

BEFORE THE CANTERBURY REGIONAL COUNCIL

IN THE MATTER OF

The Resource Management Act 1991

AND

IN THE MATTER OF

an application by **Five Rivers Limited** filed under
CRC100225 for a land use consent to disturb
the bed and banks of Lake Ohau

REPORT AND DECISION OF HEARING COMMISSIONERS PAUL ROGERS,
MICHAEL BOWDEN, DR JAMES COOKE AND EDWARD ELLISON

PART B - SITE SPECIFIC DECISION

TABLE OF CONTENTS

1	INTRODUCTION	3
2	THE PROPOSAL	3
3	DESCRIPTION OF THE ENVIRONMENT	3
4	PLANNING INSTRUMENTS.....	4
5	NOTIFICATION AND SUBMISSIONS.....	5
6	THE PLANNING OFFICER’S REPORT	6
7	THE APPLICANT’S CASE.....	8
8	SUBMITTERS	11
9	STATUTORY CONTEXT	12
10	EVALUATION OF EFFECTS.....	12
11	EVALUATION OF RELEVANT PLANNING INSTRUMENTS	14
12	EVALAUTION OF OTHER RELEVANT S104 MATTERS	15
13	PART 2 RMA	15
14	OVERALL EVALUATION	16
15	DECISIONS AND REASONS	17

1 INTRODUCTION

- 1.1 This is a decision on an application by **Five Rivers Limited** (the applicant). It is one of many decisions we have made on 104 applications by various applicants for water permits and associated consents in the Upper Waitaki Catchment.
- 1.2 The decision should be read in combination with our Part A decision, which sets out our findings and approach to various catchment wide issues that are common to multiple applications. References to our Part A decision are made throughout this decision as appropriate.

2 THE PROPOSAL

- 2.1 The applicant proposes to construct, maintain and operate an intake, pipeline and pump station on the shoreline and lake bed of Lake Ohau (at or about map reference H39:6566-5350), to pump water to Ohau Downs Station.
- 2.2 The intake structure will comprise of a pipe approximately 140 metres long and one metre in diameter, laid horizontally beneath the bed of Lake Ohau, oriented parallel to the shoreline. The pipe will be located approximately two metres below the bed of the lake positioned with screened backfill. Natural lake bed material will remain on the bed and the gallery intake will not be visible post-construction. A pipe and pump station will be located under the margin. A second pump station will be located underground within the Ohau Downs property.

The application

- 2.3 The application is for an activity in the bed of a lake or river pursuant to section 13 of the RMA. Consent is required under the Proposed Natural Resources Regional Plan (PNRRP), as discussed below.
- 2.4 The application (CRC100225) was lodged with the Canterbury Regional Council (the Council) on 27 July 2009. This application was publicly notified and there were a number of submissions that are referred to later in this decision.

Related consents and applications

- 2.5 Closely related to this application is a separate application by the applicant to take and use surface water from Lake Ohau for spray irrigation of 1,493 ha. The details of that application and other consent applications lodged by the applicant are contained in a separate decision (CRC061154).

3 DESCRIPTION OF THE ENVIRONMENT

- 3.1 The proposed works are sited 100m south of the Ohau River weir, on the edge of Lake Ohau and located within 400m of a secondary public road. Lake Ohau is identified as a Recommended Area of Protection, site of outstanding Regional and National Significance and Site of Special Wildlife Importance.

Lake Ohau

- 3.2 Sutherland-Downing and Elley (2004) lists the following recreational values for Lake Ohau:
- (a) Good water quality, high scenic and natural appeal.
 - (b) Sight-seeing, walking, picnicking, camping and swimming.
 - (c) Water sports including jet/power boating, water skiing, jet skiing, canoeing/kayaking and sailing.

(d) Angling and hunting for trout and water fowl.

3.3 Daly (2004) summarises the values of Lake Ohau as follows;

(a) Lake Ohau is an excellent example of glacial lakes in the area.

(b) The lake has a distinctive milky blue colour.

(c) Aquatic plant (threatened species) *Crassula multicaulis* present.

(d) Feeding, roosting and breeding habitat for deep and shallow water waders, waterfowl, gulls and terns and banded dotterel.

(e) Feeding and roosting habitat for open water divers, riparian species, black stilt and black-fronted terns, and feeding habitat for Southern crested grebe.

(f) Koaro, upland and common bullies, long finned eels and common smelt.

(g) High value habitat for brown and rainbow trout.

3.4 Keller and Pfluger (2005) states:

“Large L-shaped glacial lake. Only large lake within the ecological region which has not had its level raised. Lake and margins provide waterfowl and wader habitat for a number of species including southern crested grebe, wrybill, black stilt, NZ scaup and black-fronted tern. Important for indigenous fish and notably koaro.

Ohau River

3.5 There are long fin eels present in the Ohau River, and listed as a site of Regional Significance on the Native Bird Habitat index.

3.6 The Ohau River has good water quality, medium scenic and natural appeal, sightseeing, walking and bird watching, swimming and paddling/wading. The Ohau River is also utilized for angling and hunting for trout, salmon and water fowl.

3.7 Upper Ohau River (Daly 2004) states:

(a) Feeding, roosting and breeding habitat for shallow water waders, water fowl, gulls and terns, riparian species, black stilt, wrybill, banded dotterel and black fronted terns.

(b) Feeding and roosting for open water divers, Black stilt occasionally breed here but in low numbers.

(c) High value habitat for brown and rainbow trout, chinook and sockeye salmon. Low flows and weir restrict passage and availability of spawning gravels.

Site visit

3.8 We detailed our site visits in Part A and we do not repeat this information here other than to say our site visit was an aerial view by helicopter.

4 PLANNING INSTRUMENTS

4.1 As discussed in our Part A decision, there is a wide range of planning instruments that are relevant under the RMA. This includes national and regional policy documents, along with regional and district plans. The key planning instruments relevant to this application are as follows:

- (a) Transitional Regional Plan (TRP);
- (b) Proposed Natural Resources Regional Plan (PNRRP);
- (c) Operative Natural Resources Regional Plan (NRRP); and
- (d) Waitaki District Plan (WDP).

4.2 The provisions of these planning instruments critically inform our overall assessment of the application under s104(1)(b) of the RMA, as discussed in Section 14 of this decision. In addition, the rules within the relevant planning instruments determine the status of the activity, as set out below.

