continue to exercise this consent under section 124 of the Resource Management Act 1991 until a decision is made on the replacement application (and any appeals are determined).

2. 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.



RECORD OF TITLE UNDER LAND TRANSFER ACT 2017 FREEHOLD

Search Copy



R.W. Muir Registrar-General of Land

Identifier	555530	
Land Registration District	Otago	
Date Issued	17 December 2012	

Prior References

399668

Estate	Fee Simple
Area	7005.1900 hectares more or less
Legal Description	Section 1-3, 5-12 Survey Office Plan
	365657 and Lot 3 Deposited Plan 443814

Registered Owners

Dingleburn Holdings Limited

Interests

7219115.1 Deed of Easement affecting fee simple estate of Her Majesty the Queen being a grant of a right of way in gross over part Lot 3 DP 443814 marked A, B, PA, PB, EAB, EB, EC, ED, EE & FA on DP 443814, and over part Section 5 SO 365657 marked C, D, EF, EG, EH, EI, EK, MA, FI, FJ & FB, over part Section 6 SO 365657 marked E, EJ, EL, MB, MC, FK, FL, FM & KA, over part Section 8 SO 365657 marked F, G, H, I, MD, ME, MF, MG, EM, EN, EO, EP, EQ, ER, ES, FN, FO, FC & FP, over part Section 9 SO 365657 marked J, K, M, O, CH, MH, MI, ET, FD, FQ, FE & FR, over part Section 10 SO 365657 marked P, Q, R, S, T, U, CI, CK, MJ, MK, ML, EU, EV, EW, EX, FF, FS, FG & FT, over part Section 11 SO 365657 marked V, MM, EY, EZ, FH and FU on SO 365657 in favour of Contact Energy Limited under Section 60 Land Act 1948 embodied in the Register as 335017 - 5.2.2007 at 9:00 am

Appurtenant hereto is a right of way created by Deed of Easement 7219115.2 - 5.2.2007 at 9:00 am

Appurtenant hereto is a right to maintain fencing created by Deed of Easement 7219115.3 - 5.2.2007 at 9:00 am

Subject to Part IVA Conservation Act 1987

Subject to Section 11 Crown Minerals Act 1991

Subject to a right of way (public access) in gross over part Lot 3 DP 443814 marked A & B on DP 443814, and over part Section 5 SO 365657 marked C & D, over part Section 6 SO 365657 marked E, over part Section 8 marked F, G, H & I, over part Section 9 SO 365657 marked J, K, L, M, N & O, over part Section 10 SO 365657 marked P, Q, R, S, T & U, over part Section 11 SO 365657 marked V, over part Section 12 marked W & X on SO 365657, and over part Section 8 SO 365657 marked A, B, C, and D on SO 393132, and a right to a public access (car park easement) in gross over part Lot 3 DP 443814 marked PA, PB & PC on DP 443817, a right to a right of way (management purposes) in gross over part Lot 3 DP 443814 marked A & B on DP 443814, and over part Section 5 SO 365657 marked C, MA & D, over part Section 6 SO 365657 marked MB, MC & MP, over part Section 7 SO 365657 marked MQ, over part Section 8 SO 365657 marked MD, ME, MF, H & MG, over part Section 9 SO 443814 marked MH, K, M & MI, over part Section 10 marked MJ, MK, R, S, T & ML, over part Section 11 marked MM & MN and over part Section 12 marked MO on SO 365657 in favour of Her Majesty The Queen created by Easement Instrument 7670420.3 - 24.12.2007 at 9:00 am

Subject to a right of way (public access on foot only) in gross over part Lot 3 DP 443814 marked YA and YB on DP 443814 and over part Section 7 SO 365657 marked Z, AA, AB & AC on SO 365657 in favour of Her Majesty The Queen created by Easement Instrument 7670420.4 - 24.12.2007 at 9:00 am

Subject to a right of way (for foot, motor vehicles and machinery access for management purposes) in gross over part Lot 3 DP 443814 marked A & B on DP 443814, and over part Section 5 SO 365657 marked C, MA & D, over part Section 6 SO 365657 marked MB, MC & MP, over part Section 7 SO 365657 marked MQ, over part Section 8 SO 365657 marked MD, ME, MF, H & MG, over part Section 9 SO 365657 marked MH, K, M & MI, over part Section 10 SO 365657 marked MJ, MK, R, S, T & ML, over part Section 11 SO 365657 marked MM & MN and over part Section 12 SO 365657 marked MO on SO 365657 in favour of Otago Fish And Game Council created by Easement Instrument 7670420.5 - 24.12.2007 at 9:00 am

7670420.6 Conservation Covenant pursuant to Section 77 Reserves Act 1977 - 24.12.2007 at 9:00 am (Affects Section 1, 2 & 3 SO 365657 and Lot 3 DP 443814)

7670420.7 Conservation Covenant pursuant to Section 77 Reserves Act 1977 - 24.12.2007 at 9:00 am (Affects Sections 5 to 11 SO 365657)

7670420.8 Conservation Covenant pursuant to Section 77 Reserves Act 1977 - 24.12.2007 at 9:00 am (Affects Section 6 SO 365657)

Subject to a right of way access by motor vehicle, by foot, or on or accompanied by horses, and by non-motorized vehicles powered by a person or persons, to maintain the existing fords with appropriate machinery, and to authorize motor vehicle use by members of the public and invitees over part Lot 3 DP 443814 marked FA on DP 443814, and over part Section 5 SO 365657 marked FB, FI & FJ, over part Section 6 SO 365657 marked FK, FL, FM & FX, over part Section 7 SO 365657 marked FY, over part Section 8 SO 365657 marked FN, FO, FC & FP, over part Section 9 SO 365657 marked FD, FQ, FE & FR, over part Section 10 SO 365657 marked FF, FS, FG & FT, over part Section 11 SO 365657 marked FH, FU & FV and over part Section 12 SO 365657 marked FW on SO 365657 created by Easement Concession 7670420.9 - 24.12.2007 at 9:00 am

Appurtenant hereto is a right of way access by motor vehicle, by foot, or on or accompanied by horses, and by non-motorized vehicles powered by a person or persons, to maintain the existing fords with appropriate machinery, and to authorize motor vehicle use by members of the public and invitees created by Easement Concession 7670420.9 - 24.12.2007 at 9:00 am

Appurtenant hereto is a right to droving of sheep with or without farm dogs and horses created by Easement Concession 7670420.10 CIR 400070 issued - 24.12.2007 at 9:00 am

9235962.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 17.12.2012 at 5:19 pm (affects Lot 3 DP 443814)

Subject to a right to take, store & convey water and a right to access & maintain water supply over part Lot 3 DP 443814 marked YA & YC on DP 443814 created by Easement Instrument 9235962.4 - 17.12.2012 at 5:19 pm

The easements created by Easement Instrument 9235962.4 are subject to Section 243 (a) Resource Management Act 1991 9516235.3 Mortgage to Rabobank New Zealand Limited - 26.9.2013 at 10:23 am





555530





Identifier



555530





Identifier





























































































