1 Resource Consent Application

Otago Regional Council

This application is made under Section 88 of the Resource Management Act 1991.

(For Office Use Only)
Deposit Paid: $

Charges / Deposits

A deposit **must** accompany the application (see page **8** for amounts). The applicant will be invoiced for all costs incurred in processing this application that exceed the deposit.

Council can accept electronic lodgement of applications if sent to public.enquiries@orc.govt.nz. Include "consent application" in the subject line.

Please complete the application in pen. For questions marked with an * you will find notes on page 4

1.* Applicant(s) Details

Applicant(s) name(s) in full: Luggate Irrigation Company Ltd

OR Company Name (in full)

OR Names of Trustees (in full) if Applicant is a Trust

or Name of Incorporation

Postal Address PO Box 36240 Northcote Auckland

Post Code 0748

Street Address (not a P O box number) 1000 Highway 6 Luggate

Post Code

Phone Number Business 094894060 Private

Mobile 021952988 Fax

Email Address colin@hif.co.nz

2.* Consultant/Contact Details (if not applicant)

Name of Consultant/ Contact Person: Colin Harvey

Postal Address PO Box 36240 Northcote Auckland

Post Code 0748

Phone Number Business 094894060 Private

Mobile 021952988 Fax

Email Address colin@hif.co.nz

3. On Site Supervisor/Manager Contact Details (if applicable)

Name of On Site Supervisor/Manager Person:

Postal Address _____

_____

_____ Post Code _____

Phone Number Business _____ Private _____

Mobile _____ Fax _____

Email Address _____

4.* a) Are there any current or expired resource consents relating to this proposal?

• X Yes • No

If yes, give Consent Number(s) and Description: __

Resource Consent No. WR7298CR.V1 - Surface Water Take Permit - Alice Burn, a tributary of Luggate Creek, Resource Consent No. WR7284CR.V1 - Surface Water Take Permit - Luggate Creek North Branch, Luggate, Resource Consent No. WR7285CR.V1 - Surface Water Take Permit - Alice Burn, a tributary of Luggate Creek and Resource Consent No. WR7286CR.V1 - Surface Water Take Permit - Alice Burn, a tributary of Luggate Creek

_____

_____

_____

b) Has there been a previous application for this activity that was returned as incomplete?

• Yes • X No

If yes, give Consent Number(s) and Description: _____

_____

_____

c) Have you a pre-application lodged with Council for this activity?

• Yes • X No

If yes, give pre-application Number(s) and Description: _____

_____

_____

d) Have you spoken to a Council staff member about this application prior to lodging this application?

• Yes • No If yes, please state name of staff member *Peter Christophers*

Principal Consents Officer

_____

5. The applicant is (tick one): X owner Δ leasee Δ prospective purchaser **of the land on which**

the activity occurs.

6*. Who is the owner of the land on which the activity occurs/is to occur? (only complete if applicant is not the landowner)

Name of landowner: _____

Postal Address _____

_____

_____ Post Code _____

Phone Number Business _____ Private _____

Mobile _____ Fax _____

Email Address _____

7*. Who is the occupier of the land on which the activity occurs/is to occur? (only complete if the applicant is not the land occupier)

Name of land occupier _____

Postal Address _____

_____

_____ Post Code _____

Phone Number Business _____ Private _____

Mobile _____ Fax _____

Email Address _____

8*. Who leases the land on which the activity occurs/is to occur? (only complete if land is leased and it is not leased to the applicant)

Name of land leasee _____

Postal Address _____

_____

_____ Post Code _____

Phone Number Business _____ Private _____

Mobile _____ Fax _____

Email Address _____

9. Tick the consents required in relation to this proposal:

Water

- Take Surface Water
- Divert
- X Take Groundwater
- Dam

Discharge onto or into:

- Land
- Water
- Air

Land Use:

- Bore construction
- Bore alteration
- Activities in or on beds of lakes or rivers or floodbanks
- Disturbance of contaminated land

Coastal:

- Activities in the coastal marine area (i.e., below mean high water spring tide)?

Where you have indicated the type of consent that is required, you must complete the appropriate Application Form before your application can be processed. Application Forms can be found on the Council's website: www.orc.govt.nz.

10. What is the maximum term of consent you are seeking? 35 years

11. Territorial Local Authority in which activity is situated?

- Dunedin City Council
- Clutha District Council
- Central Otago District Council
- X Queenstown Lakes District Council
- Waitaki District Council

12*. Do you require any other resource consent from any local authority for this activity?

- Yes
- X No

If Yes, please list: _____

Have these consents been applied for/issued? X Yes • No If Yes

If Yes, please give the date applied for or issued: 16/5/13 and 16/5/13

Notes on Application Form Details

1. Applicant(s) Details

A resource consent can only be held by a legal organisation or fully named individual(s). A legal organisation includes a limited company, incorporated group or registered trust. If the application is for a trust the full names of all trustees are required. If the application is not for a limited company, incorporated group or trust, then you must use fully named individual(s).

2. Consultant/Contact Details

If you are using a consultant/agent for this application put their details here. If you are not, leave question 2 blank.

4 Previous Consent

Do you currently have a resource consent to do the activity that you are applying to renew with this application? If so, please enter the permit number if known and a brief description including the date of issue and the expiry date.

6-8 Landowner, occupier and leasee

If you are not the landowner, land occupier or leasee of the land where the activity will be undertaken, you may be required to obtain their unconditional written approval to your application. On pg 6 there is a form that can be used.

12. Additional Consents

If you are carrying out earthworks or building work you may need other consents from either the ORC or your Territorial Local Authority.

Declaration

Before signing the declaration below, in order to provide a complete application have you remembered to:

Fully completed this Form 1 and the necessary Application Forms •

Attached the required deposit.(or pay on line) (see pg 8 for deposit that is payable) •
Cheques payable to Otago Regional Council

Please note: your deposit may not cover the entire cost of processing your application. At the end of the application process you will be invoiced for any costs that exceed the deposit. Interim invoices may be sent out for applications, where appropriate.

If the required deposit does not accompany your application, staff will contact you on the phone number provided on this form to request payment, and after 3 working days your application will returned if no payment is made for the required deposit.

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

I/we undertake to pay all actual and reasonable application processing costs incurred by the Otago Regional Council.

Name/s ~~Lake McKay Station Ltd~~ Waggate Irrigation Co. Ltd.
(BLOCK CAPITALS)

Signature/s _____
(or person authorised to sign on behalf of applicant)

Designation Director _____ Date 1/8/2018
(e.g., owner, manager, consultant)

Otago Regional Council Postal Address: 70 Stafford St, Private Bag 1954, Dunedin 9054

Consultation

– (consultation is not compulsory, but it can make a process easier and reduce costs).

Under Section 95E of the Resource Management Act 1991 (the Act) the Council will identify affected parties to an application and if the application is to be processed on a non-notified basis the unconditional written approval of affected parties will be required. Consultation with potentially affected parties and interested parties can be commenced prior to lodging the application.

Consultation may be required with the appropriate Tangata Whenua for the area. The address of the local Iwi office is: Aukaha, 258 Stuart Street, P O Box 446, Dunedin, Fax (03)477-0072, Phone (03) 477-0071, email: info@aukaha.co.nz. If you require further advice please contact the Otago Regional Council.

Good consultation practices include:

- Giving people sufficient information to understand your proposal and the likely effects it may have on them
- Allowing sufficient time for them to assess and respond to the information
- Considering and taking into account their responses

Written approval forms are appended to this form on Page 9.

Information Requirements

In order for any consent application to be processed efficiently in the minimum time and at minimum cost, it is critical that as much relevant information as possible is included with the application. **Where an application is significantly incomplete, the Consent Authority may decide not to accept the application for processing.**

Resource Management Act 1991
FOURTH SCHEDULE—ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

(Below are the provisions of the 4th schedule of the Act, which describes what must be in an application for resource consent, as amended in 2015.)

1 Information must be specified in sufficient detail

Any information required by this schedule, including an assessment under clause 2(1)(f) or (g), must be specified in sufficient detail to satisfy the purpose for which it is required.

2 Information required in all applications

(1) An application for a resource consent for an activity (the **activity**) must include the following:

(a) a description of the activity:

(b) a description of the site at which the activity is to occur:

(c) the full name and address of each owner or occupier of the site:

(d) a description of any other activities that are part of the proposal to which the application relates:
(e) a description of any other resource consents required for the proposal to which the application relates:
(f) an assessment of the activity against the matters set out in Part 2:
(g) an assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b). *("document" includes regional & district plans, regulations, national policy statements, iwi plans*)

(2) The assessment under subclause (1)(g) must include an assessment of the activity against—
(a) any relevant objectives, policies, or rules in a document; and
(b) any relevant requirements, conditions, or permissions in any rules in a document; and
(c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).

(3) An application must also include an assessment of the activity's effects on the environment that—
(a) includes the information required by clause 6; and
(b) addresses the matters specified in clause 7; and
(c) includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.

3 Additional information required in some applications

An application must also include any of the following that apply:
(a) if any permitted activity is part of the proposal to which the application relates, a description of the permitted activity that demonstrates that it complies with the requirements, conditions, and permissions for the permitted activity (so that a resource consent is not required for that activity under section 87A(1)):
(b) if the application is affected by section 124 or 165ZH(1)(c) (which relate to existing resource consents), an assessment of the value of the investment of the existing consent holder (for the purposes of section 104(2A)):"(c) if the activity is to occur in an area within the scope of a planning document prepared by a customary marine title group under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011, an assessment of the activity against any resource management matters set out in that planning document (for the purposes of section 104(2B)

***4* (relates to subdivisions-** *not included here as subdivisions not ORC jurisdiction.)*

5 Additional information required in application for reclamation

An application for a resource consent for reclamation must also include information to show the area to be reclaimed, including the following:
(a) the location of the area:
(b) if practicable, the position of all new boundaries:
(c) any part of the area to be set aside as an esplanade reserve or esplanade strip.

Assessment of environmental effects

6 Information required in assessment of environmental effects

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

(2) A requirement to include information in the assessment of environmental effects is subject to the provisions of any policy statement or plan.

(3) To avoid doubt, subclause (1)(f) obliges an applicant to report as to the persons identified as being affected by the proposal, but does not—
(a) oblige the applicant to consult any person; or
(b) create any ground for expecting that the applicant will consult any person.

7 Matters that must be addressed by assessment of environmental effects

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

(2) The requirement to address a matter in the assessment of environmental effects is subject to the provisions of any policy statement or plan.

Set out below are details of the amounts payable for those activities to be funded by fees and charges, as authorised by s36(1) of the Resource Management Act 1991.

Resource Consent Application Fees (from 1 July 2017)

Note that the fees shown below are a **deposit** to be paid on lodgement of a consent application and applications for exemptions in respect of water metering devices. This deposit will not usually cover the full cost of processing the application, and further costs are incurred at the rate shown in the scale of charges. GST is included in all fees and charges.

If you wish to make a payment via internet banking, or on line, the details are below. Please note the applicants name and "consent application" should be used as reference when paying the deposit -

BNZ George Street, Dunedin - 02 0900 0532547 00. For on line go to ORC.govt. nz and follow prompts

Publicly Notified Applications: [3]	**$**
First application	5,000.00
Concurrent applications	225.00

Non Notified Applications and Limited Notified Applications: [3]	**$**
First application (except those below)	1,000.00
Concurrent applications [1]	50.00
Administrative variation	500.00
Exemptions from water measuring Regulations	200.00
Bores	500.00
Gravel	500.00

Hearings	Per Note 2 below

Transfers and Certificates Deposits:	**$**
Transfer of Mining Privilege	100.00
Transfer – other	100.00
Priority Table	100.00
Section 417 Certificate	200.00
Certificate of Compliance	200.00
Section 125 – Extension of lapse date	100.00
All Other Costs	As per Scale of Charges

Scale of Charges:	**From 1 July 2017 $**
Staff time per hour:	
* Executive staff	235.00
* Senior Technical/Scientist	180.00
* Technical/Scientist	120.00
* Field Staff	100.00
* Administration	92.00
Disbursements	Actual
Additional site notice	Actual
Advertisements	Actual
Vehicle use per kilometre	0.70
Travel and accommodation	Actual
Testing charges	Actual
Consultants	Actual
Commissioners	Actual
Photocopying and printing	Actual
Councillor hearing fees per hour	
*Chairperson	100
*Member	80
*Expenses	Actual

Notes

1. For additional permits in respect of the same site, activity, applicant, time of application, and closely related effect as the first application.

2. The deposit payable shall be 90% of the cost of a hearing as calculated by Council in accordance with information contained in the application file and using the scale of charges. The amount payable will be due at least 10 working days before the commencement of the hearing. If the amount is not paid by the due date, then the Otago Regional Council reserves the right under S36 (7) of the Resource Management Act to stop processing the application. This may include cancellation of the hearing.

   Should a hearing be cancelled or postponed due to the non payment of the charge, the applicant will be invoiced for any costs that arise from that cancellation or postponement.

   Following completion of the hearing process, any shortfall in the recovery of hearing costs will be invoiced, or any over recovery will be refunded to the applicant.

Under Section 100A of the RMA, one or more submitters may make a request to have a resource consent application heard by one or more hearing commissioners who are not members of Council. In this case the applicant will pay the amount that Council estimates it would cost for the application to be heard had the request not been made, and the submitter(s) who made the request will pay, in equal shares, the cost of the application being heard that exceeds that amount payable by the applicant.

Further, the applicant may request to have a resource consent application heard by one or more hearing commissioners who are not members of Council. In this case, the applicant will pay the full costs.

3. Where actual and reasonable costs are less than the deposit paid, a refund will be given.

Review of Consent Conditions
Following the granting of a consent, a subsequent review of consent conditions may be carried out at either request of the consent holder, or, as authorised under Section 128, as a requirement of Council. Costs incurred in undertaking such reviews will be payable by the consent holder at the rates shown in the Scale of Charges above.

Compliance Monitoring Charges (from 1 July 2017)

1. Performance Monitoring
The following charges will apply to the review of performance monitoring reports for all consent holders, except those listed in section 1.6 below. The charges shown are annual fixed fees per performance monitoring report or plan, and are inclusive of GST.

		From 1 July 2017
1.1 Discharge to Air Consent		**$**
Measurement of contaminants from a Stack report		86.00
Ambient air quality measurement of contaminants report		100.00
Management plans and maintenance records		33.50
Annual Assessment report		66.50
1.2 Discharge to Water, Land and Coast		**$**
□ Effluent Systems	Environmental Quality report	46.50
	Installation producer statements	60.00
	Return of flow/discharge records	60.00
□ Active Landfills	Environmental Quality report	58.00
	Management Plans	130.00
□ Industrial Discharges	Effluent quality report	42.00
	Environmental report	92.50
	Return of flow/discharge records	60.00
Annual Assessment report		50.00
Management Plans – minor environmental effects		130.00
Management Plans – major environmental effects		260.00
Maintenance records		30.00
1.3 Water Takes		
Verification reports		60.00
Annual assessment report		50.00
Manual return of data per take		80.00
Datalogger return of data per take sent to the ORC		50.00
Telemetry data per consent		35.00
Administration fee – water regulations		100.00
Low flow monitoring charge*		
- Kakanui at McCones		327.00
- Unnamed Stream at Gemmels		1,431.00

*Charge for monitoring sites established by the ORC specifically to monitor consented activities in relation to river flows.

1.4 Structures	
Inspection reports for small dams	130.00
Inspection reports for large dams	260.00
Structure integrity reports	80.00
1.5 Photographs	
Provision of photos	60.00

1.6 Set Fees for Specific Consent Holders

Performance monitoring fees will be charges as 75% of actual costs for the following consent holders

Dunedin City Council
Central Otago District Council
Clutha District Council
Queenstown Lakes District Council
Waitaki District Council
Ravensdown
Contact Energy
Trustpower Pioneer
Generation

Additional charges may be incurred for new consents granted during the year.

2. Audit
Audit work will be charged at half of the actual cost incurred, with the actual costs being calculated using the Scale of Charges.

3. Non-Compliance, Incidents and Complaints
Enforcement work on consent conditions, and remedying negative effects from permitted activities – Scale of Charges.

Gravel Inspection and Management
Gravel extraction fee – $0.66 per cubic metre (incl. GST). Where more than 10,000 cubic metres of gravel is extracted within a prior notified continuous two month period, the actual inspection and management costs will be charged, as approved by the Director Corporate Services.

Written Approvals of Persons Likely to be Adversely Affected

I/We (Please print full name/s)_____

of (Address)_____

I /we have read the full application for the proposal by (Applicant)

_____

for a Resource Consent (Number)_____to _____

_____

and give my/our written approval to the proposed activity/activities.

In signing this written approval I/we understand that:

- ☐ The consent authority must decide that I/we am/are no longer an affected person, and disregard adverse effects on me/us
- ☐ That /we I may withdraw my/our written approval in writing before the hearing, or if no hearing before a decision is made on the application.

Signature/s_____ Date_____
(or person authorised to sign on behalf of affected party/parties)

Phone _____Fax_____ Email_____

Please note: If this application is subsequently notified the above approval does not constitute a submission as required under Section 96 of the Resource Management Act 1991.

Written Approvals of Persons Likely to be Adversely Affected

I/We (Please print full name/s)_____

of (Address)_____

I /we have read the full application for the proposal by (Applicant)

_____

for a Resource Consent (Number)_____to _____

_____

and give my/our written approval to the proposed activity/activities.

In signing this written approval I/we understand that:

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- ☐ That /we I may withdraw my/our written approval in writing before the hearing, or if no hearing before a decision is made on the application.

Signature/s_____ Date_____
(or person authorised to sign on behalf of affected party/parties)

Phone _____Fax_____ Email_____

Please note: If this application is subsequently notified the above approval does not constitute a submission as required under Section 96 of the Resource Management Act 1991.

1 Resource Consent Application

Otago Regional Council

This application is made under Section 88 of the Resource Management Act 1991.

(For Office Use Only)
Deposit Paid: $

Charges / Deposits

A deposit **must** accompany the application (see page **8** for amounts). The applicant will be invoiced for all costs incurred in processing this application that exceed the deposit.

Council can accept electronic lodgement of applications if sent to public.enquiries@orc.govt.nz. Include "consent application" in the subject line.

Please complete the application in pen. For questions marked with an * you will find notes on page 4

1.* Applicant(s) Details

Applicant(s) name(s) in full: Lake McKay Station Ltd

OR Company Name (in full)

OR Names of Trustees (in full) if Applicant is a Trust

or Name of Incorporation

Postal Address PO Box 36240 Northcote Auckland

Post Code 0748

Street Address (not a P O box number) 1000 Highway 6 Luggate

Post Code

Phone Number Business 094894060 Private

Mobile 021952988 Fax

Email Address colin@hif.co.nz

2.* Consultant/Contact Details (if not applicant)

Name of Consultant/ Contact Person: Colin Harvey

Postal Address PO Box 36240 Northcote Auckland

Post Code 0748

Phone Number Business 094894060 Private

Mobile 021952988 Fax

Email Address colin@hif.co.nz

3. On Site Supervisor/Manager Contact Details (if applicable)

Name of On Site Supervisor/Manager Person: Stu Jamieson Farm Manager

Postal Address Lake McKay Station Atkin Rd Luggate

Post Code RD 2 Wanaka

Phone Number Business _____ Private _____

Mobile +64 272056746 Fax _____

Email Address lakemckay@xtra.co.nz

4.* a) Are there any current or expired resource consents relating to this proposal?

X Yes • No

If yes, give Consent Number(s) and Description: _

Resource Consent No. 97803.V1 - Surface Water Take Permit - Intake A: Alice Burn, locally known as Fall Burn, approximately 5.2 kilometres southeast of the terminus of Criffels Digging Track, Mount Barker, Wanaka. Intake C: Unnamed tributary of the Alice Burn, and Resource Consent No. 2008.519.V1 - Surface Water Take Permit - Alice Burn, locally known as Fall Burn,

b) Has there been a previous application for this activity that was returned as incomplete?

• Yes X No

If yes, give Consent Number(s) and Description: _____

c) Have you a pre-application lodged with Council for this activity?

• Yes X No

If yes, give pre-application Number(s) and Description: _____

d) Have you spoken to a Council staff member about this application prior to lodging this application?

• Yes • No If yes, please state name of staff member *Peter Christophers Principal Consents Officer*

5. The applicant is (tick one): X owner Δ leasee Δ prospective purchaser **of the land on which**

the activity occurs.

6*. Who is the owner of the land on which the activity occurs/is to occur? (only complete if applicant is not the landowner)

Name of landowner: _____

Postal Address _____

_____

_____ Post Code _____

Phone Number Business _____ Private _____

Mobile _____ Fax _____

Email Address _____

7*. Who is the occupier of the land on which the activity occurs/is to occur? (only complete if the applicant is not the land occupier)

Name of land occupier _____

Postal Address _____

_____

_____ Post Code _____

Phone Number Business _____ Private _____

Mobile _____ Fax _____

Email Address _____

8*. Who leases the land on which the activity occurs/is to occur? (only complete if land is leased and it is not leased to the applicant)

Name of land leasee _____

Postal Address _____

_____

_____ Post Code _____

Phone Number Business _____ Private _____

Mobile _____ Fax _____

Email Address _____

9. Tick the consents required in relation to this proposal:

Water

- Take Surface Water
- Divert
- X Take Groundwater
- Dam

Discharge onto or into:

- Land
- Water
- Air

Land Use:

- Bore construction
- Bore alteration
- Activities in or on beds of lakes or rivers or floodbanks
- Disturbance of contaminated land

Coastal:

- Activities in the coastal marine area (i.e., below mean high water spring tide)?

Where you have indicated the type of consent that is required, you must complete the appropriate Application Form before your application can be processed. Application Forms can be found on the Council's website: www.orc.govt.nz.

10. What is the maximum term of consent you are seeking? 35 years

11. Territorial Local Authority in which activity is situated?

- Dunedin City Council
- Clutha District Council
- Central Otago District Council
- X Queenstown Lakes District Council
- Waitaki District Council

12*. Do you require any other resource consent from any local authority for this activity?

- Yes
- X No

If Yes, please list: _____

Have these consents been applied for/issued? X Yes • No If Yes

If Yes, please give the date applied for or issued: 16/5/13 and 16/5/13

Notes on Application Form Details

1. Applicant(s) Details

A resource consent can only be held by a legal organisation or fully named individual(s). A legal organisation includes a limited company, incorporated group or registered trust. If the application is for a trust the full names of all trustees are required. If the application is not for a limited company, incorporated group or trust, then you must use fully named individual(s).

2. Consultant/Contact Details

If you are using a consultant/agent for this application put their details here. If you are not, leave question 2 blank.

4 Previous Consent

Do you currently have a resource consent to do the activity that you are applying to renew with this application? If so, please enter the permit number if known and a brief description including the date of issue and the expiry date.

6-8 Landowner, occupier and leasee

If you are not the landowner, land occupier or leasee of the land where the activity will be undertaken, you may be required to obtain their unconditional written approval to your application. On pg 6 there is a form that can be used.

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If you are carrying out earthworks or building work you may need other consents from either the ORC or your Territorial Local Authority.

Declaration

Before signing the declaration below, in order to provide a complete application have you remembered to:

Fully completed this Form 1 and the necessary Application Forms •

Attached the required deposit.(or pay on line) (see pg 8 for deposit that is payable) •
Cheques payable to Otago Regional Council

Please note: your deposit may not cover the entire cost of processing your application. At the end of the application process you will be invoiced for any costs that exceed the deposit. Interim invoices may be sent out for applications, where appropriate.

If the required deposit does not accompany your application, staff will contact you on the phone number provided on this form to request payment, and after 3 working days your application will returned if no payment is made for the required deposit.

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

I/we undertake to pay all actual and reasonable application processing costs incurred by the Otago Regional Council.

Name/s Lake McKay Station Ltd
(BLOCK CAPITALS)

Signature/s _____
(or person authorised to sign on behalf of applicant)

Designation Director Breeder Date 1/8/2018
(e.g., owner, manager, consultant)

Otago Regional Council Postal Address: 70 Stafford St, Private Bag 1954, Dunedin 9054

Consultation

– (consultation is not compulsory, but it can make a process easier and reduce costs).

Under Section 95E of the Resource Management Act 1991 (the Act) the Council will identify affected parties to an application and if the application is to be processed on a non-notified basis the unconditional written approval of affected parties will be required. Consultation with potentially affected parties and interested parties can be commenced prior to lodging the application.

Consultation may be required with the appropriate Tangata Whenua for the area. The address of the local Iwi office is: Aukaha, 258 Stuart Street, P O Box 446, Dunedin, Fax (03)477-0072, Phone (03) 477-0071, email: info@aukaha.co.nz. If you require further advice please contact the Otago Regional Council.

Good consultation practices include:

- Giving people sufficient information to understand your proposal and the likely effects it may have on them
- Allowing sufficient time for them to assess and respond to the information
- Considering and taking into account their responses

Written approval forms are appended to this form on Page 9.

Information Requirements

In order for any consent application to be processed efficiently in the minimum time and at minimum cost, it is critical that as much relevant information as possible is included with the application. **Where an application is significantly incomplete, the Consent Authority may decide not to accept the application for processing.**

Resource Management Act 1991
FOURTH SCHEDULE—ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

(Below are the provisions of the 4th schedule of the Act, which describes what must be in an application for resource consent, as amended in 2015.)

1 Information must be specified in sufficient detail

Any information required by this schedule, including an assessment under clause 2(1)(f) or (g), must be specified in sufficient detail to satisfy the purpose for which it is required.

2 Information required in all applications

(1) An application for a resource consent for an activity (the **activity**) must include the following:

(a) a description of the activity:

(b) a description of the site at which the activity is to occur:

(c) the full name and address of each owner or occupier of the site:

(d) a description of any other activities that are part of the proposal to which the application relates:
(e) a description of any other resource consents required for the proposal to which the application relates:
(f) an assessment of the activity against the matters set out in Part 2:
(g) an assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b). *("document" includes regional & district plans, regulations, national policy statements, iwi plans)*

(2) The assessment under subclause (1)(g) must include an assessment of the activity against—
(a) any relevant objectives, policies, or rules in a document; and
(b) any relevant requirements, conditions, or permissions in any rules in a document; and
(c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).