Status of the activity

- 4.3 In our Part A decision we provide a detailed discussion of our approach to determining the status of activities. We now apply that approach to the current application.
- 4.4 In accordance with section 88A of the RMA, the relevant plans for determining the status of the activity are those that existed at the date the application was lodged (July 2009). In relation to this application, that was the TRP and the PNRRP.
- 4.5 The TRP is silent on matters relating to works in the bed and banks of rivers and lakes in the Waitaki catchment. This activity therefore requires consent as a **discretionary** activity under the TRP.
- 4.6 The key provisions of PNRRP (as notified) that are relevant to this application are as follows:
- (a) Rule BLR2 permits the placement of structures under the bed of a lake, and any excavating, disturbance, planting or removal of plants associated required to undertake the works.
 - (b) Rule BLR7 permits land use activities within 7.5 metres of the bed subject to a series of conditions.
 - (c) Rule BLR8, the works would be considered discretionary under this rule should they not comply with the conditions of Rule BLR-7.
- 4.7 We cannot be certain that the proposed activity will comply with all components of BLR2, particularly clause 9 which considers the discharge of sediment into a water body. As such we consider the proposal is a **discretionary activity** and resource consent is required in accordance with section 13 of the RMA.

5 NOTIFICATION AND SUBMISSIONS

- 5.1 The application was publicly notified on 23 September, 2009 and nine submissions in total were received, including:
- (a) None in support;
 - (b) 8 in opposition; and
 - (c) 1 neither in support nor opposition.
- 5.2 Table 1 summarises those submissions that directly referenced this application or where the submitter provided direct evidence on this application at the hearing. These submitters' evidence is discussed in more detail later in this Decision. Please note that all submissions hold equal importance, even if not specifically listed below.

Table 1. Summary of submissions on application CRC100225

Submitter	Reasons	Position
Suzanne Stelmock	Water is a valuable resource and should not be used for production	oppose
Dr Barrie Wells	More information is needed, particularly in relation to rates of take and use of water	oppose
Betsy Bower	Oppose water for intensive dairying	oppose
Louise Murray	Not viable for maintain river and lake	oppose
J G Murray	Oppose taking water from Lake Ohau	oppose
Dr and Mrs McMillan	Construction detrimental to lake bed and foreshore, backflow methods unreliable may damage lake.	oppose
Mr and Mrs Smithies	No abstraction from lake, construction detrimental to lake bed and foreshore flora. Backflow prevention unreliable and may degrade lake.	Oppose
Mrs G Becroft	No more abstraction from the lake	oppose

- 5.3 The majority of the submissions raise concerns with the taking and using of water, and cannot be dealt with under this application. These issues are addressed in relation to the applicant's water permit application in a separate decision (CRC061154).
- 5.4 Those submissions that do properly relate to the current application raise concerns regarding effects of the construction of the intake structure on the immediate environmental values of the site and the risk that the backflow preventers might fail allowing nutrients to backflow into the lake.

6 THE PLANNING OFFICER'S REPORT

- 6.1 A comprehensive officer report on the application and submissions was prepared by the Regional Council's planner Susannah Vesey.
- 6.2 There were no specialist reports supporting the S42A report however Ms Vesey indicated that she had relied upon the expertise within the council and her own experience in auditing similar activities.
- 6.3 The S42A report was pre-circulated in advance of the hearing. Specific points noted from the s42A report are summarised below.

Effects on flood carrying capacity, bank stability and erosion

- 6.4 Ms Vesey was satisfied that the applicants intention that works will be undertaken in a manner to avoid, remedy or mitigate erosion of or instability to, the bed and banks of Lake Ohau, and to maintain the flood carrying capacity of the waterway. But stated that the intention to undertake the works when there was low wave action would be beneficial but would be difficult to cease once work was underway.

Effects on man-made structures

- 6.5 The Ohau River weir is the closest structure to the proposed work site at approximately 500m from the works, with the mitigation proposed Ms Vesey considered the effects would be less than minor.

Effects on water quality and ecosystems

- 6.6 Local macro-invertebrates may be removed or displaced during excavation, some fish and eggs (e.g.; common bully) may also be removed. Mobile fish species will move quickly while suspension of fine sediments will affect macro-invertebrates and less mobile fish.
- 6.7 Dr Meredith (ECan) reviewed the application and expressed concerns about the construction effects on the Ohau River from sedimentation that would discolour the river and affect the fishery. He recommended that the exclusion period for construction be extended to avoid season opening, salmonid spawning and incubation period. Decontamination of equipment to prevent disturbance or spreading of didymo growths during construction should also apply.
- 6.8 Dr Meredith also thought that a coffer dam out into the lake from the mouth of the Ohau River would minimise spread of didymo into the lake. Sediment effects on the river would also be minimised particularly if the river only draws water from the main body of the lake rather than the construction area.
- 6.9 The applicant's limited mitigation and generic details of the proposal remained a concern and could be mitigated by changes to the method of construction and producing a finalised Construction Management Plan to be approved by the Canterbury Regional Council.

Effects on amenity, recreation and other users

- 6.10 During the construction period access to that area of the Lake will be restricted in the interests of safety. The construction period is expected to be in the order of 2-4 weeks and carried out during daylight hours, for enforceability purposes Ms Vesey (S42A) recommends that specified time of works are prescribed such as 7am to 7pm. Further that avoidance of public holidays to minimise effects on recreational activity should be a requirement.
- 6.11 Lands Information NZ did not make a submission but advised that Fiver Rivers will require an easement under section 60 of the Land Act 1948.
- 6.12 Dr Brian Molloy advised by letter that the proposed infrastructure and supply pipeline while close does lie outside of the boundary of the nearby QEII covenant on Ohau Downs and will therefore avoid potential damage to the values of the covenant.
- 6.13 Ms Vesey reiterated the concerns over the lack of control the applicant proposes to have over the sediment loads from the works and the potential for this sediment to be carried into the Ohau River.
- 6.14 Submissions were received concerning noise from the proposed pumping station and visual effects of the activity may impact on the visual values of the shore.
- 6.15 Ms Vesey (S42A) concluded that the effects would be more than minor but that these effects could be avoided or mitigated through changes to the planned method of construction and proposed conditions.

Effects on tangata whenua

- 6.16 Ms Vesey noted that no submission specific to this proposal was received from Ngai Tahu but that the applicant advised that consultation with Ngai Tahu was ongoing.
- 6.17 Ms Vesey recommended that a condition of consent include an accidental discovery protocol and its implementation should the proposed works uncover any Koiwi Tangata or taonga.
- 6.18 Ms Vesey (S42A) considered the effects on water quality and ecosystems would be more than minor and noted that Lake Ohau is in a statutory acknowledgment area and was not satisfied that the effects would be less than minor.