(3) An application must also include an assessment of the activity's effects on the environment that—
(a) includes the information required by clause 6; and
(b) addresses the matters specified in clause 7; and
(c) includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.

3 Additional information required in some applications

An application must also include any of the following that apply:
(a) if any permitted activity is part of the proposal to which the application relates, a description of the permitted activity that demonstrates that it complies with the requirements, conditions, and permissions for the permitted activity (so that a resource consent is not required for that activity under section 87A(1)):
(b) if the application is affected by section 124 or 165ZH(1)(c) (which relate to existing resource consents), an assessment of the value of the investment of the existing consent holder (for the purposes of section 104(2A)):"(c) if the activity is to occur in an area within the scope of a planning document prepared by a customary marine title group under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011, an assessment of the activity against any resource management matters set out in that planning document (for the purposes of section 104(2B)

***4* (relates to subdivisions-** *not included here as subdivisions not ORC jurisdiction.)*

5 Additional information required in application for reclamation

An application for a resource consent for reclamation must also include information to show the area to be reclaimed, including the following:
(a) the location of the area:
(b) if practicable, the position of all new boundaries:
(c) any part of the area to be set aside as an esplanade reserve or esplanade strip.

Assessment of environmental effects

6 Information required in assessment of environmental effects

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

(2) A requirement to include information in the assessment of environmental effects is subject to the provisions of any policy statement or plan.

(3) To avoid doubt, subclause (1)(f) obliges an applicant to report as to the persons identified as being affected by the proposal, but does not—
(a) oblige the applicant to consult any person; or
(b) create any ground for expecting that the applicant will consult any person.

7 Matters that must be addressed by assessment of environmental effects

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

(2) The requirement to address a matter in the assessment of environmental effects is subject to the provisions of any policy statement or plan.

Set out below are details of the amounts payable for those activities to be funded by fees and charges, as authorised by s36(1) of the Resource Management Act 1991.

Resource Consent Application Fees (from 1 July 2017)

Note that the fees shown below are a **deposit** to be paid on lodgement of a consent application and applications for exemptions in respect of water metering devices. This deposit will not usually cover the full cost of processing the application, and further costs are incurred at the rate shown in the scale of charges. GST is included in all fees and charges.

If you wish to make a payment via internet banking, or on line, the details are below. Please note the applicants name and "consent application" should be used as reference when paying the deposit -

BNZ George Street, Dunedin - 02 0900 0532547 00. For on line go to ORC.govt. nz and follow prompts

Publicly Notified Applications: [3]	**$**
First application	5,000.00
Concurrent applications	225.00

Non Notified Applications and Limited Notified Applications: [3]	**$**
First application (except those below)	1,000.00
Concurrent applications [1]	50.00
Administrative variation	500.00
Exemptions from water measuring Regulations	200.00
Bores	500.00
Gravel	500.00

Hearings	Per Note 2 below

Transfers and Certificates Deposits:	**$**
Transfer of Mining Privilege	100.00
Transfer – other	100.00
Priority Table	100.00
Section 417 Certificate	200.00
Certificate of Compliance	200.00
Section 125 – Extension of lapse date	100.00
All Other Costs	As per Scale of Charges

Scale of Charges:		**From 1 July 2017 $**
Staff time per hour:		
* Executive staff		235.00
* Senior Technical/Scientist		180.00
* Technical/Scientist		120.00
* Field Staff		100.00
* Administration		92.00
Disbursements		Actual
Additional site notice		Actual
Advertisements		Actual
Vehicle use per kilometre		0.70
Travel and accommodation		Actual
Testing charges		Actual
Consultants		Actual
Commissioners		Actual
Photocopying and printing		Actual
Councillor hearing fees per hour		
	*Chairperson	100
	*Member	80
	*Expenses	Actual

Notes

1. For additional permits in respect of the same site, activity, applicant, time of application, and closely related effect as the first application.

2. The deposit payable shall be 90% of the cost of a hearing as calculated by Council in accordance with information contained in the application file and using the scale of charges. The amount payable will be due at least 10 working days before the commencement of the hearing. If the amount is not paid by the due date, then the Otago Regional Council reserves the right under S36 (7) of the Resource Management Act to stop processing the application. This may include cancellation of the hearing.

   Should a hearing be cancelled or postponed due to the non payment of the charge, the applicant will be invoiced for any costs that arise from that cancellation or postponement.

   Following completion of the hearing process, any shortfall in the recovery of hearing costs will be invoiced, or any over recovery will be refunded to the applicant.

Under Section 100A of the RMA, one or more submitters may make a request to have a resource consent application heard by one or more hearing commissioners who are not members of Council. In this case the applicant will pay the amount that Council estimates it would cost for the application to be heard had the request not been made, and the submitter(s) who made the request will pay, in equal shares, the cost of the application being heard that exceeds that amount payable by the applicant.

Further, the applicant may request to have a resource consent application heard by one or more hearing commissioners who are not members of Council. In this case, the applicant will pay the full costs.

3. Where actual and reasonable costs are less than the deposit paid, a refund will be given.

Review of Consent Conditions
Following the granting of a consent, a subsequent review of consent conditions may be carried out at either request of the consent holder, or, as authorised under Section 128, as a requirement of Council. Costs incurred in undertaking such reviews will be payable by the consent holder at the rates shown in the Scale of Charges above.

Compliance Monitoring Charges (from 1 July 2017)

1. Performance Monitoring
The following charges will apply to the review of performance monitoring reports for all consent holders, except those listed in section 1.6 below. The charges shown are annual fixed fees per performance monitoring report or plan, and are inclusive of GST.

		From 1 July 2017
1.1 Discharge to Air Consent		**$**
Measurement of contaminants from a Stack report		86.00
Ambient air quality measurement of contaminants report		100.00
Management plans and maintenance records		33.50
Annual Assessment report		66.50
1.2 Discharge to Water, Land and Coast		**$**
□ Effluent Systems	Environmental Quality report	46.50
	Installation producer statements	60.00
	Return of flow/discharge records	60.00
□ Active Landfills	Environmental Quality report	58.00
	Management Plans	130.00
□ Industrial Discharges	Effluent quality report	42.00
	Environmental report	92.50
	Return of flow/discharge records	60.00
Annual Assessment report		50.00
Management Plans – minor environmental effects		130.00
Management Plans – major environmental effects		260.00
Maintenance records		30.00
1.3 Water Takes		
Verification reports		60.00
Annual assessment report		50.00
Manual return of data per take		80.00
Datalogger return of data per take sent to the ORC		50.00
Telemetry data per consent		35.00
Administration fee – water regulations		100.00
Low flow monitoring charge*		
- Kakanui at McCones		327.00
- Unnamed Stream at Gemmels		1,431.00

*Charge for monitoring sites established by the ORC specifically to monitor consented activities in relation to river flows.

1.4 Structures	
Inspection reports for small dams	130.00
Inspection reports for large dams	260.00
Structure integrity reports	80.00
1.5 Photographs	
Provision of photos	60.00

1.6 Set Fees for Specific Consent Holders

Performance monitoring fees will be charges as 75% of actual costs for the following consent holders

Dunedin City Council
Central Otago District Council
Clutha District Council
Queenstown Lakes District Council
Waitaki District Council
Ravensdown
Contact Energy
Trustpower Pioneer
Generation

Additional charges may be incurred for new consents granted during the year.

2. Audit
Audit work will be charged at half of the actual cost incurred, with the actual costs being calculated using the Scale of Charges.

3. Non-Compliance, Incidents and Complaints
Enforcement work on consent conditions, and remedying negative effects from permitted activities – Scale of Charges.

Gravel Inspection and Management
Gravel extraction fee – $0.66 per cubic metre (incl. GST). Where more than 10,000 cubic metres of gravel is extracted within a prior notified continuous two month period, the actual inspection and management costs will be charged, as approved by the Director Corporate Services.

Written Approvals of Persons Likely to be Adversely Affected

I/We (Please print full name/s)_____

of (Address)_____

I /we have read the full application for the proposal by (Applicant)

_____

for a Resource Consent (Number)_____to _____

_____

and give my/our written approval to the proposed activity/activities.

In signing this written approval I/we understand that:

- ☐ The consent authority must decide that I/we am/are no longer an affected person, and disregard adverse effects on me/us
- ☐ That /we I may withdraw my/our written approval in writing before the hearing, or if no hearing before a decision is made on the application.

Signature/s_____ Date_____
(or person authorised to sign on behalf of affected party/parties)

Phone _____Fax_____ Email_____

Please note: If this application is subsequently notified the above approval does not constitute a submission as required under Section 96 of the Resource Management Act 1991.

Written Approvals of Persons Likely to be Adversely Affected

I/We (Please print full name/s)_____

of (Address)_____

I /we have read the full application for the proposal by (Applicant)

_____

for a Resource Consent (Number)_____to _____

_____

and give my/our written approval to the proposed activity/activities.

In signing this written approval I/we understand that:

- ☐ The consent authority must decide that I/we am/are no longer an affected person, and disregard adverse effects on me/us
- ☐ That /we I may withdraw my/our written approval in writing before the hearing, or if no hearing before a decision is made on the application.

Signature/s_____ Date_____
(or person authorised to sign on behalf of affected party/parties)

Phone _____Fax_____ Email_____

Please note: If this application is subsequently notified the above approval does not constitute a submission as required under Section 96 of the Resource Management Act 1991.

FORM 4
RESOURCE CONSENT APPLICATION

Otago Regional Council

To take and use surface water

This application is made under Section 88 of the Resource Management Act 1991

Phone: 0800 474 082

Website: www.orc.govt.nz

IMPORTANT NOTES TO THE APPLICANT

Disclaimer:
If Otago Regional Council (the Council) accepts your application for processing this does not constitute a guarantee that water allocation is available.
You should contact a Consents Officer in regard to water availability **before** you lodge your application.

Ensure that you complete this application Form 4 **and** Resource Consent Application Form 1 **in full**

For any consent application to be processed efficiently in the minimum time and at minimum cost, it is important that all relevant information is included with the application. If the necessary information is not entered on the form or supplied with the application then the Council may **reject your application**, request further information or publicly notify your application. This will lead to delays in the processing of your application and may increase processing costs. The Council advises as a precaution, applications for replacement water permits should be lodged at least **6 months** prior to their expiry, to ensure allocation is retained. Please note that an application to replace an existing water permit that has not been **lodged and received** by the Council at least **3 months** prior to its expiry, may lose its allocation.

This application form, when properly completed, together with form 1 and the fee deposit should provide a complete application, where the adverse effects of a proposal are not significant. However, this can only be determined on application.

PART A: GENERAL

A.1 Is this application for *(tick which applies)*:

☐ a NEW surface water take; or

☐ an application to REPLACE a current Water Permit?

Water Permit number:_____ Expiry date:_____

X an application to REPLACE a current Deemed Permit?

Deemed Permit number:_ Resource Consent No. 97803.V1 Expiry date:_1 Oct 2021_\
Resource Consent No. 2008.519

X an application to REPLACE a current Mining Privilege?

Mining Privilege number: _WR 7284; 7285; 7286 ; 7298_____

If you are applying to take groundwater, move the point of take for a water permit/deemed permit/mining privilege or vary a condition of an existing Water Permit or Deemed Permit, **stop now** and please use Forms 5, 16 or Form 22 instead.

A.2 If you are applying to replace an existing Water Permit, Deemed Permit or Mining Privilege, do you have evidence of the amount of water historically abstracted under the permit?

XYes, my records are attached with the application.Refer Appendix V III / VII

X Yes, the Council has my records. *Note: You will be charged for all time spent retrieving and analysing records held on Council files*

If neither of the above are ticked, you must provide evidence of the previous use of the water over the last 5 years. This should be evidence of how much has been used each year over what period.

PART B: DESCRIPTION OF THE POINT OF TAKE

B.1 What are the GPS co-ordinates of the location of the point(s) of take from which surface water is proposed to be taken?

Point 1: L McKay	NZTM 2000 E.....1300462	N 5032792
Point 2: L McKay	NZTM 2000 E..... 1301861	N 5033204
Luggate Irrigation	E 1302755	N 5037562
Luaggte Irrigation	E 1302961	N 5037944

If more than 2, please provide details on a separate sheet

B.2 What is the name or names of the water body(s) that the taking of water is to be taken from?

Note: if the water body is unnamed then please note this and state which water body it flows into

Lake McKay North branch Luggate Creek or Alice Burn or Fall Burn .....

Luggate Irrigation North and South Branches of Luggate Creel .....

.....

B.3 Please provide photographs of the proposed point of take (or existing intake structure) and of the water body within the immediate area. (Note: Please date and detail the orientation of each photo). If you are unable to provide photos please give any reasons below.

Refer attached Water Inspection Sheets Appendix V and VI .....

.....

PART C: VOLUME AND RATES OF TAKE

C.1 What quantity of water do you propose to take and at what rate will it be taken? Note: 1,000 litres = 1 cubic metre (Note: please take the time to complete this section in full as each of the values listed are required in order to assess an application)

(a) maximum rate of take	423.....	litres per second
(b) maximum daily volume	.....	litres per day; **or**
	36547.2	cubic metres per day

(c) maximum weekly volume 255,829 ..... cubic metres per week

(d) maximum monthly volume 1,096,416..... cubic metres per month

(e) maximum annual volume 6,578,496..... cubic metres per year

C.2 What is the frequency of your proposed water take?

	Average	Maximum
(a) How many hours per day?	24.....	24.....
(b) How many days per week?	7.....	7.....
(c) How many weeks per month?	4.....	4.....

(d) In which months do you expect to take water? *(tick those relevant)*

	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Average				x	x	x	x	x	x	x		
Dry year				x	x	x	x	x	x	x		

C.3 Over what part of the day will you typically take water?

☐ During the day ☒ 24 hours

☐ During the night ☐ 'on demand'

☐ Other *please specify* .....

C.4 Are you intending to harvest water for storage before subsequent use?

X No, go to question **C.6.**

☐ Yes: Capacity of water storage reservoir(s) ..... cubic metres

C.5 Is your water storage reservoir 3 metres or more in depth and impounds more than 20,000 cubic metres of water?

☐ No.

☐ No, but the water immediately upstream of the dam is more than 3 metres deep and/or the dam stores more than 20,000 cubic metres. (Note: If the dam meets the above criteria and is in a watercourse or captures catchment run off you may require resource consents for damming and associated activities, contact the Duty Consent Officer for more information.

☐ Yes, a building permit may be required, contact the Duty Consent Officer or visit the Council website www.orc.govt.nz.

C.6 For rivers, streams, modified water courses, springs or drains answer questions (a)-(g), for lakes, ponds and wetlands go to Question C.7.

(a) What type of water course is identified in B.3 above. *Tick those relevant*

☐ River ☐ Modified watercourse ☐ Drain

X Stream ☐ Spring

(b) Is the water course:

X Perennial (flows all year around) ☐ Ephemeral (flows only as a result of rainfall or snow melt)

(c) What is the average channel **width** nearest to your proposed point of take? ..... 3 metres

(d) What is the average channel **depth** nearest to your proposed point of take? ..... 0.5 metres

(e) What is the estimated average water flow velocity? NA ..... N metres/second

(f) How would you describe the bed of the water course? *Tick those relevant*

☐ Muddy ☐ Boulders X Gravels and cobbles ☐ Sandy ☐ Hard rock

(g) Are you able to supply estimated minimum and maximum flow rates for the water course?

☐ No, go to **Part D**

☐ Yes, please complete the following

Minimum: 180..... litres per second
Maximum: NA..... litres per second
Location of estimate:

☐ adjacent to proposed point of take X Other SH 6 Bridge

Source of flow data: .....ORC..... Management Flow for Aquatic Ecosystems in Luggate Creek
.....

C.7 For lakes, ponds and wetlands, answer points (a)-(f) below.

(a) What type of water body is identified in B.3 above. *Tick those relevant*

☐ Lake ☐ Pond ☐ Wetland

If identified as a wetland, is the wetland classified as a Regionally Significant Wetland?

☐ Yes ☐ No

(Note: if unsure of this please contact the Duty Consents Officer or visit the Council website www.orc.govt.nz.)

(b) Has the water body been formed by artificial means?

☐ Yes ☐ No

(c) What is the surface area of the lake/pond/wetland? .....

(d) How deep is the lake/pond/wetland? .....

(e) Does the lake/pond/wetland have an outlet? i.e. does water flow out of it?

☐ Yes ☐ No

Is the outlet a natural stream ☐ Yes - or an artificial channel or pipe? ☐ Yes

(f) What is the main source of water that fills the lake/pond/wetland? *Tick as many boxes as is relevant*

☐ Springs ☐ Groundwater ☐ Runoff from surrounding land ☐ Direct rainfall
☐ Stream/rivers name: .....
☐ Other consented water takes:
consent numbers: .....

PART D: WATER MEASURING AND REPORTING INFORMATION

The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 and the Regional Plan: Water require continuous measurement of the water taken and for the daily records to be provided to the Council at the end of the water year. Verification of the device or systems installed is also required. (Note: According to the Regulations the water year is from 1 July through to 30 June in the following year).

D.1 What is the maximum capacity of the pump you propose to install? .....

D.2 Is a water measuring device or system...

☐ Proposed to be installed; or X Already installed

D.3 Is a data logger installed, or proposed to be installed, as part of your water measuring device or system?

☐ No X Yes

(Note: If a data logger is required it will need a minimum of 24 months data storage.

D.4 Photographs of the measuring device or system if it is currently installed. (see also Question B.3)

Installation of a Water Measuring Device or System

The Council has standard installation specifications for water meters. The standard installation requirement is:

The water meter shall be installed in a straight length of pipe, before any diversion of water occurs. The straight length of pipe shall be part of the pump outlet plumbing, easily accessible, have no fittings and obstructions in it. The water meter shall be installed at least 10 times the diameter of the pipe from the pump and at least 5 times the diameter of the pipe.

D.5 Are you proposing to install your water meter in accordance with the Council Standard Installation specifications outlined in the paragraph above?

☐ Yes ☐ No

If your answer is NO, you need to fill out and attach to this application form a ***Non-Standard Installation Form*** for Water Measuring Devices available on our Website or through the Environmental Services Unit of the Council.

D.6 The Regulations require the taking of water to be measured at the point of take unless an Exemption is approved by the Council. Is your water measuring device or system installed at the point of take?

☐ Yes X No

If your answer is no, you need to apply for an Exemption by filling out *Application form 24 – Application for Exemption to use a device or system near the location from which water is taken,* which is available on our website www.orc.govt.nz and from our offices.

D.7 The Regulations require the taking of water to be recorded on a daily basis unless an Exemption is approved by the Council. Will you be keeping daily records of your water use?

X Yes ☐ No

If your answer is no, you need to apply for an Exemption by filling our *Application form 25 – Application for Exemption to record water use on a weekly basis,* which is available on our website www.orc.govt.nz and from our offices. Please note that only in exceptional circumstance will the Council consider granting an exemption enabling water use to recorded on a weekly basis. In most cases, it will be expected that a datalogger is installed.

PART E: WATER USE AND MANAGEMENT

E.1 Will the water take be managed as part of an existing Water Allocation Committee or Water Management Group?

☐ Yes – Water Allocation Committee ----------

X Yes – Water Management Group ----------

☐ No

If yes, please describe how the allocation committee/management group operates.

Schedule 2 A of the Otago Regional Plan identifies the minimum flow for the Luggate Catchment is 180 L/sec from November to April and 500 L/sec May to October The minimum flow is to be measured at the SH6 Bridge at Luggate township. This consent if granted be subject to the following rationing scheme which will be implemented if the flows reach the minimum flow which is likely to be in the period of 0ctober to April.

The Scheme proposes that each take would be reduced proportionally to achieve to targeted minimum flow. For example if the increase in flow of 100 L / sec was needed to maintain 180 l/sec the following would apply.

Luggate Creek Minimum flow rationing Scheme

Entity	Permit take	Proposed Take %	Example 100 L/sec	New Take
CWL	601.8	59	59	542.8
Luggate Irr	254.8	25	25	229.8
Lake McKay	168.5	16	16	152.5
	1025	100		

As outlined the minimum flow has been set to protect the ecosystem values of the Luggate Creek .

.....

.....

.....

E.2 Please describe the property(s) on which the water is to be used.

(a) Name of owner(s) Lake McKay Station Ltd / Norman William Pittaway .....

(b) Address/location Atkin Rd Luggate RD 2 Wanaka.....

(c) Legal description (as shown on certificate of title attached to this application – see E.3 below)

Lot 2 Deposited Plan 342167 and Section 9,11-12 Survey Office Plan 300466,: Lot 7 CT 232895 : Lot 2-3 Deposited Plan 20911 and Section Survey Office Plan 23723 (Copies attached Appendix II) .....

If there is more than one property (legal description) please provide these details on a separate sheet.

E.3 Show on a map (no smaller than A4 size) or acoloured aerial photograph the following details:

- ○ The location of the point or points of take Refer Appendix III
- ○ The location of the water measuring device or system Refer Appendix III
- ○ The total property area boundary Refer Appendix III
- ○ The area(s) to be irrigated (if relevant) Refer Appendix III
- ○ Area of the community supply (if relevant)
- ○ Distances to any discharge activities

- Other surface water bodies and wetlands and distances from the point of take(s) to them
- The coastline and the distance to it (if relevant)
- Location of any dairy shed

Efficiency of water use

In this section you are required to only answer the questions relevant to your intended use of water. As a guide the questions are as follows:

E.4 Irrigation of land (pasture etc)
E.5 Irrigation of crops or horticulture
E.6 Frost fighting
E.7 Industrial use
E.8 Private community water supply
E.9 Public community water supply
E.10 Stock and/or dairy shed use
E.11 Other

E.4 Irrigation of land– includes pasture, turf (golf courses), lifestyle blocks and sports fields (not crops or horticulture)

(a) How many hectares of land will be irrigated? 614.7 .....

(b) What is the total property area (not just that proposed to be irrigated)? 7000 ha.....

(c) What type of irrigation system is to be or is being used?

☒ K-line ☒ Centre pivot ☐ Travelling irrigator

☐ Border-dyke/flood irrigation ☐ Other

(d) How many hectares will be irrigated in one day? NA.....

(e) For how many hours per day? 24.....

(f) What is the target (net) application rate?

Big River requirements are based on application of based on 6mm/day or 0.71l/sec/ha or 1915m3 per month per ha. This is a pivot scheme which irrigates intensive cropping and has a higher requirement. There is also a loss in the race of 30/sec as current usage shows.
K lines and East Extension are based on the 1575m3 per month per ha for pasture or 0.6l/sec/ha.

(g) How many days are there between irrigating the same block? Pivot 1day K line 7 days .....

(h) Please describe the soil types of the areas to be irrigated and state the source of this information.

There are seven main soil types on the property sourced from soil maps compiled by the DSIR in 1965 or latterly by Hewitt in 1998 Land Care Research Science Series No.1. These are as follows:-

1. Pigburn -very shallow/shallow silt loam
2. Luggate shallow sandy loam
3. Blackstone sandy loam
4. Arrow Steepland soils
5. Koinga Steepland soils
6. Conroy Hill soils
7. Carrick hill soils

The Pigburn soils have a medium to high natural nutrient status derived from schist alluvium and greywacke, these comprising a small area adjoining SH6, at the eastern end of the property.

Lying above this soil group adjacent to the northern boundary are the Koinga Steepland Soils which have a very low natural nutrient status. They are formed from Clutha alluvium and loess, but boulders are common and contour is generally steep to moderately steep.

Beyond these areas are the Luggate shallow sandy loams of a low to medium natural nutrient status. Derived from loess and Clutha alluvium, these soils are found on flat to easy rolling terraces.

Of greater significance are the Blackstone sandy loam soils which have a high natural nutrient status, also being derived from schist and loess. These soils are found on rolling ridges and downs and are a good adjunct to the Luggate soils.

The Conroy hill soils are of a high natural nutrient status and are located on both the Midrun and Lake McKay sectors of the property - see attached Soil Map. Due in part to the loess component of the soils, extensive sheet erosion has occurred in the past and if cultivated are particularly prone to wind blow. Direct drilling as opposed to cultivation is being used to good effect in this regard. In common with many other soils in this area they are deficient in Sulphur but this may be remedied through the application of Sulphur Super.

(i) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

Ref	Ownership [ha]	Gross Area [ha]	Irrigated Area [ha]	Irrigation [l/s] see Note below	Max Flow Stock [l/s]	Required [l/s]	Total of Permits [l/s]	Current use [l/s]
Big River*	LM 135	233.4	200	170	0.7	170.7	254.8	100
Home Block	LM	98.7	98,7	59.2	0.4	59.7		
Stage 1 K-Line	LM	104.4	85.0	51	0.5	51,5	168.5	100
Stage 2 K-Line	LM	126.0	83.0	49.8	0.5	50.3		
Stage 3 K-Line	LM	80.7	68.0	40.8	0.5	41.3		
East Extension	Qu	108.8	80	48	0.5	48.5		
Total		751.2	614.7	418.8		421.8	423.3	

(j) Is the area to be irrigated:

- ☐ Presently irrigated/developed
- ☐ Partly irrigated/developed (300.....ha complete 200 .....ha under development)
- ☐ Proposed to be irrigated/developed (..... likely completion date)

E.5 Irrigation of crops or horticulture

(a) What is the total area to be irrigated? .....

(b) Show the area of land to be irrigated on the map specified in **E.3** and attach to this application.

(c) What is the total property area (not just that proposed to be irrigated)? .....

(d) If glass/plastic houses are used, what area do they cover? .....

(e) What type of crops will be irrigated?

☐ Grain/wheat ☐ Pip fruit ☐ Stone fruit

☐ Market garden ☐ Flowers ☐ Nursery

☐ Viticulture .....(vines/hectare)

☐ Nuts

☐ Other .....

(k) What type of irrigation system is or is proposed to be used?

☐ Trickle ☐ Sprinkler ☐ Other .....

(f) How many hectares will be irrigated in one day?.....

(g) For how many hours per day? .....

(h) What is the target (net) application rate? .....

(i) How many days will there be between irrigating the same block? .....

(j) Please describe the soil types of the areas to be irrigated and state the source of this information.

.....

.....

.....

.....

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(k) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

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.....

.....

.....

(l) Is the area to be irrigated:

☐ Presently irrigated/developed

☐ Partly irrigated/developed (.....ha complete .....ha under development)

☐ Proposed to be irrigated/developed (..... likely completion date)

E.6 Frost Fighting

(a) List the crops, and the area (ha) of each crop, for which frost fighting may be undertaken.

.....

.....

(b) How many hours a day? .....

(c) How many days per year? .....

(d) How many days on average do you expect a frost when frost fighting is required?

(e) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

.....

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E.7 Industrial Use

(a) What type of industry/process will be using the water and how will the water be used?

.....

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.....

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(b) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

.....

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.....

.....

E.8 Private Community Water Supply

The council considers efficient water use for a household is 1,000 litres per day in winter and 3,000 litres per day in summer (average 2,000 litres per day). This is derived from wastewater volumes in ASNZ 1547:2000.

(a) What type of institution uses the water?

☐ Households – number of households to be supplied: .....

☐ Camping grounds – maximum number of visitors and staff per year: .....

☐ Schools - maximum number of students and staff per year:.....

☐ Motel units – number and expected occupancy .....

☐ Other: .....

(b) For applications to supply water to households what is the minimum, maximum and average lot size?

..... Square metres (minimum)

..... Square metres (average)

..... Square metres (maximum)

(c) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

.....

.....

.....

.....

E.9 Public Community Water Supply

The council considers efficient water use for a household is 1,000 litres per day in winter and 3,000 litres per day in summer (average 2,000 litres per day). This is derived from wastewater volumes in ASNZ 1547:2000.

(a) What population(s) will be served by the supply?

..... General location of population(s)

..... Approximate number of households

(b) How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

.....

.....

.....

.....

E.10 Stock Water and / or Dairy Shed Use

The Council considers the following as efficient use of water for stock.

Sheep	5 litres per day per head
Beef cattle	40 litres per day per head
Dairy cows	70 litres per day per head
Deer	15 litres per day per head
Dairy shed use	50 litres per day per head

(a) What type and how much stock will be supplied with water?

☐ Sheep number: 7000 ..... water required: 35000 ..... litres/head/day

☐ Beef cattle number: 250 ..... water required: 10000 ..... litres/head/day

☐ Dairy cows* number: ..... water required: ..... litres/head/day

☐ Other number: ..... water required: ..... litres/head/day

* excluding dairy shed usage

(b) If you have dairy cows, and require water for your dairy shed, please state the estimated volume required

.....Litres/head/day

E.11 Other

How have you calculated the amount of water you need? (a separate sheet may be needed and attached to this application form)

.....

.....

.....

.....

.....

PART F: ASSESSMENT OF ENVIRONMENTAL EFFECTS (AEE)

An AEE should be proportional to the scale and significance of the proposed activity. Where your proposed take could have significant effects on the surface water resource a more detailed environmental assessment is required.

Note: Environment includes ecosystems, people, communities, all natural and physical resources and amenity values, and social and economic, aesthetic and cultural conditions that affect them.

F.1 Are there any of the following present within 500 metres of the proposed point of take?

(i) Obvious signs or known aquatic biota?	X	Yes	☐	No
(ii) Areas where food is obtained from a water body?	☐	Yes	X	No
(iii) Natural wetlands?	☐	Yes	X	No
(iv) Waste discharges?	☐	Yes	X	No
(v) Recreational activities?	☐	Yes	X	No
(vi) Areas of special aesthetic value?	☐	Yes	X	No
(vii) Areas or aspects of significance to iwi?	☐	Yes	X	No
(viii) Other water takes (ground or surface)?	☐	Yes	X	No

If you have answered 'yes' to any of the above, describe what adverse effects your take may have and the steps you propose to mitigate these effects:

.....

.....

.....

.....

.....

F.2 Can your instantaneous abstraction rate (litres per second) be reduced by increasing the length of time over which water is taken?

☐ Yes **Over what time period would you take water and at what rate?**

.....

.....

.....

X No **Why not?**

Systems are based on 24 hours and that is the nature of takes .....

.....

.....

F.3 What are the positive effects of your proposed take and use? (examples can include any environmental, social and economic benefits of your water take. If you are part of a water management group are there any benefits/good environmental outcomes to being part of this management group. Please explain).

.....

Rationing system to maintain minimum flows .....

.....

.....

.....

F.4 What measures are you proposing to minimise wastage of water and maximise its efficient use?

.....

None .....

.....

.....

.....

F.5 How far from the point of taking the water is the use of the water? If the distance is greater than 5 km please explain the reasons for this and why a closer source of water is not available.

Lake McKay 4 km , Luggate Irrigation 3km .....

.....

.....

PART G: ALTERNATIVE WATER SUPPLIES

G.1 Does your property have alternative water sources available? (such as other water bodies, reticulated supplies, groundwater, other water permits, irrigation schemes?

☐ No X Yes

If yes, Please detail the sources, quantities, uses and any current Water Permit numbers or any takes authorised by permitted activity rules in the Regional Plan: Water for Otago.

Clutha river is available to Luggate Irrigation Ltd but at this point of the river extraction by bore is not feasible.....

.....

.....

G.2 Have you considered the option of using other sources of water?

☐ No X Yes

If yes, Please detail the sources, quantities, uses and any Water Permit numbers

Permit 2009.213 issued on July 2010 was for a take from the Clutha.....

.....

.....

G.3 Explain why you have decided to take water from the proposed surface water source rather than any alternative source?

.....

Construction of a bore was not possible due to the geology of the river at this point. .....

.....

PART H: CONSULTATION

H.1 Please describe any consultation undertaken with persons/parties potentially affected by your proposed surface water take. This should include parties you identified in F.1

.....

Criffel Water Ltd .....

Te Ao Marama Inc ; Nga Runanga .....

Written approvals are required from parties who are considered by the Otago Regional Council to be affected by your proposed water take. To reduce costs and processing times, it is recommended that written approval is obtained, and submitted with the application, for parties who may be affected.

Potential affected parties for surface water takes:

- Director General of Conservation (DoC)
- Fish and Game (Otago or Central South Island)
- Kai Tahu ki Otago Limited
- Nearby consented and permitted activity takers

H.2 Provide any written approvals using the Council's standard Form 1 – Resource Consent Application available on our website.

PART I: STATUTORY ASSESSMENT

The Act as of March 2015 requires this application to include an assessment of the proposed activity against the relevant documents. In this case the Regional Policy Statement, the Regional Plan: Water and Iwi Management Plans are the most relevant documents. Answering the following questions will satisfy this requirement:

I.1. Regional Policy Statement (RPS)

The objectives and policies of Chapter 6 (Water) are relevant to this application. Is the activity consistent with the relevant provisions of the RPS?

X Yes ☐ **No**

I.2 Regional Plan: Water - the following policies from the RPW are relevant to this application. :

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 Kai 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.

Policy 5.4.3 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 adverse effects on:
- (a) Existing lawful uses; and
- (b) Existing lawful priorities for the use, of lakes and rivers and their margins.

Policy 5.4.4 To recognise Kai Tahu's interests in Otago's lakes and rivers by promoting opportunities for their involvement in resource consent processing.

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.

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.

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

Is the activity consistent with the above relevant provisions of the RPW?

☐ **Yes** ☐ **No**

6.4.12A To promote, approve and support water management groups to assist the Council in the management of water by the exercise of at least one of the following functions:
- (a) Coordinating the take and use of water authorised by resource consent; or
- (b) Rationing the take and use of water to comply with relevant regulatory requirements; or
- (c) Recording and reporting information to the Council on the exercise of resource consents as required by consent conditions and other regulatory requirements, including matters requiring enforcement.

6.4.12C Where appropriate, to include in water permits to take water a condition that consent holders comply with any Council approved rationing regime.

Do you agree to a consent condition that refers to a water management group, should one be present?

X Yes ☐ **No**

6.4.0C To promote and give preference, as between alternative sources, to the take and use of water from the nearest practicable source.

Is the source of the water from the most available source to where it is to be used?

X **Yes** ☐ **No**

6.4.11. To provide for the suspension of the taking of water at the minimum flows and aquifer restriction levels set under this Plan.

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.

Do you agree to conditions of consent for a minimum flow and/or residual flow restriction on taking water?

X **Yes** ☐ **No**

6.4.16 In granting resource consents to take water, or in any review of the conditions of a resource consent to take water, to require the volume and rate of take to be measured in a manner satisfactory to the Council unless it is impractical or unnecessary to do so.

Do you agree to measuring the take and a review condition on the permit that is related to the measuring records?

X **Yes** ☐ **No**

I.3 Kai Tahu ki Otago Natural Resource Management Plan 2005 (NRMP) The following sections are relevant to this application:

- To require that resource consents applications seek only the amount of water actually required for the purpose specified in the application.
- To require that all water takes are metered and reported on, and information be made available upon request to Kai Tahi ki Otago.
- To oppose the granting of water take consents for 35 years.
- To encourage those that extract water for irrigation to use the most efficient method of application.
- To discourage over-watering.

- **Is the activity consistent with the above relevant provisions of the Kai Tahu Plan?**

X **Yes** ☐ **No**

PART J: DEPOSIT

A deposit is required upon lodgement of your application. Refer to the fees on Form 1. This deposit is not the final or maximum cost of your application. Further charges are incurred in accordance with Councils scale of fees and charges.

I.1 Deposit Enclosed

X **Yes** ☐ **No** **Deposit paid electronically** ☐ **Yes** ☐

PART K: CHECK LIST

J.1 In order to submit a complete application, have you remembered to?

☐ Fully completed this application form and Form 1?

☐ For replacement applications, provide evidence of how much water has historically been used under that consent (unless information held by Council). *refer A.2*

- ☐ Attached a Non-Standard installation form if required? *refer D.5*
- ☐ Attached an Exemption Application Form for the point of take? *refer D.6*
- ☐ Attached an Exemption application form for weekly records? *refer D.7*
- ☐ For water management groups, provide evidence that the group meets the requirements of Appendix 2A of the Regional Plan: Water for Otago? *refer F.3*
- ☐ A detailed site map or aerial photograph? *refer E.3*
- ☐ Photo/s of the intake *refer B.3*
- ☐ Copy/s of certificate of title *refer E.2*
- ☐ Attached any written approvals? *refer H.2*
- ☐ Paid your deposit or attached a cheque? *refer I.1*

To keep consent processing costs to a minimum it is strongly recommended that the checklist is complete and all items required are attached **before** you lodge your application to the Otago Regional Council.

Supporting Information

Luggate Partnership Application to ORC

1. Introduction

The applicant is a partnership formed by Lake McKay Station Ltd and Luggate Irrigation Co Ltd who wish to obtain consents to continue to take water from the Luggate Creek (North Branch) and the Alice Burn (South branch of the Luggate). A table setting out the existing mining privileges and deemed permits held by the partnership are attached in Appendix 1

Consent is sought to take water at the rates set out in Appendix 1 for irrigation purposes and stock water. These volumes are the same as for the existing permits as per Appendix 1. Much of this volume has been used historically and there is additional irrigatable land within the command area for the Partners to fully utilise this volume with additional investment once there is certainty on the water rights.

At present the land in the command area is irrigated by Pivot and K Line. It is anticipated that over a period of time new areas will be developed including storage. This requires capital expenditure which cannot at present be justified until there is certainty to the water rights.

1.1 The Applicant

Address : Luggate Partnership

C/ Colin M Harvey

Lake McKay Station Ltd

PO box 36240 Northcote Auckland 0748

colin@hif.co.nz

Phone 099762100 / 021952988

2. Description of the Environment

2.1 Site Location, Topography and Land Use

The properties are located at Luggate - the legal description of the properties is attached in Appendix II along with relevant titles. The total area of these properties is some 7000 ha but the irrigated areas are only a small proportion of this.

The irrigated areas or command area is relatively flat comprising a 200ha of river flat by Luggate Irigation which is immediately below the Wanaka Airport and 300 ha of Lake McKay which comprises the terraces above Luggate township.

2.2 Soils

Soils

There are seven main soil types on the property sourced from soil maps compiled by

the DSIR in 1965 or latterly by Hewitt in 1998 Land Care Research Science Series No.1. These are as follows:-

1. Pigburn -very shallow/shallow silt loam
2. Luggate shallow sandy loam
3. Blackstone sandy loam
4. Arrow Steepland soils
5. Koinga Steepland soils
6. Conroy Hill soils
7. Carrick hill soils

The Pigburn soils have a medium to high natural nutrient status derived from schist alluvium and greywacke, these comprising a small area adjoining SH6, at the eastern end of the property.

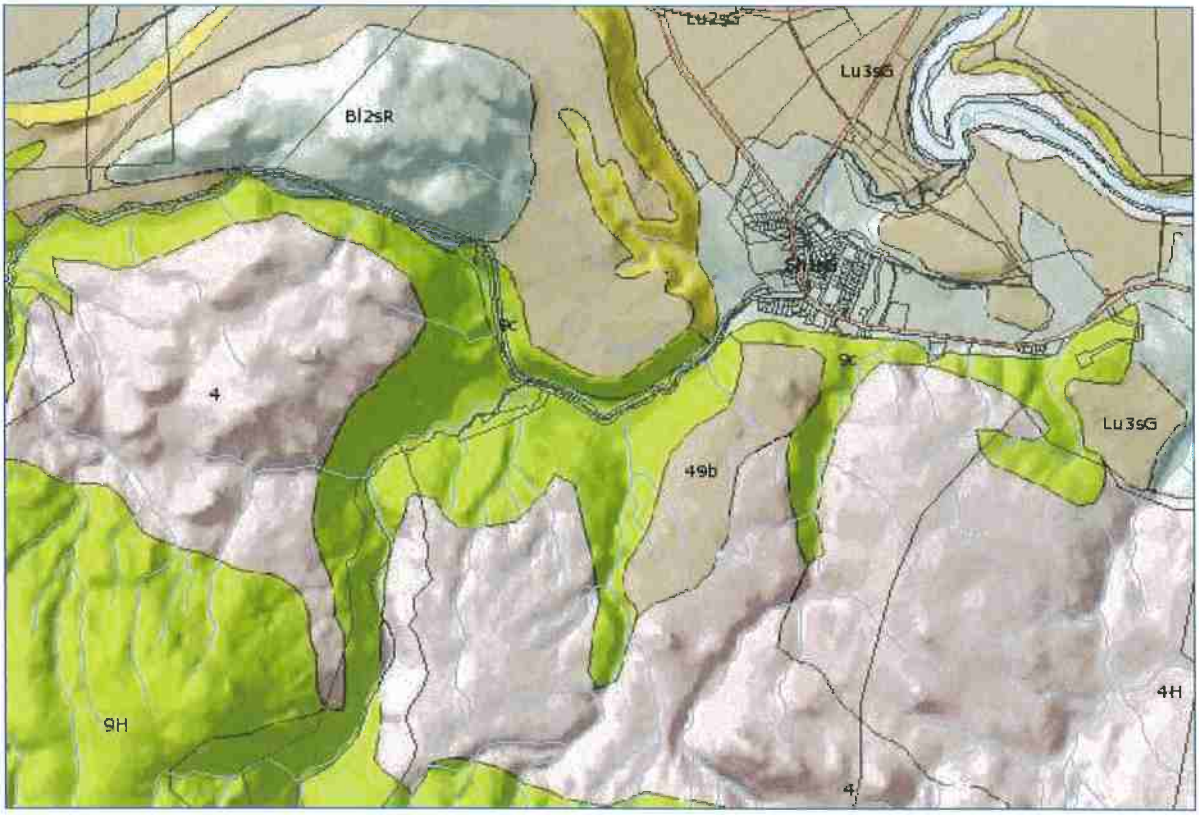
Lying above this soil group adjacent to the northern boundary are the Koinga Steepland Soils which have a very low natural nutrient status. They are formed from Clutha alluvium and loess, but boulders are common and contour is generally steep to moderately steep.

Beyond these areas are the Luggate shallow sandy loams of a low to medium natural nutrient status. Derived from loess and Clutha alluvium, these soils are found on flat to easy rolling terraces.

Of greater significance are the Blackstone sandy loam soils which have a high natural nutrient status, also being derived from schist and loess. These soils are found on rolling ridges and downs and are a good adjunct to the Luggate soils.

The Conroy hill soils are of a high natural nutrient status and are located on both the Midrun and Lake McKay sectors of the property - see attached Soil Map. Due in part to the loess component of the soils, extensive sheet erosion has occurred in the past and if cultivated are particularly prone to wind blow. Direct drilling as opposed to cultivation is being used to good effect in this regard. In common with many other soils in this area they are deficient in Sulphur but this may be remedied through the application of Sulphur Super.

Above this area and rising up to the southern boundary are the Arrow Steepland soils also of medium to high natural nutrient status. These areas are characterised by steep to moderately steep hills, with a number of rock outcrops.



2.3 Climate

The average annual rainfall tends to be 651-700mm rising to 801-900mm on the Lake McKay terraces.

The median annual air temperature is 10.1-10.5 C with summer median 16.1- 16.5 C . Growing degree days range from 1401 – 2200 (5 C base) . In March / April the potential evapotranspiration is 71 – 85mm up to 220mm in November / December.

2.4 Surface Water

The properties access the water they currently use for irrigation and stock water from the North Branch of the Luggate Creek and the Alice Burn (South Branch of the Luggate Creek) The applicant is aware of one other permit to take water from the North branch of the Luggate Creek that of the Criffel Water Limited. This is located up stream of the Luggate Irrigation permits on the North Branch and the Luggate permits have historical priority rights over this permit.

Modelling of the Luggate Catchment was carried out by the ORC in 2006 to assess the flows required to sustain habitat (Appendix IV) This report modelled the 7 day mean annual flow to be 454-550l/s and the actual flow to be 377l/s due to irrigation takes.

The report states that there is currently 987L/s primary allocation above the measurement point (which is located at the SH6 Bridge at Luggate township). This allocation can affect flows when the river is at its 7 day mean annual low flow . Minimum flows to protect the ecological values of the Luggate Creek have been determined as follows.

Low Flow Period (November to April)	180L/s
High flow period (May to October)	500l/s

A Primary allocation limit of 500L/s for the catchment has also been determined in accordance with 6.4.2(b) . Under that policy the greater of the two applies. No supplementary allocation block has been set.

3. Description of the Proposed Activities.

3.1 Overview

Consent is sought to take water for irrigation and stock drinking water purposes. The water is to be abstracted in the same manner as already occurs at the Partners water takes. And under the mining privileges and deemed permits held by the Partners . Consent is sought under rule 12.1.4.4 of the Regional Plan : Water as a restricted discretionary activity.

The water takes are part of Lake McKay irrigation farming which have been developed over the last ten years. In 2009 the Big River block was added to the station and with the upgrading of the water race pivot where added to this block. In 2011 thupper Fall Bur scheme was developed to irrigate a further 200 ha via a gravity K line system. Furrther development of the station in planned for these water right once greater tenure can be obtained.

3.2 Proposed Time frames and Duration

The applicant seeks to obtain consent for a 35 year duration. In addition the applicant seeks that the consent not commence until 2 October 2021 being the day after the mining privileges and deemed permits held by the Partners have expired.

3.3 Water Permit for Irrigation

Consent is sought to extract water to ultimately allow approximately 614 ha of land to be irrigated. Existing deemed permits and mining privileges allow a flow of 423/sec to be taken . This volume of water is the same amount requested by this application.

The ORC have previously commissioned Aqualinc to prepare a report on what efficient use for irrigation is in Otago for different land use and soil types.

For the Upper Clutha are the recommended monthly limit for pasture varies between 1200 and 1575 m3 / month /hectare. See attached table.

Water use requirements are based on 6mm/day or 0.71l/sec/ha. This translates to the monthly usageof 1915m3 per ha compared to Acqualine recommendations for the Upper Clutha of 1200 and 1575m3/month/ha. This higher usage rate is sought to allow for brassica and other crops which will be grown by the partnership. This forms a critical use of irrigation in providing for wintering of livestock.

The basis for this is the following usage requirements of the partnership. This relates to the areas show in Appendix III . The following table summaries these requirements.

Luggate Partners Irrigation Use and allocation : (Refer Layout Appendix III)

Ref	Ownership [ha]	Gross Area [ha]	Irrigated Area [ha]	Irrigation [l/s] see Note below	Max Flow Stock [l/s]	Required [l/s]	Total of Permits [l/s]	Current use [l/s]
Big River*	LM 135	233.4	200	170	0.7	170.7	254.8	100
Home Block	LM	98.7	98,7	59.2	0.4	59.7		
Domestic use	LM	NA	NA	NA		20		
Stage 1 K-Line	LM	104.4	85.0	51	0.5	51,5	168.5	100
Stage 2 K-Line	LM	126.0	83.0	49.8	0.5	50.3		
Stage 3 K-Line	LM	80.7	68.0	40.8	0.5	41.3		
East Extension	Qu	108.8	80	48	0.5	48.5		
Total		751.2	614.7	418.8		421.8	423.3	

Note; Big River requirements are based on an application of 6mm/day or 0.71l/sec/ha or 1915m3 per month per ha. This is a pivot scheme which irrigates intensive cropping and has a higher requirement. There is also a loss in the race of 30/sec as current usage shows. K lines and East Extension are based on the 1575m3 per month per ha for pasture or 0.6l/sec/ha. The planned domestic use is for 200 lifestyle house blocks

The Luggate Irrigation Ltd intake is through a surface take from the Alice Burn and an additional take from the North Branch of the Luggate Creek.These are combined into one water race which measures the combined take (refer Appendix V Compliance Water Inspection Sheet Luggate Irrigation Ltd). This water race flows above the Luggate Creek to supply a storage pond beside Highway 6. The race has a capacity of approximately 200/sec. but currently losses 30/sec much of this is via control systems back into the Luggate Creek. . This take supplies the requirements for the Big River area (200ha).

The take for the Lake McKay intakes is high up in the Alice Burn and the water flows through a pipe for 4 km to the Lake McKay terraces where it powers a K Line system under gravity. The pipeline has a capacity of 200 l/sec. (Refer Appendix VI Compliance Water Inspection Lake McKay Station Ltd) This take currently supplies at present Stage 1 and 2 of the K line system.

Records of water usage are in Appendix VII and VIII.

The limited tenure of the current permits has not allowed the justification of additional investment to cover the full area of the permits. These additional areas will be developed once consent permits for these have been issued.

The additional areas are

100 ha of Pittaway Big River Flat

Domestic use for 200 lifestyle blocks

80 ha of the Stage 3 K Line on Lake McKay

80 ha of the East extension to the K Line system

3.4 Water for livestock

The calculations for water use have included an allowance for livestock within the permits as shown.

3.5 Residual Flows at intakes

There are substantial residual flows remaining at the point of both takes. These have not been measured. .

4. Statutory Matters

The area is controlled by a series of documents, namely the Regional Policy Statement for Otago (RPS) , the Regional Water Plan for Otago, Kai Thau ki Otago Natural Resources Management Plan and the Resource Management Act 1991.

4.1 National Policy Statement for Freshwater
The application is considered to be consistent with the objectives of the NPS for Freshwater. Particularly Objective B3 which seeks to improve and maximise the efficient use of water. Refer Appendix IX

4.2 Regional Policy Statement
The application is considered to consistent with the RPS and in particular Objecties 6.4.1, 6.4.2 ans 6.4.8 and 6.5.2 and 6.5.3. Refer Appendix IX

4.3 Regional Plan : Water
The objective, policy and the rule framework for the Regional Plan: Water for Otago (RPW) recognises the importance of the integrated and sustainable management of Otago's water resources. . The plan is aimed at enabling the use and development of water where this can be undertaken in a sustainable manner, providing a framework for activities such as discharges to water , taking and using water and structures and bed disturbance activities in riverbeds. The RPW became operative in May 2014 following Council resolution.

The RPW identifies the significant resource management issues and objectives of particular relevance to the Region. The specific policies and objectives in relation to the ground water take are outlined in section 6 of the RPW and include aims to ensure allocation is sufficient , within defined parameters , will not compromise surface water quality and respect other water users. It is considered that the amount of water proposed to be abstracted is reasonable for the volume of water required for the applicant purpose and no different to that already provided for.

The applicant seeks to take water at a rate equal to that authorised under the deemed permits and mining privileges held by the Partners. The maximum rate that is proposed to be taken is higher than the water actually taken in the last five years , Policy 6.4.2A states that no more water than has been taken in the last five years should be provided in the consent. The policy focused on the efficient use of water . The principles reasons that this policy was adopted is to ensure that conflict between users is minimised and the underutilised primary allocation are reduced in order to lower the supplementary minimum flows.

The applicant has been established to share the water between the Partners. There is only one other party that takes water from the Luggate that is Criffel Water Limited. The takes of the Partner's are either down stream or from the Alice branch of the Luggate Creek thus the Partners take does not affect Criffel Water Limited.

There is some conflict in that the Criffel Water Limited application does not recognise the contribution made to the Luggate flows by the Alice Burn part of the Luggate Creek.

The applicant proposes a rationing scheme between the uses of the Alice Burn and the North Branch of the Luggate Creek that will maintain the minimum flow set at the bridge at Highway 6.

Any reduction of the rate of take based on the previous 5 Years would result in limited or no benefit from the Luggate Creek , and would be detrimental to the applicant and other users. The ORC policy suggests that future use will be equivalent to past use. This is not correct . In the case of any new take the efficiency of the proposed infrastructure and utilisation of the water will be taken into account, The decision to allocate water would be based on the future potential. The same logic should apply to this application . The Partners are proposing significant upgrades. This will ensure efficient use of the water.

Disregarding the volume taken in the last five years would meet the purpose of the policy better than strict adherence. Granting of the consent will allow the development of these upgrades now resulting in more water use by 2021

4.4 Kai Tahu ki Otago

The proposed application has had regard to the specific policies and objectives of Kia Tahu ki Otagpo Natural Resources Management Plan. The proposal is considered to be generally consistent with those objectives and policies contained within the Plan. Appendix IX is an assessment of the proposal against the relevant provisions.

4.5 Resource Management Act 1991

A decision on discretionary resource consent application must be made in accordance with the purpose and the principles of the RMA (Part 2) and must have regard to the matters set out in section 104 of the Act.

(a)Propose and Principles of the RMA (Part 2)

Part 2 of the Act sets out the purpose and principles of the Act

(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.