7 THE APPLICANT'S CASE

- 7.1 Legal counsel for the applicant, Mr Whata presented opening submissions and called Mr Ian McIndoe (soil and water engineer). In addition, we were referred to the October 2009 evidence of the following expert witnesses;
- (a) Dr Greg Ryder, freshwater ecologist
 - (b) Ms Ruth Bartlett, botanist

Opening legal submissions

Sediment

- 7.2 Mr Whata submitted that Mr McIndoe's evidence outlines the proposed method of construction for the gallery, will include:
- (a) A bund to contain the sediment from the main construction phase.
 - (b) The only time that disturbance of the lake will occur is during the construction and removal phase.
 - (c) The method of construction should ensure that sediment plumes do not occur.
- 7.3 Mr Whata noted the Officers report included a comment from Dr Meredith that a coffer dam may ensure that the Ohau River draws from the main body of the lake rather than from the construction area. He submitted that Mr McIndoe notes that the construction of the coffer dam would create more sediment and disturbance than what is proposed by the applicant's methods, i.e.; a temporary bund.
- 7.4 Mr Whata submitted that the applicant proposes to deal with the effects arising during the construction phase of the activity through the preparation of a detailed Construction Management Plan (CMP). A condition of consent is proposed requiring a CMP to be provided to ECAN for approval prior to construction.

Water quality and ecosystems

- 7.5 Mr Whata referred to Dr Ryder's evidence on aquatic ecology effects of the proposal as presented on 15th October, 2009 on the effects of placing an intake structure on the bed of Lake Ohau, Mr Ryder's, October 2009 conclusions were:
- (a) There will be some disturbance of birds during construction due to noise and removal of vegetation, but as the site is already modified the effects are expected to be short term.
 - (b) The gallery intake design should be effective at screening a wide range of fishes, such that effects on lake fisheries will be less than minor.
 - (c) Gallery construction will have a temporary effect, benthic macroinvertebrates and fish will re-colonise the area in two months.
 - (d) Environment Canterbury's best practice guidelines to reduce sediment inputs to water courses during construction should be followed.
 - (e) The pipeline from Lake Ohau to Ohau Downs does not cross any waterways, so no adverse effects of pipeline construction on waterways is anticipated.

Amenity, recreation and other users

- 7.6 The applicant considers that through appropriate construction methodology (requiring an approved CMP), that the effects on amenity and recreation through sediment will be less

than minor and will be limited in duration.

Tangata whenua

- 7.7 Mr Whata noted that in the evidence of Mr Richard Peacocke on behalf of Southdown Holdings Ltd, gave details of consultation with Ngai Tahu. Mr Peacock records that Ngai Tahu representatives during the site visit did not wish to view the take points on Lake Ohau.
- 7.8 Further MR Whata noted that Mr Mikaere presented cultural evidence that no mahinga kai have been identified in Lake Ohau, such that the impact on customary fisheries will be less than minor.
- 7.9 Mr Whata noted that Ngai Tahu main concerns at the hearing are related to the degradation of water quality and in particular to the Ahuriri Arm and Lower Tekapo River and Haldon Arm of Lake Benmore. He concludes that it is fair to conclude that tangata whenua concerns related to the land use component of the proposal are limited.

Submissions

- 7.10 Mr Whata noted that of the submissions received in relation to the Intake Structure application, that only that of Mr and Mrs Smithies was relevant.
- 7.11 Mr Whata considered the concerns of Mr and Mrs Smithies would be addressed in the applicant's evidence. He said that the applicant's proposal is to undertake works in the bed of the lake in a sensitive manner so as to minimise disturbance to the bed.
- 7.12 There will be appropriate level of protection against backflow and that in the unlikely event that backflow were to occur, the water re-entering the lake would consist of water that was drawn from Lake Ohau and would not be contaminated.

Mr McIndoe - Engineer

- 7.13 Mr McIndoe, Soil and Water Engineer, outlined the detail of the proposed intake structure:
- (a) A gallery intake 140 metres long and 1 metre diameter would be laid horizontally beneath the bed, and oriented parallel to the shore.
 - (b) Water entering the intake will be gravity feed into an underground submersible pump station about 30 m from the lake shore.
 - (c) Water will be lifted up the terrace to a main pump station from where water will be delivered through an underground pipe to the irrigation area.
- 7.14 Mr McIndoe noted that one of the key features of the proposal is that the gallery is to be buried and natural lake-bed material remains over the gallery, it will be invisible to fish and have very low approach velocity (0.005-0.1 m/s). He added that it therefore becomes part of the natural landscape.
- 7.15 According to Mr McIndoe the gallery will be designed to comply with the NIWA best practice fish screening guidelines and to address a number of concerns, including the entrainment of fish. These design mitigation features include: invisible to fish; low approach velocity (0.005-0.1 m/s); depth of 0.5 m to the top of the collector pipe/screen; and that bed material will form the natural cover.
- 7.16 The water from the gallery to the irrigation area will be conveyed via 0.8 m diameter pipe. Mr McIndoe explained that the pipeline will extend from the pumping station, around the outside of the QEII Covenant area, while remaining within Ohau Downs, towards the irrigation area. He added that the pipeline will be buried with a minimum of 400 mm cover.

- 7.17 Mr McIndoe explained that two pumping stations are proposed; one utilising submersible or lineshaft pumps located 25-30 m from the lake shore, the other a booster system utilising standard centrifugal pumps about 90 m from the lake shore. The booster pump station will be located within Ohau Downs property. However, the submersible pump station may be within crown land. Both pump stations are proposed to be located underground. Once detailed field work is carried out to determine the water lift required, Mr McIndoe noted that it may be determined that one pumping station will suffice.
- 7.18 Mr McIndoe noted that the pump will be located approximately 2 m above the highest expected lake level and water will gravity feed into the bottom of a pump chamber. The pipeline will include backflow prevention to stop water flowing back to Lake Ohau through the pipeline and pumps. Mr McIndoe added that because the pumps are located underground, the potential effects of noise from the pumping will be less than minor.

Gallery Construction

- 7.19 Mr McIndoe told us that Mr Brent Woods of Rooney Construction has provided advice regarding the proposed construction techniques. He advised the following procedures will be followed;
- (a) Testing to determine soil permeability will be undertaken prior to construction; the results will determine whether the gallery can be placed on the shoreline or a few metres off shore. The preferred approach is to place the gallery on the shoreline.
 - (b) A small temporary bund would be placed on the lake side of the proposed gallery trench to prevent contamination of disturbed trench water directly entering the lake during construction. Construction and removal of the bund will be the only time that some disturbance of lake water could occur.
 - (c) The bund on the shoreline will prevent contamination and movement of dirty surface water entering the lake during construction. The bund will need to be wide enough to prevent significant amounts of water filtering through the bund. A minimum of 4 m wide is suggested; appropriately graded gravels will provide a significant barrier to water movement.
 - (d) The gravels for construction of the bund will be trucked on to site, any surplus material post the construction will be transported off site.
 - (e) The trench would be excavated from behind the bund; the excavated material will be shingle together with a large amount (expected) of water. Placement of the wet excavated material well back from the edge of the trench.
 - (f) The gallery pipe will be placed in the water and submerged to trench invert. The tee connection from the gallery and link to a main valve and manhole will be laid at the same time.
 - (g) The selected backfill material will be sourced and screened from the excavated material, placed to ensure that the pipe is securely bedded in the trench and the natural bed material placed over the top of the backfill.
 - (h) Trenching and backfilling will be completed in 10-15 days, noise levels will be elevated due to construction machinery and screening plant. Dust should not be a problem as material will be wet and if it dries out it will be watered during the screening phase.