(2) In this Act, **sustainable management** means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment

5.0 **Sustainable management**

(i) *Affect on others*

There are no other land areas available that could benefit from further takes from the Luggate and there is no viability to any new takes beyond those being used. The current consented take from the Luggate Catchment is 1025 L/sec being 601.8 L/sec consented to the Criffel scheme , 254.8 L/sec to Luggate Irrigation Company and 168.5 L/sec to Lake McKay Station Ltd. This at not the same but close to the 997.8 L / sec as identified in the ORC 's report.

The applicant is seeking consent to take 423.3 L./sec which is close to the allocation limit of the catchment under policy 6.4.4(b).

(ii) *Whether the proposed take is primary or supplementary allocation for that catchment*

The proposed take is primary.

(iii) *The rate , volume , timing and frequency of water to be taken and used*

The proposed rate, volume and frequency is as follows

Maximum take rate : 423L/sec
Take Volume per day between October to April : 36,547.2 m3
Take Volume per week between October to April : 255,829 m3
Take volume per month between October to April : 1.096,416 m3

Take volume per year ; 6,578,496 m3

(iv) *The proposed methods of take, delivery and application of the water taken*

The water take for the Lake McKay permit will be via the take in the Alice Burn Branch of the Luggate and will flow to the irrigated area via the scheme pipe, being applied by K line which

are shifted daily during the irrigation season. The Luggate Irrigation take is from the Alice Burn and the Northern branch of the Luggate and is directed into a water race which carries the water to the Big River irrigation pond on the other side of Highway 6. From here its applied using a Centre Pivot.
Extensions of both schemes are proposed with this application.

(v) *The Source of water available to be taken*
All the water taken will come from the North and South (or Alice Burn) branches of the Luggate Creek. The Alice Burn flows directly from the high Lake McKay lake in the Pisa range. The values of the Luggate Ceek have been fully assessed by the ORC Report and minimum flows set to protect the ecosystem functioning of the Creek. The consent will be subject to a rationing scheme which will maintain the minimum flow regime and as such the natural and recreational values of the Creek are protected.
(vi) *The location of the use of the water when it will be taken out of a local catchment*

(vii) *Competing and lawful local demand for the water*
The Partners are aware of the one other permit to take water from the Luggate Creek being that held by CWL for the North Branch .for 601.8 L/sec. The CWL application filed with the ORC gives no viable means of the CWL scheme insuring a contribution to the Luggate Creek minimum flow requirements or the applicant being assured of exercising its right to take water. The Partners propose that CWL should be part of the rationing scheme proposed in this application to achieve their obligations.
(viii) *The minimum flow to applied to the take of water, if consent is granted.*
Schedule 2 A of the Otago Regional Plan identifies the minimum flow for the Luggate Catchment is 180 L/sec from November to April and 500 L/sec from May to October. The minimum flow is to be measured at the SH6 Bridge at Luggate township. This consent, if granted will be subject to the following rationing scheme which will be implemented if the flows reach the minimum flow which is likely to be in the period of October to April.
The Scheme proposes that each take would be reduced proportionally to achieve the targeted minimum flow. For example if the increase in flow of 100 L / sec was needed to maintain 180 l/sec the following would apply.
Luggate Creek Minimum flow rationing Scheme

Entity	Permit take	Proposed Take %	Example 100 L/sec	New Take
CWL	601.8	59	59	542.8
Luggate Irr	254.8	25	25	229.8
Lake McKay	168.5	16	16	152.5
	1025	100		

As outlined the minimum flow has been set to protect the ecosystem values of the Luggate Creek .
(ix) *Where the minimum flow is to be measured if consent is granted*
The measurement point for the Luggate Creek is at the SH6 Luggate Bridge at the Luggate township. This measurement point is below the confluence of the North and South branches of the Luggate creek

(x) *Any need for a residual flow at the point of take.*
There is no need for any residual flow measurement at the point of takes as the rationing scheme will ensure users contribute to maintaining the minimum flow at the SH6 measurement point.
(xi) *Any need to prevent fish entering the intake and to locate the new points of take to avoid adverse effects of fish spawning sites.*
These are exiting takes. The advantage of the Luggate Irrigation water race take is it allows free movement of fish in and out of the system. The Management Flows for Aquatic Ecosystems in Luggate Creek report Appendix VIII identifies the fish species found in this water course. Surveys of the McKay take have shown that at this location and altitude that there is no presence of fish life.
(xii) *Any actual or potential affects on any ground water.*
N/A
(xiii) *Any adverse effects on any lawful take of water , if the consent is granted including potential bore interference.*
Residual flow is maintained in the Luggate Creek to the levels determined by the ORC and as such there is no affect on any other takes.
(xiv) *Whether the taking of the water under the permits should be restricted to allow the exercise of another permit.*
There are no permits or water takes down stream from the Luggate Irrigation takes. The only affected parties are the other Partner Lake Mckay Station and CWL who are up stream.
(xv) *Any arrangement for cooperation with other takers or users.*
The current CWL application does not recognise the affect of the Lake McKay takes on the minimum flows of the Luggate or give adequate protection for the takes of Luggate irrigation in that the minimum flow from CWL is not measured. CWL need to be part of the rationing scheme to maintain the minimum flow required by the ORC at SH 6 measuring point.
(xvi) *Any water storage facility available for the water take and its capacity.*
There is no current additional storage capacity, but the building of additional dams could be used in the East extension to the Lake McKay K line scheme and to finish the irrigation of Big River.
(xvii) *Duration of the resource consent*
The application seeks a term not exceeding 35 years from the day of commencement. Of which is sort to be the 2 October 2021.
(xviii) *The information , monitoring and metering requirements.*
Details of the metering of both schemes is covered in Appendix VI/VII . and records for the last two years in Appendix VIII. Both measurement systems have been validated and seem to comply with ORC requirements.

(xix) *Bond*
N/A
(xx) *The review of conditions of the resource consent.*
The Partners are aware that the Council has the ability to review conditions of consents should unanticipated effects arise. As this application is effectively a renewal of mining privileges and deemed permits it is submitted that there will be no unanticipated effects. Given that a review is not considered necessary.

5.2 The proposed consent once commenced will have a net benefit to the Luggate Creek catchment because the takes will become subject to the rationing scheme and the minimum flow requirements. Mining privileges and deemed permits are not currently subject to that regime. Therefore the ecosystem values of the Luggate Creek will be better protected.
5.3 The scale and significance of the water take activity is no different from the current activities and application of the rationing and minimum flow regimes will ensure that any adverse effects of the takes on the values of the Luggate Creek are effectively managed . The granting of the consent will give that Partners the security to allow further investment in irrigation and land development, giving increases in agricultural production. This will improve the economic sustainability of the schemes and the flow of benefits this has to the community.

6 **Consultation with affected parties**

No person or party is considered to be adversely affected by this application. CWL will be consulted on joining the rationing scheme. Because the consent will be subject to the minimum flows regime the ecological / recreational values of the Luggate Creek are protected and therefore no additional consultation or approvals are required.

7 **Notification**

The effects of the proposed application are considered to be no more than minor and there are no affected parties. The application is in essence a renewal of activities that already occur. On that basis it is considered that the application can be processed on a non notified basis.

8 **Summary**

The Partners seek consent in this application to take water in two takes from the Luggate Creek of 254.8 L/sec for Luggate Irrigation Ltd from the North and South (Alice Burn) branches of the Luggate Creek and Lake McKay Station Ltd od 168.5 L/sec from the South (Alice Burn) branch.

The application is considered to be consistent with the objectives of the NPS for Freshwater. Particularly Objective B3 which seeks to improve and maximise the efficient use of water .

Appendix I

Water permits Held by Luggate Partners

From the north branch of Luggate Creek

Water Right No.	Owner	Water Take Authorised by permit litres/second	66% share held by Lake McKay Stn	Location of Point of Take
WR7284 mining privilege	Luggate Irrigation Company	56.6 (2 heads)	37 l/s	From the north branch of Luggate Creek approx 200m upstream of the junction north & south branches.

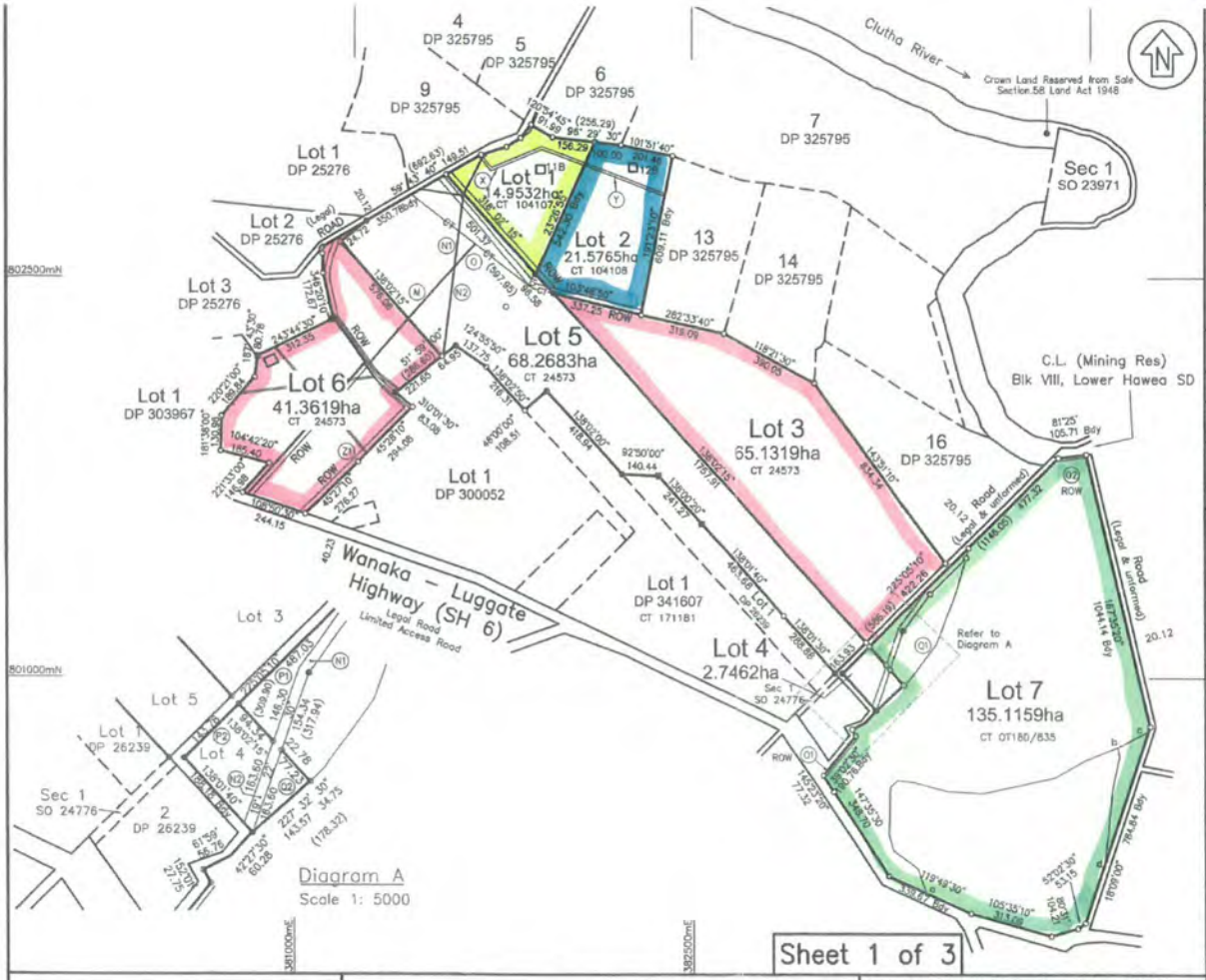
NB: - The Luggate Irrigation Company has a total of 600 shares that are allocated as 400 shares to Lake McKay Station Ltd and 200 shares to N W and D J Pittaway.

From the south branch of Luggate Creek

Water Right No.	Owner	Water take Authorised by permit litres/second	66% share held by Lake McKay Stn (litres per second)	Location of Point of Take
WR7285 Mining privilege	Luggate Irrigation Company	85 (3 heads)	56.1	From the south branch approx 400m upstream of the junction of north and south branches of Luggate Creek.
WR7286 Mining privilege	Luggate Irrigation Company	56.6 (2 heads)	37.4	South branch as above.
WR7298 Mining privilege	Luggate Irrigation Company	56.6 (2 heads)	37.4	South branch as above.
		Total 198.2	**Total** 131	

The water taken under all four water race licences is carried in the water race described on WR7286 which is described as "commencing in the southern branch of Luggate Creek and terminating at the bank of the Clutha river about three miles above the Luggate Bridge. Length and intended course of race: 5 miles east and west."

Water Right No.	Owner	Volume of Water Authorised (litres/second)	Location of point of take
97803 Mining privilege	Lake McKay Stn	85	- South branch approx 5km upstream of junction of north and south branches of Luggate Creek for 55 l/s - Tributaries of south branch - 7 l/s and 21 l/s respectively.
97803 Mining privilege	Lake McKay Stn	28	Tin Hut Creek for 28 l/s approx 3km upstream of junction with Luggate Creek
2008.519 RMA permit	Lake McKay Stn	55.5	South branch of Luggate Creek same as intake for 97803.
		Total 168.5	
98104 RMA permit	Lake McKay Stn	118	To discharge up to 118 l/s of water into an unnamed tributary of the south branch for the purpose of retaking the water from the same tributary.



NOTES

New Certificates of Title located

Lot Number	Certificate of Title
Lot 1	CT 164473
Lot 2	CT 164474
Lot 3 & 6	CT 164475
Lot 4, 5 & Lot 1 DP341607	CT 164476
Lot 7	CT 232895

No new easements are created as part of this survey.

See sheet 2 for easement details.

See sheet 3 of 3 for schedule of existing easements

The within land is subject to Part IV A Conservation Act 1987

CLASS OF SURVEY : II

DATUM: Geodetic 2000
CIRCUIT: Lindis Peak
COORDS: In terms of false origin 800,000mN 400,000mE

Total Area ... 349.1539ha ...

Comprised in ... CTs 104107, 104108, 24573, OT18D/835 ...

I ROBIN LESLIE PATTERSON OF WANAKA being a person entitled to practice as a licensed cadastral surveyor certify that:

(a) The surveys to which this dataset relates are accurate, and were undertaken by me or under my direction in accordance with the Cadastral Survey Act 2002 and the Surveyor - General's Rules for Cadastral Survey 2002/2

(b) This dataset is accurate, and has been created in accordance with that Act and these Rules

Signature ..... Date .....

Field Book ... p ... Traverse Book ... p ...

Reference Plans .....

Examined ..... Correct .....

Approved as to survey by Land Information New Zealand on ...../...../.....

Deposited by Land Information New Zealand on ...../...../.....

File W2084 RM041154 Received .....

DP 340031

Sheet 1 of 3

Land District OTAGO

Lots 1 – 7 being subivision of Lots 11 &12 DP325795, Lot 2 DP 306256 and Lot 1 DP 26911

Territorial Authority Queenstown Lakes District

Surveyed by Paterson Pitts Partners Ltd

Scale 1:10,000 @A2 Date July 2004

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier 18937
Land Registration District Otago
Date Issued 20 November 2001

Part-Cancelled

Prior References
5111782.2

Estate	Fee Simple
Area	2585.2000 hectares more or less
Legal Description	Section 1, 6, 8, 10 Survey Office Plan 300466

Proprietors
Mathewson Farm Holdings Limited

Interests

5041484.1 Gazette Notice (2001p1044) declaring adjoining road (S.H. No. 6) to be limited access road - 11.5.2001 at 9:31 am

Subject to Part IVA Conservation Act 1987

Subject to Section 11 Crown Minerals Act 1991

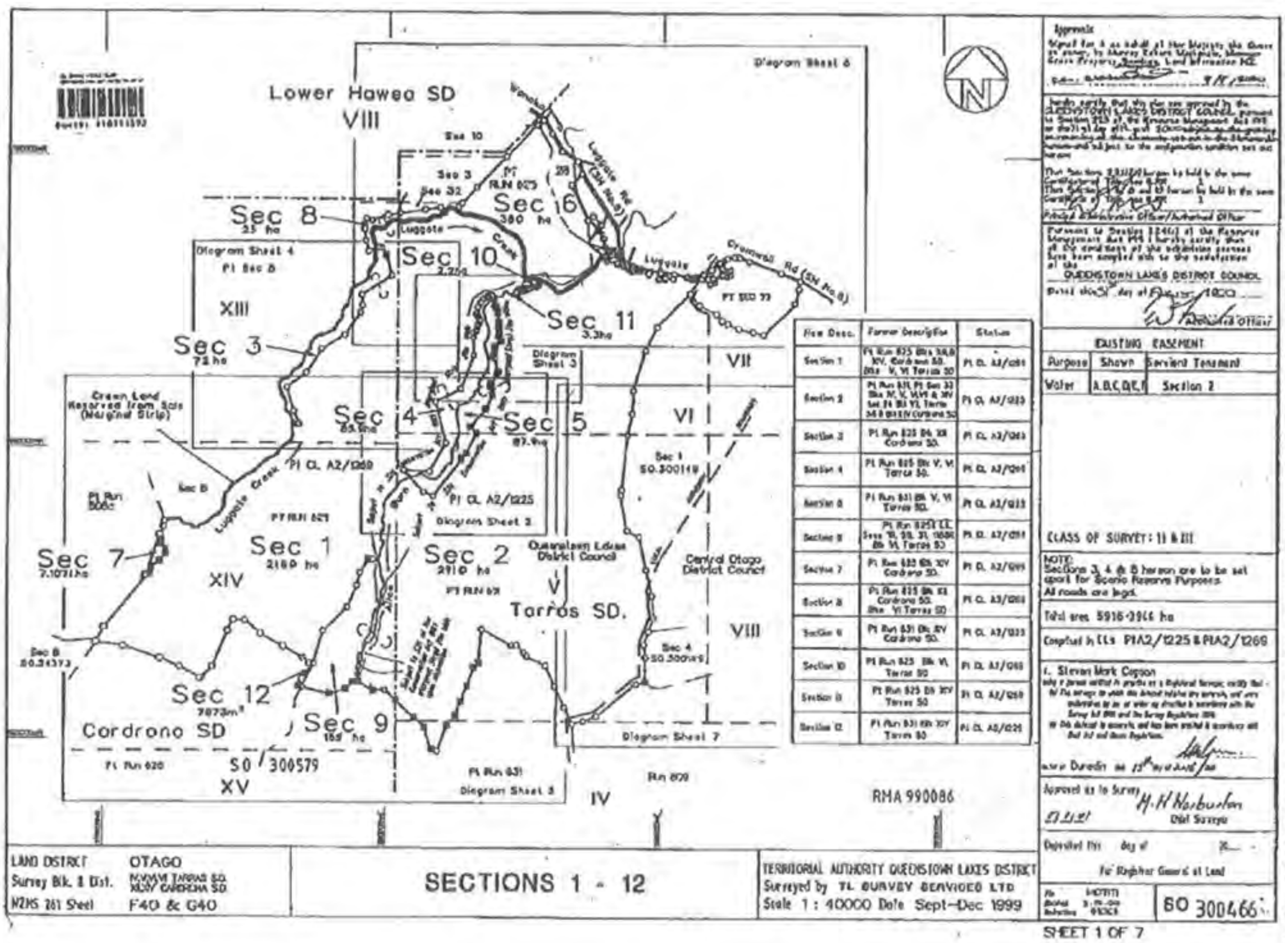
885628 Notice pursuant to Section 4(2) Irrigation Schemes Act 1990 in favour of Norman William Pittaway and Dorothy Josephine Pittaway-30.6.1995 at 10.38 am

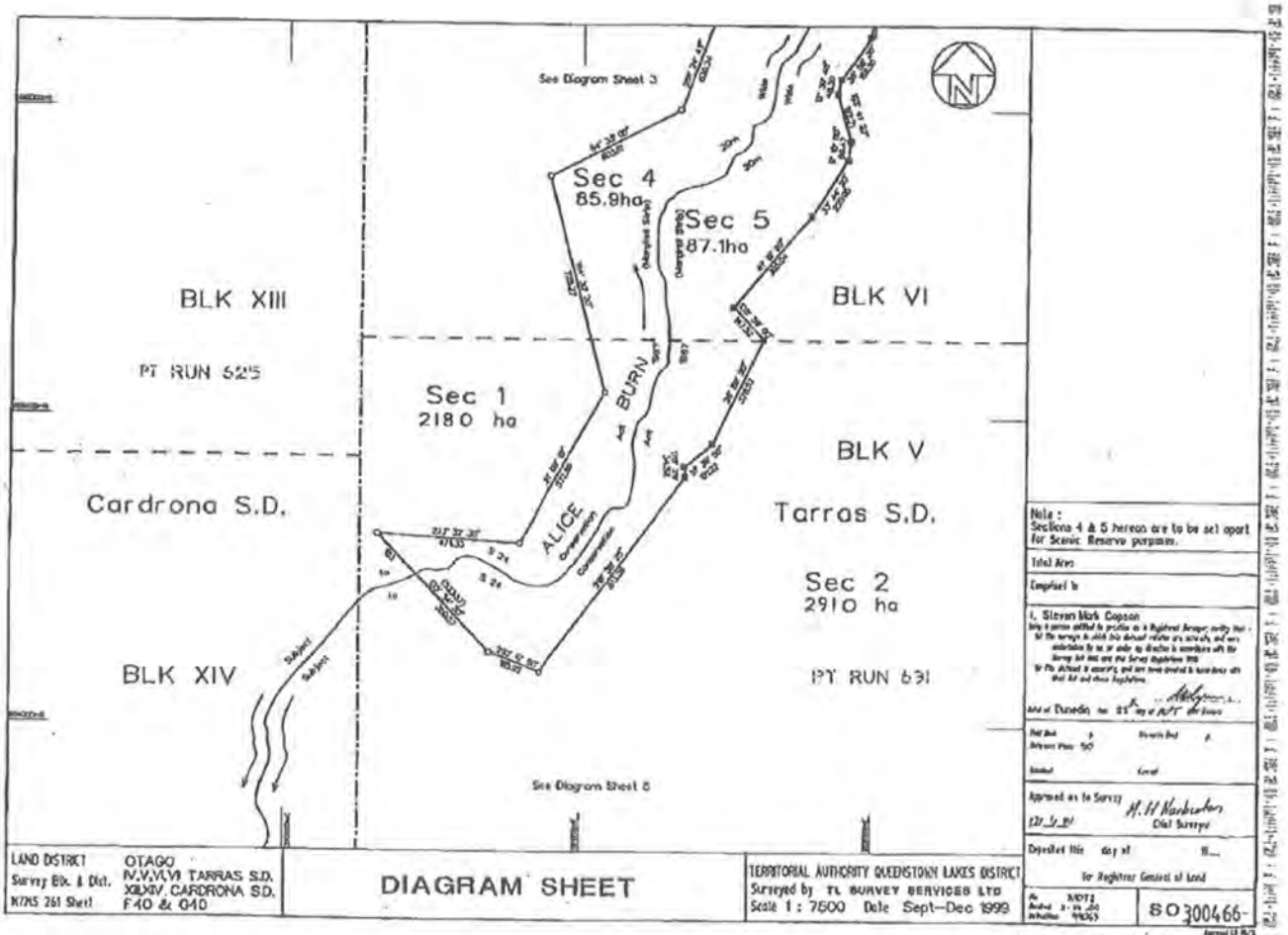
Exploration Permit embodied in Register OT9D/632-23.6.1999 at 9.00 am

5422719.1 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 4.12.2002 at 9:00 am

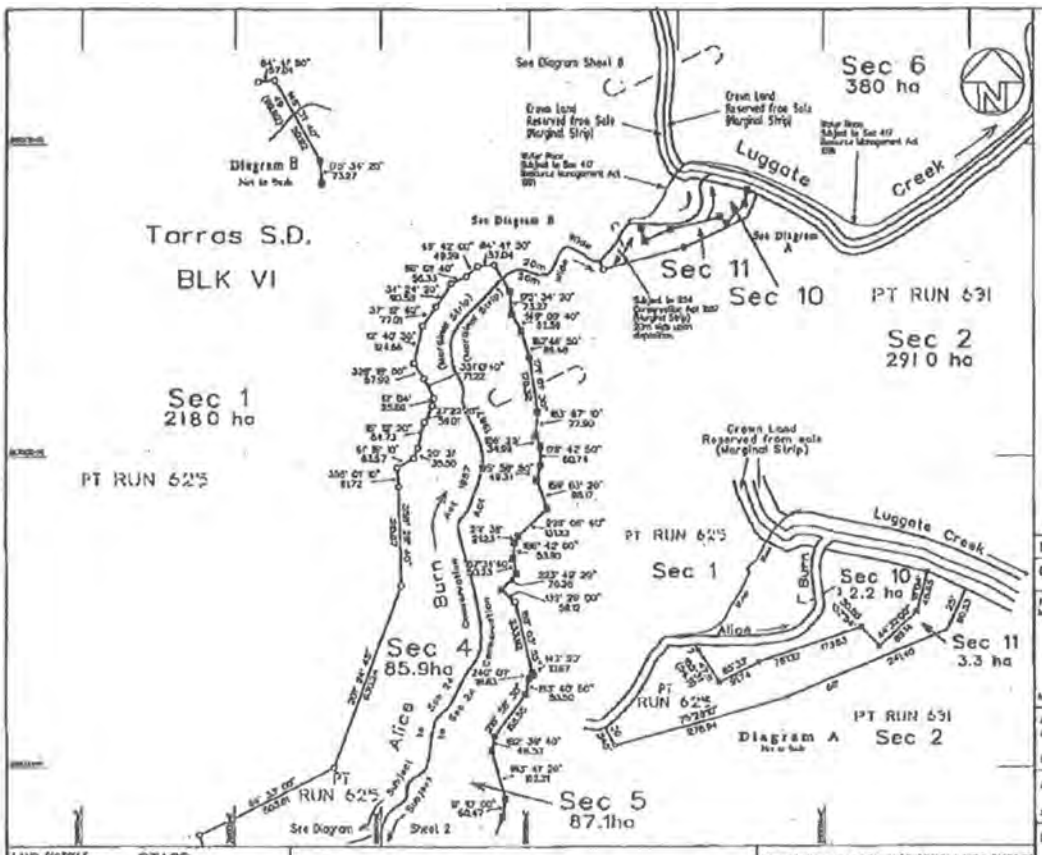
6089676.1 Gazette Notice (2004p2184) declaring part marked A on SO 24157 (210m2) to become road, limited access road and State Highway and shall vest in the Crown on 15.7.2004 - 23.7.2004 at 9:00 am