Backflow Prevention

- 7.20 Mr McIndoe advised that the pumping system will be fitted with non-return valves in accordance with good design practice. It is important that the critical reverse flow be prevented to ensure that the mainline remains full and that pumps are not forced to rotate in reverse. Water in the mainline will be Lake Ohau water and will not be contaminated. Should the non-return valves ever fail, and that is unlikely given that they will be included

in a normal evaluation and maintenance schedule, water returning to Lake Ohau will be from Lake Ohau.

Didymo

- 7.21 Mr McIndoe was unsure why there was a concern with spread of didymo given the lake shore is already a hotspot for didymo, however he did tell us that the contractors would take all normal precautions such as cleaning machinery to minimise the likelihood of contaminating water ways. The bund would minimise the likelihood of didymo or sediment moving into the Ohau River other than during construction or de-installation of the bund

Coffer dam

- 7.22 Mr McIndoe considered the Officers S42A report reference to a coffer dam to prevent the movement of sediment and didymo into the Ohau River. Mr McIndoe did not see the merit in a coffer dam given the proposed construction methodology. It was his view that a coffer dam or diversion wall would create more disturbance and sediment than what the applicant proposed with the bund option.
- 7.23 Mr McIndoe concluded that once constructed the gallery will blend with the natural landscape and that there will be no adverse environmental effects during its operation.

Ms Ruth Bartlett – Botanist

- 7.24 Ms Ruth Bartlett did not appear at the 15th March hearing, but we were referred to her October 2009 evidence relating to the intake structure.
- 7.25 Ms Bartlett's evidence describes the vegetation in the vicinity of the fence line along side which the pipeline is to be buried. This includes a mixture of exotic and indigenous tussock grasslands and shrubland comprising briar, matagouri, native broom, manuka, cocksfoot grass, sweet vernal, birds foot trefoil, fescue tussock, woolly mullein and occasional bracken.
- 7.26 On the steep gravelly slope that leads down to the foreshore scattered matagouri dominates the vegetation. A dense band of divaricating shrubs lines the lake shore, and includes occasional kowhai, amongst matagouri, manuka briar. While white leaved lawyer bush is a common component of vegetation. On the lake shore *coprosma rugosa* and *C.cheesemannii* are present amongst cobbles and boulders with a scattered grass cover, with manuka, *Coprosma propinqua* and matagouri located behind.
- 7.27 Ms Bartlett notes that construction of the pump house and pipeline from the Lake Ohau shoreline up the hill and into the irrigation area will require removal of vegetation that is of similar quality to that described above. She notes that the area comprises grazed tussock grassland and shrubland of similar value to that in the QEII covenant. The vegetation was considered of high ecological value by Espie *et al.* (1984), and these are protected within the adjacent QEII covenant.
- 7.28 Ms Bartlett considers that the activities required to construct the pump house and pipeline will create limited and localised disturbance. The pump house area is expected to measure some 5 m x 5 m and the adjacent staging area is likely to require the removal of additional vegetation to allow machinery access to the site. She added that pipeline construction is likely to require removal of vegetation in a band approximately three metres wide.
- 7.29 Ms Bartlett submitted that once the pump house construction has been completed and the pipeline buried that the surface will be revegetated with a grassland mix similar to that applied to the rest of the property. The buried pipeline will skirt around the QEII covenant area to Ohau Downs, the pipeline will be buried at least 600mm deep and will not cross any roads or streams.

8 SUBMITTERS

- 8.1 As noted above, most of the issues raised by submitters related to the taking and use of

water rather than the intake structure. We have therefore only summarised those submissions that were directly relevant to this application.

Mr and Mrs Smithies

8.2 Mr and Mrs Smithies submitted that they feel the effects of the construction on Lake Ohau will be profound if allowed to go ahead. The construction will disrupt the landscape, access to fishing spots and fishing due to siltation and the risk of backflow. They considered that there was a huge risk that the whole ecology of the lake, lakeshore and downstream waterways will be compromised. Compounded by the slow growth of vegetation in the area and any mitigating efforts of the applicants to restore the landscape will not be evident for many years.

Dr McMillan and Mrs McMillan

- 8.3 The McMillan's specific concerns related to the effects of the proposed construction works on;
- (a) Sediment loads on Lake Ohau and Ohau River.
 - (b) Disturbance of the soil and fragile environment or the riparian margins both during construction and ongoing maintenance, coupled with a slow recovery of vegetation will be adverse.
 - (c) Alteration of the natural landscape by vegetation loss and visibility of the pumping station.
 - (d) The effects of climatic conditions from wind or high rainfall during construction.

9 STATUTORY CONTEXT

- 9.1 The relevant statutory context is set out in detail in our Part A decision. In accordance with those requirements, we have structured this evaluation section of our report as follows:
- (a) Evaluation of effects
 - (b) Evaluation of relevant planning instruments
 - (c) Evaluation of other relevant s104 matters
 - (d) Part 2 RMA
 - (e) Overall evaluation

10 EVALUATION OF EFFECTS

- 10.1 Drawing on our review of the application documents, the submissions, the Officers' Reports, the evidence presented at the hearing and our site inspection, we have concluded that the effects we should have regard to are:
- (a) Water quality and ecosystems
 - (b) Amenity, recreation and other users
 - (c) Tangata whenua values
 - (d) Positive effects

Water quality and ecosystems

10.2 The principle effects on water quality and ecosystems will be generated during the short

period involved in the proposed construction activity of the intake structure. The effects on the water quality of the natural glacial fed lake waters would come from sediments created through construction works occurring in the lake waters, principally during the establishment of a bund designed to prevent contamination of the disturbed trench water directly into the lake or Ohau River. The activity of removing the temporary bund and returning of the lake bed to its original condition will also result in sedimentation dispersing to the waters of the lake and river.

- 10.3 The applicant proposes to build a temporary bund, to contain sedimentation from the main construction phase, and time the work to a period when lake levels are at a lower level. Construction would not start until a Construction Management Plan has been completed and approved by the Canterbury Regional Council.
- 10.4 Mr Meredith who was an advisor to the S42A reporter considered that a coffer dam out into the lake from the mouth of the Ohau River would minimise spread of didymo into the lake. This would have the effect of minimising effects on the river particularly if the river only draws water from the main body of the lake rather than the construction area.
- 10.5 The applicant considered that the sedimentation effects of constructing a coffer dam would exceed that of the temporary bund that they propose to build.
- 10.6 The completion and acceptance of a Construction Management Plan by Canterbury Regional Council prior to construction commencing will be an important factor in establishing the best practice standards recognised by Canterbury Regional Council and mitigating effects to less than minor.