Land Covenant in Easement Instrument 6749942.2 - 13.2.2006 at 9:00 am

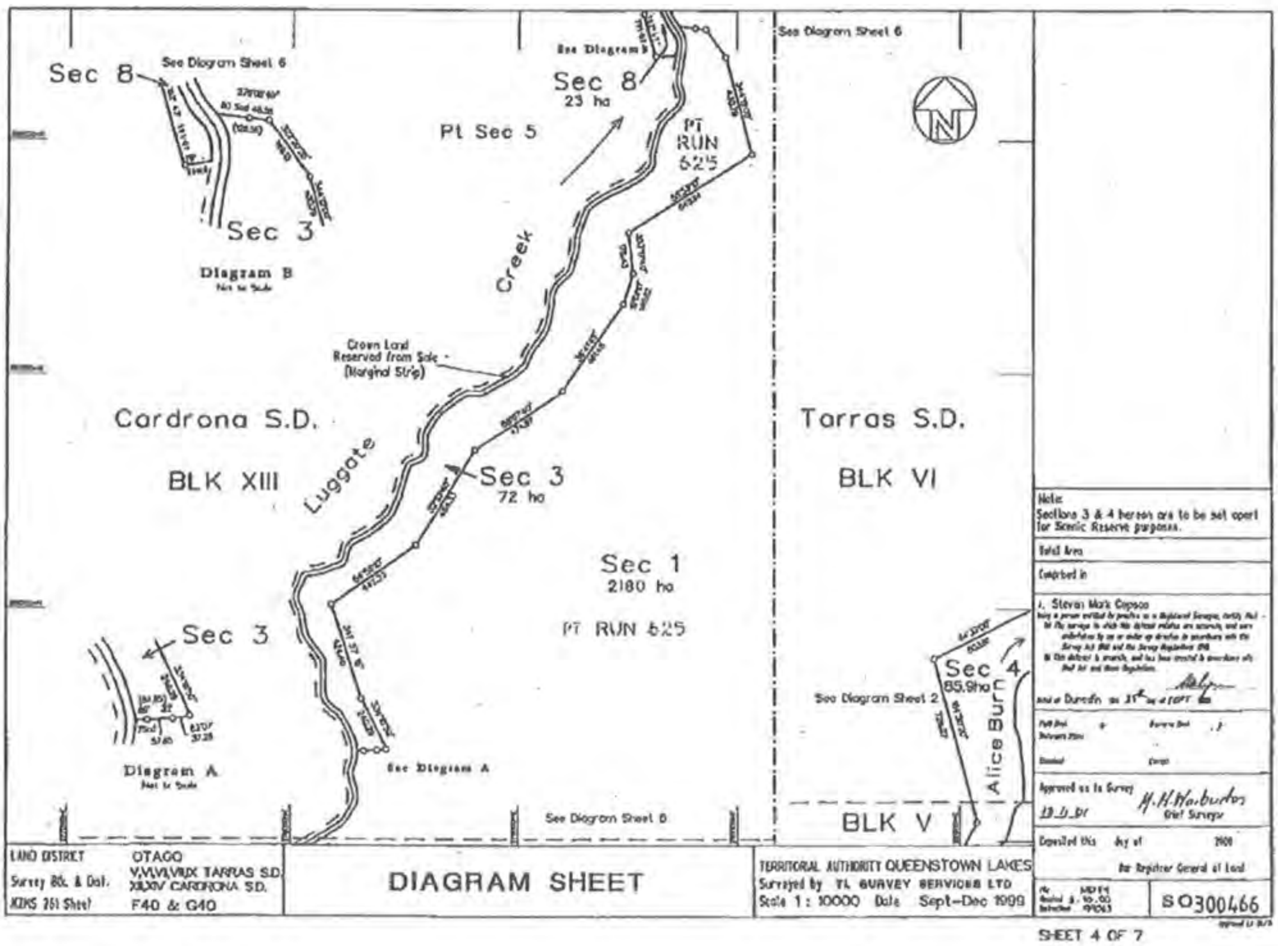

Lower Hawea SD
VIII
Sec 8
Sec 6
Sec 10
Sec 11
Sec 3
Sec 4
Sec 5
Sec 1
Sec 2
Sec 7
Sec 12
Sec 9
XIII
XIV
XV
VII
VI
VIII
IV
Torros SD.
Cordrono SD
SO 300579
Queenstown Lakes District Council
Central Otago District Council
RMA 990086
CLASS OF SURVEY: II & III
EXISTING EASEMENT
LAND DISTRICT OTAGO
F40 & G40
SECTIONS 1 - 12
TERRITORIAL AUTHORITY QUEENSTOWN LAKES DISTRICT
Scale 1 : 40000 Date Sept-Dec 1999
SO 300466
SHEET 1 OF 7

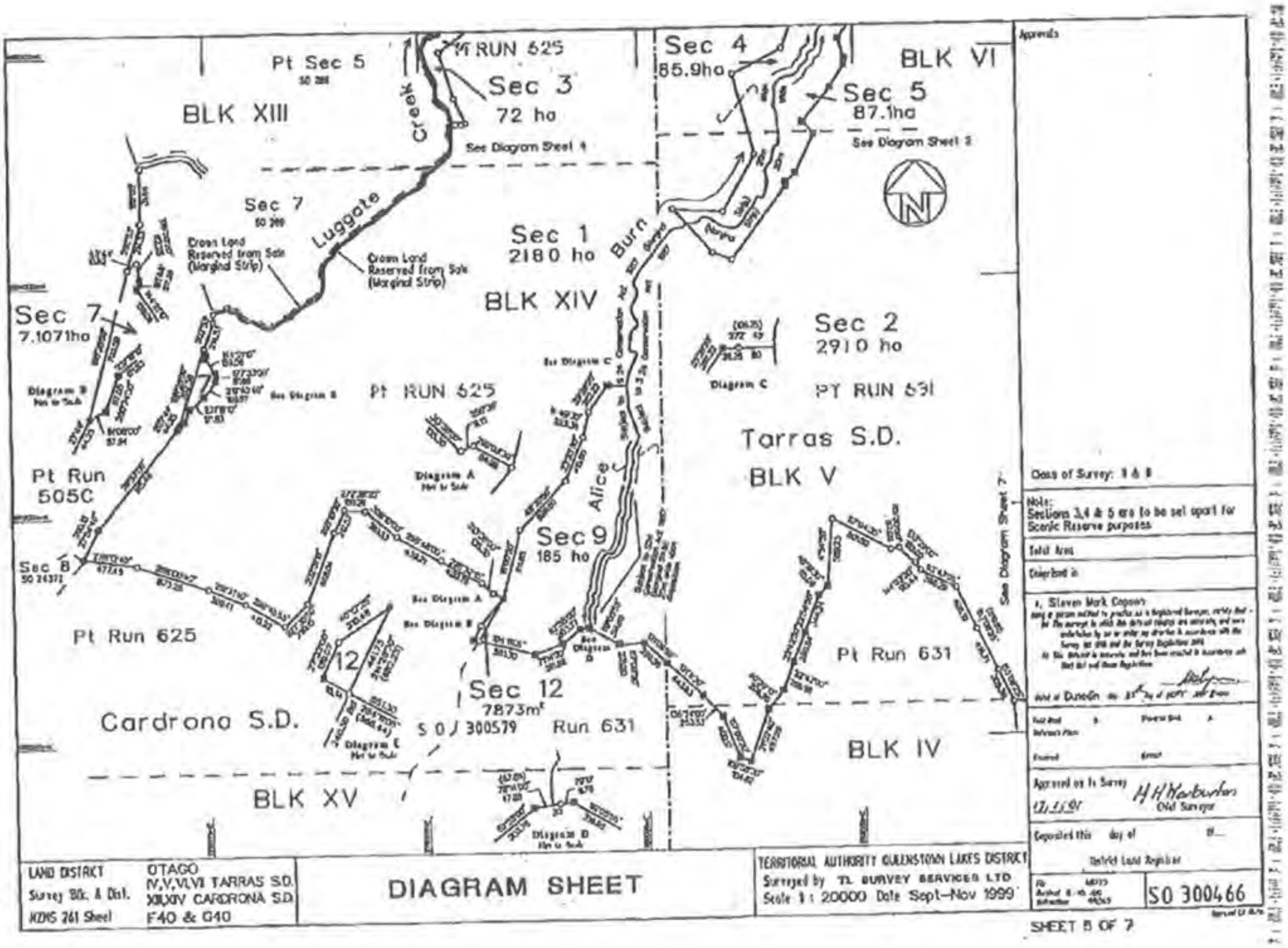

See Diagram Sheet 3
Sec 4
85.9ha
Sec 5
87.1ha
BLK XIII
PT RUN 625
BLK VI
Sec 1
2180 ha
ALICE BURN
BLK V
Tarras S.D.
Cardrona S.D.
Sec 2
2910 ha
BLK XIV
PT RUN 631
See Diagram Sheet 8
Note :
Sections 4 & 5 hereon are to be set apart for Scenic Reserve purposes.
Total Area
Comprised In
I, Steven Mark Copson
Approved as to Survey
Chief Surveyor
For Registrar General of Land
SO 300466
LAND DISTRICT
Survey Blk. & Dist.
NZMS 261 Sheet
OTAGO
IV,V,VI TARRAS S.D.
XIII,XIV, CARDRONA S.D.
F40 & G40
DIAGRAM SHEET
TERRITORIAL AUTHORITY QUEENSTOWN LAKES DISTRICT
Surveyed by TL SURVEY SERVICES LTD
Scale 1 : 7500 Date Sept–Dec 1999

SHEET 2 OF 7

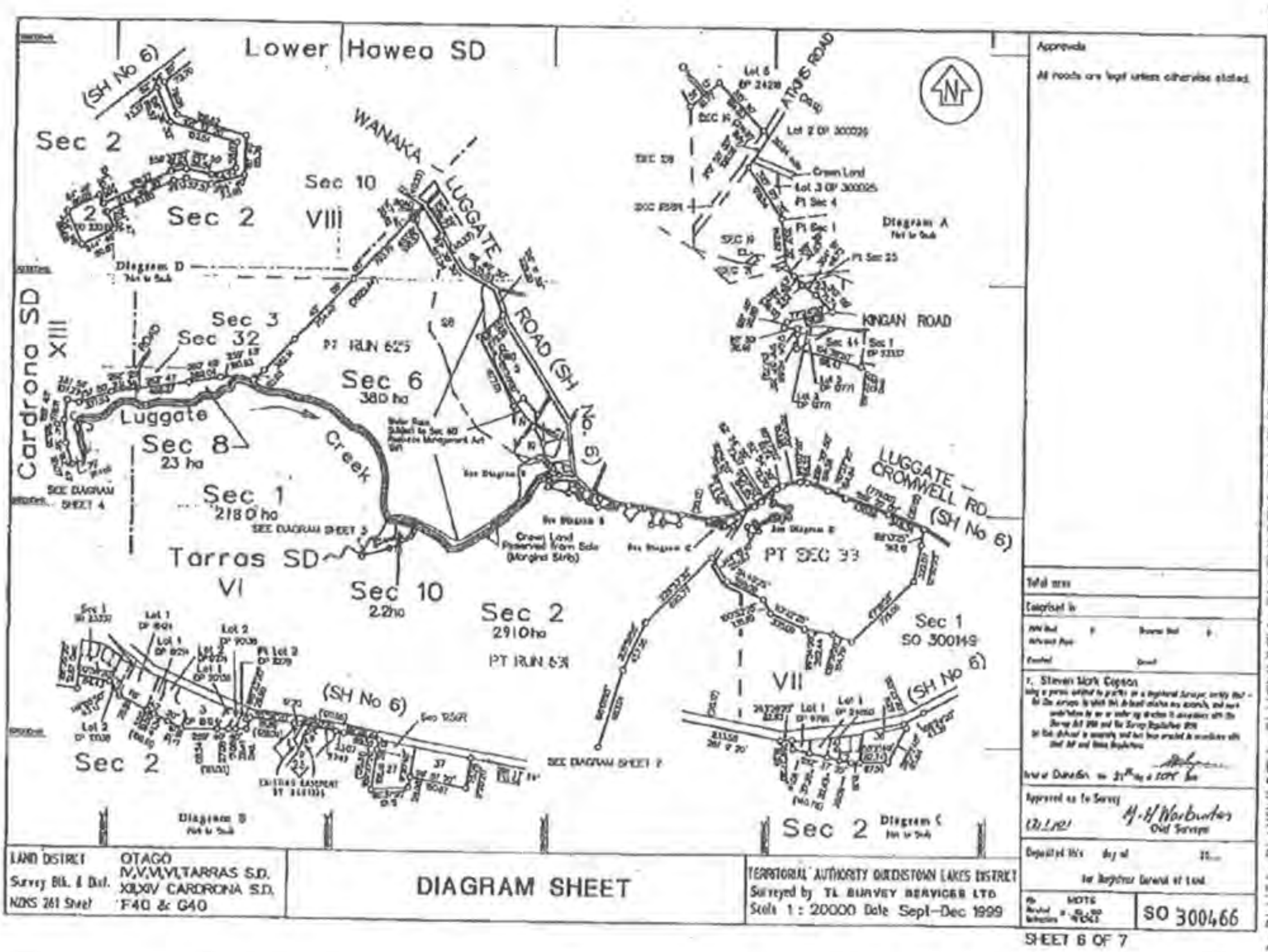

Sec 6
380 ha
Luggate Creek
See Diagram Sheet 8
Crown Land Reserved from Sale (Marginal Strip)
Diagram B
Not to Scale
Torras S.D.
BLK VI
See Diagram B
See Diagram A
Sec 11
Sec 10
PT RUN 631
Sec 2
291 0 ha
Sec 1
218 0 ha
PT RUN 625
Crown Land Reserved from sale (Marginal Strip)
Luggate Creek
PT RUN 625
Sec 1
L Burn
Sec 10
3.2.2 ha
Sec 11
3.3 ha
Alice Burn
Sec 4
85.9ha
Alice
PT RUN 625
PT RUN 631
Diagram A
Sec 2
Sec 5
87.1ha
See Diagram Sheet 2
Class of Survey: B & B
Total Area
Comprised in
I, Steven Mark Clapcott
Approved as to Survey
Chief Surveyor
For Registrar General of Land
LAND DISTRICT
Survey Ref. & Dist.
NZMS 261 Sheet
OTAGO
IV,V,VI,VII Torras S.D.
XIX,XV Cardrona S.D.
F40 & G40
DIAGRAM SHEET
TERRITORIAL AUTHORITY QUEENSTOWN LAKES DISTRICT
Surveyed by TL SURVEY SERVICES LTD
Scale 1 : 7500 Date Sept–Dec 1999
SO 300466

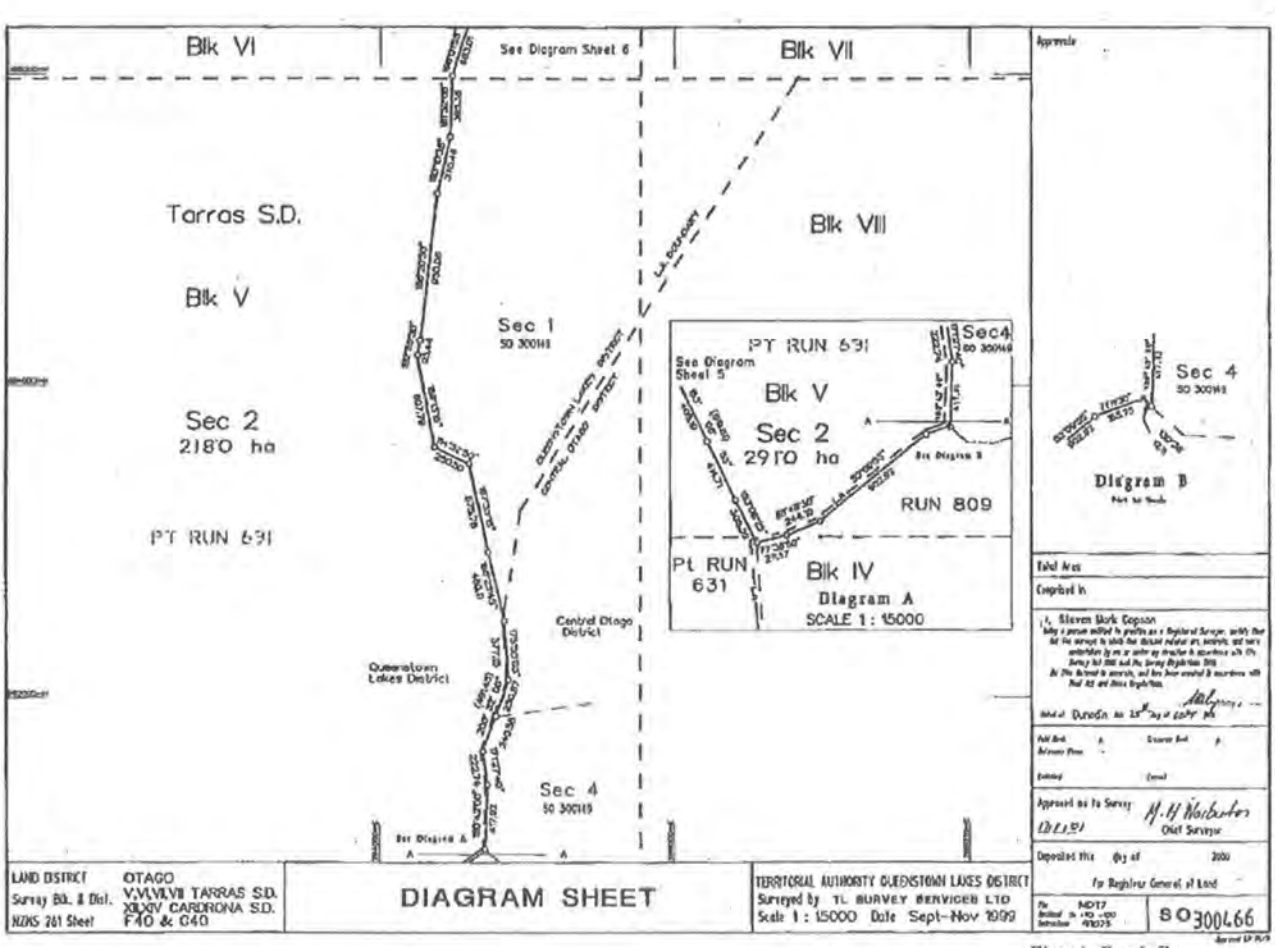
SHEET 3 OF 7


Sec 8
See Diagram Sheet 6
Sec 3
Diagram B
Pt Sec 5
Sec 8
23 ha
PT
RUN
625
Creek
Crown Land
Reserved from Sale
(Marginal Strip)
Cardrona S.D.
BLK XIII
Luggate
Sec 3
72 ha
Sec 1
2180 ha
PT RUN 625
Sec 3
Diagram A
See Diagram A
See Diagram Sheet 6
Tarras S.D.
BLK VI
Sec 4
85.9ha
See Diagram Sheet 2
Alice Burn
BLK V
Note:
Sections 3 & 4 hereon are to be set apart for Scenic Reserve purposes.
LAND DISTRICT
OTAGO
DIAGRAM SHEET
TERRITORIAL AUTHORITY QUEENSTOWN LAKES
Scale 1: 10000 Date Sept-Dec 1999
SO300466
SHEET 4 OF 7



Pt Sec 5
PT RUN 625
Sec 3
72 ha
Sec 4
85.9ha
BLK VI
Sec 5
87.1ha
BLK XIII
See Diagram Sheet 4
See Diagram Sheet 3
Creek
Luggate
Sec 7
Crown Land Reserved from Sale (Marginal Strip)
Crown Land Reserved from Sale (Marginal Strip)
Sec 1
2180 ha
BLK XIV
Burn
Sec 7
7.1071ha
Sec 2
2910 ha
PT RUN 631
Diagram C
Pt RUN 625
See Diagram C
See Diagram B
Diagram B
Diagram A
Tarras S.D.
BLK V
Alice
Pt Run
505C
Sec 9
185 ha
Sec 8
See Diagram A
See Diagram B
Pt Run 625
12
Sec 12
7873m²
Pt Run 631
Cardrona S.D.
S O 300579
Run 631
BLK IV
Diagram C
BLK XV
Diagram D
See Diagram Sheet 7
Class of Survey: 1 & 2
Note:
Sections 3,4 & 5 are to be set apart for Scenic Reserve purposes
I, Steven Mark Cooper
Approved as to Survey
H H Warburton
Chief Surveyor
Deposited this day of
District Land Registrar
LAND DISTRICT
OTAGO
Survey Blk. & Dist.
IV,V,VI,VI TARRAS S.D.
XIII,XIV CARDRONA S.D.
NZMS 261 Sheet
F40 & G40
DIAGRAM SHEET
TERRITORIAL AUTHORITY QUEENSTOWN LAKES DISTRICT
Surveyed by TL SURVEY SERVICES LTD
Scale 1 : 20000 Date Sept–Nov 1999
SO 300466
SHEET 5 OF 7


Lower Hawea SD
Sec 2
Sec 2
Sec 10
VIII
WANAKA LUGGATE ROAD (SH No. 6)
Cardrona SD XIII
Sec 3
Sec 32
PT RUN 625
Sec 6
380 ha
Luggate Creek
Sec 8
23 ha
Sec 1
2180 ha
SEE DIAGRAM SHEET 3
SEE DIAGRAM SHEET 4
Tarras SD
VI
Sec 10
2.2ha
Sec 2
2910ha
PT RUN 631
(SH No 6)
Sec 2
SEE DIAGRAM SHEET 7
Diagram A
Diagram D
Diagram B
Diagram C
Crown Land Reserved from Sale (Marginal Strip)
KINGAN ROAD
ATKINS ROAD
LUGGATE – CROMWELL RD (SH No 6)
PT SEC 33
Sec 1
SO 300149
VII
(SH No 6)
Sec 2
N
Approvals
All roads are legal unless otherwise stated.
Total area
Comprised in
Steven Mark Copson
Approved as to Survey
Deposited this day of
SO 300466
SHEET 6 OF 7
LAND DISTRICT OTAGO
Survey Blk. & Dist. IV,V,VI,VII,TARRAS S.D. XII,XIV CARDRONA S.D.
NZMS 261 Sheet F40 & G40
DIAGRAM SHEET
TERRITORIAL AUTHORITY QUEENSTOWN LAKES DISTRICT
Surveyed by TL SURVEY SERVICES LTD
Scale 1 : 20000 Date Sept–Dec 1999


Blk VI
See Diagram Sheet 6
Blk VII
Tarras S.D.
Blk V
Sec 2
218'0 ha
PT RUN 631
Sec 1
SO 300148
Blk VII
PT RUN 631
See Diagram Sheet 5
Blk V
Sec 2
29'0 ha
Sec4
SO 300148
RUN 809
Pt RUN 631
Blk IV
Diagram A
SCALE 1 : 15000
Central Otago District
Queenstown Lakes District
Sec 4
SO 300148
Sec 4
SO 300148
Diagram B
LAND DISTRICT
Survey Bk. & Dist.
NZMS 261 Sheet
OTAGO
V,VI,VII,VII TARRAS S.D.
XIII,XV CARDRONA S.D.
F40 & G40
DIAGRAM SHEET
TERRITORIAL AUTHORITY QUEENSTOWN LAKES DISTRICT
Surveyed by TL SURVEY SERVICES LTD
Scale 1 : 15000 Date Sept-Nov 1999
Approved as to Survey
Chief Surveyor
For Registrar General of Land
SO 300466

Sheet 7 of 7

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**173355**
Land Registration District	**Otago**
Date Issued	08 April 2005

Prior References
94148

Estate	Fee Simple
Area	3067.0873 hectares more or less
Legal Description	Lot 2 Deposited Plan 342167 and Section 9, 11-12 Survey Office Plan 300466

Proprietors
Robert Andrew Mathewson, Gwendolen Helen Mathewson, Andrew Laurence Mathewson and Downie Stewart Trustee Limited

Interests

Subject to Part IVA Conservation Act 1987

Subject to Section 11 Crown Minerals Act 1991

Subject to a water easement in gross over part Lot 2 on DP 342167 marked A,B and C on DP 342167 to (now) Luggate Holdings Limited created by Transfer 484235 -2.9.1977 at 10.29 am

Appurtenant to Lot 2 on DP 342167 and Sections 9 and 12 SO 300466 is a right of way created by Transfer 774025.11-28.2.1991 at 10.35 am

838426 Land Improvement Agreement pursuant to Section 30A Soil Conservation and Rivers Control Act 1941-14.9.1993 at 9.16 am