Ecosystems

- 10.7 The S42A report advocates an exclusion period for construction be extended to avoid the season opening, salmonid spawning and incubation period. Decontamination of equipment to prevent disturbance or spreading of didymo growths during construction should also apply.
- 10.8 The intake design structure as described by Mr McIndoe is designed to safely screen a wide range of fish sizes, including adult and juvenile salmonids, consequently the effects on lake fisheries are expected to be less than minor.
- 10.9 The effects of clearing an area for the construction of a pump house and pipeline will result in the removal of a small area of vegetation, the physical and visual results of the clearance are likely to persist for a lengthy time due to slow growth rates in that locality. The submitters Dr and Mrs McMillan were concerned that ongoing maintenance would include vehicle movement and result in further depressing any vegetative recovery and visible marks being left on the landscape.

Amenity, recreation and other users

- 10.10 The potential effects on amenity, recreational and other users would predominantly be through the limited access during the construction period. It is accepted that exclusion from the construction site will be necessary for reasons of safety. The period of construction will however be relatively short (10-15 days, gravel gallery), and further mitigation measures can be achieved by nominating the specific hours of work to between the hours of 7am to 7pm, and avoidance of works on public holidays.
- 10.11 For recreationists there will be short term modifications and restricted access during the construction phase. Restoration works will heal evidence of the works, however the duration of this vegetative and land surface recovery will be extended due to the slow plant growth in that part of the Waitaki Upper Basin.
- 10.12 Given the short term duration (10-15 days gallery, 2-4 weeks total project) of the proposed construction work, and the fact that other than the pump house all other aspects of the intake infrastructure will be buried and the area will be rehabilitated, we consider that the effects are less than minor.

Tangata whenua

- 10.13 Ngai Tahu did not lodge a submission specific to this application, although a generic submission opposing all applications in the Mackenzie Basin was lodged by Ngai Tahu. The applicant indicated that during the onsite consultation Ngai Tahu chose not to go to the intake structure site, this may not be sufficient evidence to conclude that there was no tangata whenua interest or values at the proposed intake site. The proposed mitigation measures designed to minimise effects of sedimentation on water and ecosystems will also be of benefit to the tangata whenua interest.
- 10.14 The inclusion of the condition of an accidental discovery protocol will address the potential for unearthing koiwi or taonga during earthworks.

Positive effects

- 10.15 The proposed activity has the potential to produce significant positive effect to a large area of the Fiver Rivers property through the provision of irrigation water to an otherwise dryland and degraded landscape. The increased pasture and crop production will boost agricultural production and economic returns to the property and the local community.

Key conclusions on effects

- 10.16 In relation to the actual and potential effects of the proposal, our key conclusions are as follows.
- 10.17 The activity will have a short term effect on water quality and after the establishment of the temporary bund this will reduce to less than minor until the de-installation period at the end of construction. Mitigation of effects can be enhanced by timing construction to occur during seasonally low lake levels and at a time that least effect's the angling, local fishery spawning and incubation period.
- 10.18 The effects on access will be short term and can be mitigated by declaring limits on work hours and avoidance of works on public holidays. Noise and visual effects of the construction activity will be short term, however the landscape effects of a "line" through the vegetation is likely to persist for some time unless effort is applied to re-establishing vegetation cover.
- 10.19 In conclusion we find that subject to mitigation measures identified above and the completion of a Construction Management Plan to be approved by the Canterbury Regional Council prior to start of construction that the temporary activity will have a less than minor effect.

11 EVALUATION OF RELEVANT PLANNING INSTRUMENTS

- 11.1 Under s 104(1)(b) of the Act, we are required to have regard to the relevant provisions of a range of different planning instruments. Our Part A decision provides a broad discussion of those planning instruments and sets out the approach we have applied to identification and consideration of the relevant provisions.
- 11.2 The key objectives and policies that are relevant to this application can be found in Chapter 6 of the NRRP, which relates to activities in the beds of lakes and rivers. The chapter contains one objective and two related policies.
- 11.3 Objective BLR1 aims to ensure that works in the beds and banks of lake, rivers and streams can be undertaken while minimising effects, including flood-carrying capacity, natural character, ecosystems, other structures, erosion, Ngai Tahu values. Given the conclusions we have reached on these matters above, we consider that, subject to appropriate conditions, both options are consistent with this objective.
- 11.4 Policies BLR1 and BLR2 aim to control activities associated with the erection, placement, use and maintenance of structures within the bed of rivers to ensure that Objective BLR1 is achieved. This may include restricting activities so that they do not affect flood carrying

capacity, erosion or create plant infestations. For the reasons discussed above, with the imposition of appropriate conditions, we consider both options are consistent with these policies.

12 EVALAUTION OF OTHER RELEVANT S104 MATTERS

- 12.1 Under s104(1)(c), we are required to have regard to any other matter that we consider to be relevant and reasonably necessary to determine the application. After hearing all the relevant evidence, we consider that no such matters exist in relation to this application.

13 PART 2 RMA

- 13.1 Section 104(1) states that the matters which we have discussed above are subject to Part 2, which covers section 5 through section 8 inclusive. These sections are set out in full in our Part A decision and are discussed below in the context of the current application.

Section 6 – Matters of National Importance

- 13.2 Sections 6 identifies matters of national importance that we must “recognise and provide for” when making our decision.
- 13.3 We consider the short term duration of the proposed activity coupled with the fact that the gallery structure and pipeline will be buried below the surface of the lake bed or land surface will ensure that the natural character of the area will not be compromised.
- 13.4 The removal of a small area of indigenous and exotic vegetation to create an access way for the construction equipment, line for the pipeline and site for a pump house will create a visual effect that will be remediated by surface repair and over time by the gradual regrowth of vegetation.
- 13.5 Access to the area will be restrained during the construction phase, the short duration and avoidance of work at night or public holidays will mitigate this issue.
- 13.6 The proposed mitigation measures to minimise effects on the water quality and ecosystems of the area will also mitigate the potential impact on tangata whenua values for the area.

Section 7 – Other Matters

- 13.7 Section 7 lists other matters that we shall “have particular regard to”.
- 13.8 The principle of kaitiakitanga has been observed to the extent that the applicant has consulted with Ngai Tahu and sought to understand Ngai Tahu values.
- 13.9 The ethic of stewardship has been followed with respect to the applicants proposed mitigation measures to minimise the effects on the local waters and ecosystems. The proposal to develop a Construction Management Plan which is to be approved by the Canterbury Regional Council prior to construction further consolidates the principle of stewardship.
- 13.10 The short duration of the activity and measures to mitigate effects on amenity intrinsic ecosystem values and restore back to as close to original as possible will ensure particular regard has been paid to clauses (c), (d) & (f) of section 7.
- 13.11 The lasting impact on the natural and physical resources of the local environment will be less than minor due to the short term duration of the proposed activity, confined corridor for works on land and the burial of the pipeline.
- 13.12 The timing of the construction to avoid opening season, spawning, incubation and the mitigation measures of a temporary bund coupled with the short duration of the construction activity will result in a less than minor effect on the habitat of trout and salmon. The fish screening provided by the gallery will be effective at protecting small fish

from entry into the intake structure.

Section 8 – Treaty of Waitangi

- 13.13 Finally, section 8 requires that we shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).
- 13.14 Section 8 of the RMA has a cascading effect on the development for regional and district plans in so far as they affect the Upper Waitaki through integration of Ngai Tahu values into the respective objectives and policies. Five Rivers Ltd have consulted with Ngai Tahu, contributed to the development of a cultural impact assessment and the engagement of Mr Buddy Mikaere to assist individual farms with relating the findings to their property. Ngai Tahu made a property inspection, but chose not to have a look at the site of this proposed activity. We consider the mitigation measures proposed including the protection for water, ecosystem and vegetative values will ensure that tangata whenua values are not unduly harmed.

Section 5 – Purpose of the RMA

- 13.15 Turning now to the overall purpose of the RMA, that is, “to promote the sustainable management of natural and physical resources”.
- 13.16 The applicant has proposed mitigation measures designed to confine effects of sedimentation on lake and river water to a brief period during the construction of a temporary bund. The S42A reporter recommends a more substantial protective measure of a coffer dam to ensure that water flowing to Ohau River is from the main part of the lake. Mr McIndoe for the applicant contends that the coffer dam will produce more sedimentation than the temporary bund option. We accept that the coffer dam may be more deleterious in terms of sedimentation effects.
- 13.17 The intake structure is proposed to be being buried beneath the natural gravels of the bed of Lake Ohau. Although there is a possibility that the structure might be buried on the beach beside the lake if the rate of water infiltration can equal the rate of take required. The mitigation measures proposed and the application of best practice standards will ensure a less than minor effect on the lake, river waters and associated ecosystems.
- 13.18 The activity will require the removal of a small area of native vegetation which will have a more lasting visual effect due to the slow regrowth rates of shrubs and tussocks in that environment. Restoration of the disturbed surface area of the construction site and pipeline will be an important mitigation factor, coupled with proactive vegetation restoration will mitigate the long term effects.
- 13.19 Public access and enjoyment of the area will for a short period of time will be restricted during the 10-15 day construction phase, and be a less than minor effect over time.

14 OVERALL EVALUATION

- 14.1 Under s104B of the RMA, we have a discretion as to whether or not to grant consent. This requires an overall judgment to achieve the purpose of the Act and is arrived at by:
- (a) Taking into account all the relevant matters identified under s 104;
 - (b) Avoiding consideration of any irrelevant matters;
 - (c) Giving different weight to the matters identified under s 104 — depending on our opinion as to how they are affected by the application of s 5(2)(a), (b), and (c) and ss 6-8 — to the particular facts of the case; and then in light of the above; and
 - (d) Allowing for comparison of conflicting considerations, the scale or degree of conflict, and their relative significance or proportion in the final outcome.
- 14.2 The principle effects of the proposed activity will arise from potential sedimentation and

discolouring of the lake water and the nearby Ohau River, and the landscape effects of vegetative removal and earthworks.

- 14.3 We consider that the principal sedimentation effects can be confined to the building and de-installation of the temporary bund, through timing of works to avoid sensitive habitat and recreational activities and application of the best practice standards.
- 14.4 The long term landscape effects will be confined to the area of the construction corridor and the pump house. While small in area, the slow rate of vegetative and surface soil recovery will mean that the visual sign of the pipeline and associated works will take some time to merge with the existing vegetative.
- 14.5 The completion of a Construction Management Plan to be approved by Canterbury Regional Council prior to construction begins will ensure compliance with current standards of work is adhered.
- 14.6 Having reviewed the application documents, all the submissions, taking into account the evidence to the hearing and taking into account all relevant provisions of the RMA and other relevant statutory instruments we have concluded that the outcome which best achieves the purpose of the Act is to grant consent.

15 DECISIONS AND REASONS

- 15.1 Pursuant to the powers delegated to us by the Canterbury Regional Council:
- 15.2 For all of the above reasons and pursuant to sections 104 and 104B of the Resource Management Act 1991, we **GRANT** application CRC100225 by Five Rivers Limited for the following activity:
- To construct, maintain and operate an intake, pipeline and pump station on the shoreline and lake bed of Lake Ohau (at or about map reference H39:6566-5350), to pump water to Ohau Downs Station.
- 15.3 Pursuant to section 108 RMA, the grant of consent is subject to the conditions specified at **Appendix A**, which conditions form part of this decision and consent
- 15.4 The duration of this consent shall be until the 30th April 2025

DECISION DATED AT CHRISTCHURCH THIS 22ND DAY OF NOVEMBER 2011

Signed by:

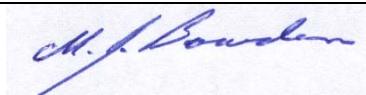
Paul Rogers



Dr James Cooke



Michael Bowden



Edward Ellison



APPENDIX A

Conditions of Consent (CRC100225)

1. The works shall be limited to:
 - a. The construction, use and maintenance of:
 - i. A intake gallery 140 metres long, 1 metre wide and 3.3 metres deep;
 - ii. A 1 metre diameter pipeline; and
 - iii. Pumping stations

Under the bed and banks of Lake Ohau.
 - b. The excavation and disturbance of the bed and banks of Lake Ohau associated with the activity described in condition (1)(a) including;
 - i. A 3.3 metre deep, 4 metre wide and 150 metre long trench for the installation of the intake gallery;
 - ii. 1.5 metre deep and 2 metre wide trench for the installation of the pipeline; and
 - iii. Exaction for the installation of pumping stations.
 - c. The removal of vegetation on the banks of Lake Ohau to allow the installation of the pipeline and pumping stations.
 - d. The deposition of material on the bed of Lake Oahu.
 - e. Maintenance of the gallery, pipeline and pumping stations.
 - f. Note: for the purpose of this consent "maintenance ` as described in condition (1)(e) of this consent includes, but is not limited to, repairs to the gallery, pipeline and pumping stations.
2. The works carried out in accordance with condition (1) shall be located at Lake Ohau, between map references NZMS 260 H38:6557-5344, NZMS 260 H38:6564-5358 and NZMS 260 H38:6580-5344, within the area detailed on Plan CRC100225A.
3. The works shall be undertaken in accordance with the attached design plans' CRC100225B and CRC100225C, with corm part of this consent.
4. Prior to the commencing works, a copy of this recourse consent shall be given to all persons undertaking activities authorised by this consent.
5. The Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, shall be notified not less than 3 working days prior to the commencement of works described in condition (1)(a)-(d) and as soon as practicable in relation to works associated with condition (1)(e).
6. The duration of the works to undertake the activities authorised by condition (1)(a)-(d) shall not exceed four weeks.
- 7.