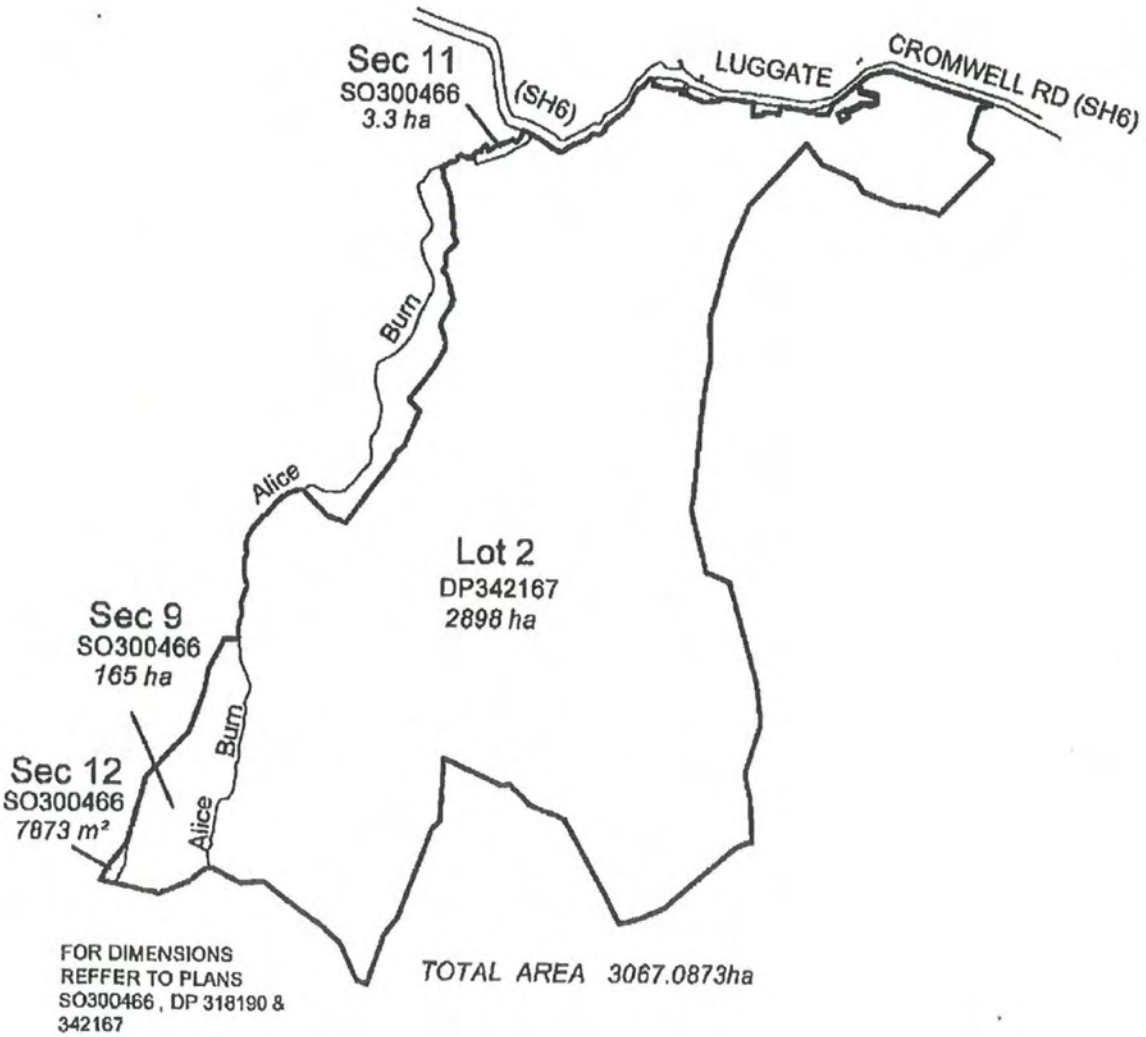
914105 Certificate specifying Mining Rights under s417 Resource Management Act 1991-13.8.1996 at 2.52 pm

5927271.3 Mortgage to The National Bank of New Zealand Limited - 10.3.2004 at 9:00 am

Title Diagram 173355

Cpy – 01/01, Pgs – 001, 28/04/06, 10:19

DocID 11061365



COMPUTER INTEREST REGISTER UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General of Land

Identifier	**19291**
Land Registration District	**Otago**
Date Registered	20 November 2001 10:30 am

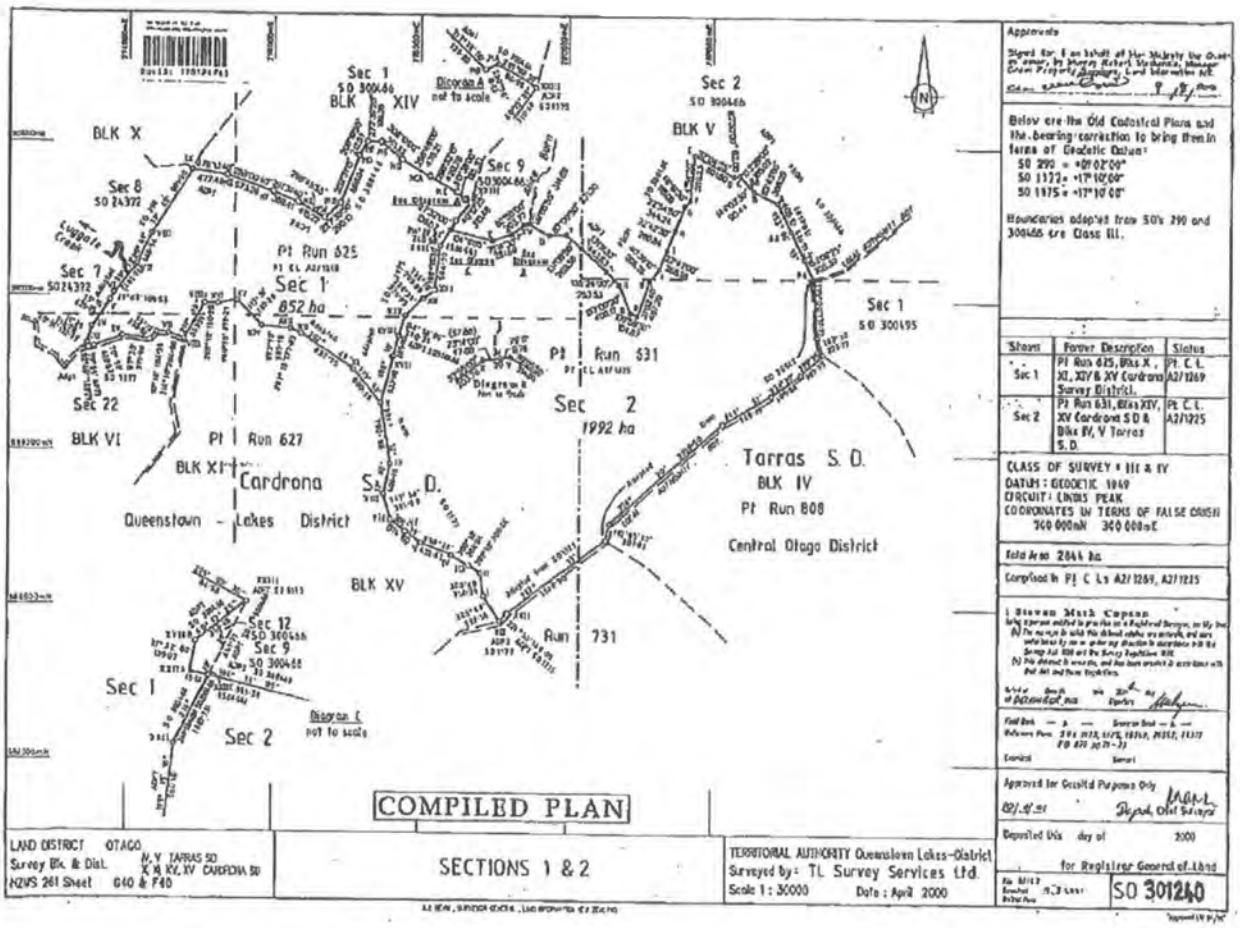
Type	Lease under s83 Land Act 1948	**Instrument**	PL 5111782.1
Area	852.0000 hectares more or less	**Term**	7 years commencing on 30.6.2001 with a right of renewal for a further term of 7 years

Legal Description Section 1 Survey Office Plan 301240

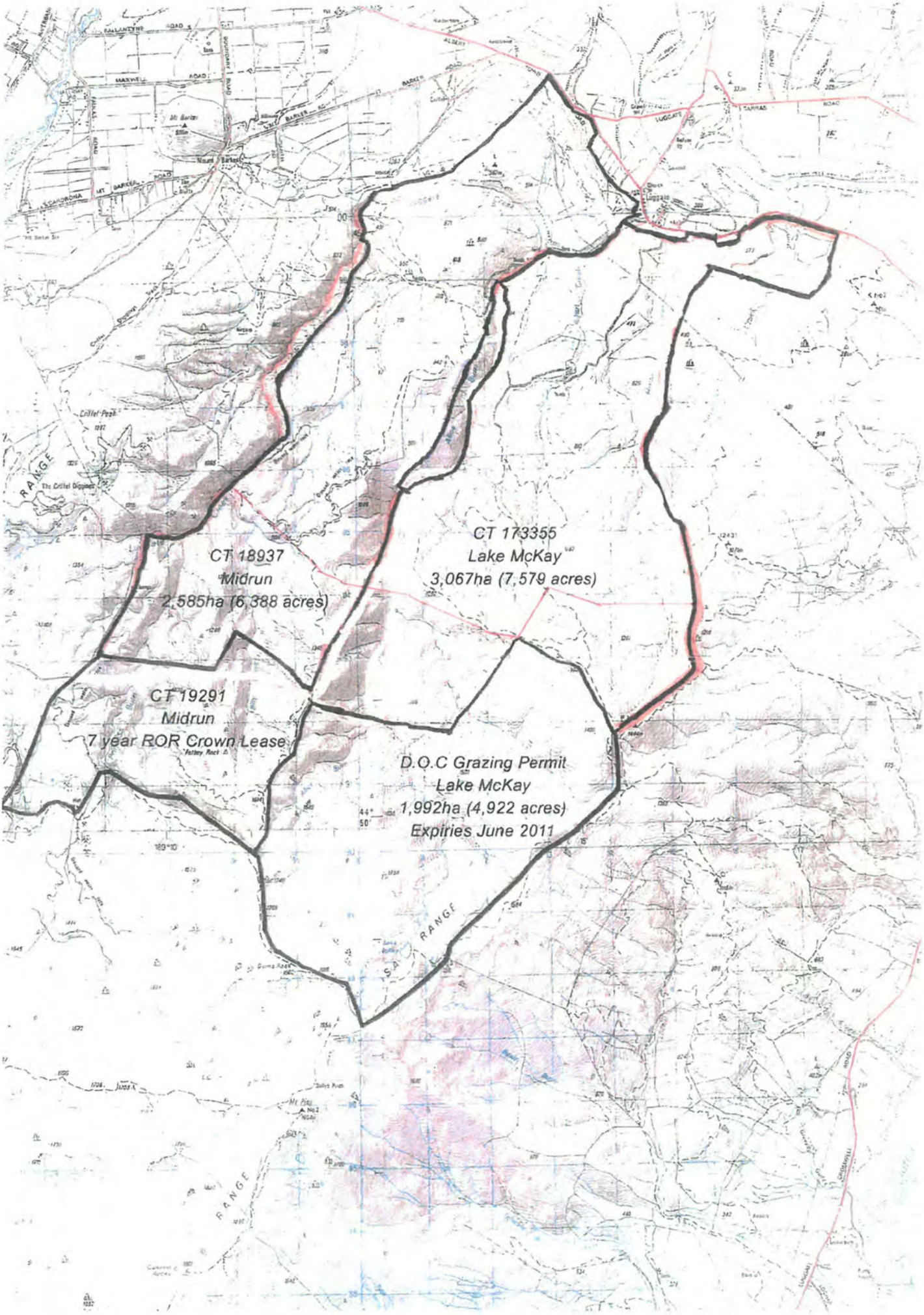
Proprietors

Mathewson Farm Holdings Limited

Interests


Sec 1
SO 300466
BLK XIV
Diagram A
not to scale
Sec 2
SO 300466
BLK V
BLK X
Sec 8
SO 24372
Sec 9
SO 300466
Pt Run 625
Pt CL A2/1269
Sec 7
SO 24372
Sec 1
852 ha
Sec 1
SO 300695
Pt Run 631
Pt CL A2/1225
Sec 22
Sec 2
1992 ha
BLK VI
Pt Run 627
BLK XI
Cardrona S. D.
Tarras S. D.
BLK IV
Pt Run 808
Queenstown - Lakes District
Central Otago District
BLK XV
Sec 12
SO 300466
Sec 9
SO 300466
Run 731
Sec 1
Sec 2
Diagram C
not to scale
COMPILED PLAN
LAND DISTRICT OTAGO
Survey Dist. & Dist. M.V. TARRAS SD
BLKS XI, XV, CARDRONA SD
NZMS 261 Sheet G40 & F40
SECTIONS 1 & 2
TERRITORIAL AUTHORITY Queenstown Lakes District
Surveyed by: TL Survey Services Ltd.
Scale 1 : 30000 Date : April 2000
Approved
Below are the Old Cadastral Plans and the bearing correction to bring them in terms of Geodetic Datum:
SO 290 = +0°02'00"
SO 1372 = +1°10'00"
SO 1375 = +1°10'00"
Boundaries adopted from SO's 290 and 300466 are Class III.
Sheet
Former Description
Status
Sec 1
Pt Run 625, Blks X, XI, XV & XV Cardrona Survey District.
Pt C.L. A2/1269
Sec 2
Pt Run 631, Blks XIV, XV Cardrona S.D. & Blks IV, V Tarras S.D.
Pt C.L. A2/1225
CLASS OF SURVEY = III & IV
DATUM : GEODETIC 1949
CIRCUIT : LINDIS PEAK
COORDINATES IN TERMS OF FALSE ORIGIN
300 000mN 300 000mE
Total Area 2844 ha
Comprised in Pt C Ls A2/1269, A2/1225
I Steven Mark Copson
Approved for Cadastral Purposes Only
Deposited this day of 2000
for Registrar General of Land
SO 301240

TOPOGRAPHICAL MAP


CT 18937
Midrun
2,585ha (6,388 acres)
CT 173355
Lake McKay
3,067ha (7,579 acres)
CT 19291
Midrun
7 year ROR Crown Lease
D.O.C Grazing Permit
Lake McKay
1,992ha (4,922 acres)
Expiries June 2011
RANGE
RANGE
RANGE

COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952

R.W. Muir
Registrar-General of Land

Search Copy

Identifier	**OT18D/836**
Land Registration District	**Otago**
Date Issued	09 March 2000

Prior References
OT18B/858

Estate	Fee Simple
Area	90.7358 hectares more or less
Legal Description	Lot 2-3 Deposited Plan 26911 and Section 1 Survey Office Plan 23723

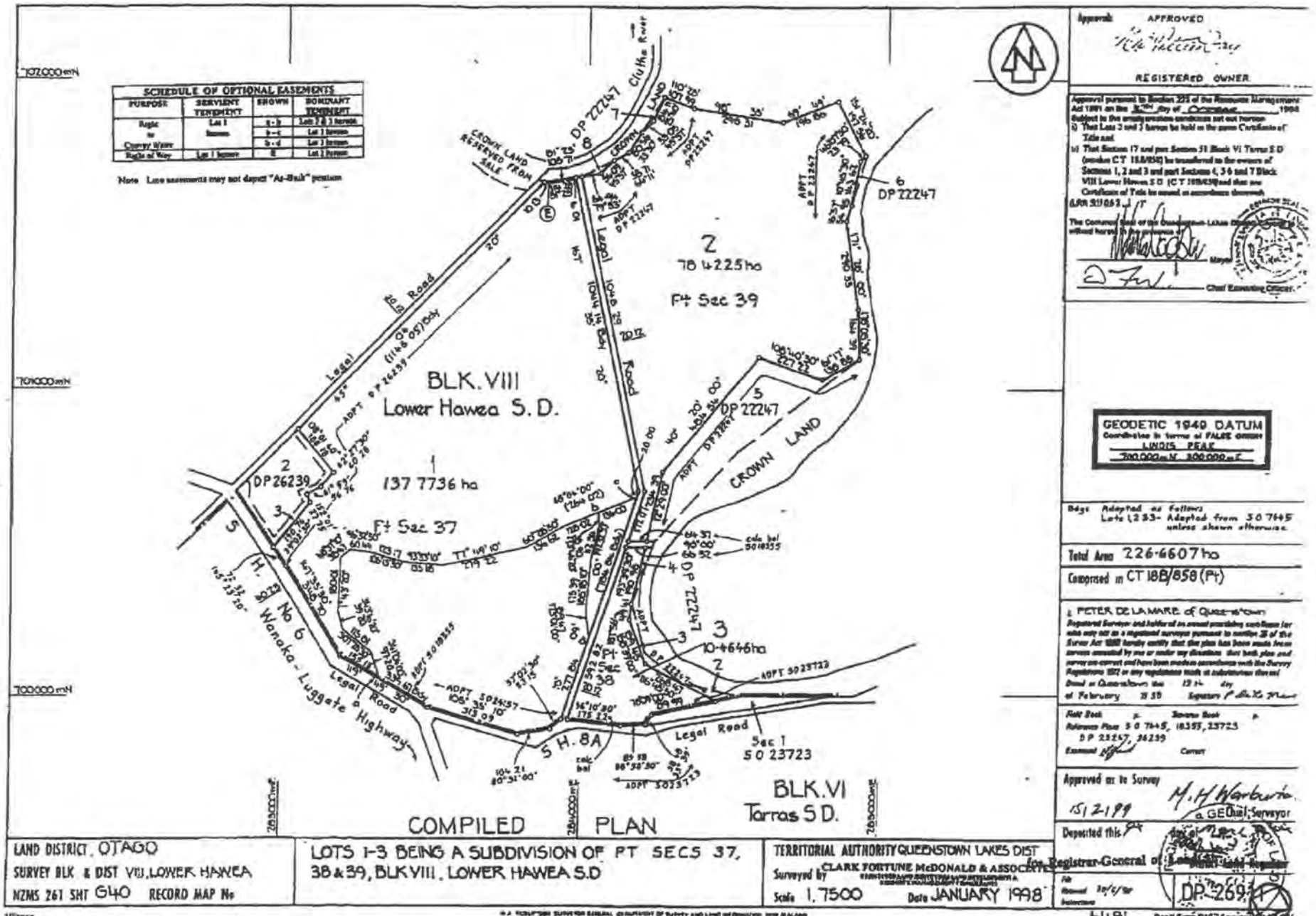
Proprietors
Norman William Pittaway

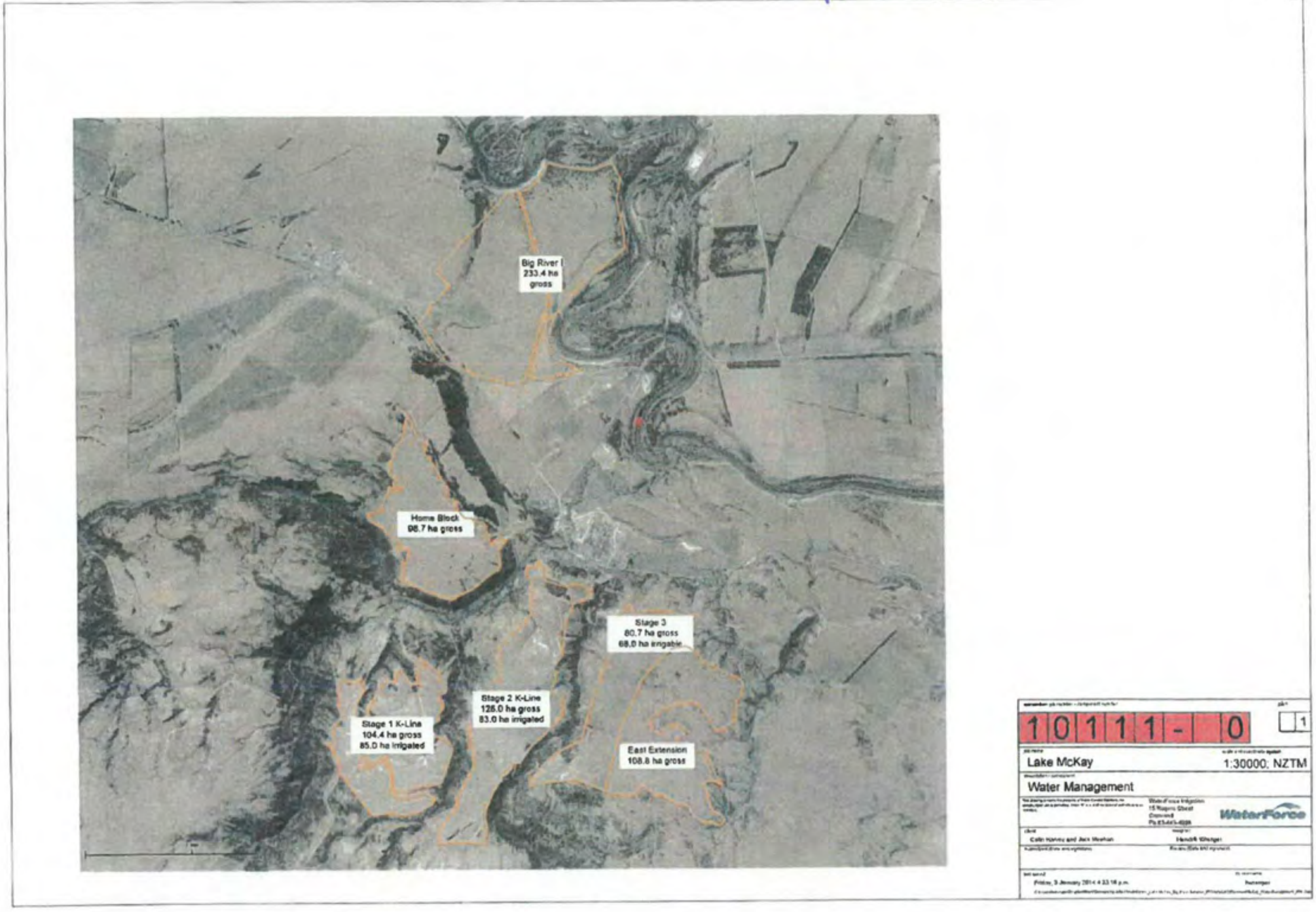
Interests

Subject to Section 241 (2) Resource Management Act 1991 (affects lots 2-3 DP 26911)
Subject to Section 8 Mining Act 1971 (affects lots 2-3 DP 26911)
Subject to Section 5 Coal Mines Act 1979 (affects lots 2-3 DP 26911)
951009.8 Encumbrance to Contact Energy Limited - 14.7.1998 at 9.26 am
984703.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 9.3.2000 at 10.19 am (affects lots 2-3 DP 26911)
984703.6 Easement Certificate specifying the following easements - 9.3.2000 at 10.19 am

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Convey water	Lot 1 Deposited Plan 26911 - CT OT18D/835	a-b DP 26911	Lot 2-3 Deposited Plan 26911 - herein	
Convey water	Lot 1 Deposited Plan 26911 - CT OT18D/835	b-c DP 26911	Lot 2 Deposited Plan 26911 - herein	
Convey water	Lot 1 Deposited Plan 26911 - CT OT18D/835	b-d DP 26911	Lot 3 Deposited Plan 26911 - herein	
Right of way	Lot 1 Deposited Plan 26911 - CT OT18D/835	E DP 26911	Lot 2 Deposited Plan 26911 - herein	

5022152.1 CAVEAT BY THE BIG RIVER COMPANY LIMITED - 31.1.2001 at 9:44 am (affects lots 2-3 DP 26911)
5151000.1 Mortgage to The National Bank of New Zealand Limited - 7.2.2002 at 12:20 pm
Subject to Part IVA Conservation Act 1987 (affects Section 1 SO 23723)
Subject to Section 11 Crown Minerals Act 1991(affects Section 1 SO 23723)



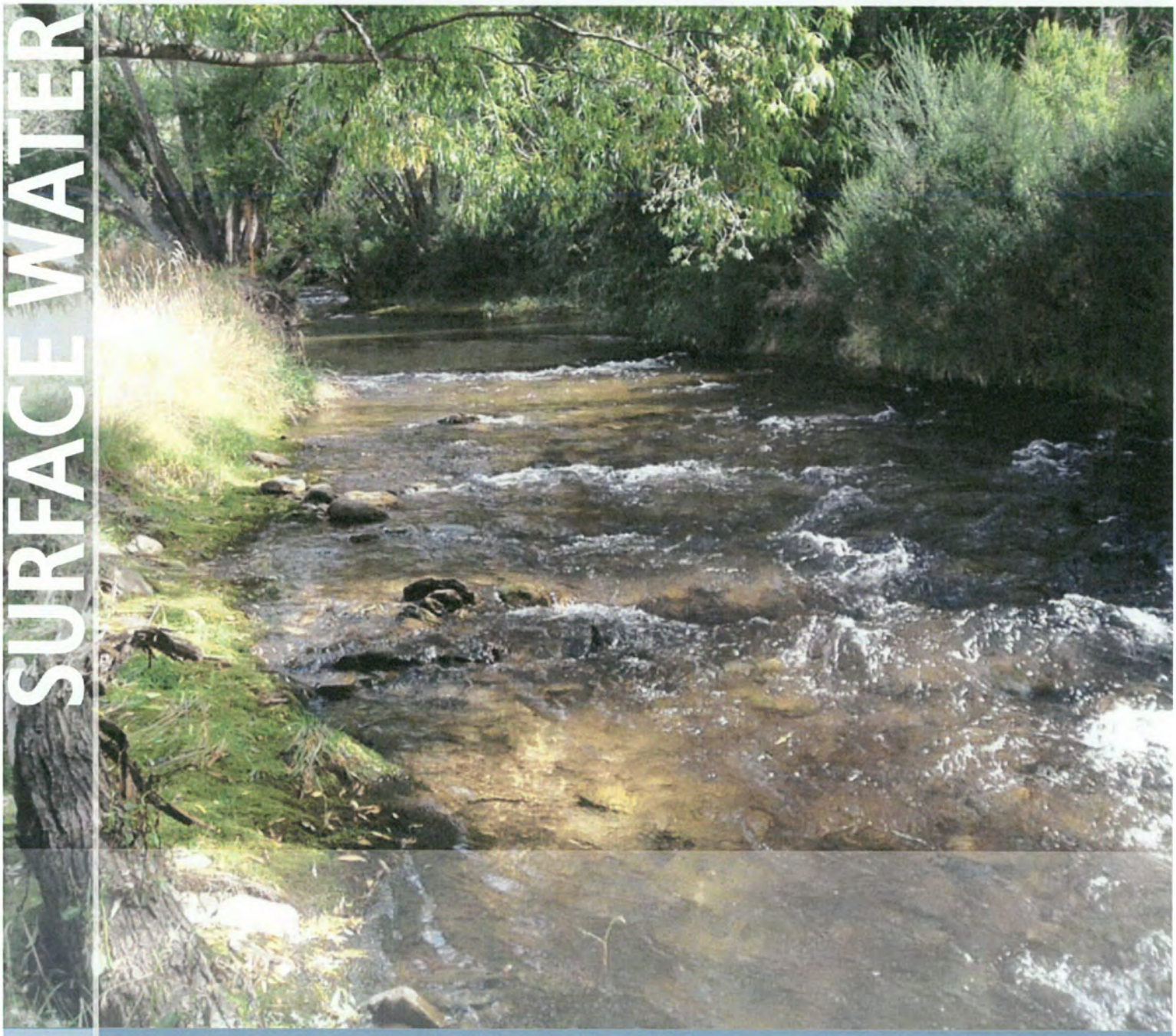

Big River
233.4 ha gross
Home Block
98.7 ha gross
Stage 3
80.7 ha gross
68.0 ha irrigable
Stage 2 K-Line
128.0 ha gross
83.0 ha irrigated
Stage 1 K-Line
104.4 ha gross
85.0 ha irrigated
East Extension
108.8 ha gross
10111-0
1
Lake McKay
1:30000; NZTM
Water Management
Colin Harvey and Jack Meehan
Hendrik Wienger
Friday, 3 January 2014 4:33:18 p.m.