- a. Works shall not be carried out on public holidays
 - b. Works shall only occur duration the hours of 7am to 7 pm.
8. Where access to the margins of Lake Ohau is restricted due to works described in condition (1), the consent holder shall provide an alternative access route to the margins of Lake Ohau.
9. All practicable measures shall be undertaken to minimise adverse effects on property, amenity values, wildlife, vegetation, and ecological values.
10. At least 20 working days prior to the commencement of the works, the consent holder shall submit to the Canterbury Regional Council, Attention: RMA Enforcement and Compliance Manager, an Erosion and Sediment Control Plan (ESCP) that includes, but is not limited to the following:
 - a. A locality map; and
 - b. Detailed drawings showing the type and location of erosion and sediment control measures, on-site catchment boundaries, and off-site sources of run-off; and
 - c. Drawings and specifications of all designated erosion and sediment control measures with supporting calculations; and
 - d. A programme of works, which includes but is not limited to a proposed timeframe for the works;
 - e. A schedule of inspections and maintenance of erosion and sediment control measures; and
 - f. Details of when the erosion and sediment control measures are to be established and decommissioned; and
 - g. Measures to ensure that there is no tracking of mud or earth onto the surrounding road network, including the provision of shaker ramps and/or wheel washes where appropriate; and
 - h. Measures to be undertaken should erosion and sediment control measures fail and result in contamination of any watercourse or water body
11. The ESCP shall be prepared in general accordance with the Environment Canterbury Erosion and Sediment Control Guidelines 2007 (ECAN ESC Guidelines).
12. The ESCP shall be communicated to all persons undertaking activities authorised by this consent and a copy of the ESCP shall be kept on site at all times.
13. The Erosion and Sediment Control Plan and any revisions of that document shall be submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, for certification that the Erosion and Sediment Control Plan meets all the requirements of the conditions of this consent.
14. No activities authorised by this consent shall commence or be undertaken other than in full compliance with an Erosion and Sediment Control Plan that has been certified by or on behalf of the Canterbury Regional Council RMA Compliance and Enforcement Manager in terms of condition 10.
15.
 - a. The consent holder shall take all practicable steps to avoid cement material entering Lake Ohau including waste wash water from tools and machinery.
 - b. Cement shall be stored securely or removed from site overnight.

16. When undertaking works on the banks of Lake Ohau, the consent holder shall adopt the best practicable options to:
 - a. Minimise soil disturbance and prevent soil erosion;
 - b. Prevent sediment from flowing into any surface water; and
 - c. Avoid placing cut or cleared vegetation, debris, or excavated material in a position such that it may enter surface water.
17.
 - a. All practicable measures shall be undertaken to prevent oil and fuel leaks from vehicles and machinery.
 - b. There shall be no storage of fuel or refuelling of vehicles and machinery within 20 metres of the bed of a river or lake.
 - c. Fuel shall be stored securely or removed from the site overnight.
18. Machinery shall be free of plants and plant seeds prior to use in Lake Ohau.
19.
 - a. Vehicles and/or machinery shall not operate within 100 metres of birds which are nesting or rearing their young in the bed of the river.
 - b. For the purpose of this condition birds are defined as those bird species listed in Schedule A.
20. Works shall not occur during the period of 1 June to 31 December inclusive, in any year.
21. To prevent the spread of *Didymo* or any other aquatic pest, the consent holder shall ensure that activities authorised by this consent are undertaken in accordance with the Biosecurity New Zealand's hygiene procedures.

Note: You can access the most current version of these procedures from the Biosecurity New Zealand website <http://www.biosecurity.govt.nz> or Environment Canterbury Customer Services.

22. The consent holder shall ensure that the following procedure is adopted in the event that koiwi (human remains) or taonga (cultural artefacts) are unearthed or are reasonably suspected to have been unearthed during the course of construction and other activities.
 - a. Immediately as it becomes apparent, or is suspected by workers at the site that koiwi or taonga have been uncovered, all activity at the site will cease.
 - b. The plant operator will shut down all machinery or activity immediately, and leave the area and advise his or her supervisor of the occurrence.
 - c. The supervisor shall take steps to immediately secure the area in a way that ensures that koiwi or taonga remain untouched as far as possible in the circumstances and shall notify the consent holder.
 - d. The Consent Holder will notify the New Zealand Police (in the case of koiwi) and the relevant runanga representatives that it is suspected that koiwi and/or taonga have been uncovered at the site.
 - e. The runanga representatives will contact the appropriate kaumatua to act on their

behalf in this matter in order to guide and advise the consent holder as to the appropriate course and the consent holder will immediately advise the consent holder of the identity of such kaumatua.

- f. The consent holder shall ensure that representatives on its behalf are available to meet and guide kaumatua and police (as appropriate) to the site, assisting with any requests they may make.
- g. If the kaumatua are satisfied that the koiwi or taonga are of Maori origin the kaumatua will decide how they are to be dealt with and will communicate its decision to the consent holder, New Zealand Police and such other parties as are considered appropriate.
- h. Activity on site shall remain halted until the New Zealand Police and the kaumatua have given approval for operations to recommence.
- i. The consent holder shall ensure that kaumatua are given the opportunity to undertake karakia and such other religious or cultural ceremonies and activities at the site as may be considered appropriate in accordance with tikanga Maori (Maori custom and protocol).

23.

- a. Upon completion all disturbed areas shall be stabilised and revegetated with similar species to those found in the intermediate vicinity of the particular site following completion of the works.
- b. Upon completion all spoil and other waste material from the works shall be removed from site on completion of works.

24.

- a. The consent holder shall ensure that if water is abstracted the gallery and, or, intake shall be designed to prevent native and exotic fish species from entering the system.
- b. The fish screen shall be designed by a person with experience in freshwater ecology and fish screening techniques, and constructed in a manner that ensures the principals of the NIWA fish screening guidelines (Fish Screening: Good Practice Guidelines for Canterbury, NIWA Client Report 2007-092, October 2007, or other revision of these guidelines. (Copy available on www.ecan.govt.nz)) are achieved.
- c. No water may be taken in terms of this permit until, upon completion of the intake structure a report is provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager. The report shall be prepared by the consent holder for certification and shall demonstrate compliance with the following:
 - i. Design plan for the gallery specifying gallery dimensions;
 - ii. Detail of depths and sizes of layers of gravel over the gallery;
 - iii. Photographic evidence of key stages of construction of the gallery, including demonstrating compliance with gravel specifications in sub clause (c)(ii) above;
 - iv. Any ongoing maintenance required by the manufacturer is carried out in accordance with their specifications.
- d. The intake structure shall be maintained in good working order. Records shall be kept of all inspections and maintenance. And those records shall be provided to the Canterbury Regional Council upon request.