Stage 1
Stage 2
Stage 3
Filter Unit
Supply Pipeline
POINT A
POINT B
9409-0
2
A0
Lake McKay Station, Stage 2 K-Line
Supply Pipe Line and K-Line Irrigation
Planview
WaterForce Irrigation
15 Rogers Street
Ph 03-445-4006
Colin Harvey
Hendrik Wienger
Jock Meehan
Monday 8 July 2013 1:38:39 p.m.


Lake McKay Station.
Boundaries
Intake.
Big River
Pivot Block.
Lake McKay
Title

Management Flows for Aquatic Ecosystems in Luggate Creek

SURFACE WATER



Otago Regional Council

Management Flows for Aquatic Ecosystems in Luggate Creek

August 2006

1-877265-50-0

Foreword

The future development and prosperity of Otago depends on water. However, much of Otago has long been recognised as a water-short area and consequently Otago is constantly at the forefront of water management in New Zealand. In many cases, irrigation, particularly in these drier areas, is critical to the continued well being of the people and communities who rely on the primary production it supports.

The Regional Policy Statement provides the overall framework for the future management of water in Otago. The Water Plan provides the direction for better utilisation and protection of water so that the values, opportunities and needs of Otago's communities can be reasonably met.

A key thrust of the Water Plan is its emphasis on the progressive implementation of minimum flow regimes for streams and rivers throughout the region. The goal of these minimum flows is to maintain the stream's aquatic ecosystem and natural character during periods of low flow. Furthermore, setting appropriate allocation limits and promoting water use efficiency are integral for ensuring reliable access to the water resource.

In Otago, surface water supplies are heavily allocated. Over-abstraction can result in degradation of a stream's natural values and character. Therefore careful management is required to keep rates of taking sustainable. The best way forward is to use this valuable water resource to our advantage and to implement allocation limits and minimum flows so that over-abstraction does not occur.

Luggate Creek is a significant trout spawning stream for brown trout and also contains the native fish koaro. Currently, there are 15 water takes from the catchment that are used to irrigate in excess of 1000 ha. Primary allocation for the catchment is considered fully allocated. Clearly, there is a need to manage the stream for its natural values while allowing access to the water resource for the local community.

Executive summary

The purpose of this report is to investigate the flows required to maintain acceptable habitat for the fish species found in Luggate Creek.

Flow statistics such as the 7-day Mean Annual Low Flow (MALF) and 7-day 10 year low flow ($Q_7$10) have been calculated to give an indication of the low flows experienced by the catchment. Rainfall data have also been summarised to give an indication of annual rainfall and seasonal distributions.

Recreational and biodiversity information has been obtained from both Fish and Game Otago and the Department of Conservation. This information has been incorporated into this report along with fisheries and climate data collected by Otago Regional Council.

Instream habitat surveys were carried out in Luggate Creek and flow requirements for all the known resident species assessed by examining the relationships between flow and suitable habitat using instream habitat modelling. Habitat suitability was determined from general habitat suitability curves developed from studies in other rivers.

Luggate Creek is a significant spawning stream for brown trout and also contains the native fish koaro. The habitat information showed that maximum habitat for adult koaro and brown trout was provided by a flow of 0.7 m^3/s and 1.0 m^3/s respectively. Habitat declined sharply as flows fell below 0.3 m^3/s for koaro and 0.5 m^3/s for adult brown trout. Maximum trout spawning habitat was provided by a flow of 0.4 m^3/s, with habitat declining sharply as flows fell below 0.25 m^3/s. Yearling brown trout habitat declined sharply at a flow of 0.25 m^3/s with optimum habitat being provided by a flow of 0.5 m^3/s.

The selection of an appropriate minimum flow depends on the fish species present and the flow management objectives that balance the degree of environmental protection against the value of water for other uses. This report focuses on Luggate Creek's natural values which have been taken from Schedule 1A of the Regional Plan: Water for Otago 2004 (the Water Plan).

Table of contents

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1. Introduction

The Regional Plan: Water for Otago[1] 2004 (the Water Plan) sets out as one of its objectives "to retain the flows in rivers to maintain their life-supporting capacity for aquatic ecosystems and their natural character". As a means to achieve this objective the Water Plan provides for the setting of minimum flows in Otago rivers.

The purpose of this report is to provide information on Luggate Creek that is relevant to determining the flows desirable for sustaining aquatic habitat. Hydrological data are summarised and analysed to determine low flow return periods for Luggate Creek. Rainfall data are provided to show the variation in rainfall within the catchment. A brief overview of the topography, vegetation, and land use within the catchment is provided along with a summary of the recreational and biodiversity values of Luggate Creek. A physical habitat study (the Instream Flow Incremental Methodology or IFIM) has also been carried out to determine the flow requirements for both native fish and introduced sports fish found within the catchment.

1.1 Focus of document

In order to manage a stream, there needs to be a clear focus on what the management objective is. Allocation limits for Luggate Creek have been determined and a clear management objective for the river is proposed. The management objective has been drawn from Schedule 1A of the Water Plan[2]. That schedule identifies the ecosystem values that must be sustained, and a key value that requires sufficient flow is "Rarefish", the presence of koaro (*Galaxias brevipinnis*). IFIM data are discussed with a focus on the management objective and the natural low flow regime of Luggate Creek. Flows to sustain these aquatic ecosystem values in Luggate Creek are recommended.

[1] Objective 6.3.1 of the Water Plan, pg 55.
[2] Schedule 1A of the Water Plan, pg 296.

2. The Luggate Creek Catchment

The Luggate Creek Catchment is found in Central Otago. It extends for approximately 20 km and has an area of approximately 121 km^2. Luggate Creek is relatively short and has one major tributary, the Fall Burn, which merges with Luggate Creek about 2 km above the State Highway 6 bridge. The Luggate Creek Catchment drains the northern end of the Criffel and Pisa Ranges. The upper Luggate Creek Catchment is made up of a mixture of tussock and manuka and has a reliable rainfall. It flows in a north-easterly direction and joins the Clutha River at Luggate (Figure 2.1).

2.1 Vegetation

Original vegetation of the catchment consisted of snow tussock and manuka. The native plant population has been modified with the spread of introduced plants and over sowing of introduced pasture grasses.

2.2 Land use

Land use in the Luggate Creek Catchment is primarily extensive sheep grazing.

2.3 Topography and soils

Brown soils and grey melanic soils dominant the lower catchment downstream of Luggate Township. This area is of relatively flat topography. The adjacent rolling hills are dominated by semiarid and pallic soils, while the upper catchment is dominated by brown soils (**growOTAGO** 2004).

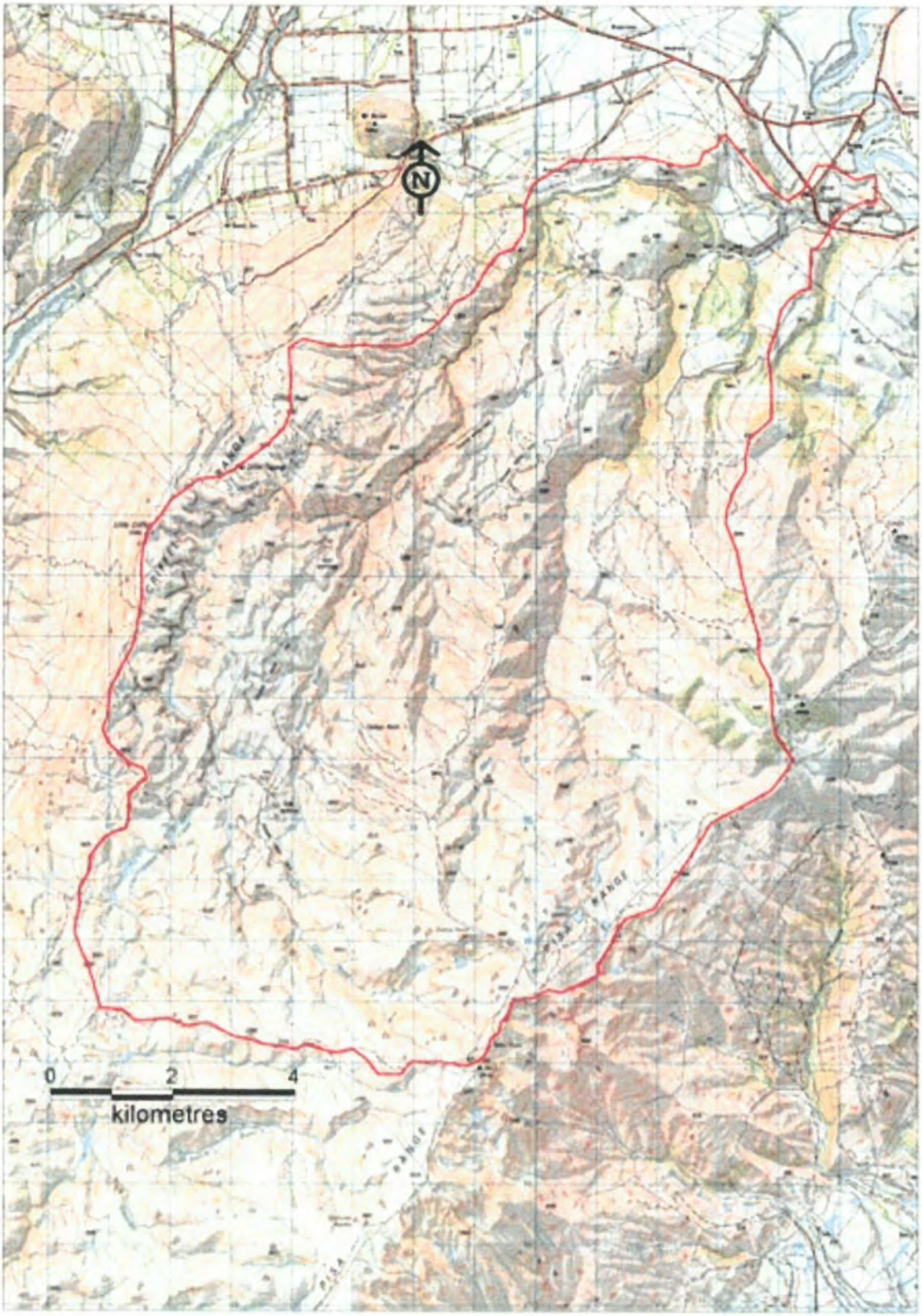

Figure 2.1 The Luggate Creek Catchment, Otago, New Zealand

2.4 Rainfall

Due to the topography of the catchment, rainfall increases with altitude. The lower catchment around Luggate Township has an average annual rainfall of 660 mm/yr (Figure 2.2). The upper catchment can receive in excess of 1000 mm/yr (**growOTAGO** 2004).

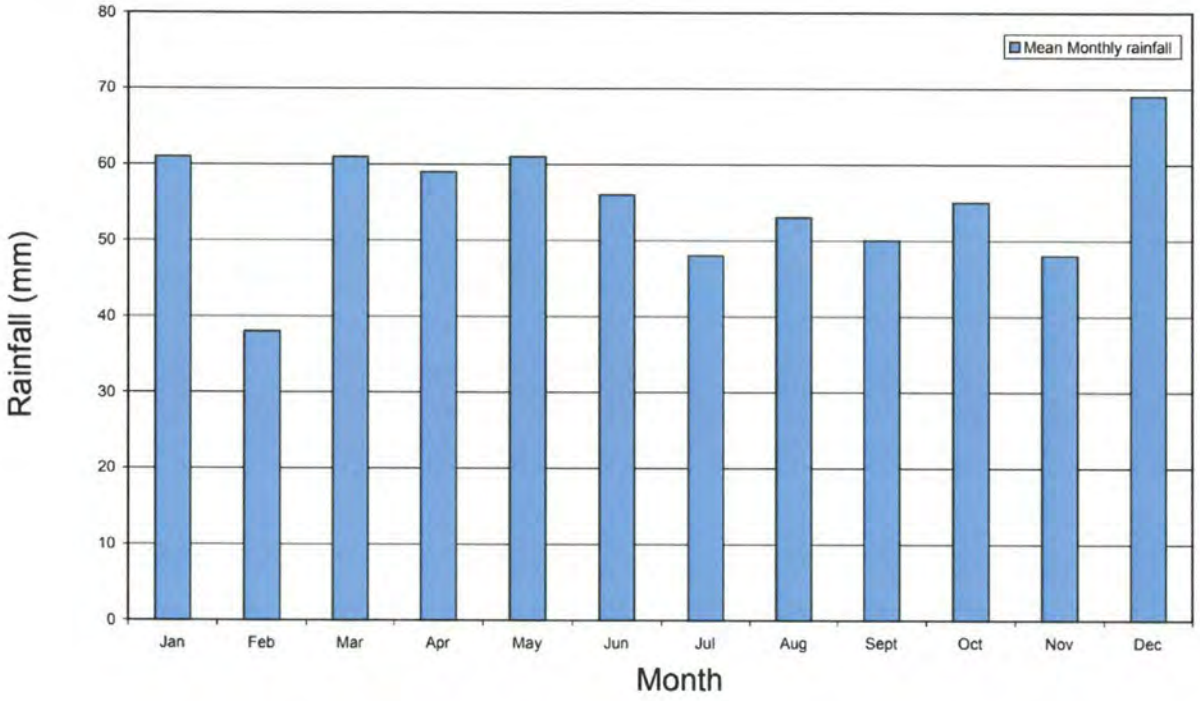

Figure 2.2 Mean monthly rainfall for the Wanaka Aerodrome (site 497203). The site is representative of the lower Luggate Creek Catchment

2.5 Hydrology

Luggate Creek is a tributary of the Upper Clutha. A single gauging site at the SH 6 bridge over Luggate Creek has been analysed to extract information about the long-term statistics of the stream flows within the catchment (Figure 2.1). It must be noted that all flow data that have been collected are one-off gaugings, as there is no continuous flow recorder on Luggate Creek. Also, at times of low flows, recorded flows can be skewed due to irrigation takes.

2.6 Calculating the mean annual 7-day low flow (MALF) for Luggate Creek

In order to determine the primary allocation limit for the Luggate Creek Catchment and to get an indication of the average natural low flow experienced by the river, the naturalised 7-day Mean Annual Low Flow (MALF) needed to be calculated (Water Plan). This was complicated by the fact that there is no permanent flow recorder in

the Luggate Creek Catchment. It is also acknowledged that different techniques for 7-day MALF estimation produce differing results.
Appendix 1 is based on flow gauging relationships and regression analysis with flows recorded in the nearby Cardrona River, while Appendix 2 is based on catchment area and rainfall. Section 2.7 describes the 7-day MALF value used for Luggate Creek and the rationale behind it in the absence of continuous flow data.

2.7 Mean annual 7-days low flow (MALF) for Luggate Creek

Table 2.1 shows the predicted 7-day MALF values for both the regression method and catchment area/rainfall method. Both methods for estimating 7-day MALF values have predicted values that are similar (Table 2.1). The mean of the summer flow gaugings for the period January to April at each site has also been shown. In calculating the mean values, records of flows higher than would be expected during low flow conditions were removed.

Table 2.1 Summary of the two methods used to estimate the 7-day MALF for Luggate Creek in relation to the mean gauged low flows at the SH 6 gauging site for the months January to April inclusive (1977 -1984)

Site	Regression method MALF (m^3/s)	Catchment/rainfall method MALF (m^3/s)	Mean low flow gaugings for January to April (m^3/s)
Luggate Creek at SH 6 bridge	0.454*	0.55	0.377*

* Affected by irrigation takes

It can be seen that the mean of the summer flow gaugings for the period from January to April inclusive at SH 6 is lower than the two predicted 7-day MALF values (Table 2.1). This is more than likely due to irrigation takes, because Luggate Creek has a significant amount of irrigation takes upstream of the SH 6 gauging site (refer to ORC 2005).

Times of low flow tend to correspond with high water demand, thus low flow gaugings are often affected by irrigation takes. In the Luggate Creek Catchment there is a total of **0.987 m^3/s** in primary allocation allocated above the SH 6 gauging site. Therefore, when the river is at MALF, if a fraction of the primary allocation is taken, flows can drop significantly (ORC 2005).

It is more than likely that the mean of the summer flow gaugings for the period January to April at the SH 6 gauging site is reflecting an influence of irrigation takes. The mean of the summer flow gaugings at the SH 6 gauging site is slightly lower than the 7-day MALF predicted by both methods. Hence, actual recorded flows at the SH 6 gauging site do not reflect natural conditions, and are too low due to the influence of takes. MALF values predicted by the catchment/rainfall method are theoretical, so are unaffected by takes. The regression method is predicting values slightly lower than those of the catchment/rainfall method but this prediction is also influenced by irrigation takes so a slightly lower predicted natural 7-day MALF is to be expected.

A 7-day MALF of **0.55 m^3/s** has been chosen as this represents a natural MALF. In order to gain a more accurate 7-day MALF value, Council may need to consider installing a permanent flow recorder at the bottom of the Luggate Creek Catchment.

2.7.1 Annual 7-day low flows and their frequency analyses

Mean annual 7-day low flows (MALF or $Q_{7,m}$ in m^3/s) and the corresponding specific yield (SMALF or $SQ_{7,m}$ in $l/s/km^2$) have been calculated for the Luggate Creek Catchment (Table 2.2).

Table 2.2 Low flows for Luggate Creek Catchment at SH 6 bridge

Site	Location	Min. (m^3/s)	MALF (m^3/s)	Area (km^2)	SMALF ($l/s/km^2$)
Luggate Creek*	at SH 6 bridge	0.016*	0.55	121	4.5

*Affected by upstream irrigation intakes

In order to gain some insight into the low flow regime of Luggate Creek, low flow return periods were calculated (Table 2.3) using the same regression procedure (Appendix 1) as was used to derive the 7-day MALF for Luggate Creek. Return periods were then converted based on the chosen MALF of 0.55 m3/s at the SH 6 gauging site (Table 2.3).

Table 2.3 Low flows for selected return periods in the Luggate Creek Catchment based on regression analysis with daily mean flows recorded at Mt Barker on the Cardrona River

Site	Min. (m^3/s)	MALF (m^3/s)	$Q_{7,5}$ (m^3/s)	$Q_{7,10}$ (m^3/s)	$Q_{7,20}$ (m^3/s)	$Q_{7,50}$ (m^3/s)	$Q_{7,100}$ (m^3/s)
Luggate Creek* (Regression Method)	0.016*	0.453*	0.302*	0.247*	0.206*	0.166*	0.146*
Luggate Creek (Chosen MALF)	**0.016***	**0.55**	**0.369**	**0.300**	**0.250**	**0.202**	**0.177**

*Affected by upstream irrigation intakes

The SH 6 gauging site on Luggate Creek has recorded flows less than would be expected in a 100-yr 7-day low flow (
In order to gain some insight into the low flow regime of Luggate Creek, low flow return periods were calculated (Table 2.3) using the same regression procedure (Appendix 1) as was used to derive the 7-day MALF for Luggate Creek. Return periods were then converted based on the chosen MALF of 0.55 m3/s at the SH 6 gauging site (Table 2.3).
Table 2.3) because Luggate Creek is heavily affected by irrigation takes.

2.8 Luggate Creek fish species

Luggate Creek has only three species of fish recorded as present in the catchment (NIWA freshwater database ORC survey) (Figure 2.3). Brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*) are the only species of introduced sports

fish recorded in the Luggate Creek Catchment. Koaro are the only native fish species recorded in the catchment.

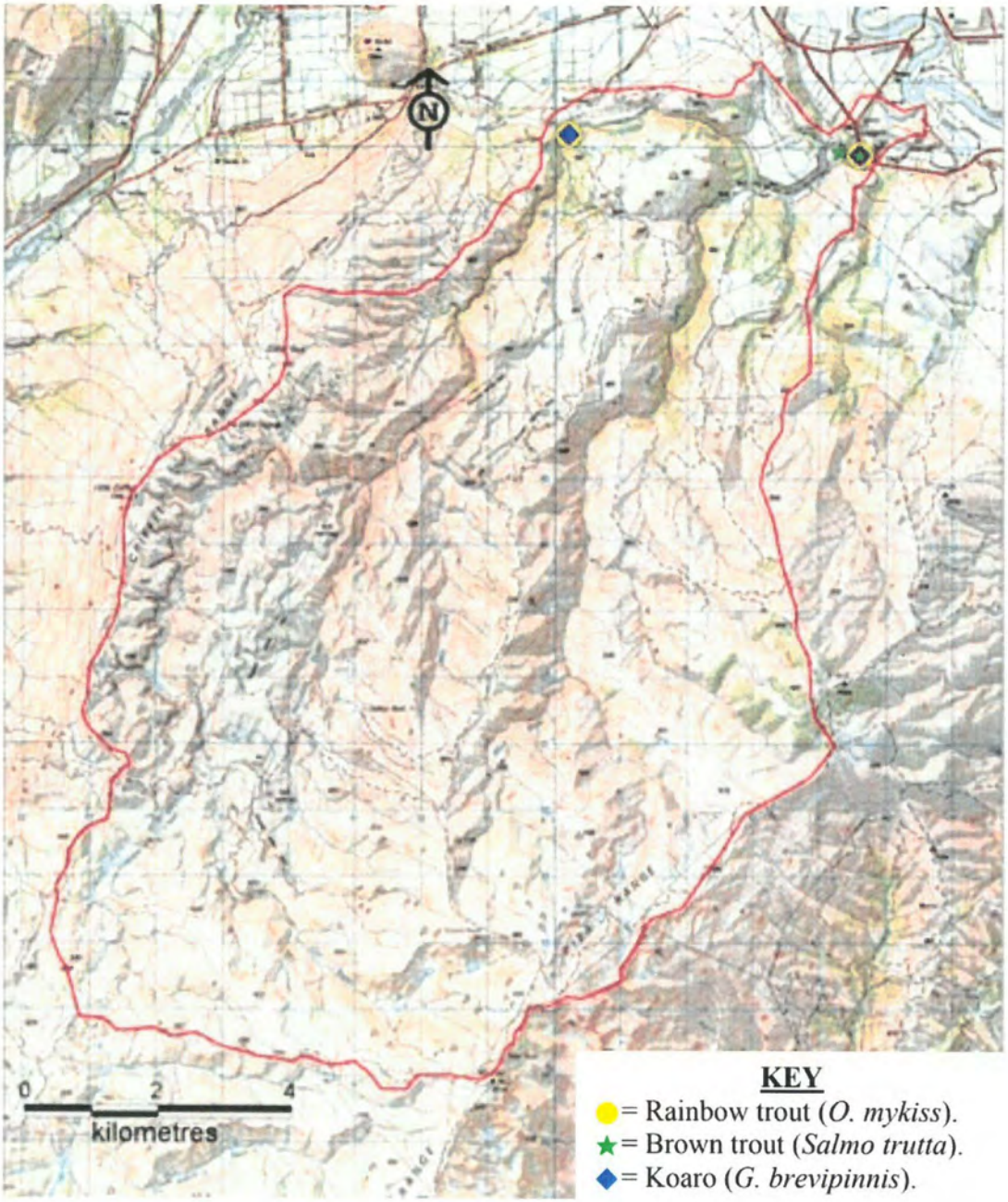

Figure 2.3 Fish distribution of the Luggate Creek Catchment from the NIWA freshwater fish database and ORC surveys

3. Recreational and biodiversity values

Luggate Creek is a small Central Otago stream, and has many recreational and biodiversity values that make it of interest to the community of Otago. Below is a summary of information available on the Luggate Creek Catchment with information incorporated from agencies that have an interest in the flow regime of Luggate Creek.

3.1 Recreational values

The National Angling Survey 1994/1996 by Unwin and Brown (1998) does not mention Luggate Creek as a significant sports fishery nor does the 2001/02 National Angling Survey (Unwin & Image 2003). Further information submitted by Fish and Game Otago Region is as follows. Electric fishing surveys have demonstrated that the middle and lower reaches of Luggate Creek are important brown trout spawning grounds. The substrate is composed of gravels, cobbles and boulders which make ideal spawning and juvenile trout rearing habitat. Brown trout migrate upstream from the Clutha River to spawn in mid-April. By the end of July, most brown trout spawning activity has finished. The eggs lie in the gravels for approximately one month and take a further 30-40 days until they fully develop into fry. Rainbow trout also spawn in the lower and middle reaches of Luggate Creek. Spawning runs begin in July and peak in September. The critical rainbow trout spawning period finishes at the end of December, by which time the rainbow eggs have developed into fry. Rainbow trout are also present in the upper river. Luggate Creek provides important juvenile recruitment to the Upper Clutha River system which is a nationally important trout fishery. To protect juvenile habitat and ensure that migrating juvenile trout are able to reach the main-stem of the Clutha River, it is essential that the flow level of this stream is protected during drought periods (Hollows 2005).

3.2 Biodiversity values

The Water Plan[3] lists many natural values for Luggate Creek, including significant habitat for the native fish koaro, that it is weed free and contains rare indigenous invertebrates. Further information supplied from the Department of Conservation Otago suggests that there are no threatened species of conservation significance present in Luggate Creek (Neilson 2005). Koaro are present but are not considered threatened under the Department's current threat ranking system (Neilson 2005). However, the Department believes koaro have an intrinsic value as a component of our indigenous freshwater fauna (Neilson 2005).

[3] Schedule 1A of the Water Plan, pg 296.

4. Physical habitat survey

The Otago Regional Council contracted NIWA to carry out a study to determine the flows required to maintain acceptable habitat for the fish species present in Luggate Creek.

The primary aims of this study were to:

- Conduct instream habitat surveys in critical reaches of Luggate Creek.
- Conduct a hydraulic analysis in the above streams using RHYHABSIM (Jowett 1989) to determine how weighted usable area (WUA) for brown trout and native fish habitat varies with (flow).
- Assess flow requirements for Luggate Creek based on the habitat requirements of the native and introduced fish species.