25. The Canterbury Regional Council may, once per year, on any of the last five working days of February or July, serve notice of its intention to review the conditions of this consent pursuant to Section 128 of the RMA, for the purposes of dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage.
26. Lapsing date for the purposes of section 125 of the Resource Management Act 1991 shall be 31 December 2016.

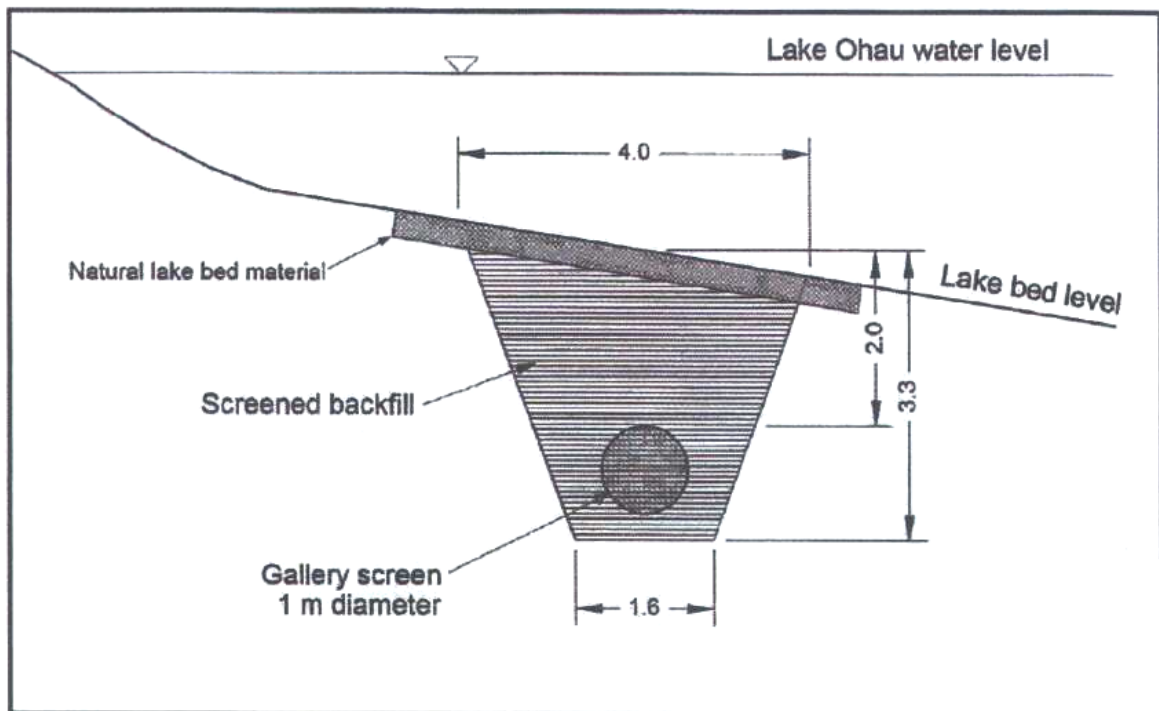
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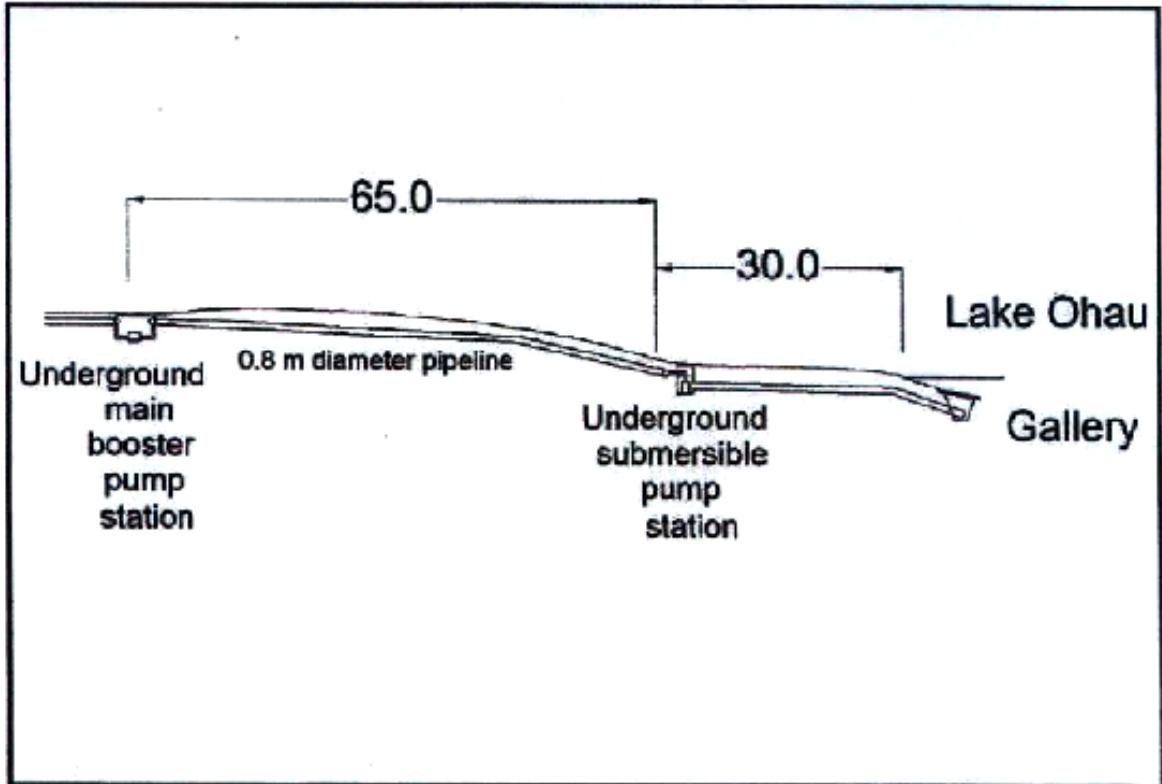
Nothing in this consent authorised the taking and use of water for irrigation purposes. A separate consent is required from the Canterbury Regional Council for this activity.

Plan CRC100225A



Plan CRC100225B





Schedule A – list of bird species

South Island Pied Oystercatcher

Black Stilt

Pied Stilt

Wrybill

Banded Dotterel

Black-fronted Dotterel

Grey warbler

Fantail

Bellbird

Silvereye

Spur-winged Plover

Paradise Shelduck

Grey Duck

NZ Shoveler

Grey Teal

NZ Scaup

Black-billed Gull

Red-billed Gull

Caspian Tern

White-fronted Tern

Black-fronted Tern

White-winged Black Tern

Australasian Bittern

Marsh Crake

Spotless Crake

Cormorant/shag colonies

Or any other bird species deemed by a suitably qualified person to require protection.