4.1 Instream flow incremental methodology (IFIM) summary

The IFIM (Bovee 1982) is an example of a holistic way to determine an appropriate flow regime by considering the effects of flow changes on instream values, such as river morphology, physical habitat, water temperature, water quality, and sediment processes. As habitat methods are based on quantitative biological principles, they are considered more reliable and defensible than assessments made in other ways (White 1976; Annear & Conder 1984; Dunbar et al. 1998; Tharme 1996; Annear et al. 2002). Their strength lies in their ability to quantify the loss of habitat caused by changes in the natural flow regime, which helps the evaluation of alternative flow proposals (Jowett 2004).

Providing or retaining suitable physical habitat for aquatic organisms that live in a river is the ecological aim of IFIM assessments. The consequences of loss of habitat are well documented; the environmental bottom line is that if there is no suitable habitat for a species it will cease to exist (Jowett 2004). Habitat methods allow for a more focused flow assessment and can potentially result in improved allocation of resources (Jowett 2004). However, it is essential to consider all aspects such as food, shelter, and living space and to select appropriate habitat suitability curves for an assessment to be credible (Orth 1987; Jowett 1995; Biggs 1996).

4.1.1 Habitat preferences and suitability curves

The aim of the IFIM is to maintain, or even improve, the physical habitat for instream values. The IFIM requires detailed hydraulic data, as well as knowledge of the ecosystem and the physical requirements of stream biota. The basic premise of habitat methods is that if there is no suitable physical habitat for the given species, then they cannot exist. However, if there is physical habitat available for a given species, then that species may or may not be present in a survey reach, depending on other factors not directly related to flow, or to flow related factors that have operated in the past (e.g., floods). In other words, habitat methods can be used to set the outer envelope of suitable living conditions for the target biota (Jowett 2004).

Biological information is supplied in terms of habitat suitability curves for a particular species and life stage (Jowett 2004). A suitability value is a quantification of how well suited a given depth, velocity or substrate is for the particular species and life stage (Jowett 2004). The result of an instream habitat analysis is strongly influenced by the habitat criteria that are used. If these criteria specify deep water and high velocity requirements, maximum habitat will be provided by a relatively high flow. Conversely, if the habitat requirements specify shallow water and low velocities, maximum habitat will be provided by a relatively low flow and habitat will decrease as the flow increases. The suitability curves developed in New Zealand for large, feeding adult brown trout (Hayes & Jowett 1994) specify higher depth and velocities than curves for adult brown trout developed in the U.S. (Raleigh et al. 1986). Whether this is due to differences in the sizes of fish has not been clarified. However, it is clear that it is important to use suitability curves that are appropriate to the river and were developed for the same size and life stage of fish, and behaviour, as those to which they are applied.

Generally, native fish are found in similar habitats over a wide range of rivers. McDowall (1990) has described these habitats in descriptive terms. The quantitative approach taken in New Zealand has been to develop general habitat suitability criteria for species of interest by using data collected from several rivers. To date, general habitat suitability curves have been developed for several native fish species, some of it published (e.g., Jowett & Richardson 1995) and some of it unpublished.

4.2 IFIM for Luggate Creek

Flow requirements for Luggate Creek were assessed in two reaches, between the main highway and the Clutha River confluence, and between the large intake weir and the main highway. The creek was mainly willow-lined with grassed stock paddocks running up to the creek sides. It was more open and steeper at the top of the reach with willows. There were more runs and riffles than pools, but the pools were generally long. The upper section was steep below the weir, with mainly bedrock and boulders. Further downstream, the gradient was lower with more pools and stock access. Runs and riffles were the predominant habitat types, but the pools were generally longer than the runs and riffles.

The instream habitat survey was carried out at a flow of 0.18 m^3/s and calibration measurements for stage/discharge relationships at each cross-section were made at flows of 0.37 m^3/s and 0.85 m^3/s. At the survey flow of 0.18 m^3/s, the average river width was 4.37 m, the depth 0.37 m, and velocity 0.17 m/s. The substrate comprised mainly boulder (19.5%) cobble (34.5%), gravel (15.1%) and fine gravel (20.5%), with cobbles dominating riffles and gravel and fine gravel in runs and pools.

Maximum habitat for koaro was provided by a flow of 0.7 m^3/s, with habitat declining sharply as flows fell below 0.3 m^3/s. Maximum trout fry and spawning habitat was provided by a flow of 0.4 m^3/s, with habitat declining sharply as flows fell below 0.25 m^3/s. Yearling brown trout habitat declined sharply at a flow of 0.25 m^3/s with optimum habitat being provided by a flow of 0.5 m^3/s (Table 4.1). Maximum habitat for adult brown trout was provided by a flow of 1.0 m^3/s, with habitat declining sharply as flows fell below 0.5 m^3/s.

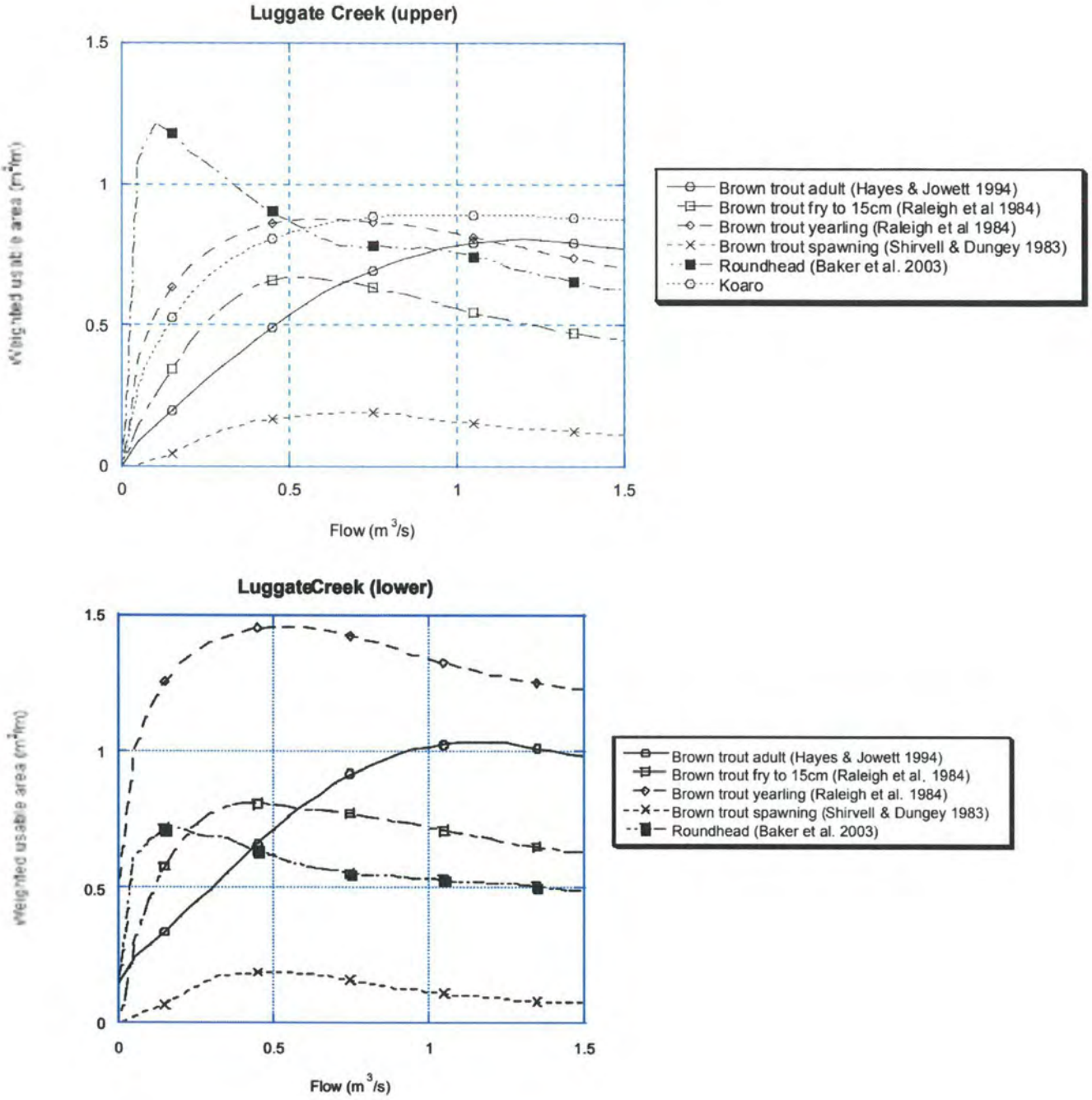

Figure 4.1 Variation of instream habitat (weighted usable area, WUA) with flow in Luggate Creek

4.3 Discussion – IFIM and management objective

The IFIM data provides an overview of the flow requirements of different fish species to maintain their preferred habitat requirements (Table 4.1). Flow requirements can be selected so that they provide maximum habitat, or selected so that they prevent a serious decline in fish habitat. The flow below which habitat declines sharply is known as the point of inflection. It is a point of diminishing return, where proportionately more habitat is lost with decreasing the flow than is gained with increasing the flow by the same increment. Different fish species and even different size classes of fish have different points of inflection (Table 4.1). Ecologically, the point of inflection represents the flow below which there is serious risk of losing sufficient habitat to maintain a species of fish or size class.

Clear management objectives are necessary when applying IFIM data (Hudson 2003; Jowett & Wilding 2003). In the National Angling Survey 1994/1996 by Unwin and Brown (1998), Luggate Creek is not mentioned as a significant sports fishery. However, information submitted by Fish and Game Otago and survey results by ORC suggests that it is a major spawning and trout rearing stream (Section 3.1). In accordance with Schedule 1A[4], the recommended management objective for Luggate Creek is to sustain koaro.

Table 4.1 Flow requirements for fish species in the Luggate Creek Catchment based on IFIM data

Fish species	Optimum flow (m^3/s)	Flow below which habitat declines sharply (m^3/s)
Koaro	0.7	0.3
Adult brown trout	1.0	0.5
Yearling brown trout	0.5	0.25
Brown trout fry	0.4	0.25
Brown trout spawning	0.4	0.25

7-day MALF = 0.55 m^3/s

[4] Schedule 1A of the Water Plan, pg 296.

5. Flow requirements: Discussion and suggested management flows for aquatic habitat

Under the Water Plan[5], Otago rivers will have minimum flows set to provide for the maintenance of aquatic ecosystems and natural character under low flow conditions. Under the Water Plan[6], when minimum flow levels are reached, all consents that are subject to that minimum flow will cease taking.

5.1 Luggate Creek flows discussion based on technical information

Optimum flows for the different fish species and age classes vary from 0.4 m^3/s for brown trout fry to 1.0 m^3/s for adult brown trout (Table 4.1) (Jowett 2004). Optimum habitat for koaro, the only native species recorded in the catchment, is provided by flows of 0.7 m^3/s. Habitat declines sharply for koaro once flows fall below 0.3 m^3/s while, for juvenile trout, habitat declines sharply once flows fall below 0.25 m^3/s (Table 4.1) (Jowett 2004). Adult brown trout habitat declines sharply once flows fall below 0.5 m^3/s (Figure 4.1).

Jowett (1990; 1992) found that the percentage of adult trout habitat at the 7-day mean annual low flow (MALF) acts as a bottleneck to trout density. A flow of 0.55 m^3/s (MALF) exceeds the point of inflection for all age classes of brown trout. Therefore, it would appear that the natural 7-day MALF of Luggate Creek is not restricting the trout fishery.

Luggate Creek contains a rare fish species, koaro[7], and the management objective for Luggate Creek is to maintain its presence. Further information supplied by Fish and Game Otago and collected in ORC surveys suggests that Luggate Creek is a major spawning tributary for the Upper Clutha and possibly Lake Dunstan. Choosing a flow that maintains the presence of koaro is likely to provide for juvenile trout. From the IFIM data, the point of inflection for koaro is 0.3 m^3/s and for juvenile trout it is 0.25 m^3/s (Figure 4.1 & Table 4.1). Hence, the natural 7-day MALF of 0.55 m^3/s is not restricting koaro or juvenile brown trout habitat.

5.2 Suggested management flows for aquatic ecosystems

Seasonal management flows are suggested for the Luggate Creek Catchment. This would recognise that there is clear seasonal variation in flows in Luggate Creek, with high flows occurring from May to October inclusive and lower flows typically occurring from November to April inclusive. By implementing higher minimum flows during the period when there is naturally high flows in the river (May – October inclusive) some seasonal flow variation is provided for.

Flow variation is seen as important for numerous ecological reasons including removing algal growth, lowering water temperatures and providing for fish migration.

[5] Schedule 2A of the Water Plan, pg 314.
[6] Policy 6.4.11 of the Water Plan, pg 69.
[7] Schedule 1A of the Water Plan, pg 296.

Brown trout migration and spawning tend to occur over the winter period when flows are naturally higher, allowing for upstream migration.

A flow of **0.5 m^3/s** is likely to ensure the sustainability of the koaro and juvenile trout community in Luggate Creek during the high flow period from May to October inclusive. A flow of **0.3 m^3/s** is likely to ensure the sustainability of the koaro and juvenile trout community in Luggate Creek during the lower flow period from November to April inclusive, and it is recommended that flows should not be allowed to drop below those outlined above due to consumptive use.

The low flow period (November – April inclusive) flow of **0.3 m^3/s** is the point of inflection indicated by the IFIM survey for koaro and slightly higher than the point of inflection for juvenile trout (0.25 m^3/s) (Table 4.1).

The high flow period (May – October incl.) flow of **0.5 m^3/s** represents the flow that provides near optimum habitat for koaro, trout fry, and trout spawning (Table 4.1). A flow of **0.5 m^3/s** also represents optimum habitat for juvenile trout and represents the point of inflection for adult brown trout indicated by the IFIM survey (Table 4.1).

These flows of **0.3 m^3/s** and **0.5 m^3/s** should also maintain the natural character of Luggate Creek, thus fulfilling the criteria of Objective 6.3.1 of the Water Plan (2004).

6. Acknowledgements

The assistance of many people within Otago Regional Council was much appreciated in the preparation of this report, particularly those who shared both their technical and local knowledge. Comments on drafts were also much appreciated. Fish and Game Otago and the Department of Conservation Otago must also be thanked for their submissions with extra information on recreational and biodiversity values.

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8. Glossary of terms

7-Day MALF	The mean of the lowest 7-day average flow for each hydrological year of record.
$Q_7$10	The 7-day low flow with the likelihood of occurring once in a 10 year period.
Pool	Aquatic habitat characterised by slow flowing, deep water with an unbroken surface.
Return Period	Sometimes called the recurrence interval. Return period is the means of expressing the statistical likelihood of a low or flood flow occurring.
Riffle	Aquatic habitat characterised by shallow, stony, fast flowing (where the surface of the water is broken) conditions, favoured by most aquatic invertebrates.
Run	Aquatic habitat characterised by obvious flow, but without the rapid, broken surface conditions of a riffle.
SMALF	Specific discharge from one unit catchment area at times of MALF.
Weighted Usable Area (WUA)	WUA (m^2/m) is the measure of the total area of suitable habitat per metre of stream.

Appendix 1 - Cardrona River at Mt Barker, flow relationship with Luggate Creek at SH 6 bridge

Luggate Creek has been gauged at SH 6 for a number of years, however recorded flows are heavily affected by irrigation takes (Figure A. 1). The nearest long-term flow recorder to Luggate Creek is on the Cardrona River at Mt Barker. Luggate Creek and the Cardrona River have similar land use, rainfall and topography.

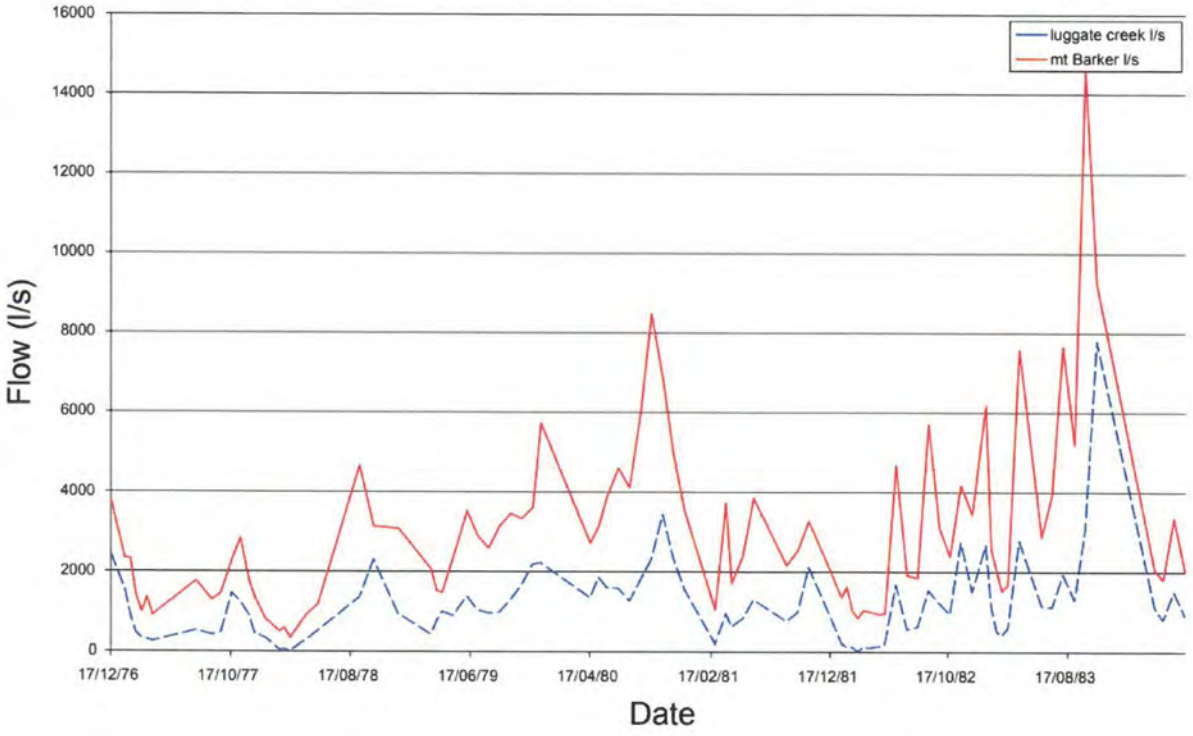


Figure A. 1 Gauged flows for Luggate Creek versus daily mean flow at Mt Barker on the Cardrona River

Regression analysis was carried out on these data resulting in an R^2 of 0.5108 (Figure A. 2). This suggests a reasonable relationship between flows in Luggate Creek and recorded flows in the Cardrona River at Mt Barker (Figure A. 2).

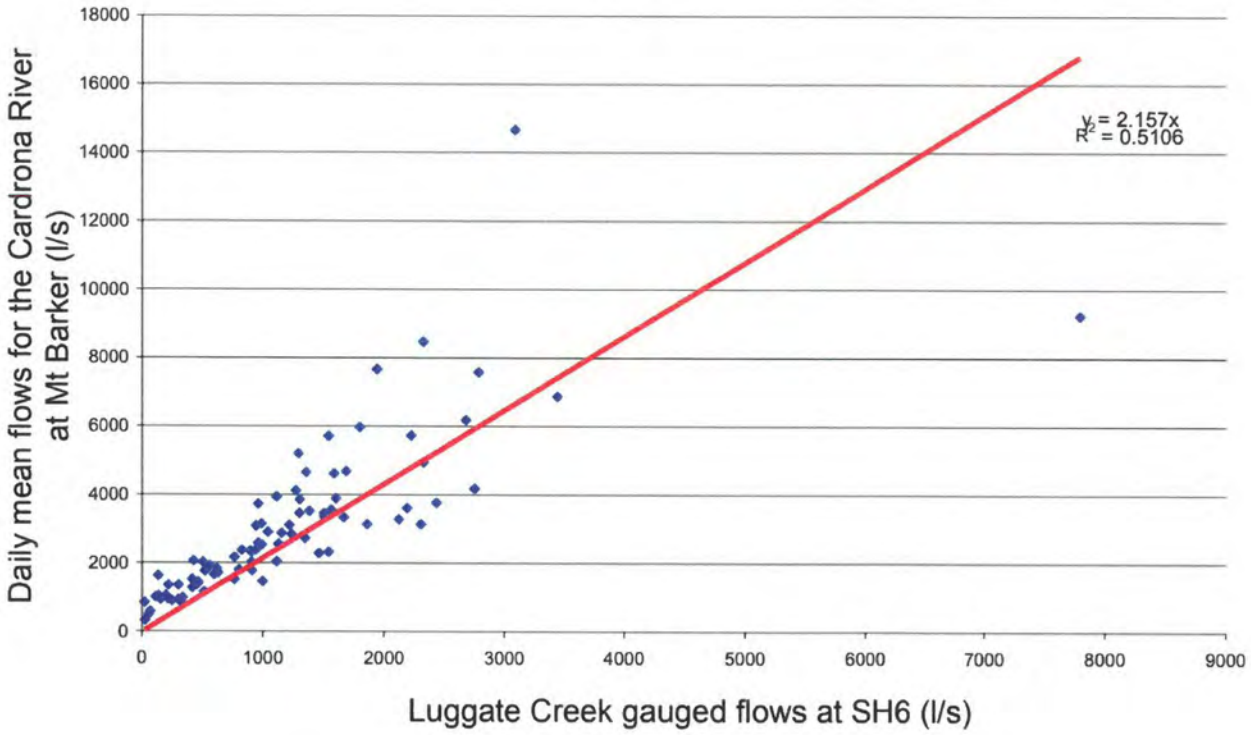


Figure A. 2 Regression analysis comparing gauged flows in Luggate with daily mean flows at Mt Barker on the Cardrona River

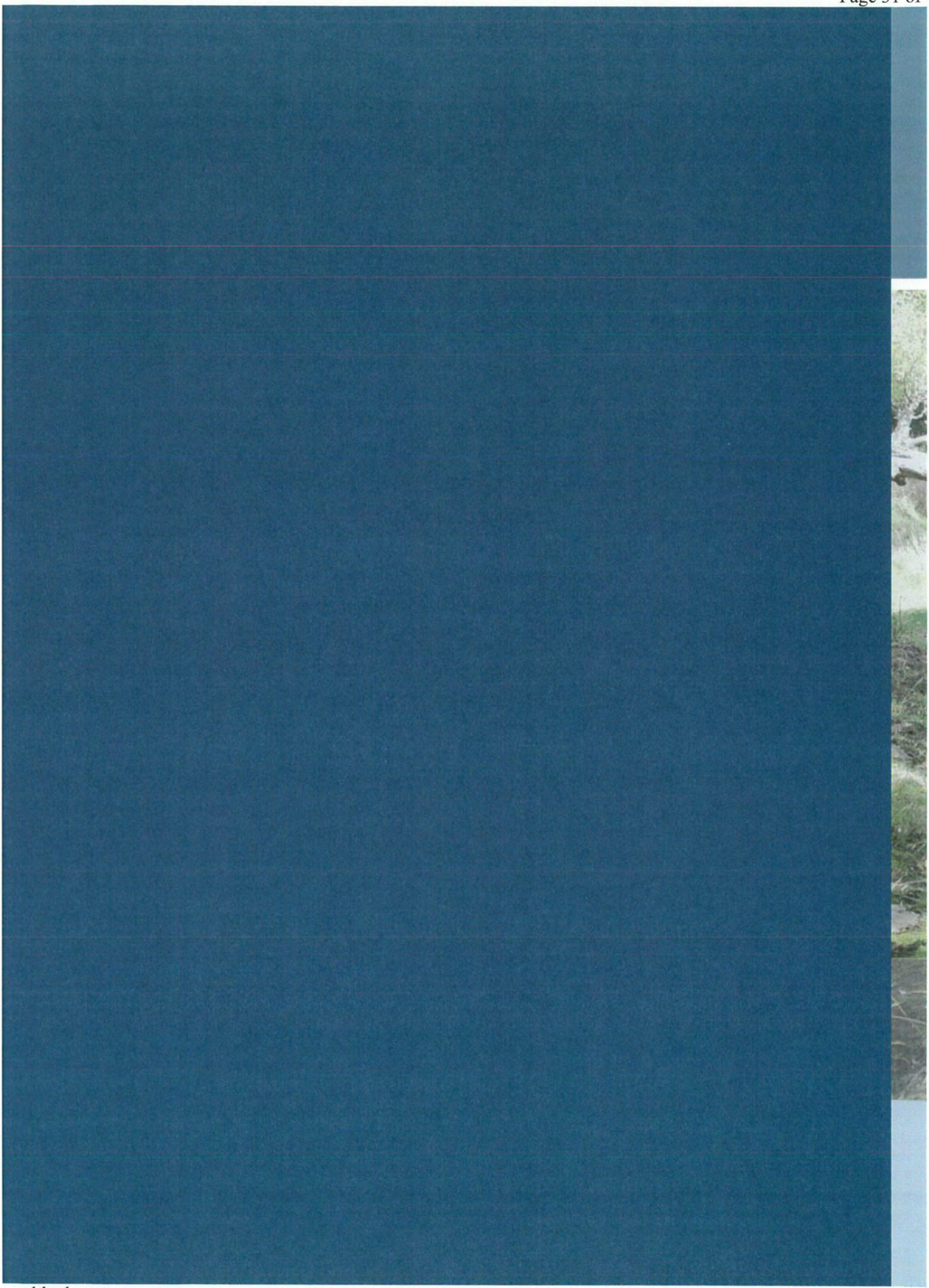
As there is a linear relationship between gauged flows in Luggate Creek and recorded flows on the Cardrona River, it can be used to get an idea of the 7–day MALF for Luggate Creek. The 7-day MALF for the Cardrona River at Mt Barker is **980 l/s**. Therefore, using the regression equation from Figure A. 2, Y = 2.157X (where Y = Cardrona River flows and X = Luggate Creek flows), we can see that the corresponding MALF value for Luggate Creek is **454 l/s** (X = 980/2.157).

Appendix 2 - Mean annual 7-day low flow based on catchment area and rainfall

Catchment area and rainfall relationships are often used to determine 7-day MALF values. Table A. 1 is the 7-day MALF value calculated using the available rainfall and catchment data for the Luggate Creek Catchment. Table A. 1 also provides some justification as to why certain values were chosen.

Table A. 1 7-day MALF value for Luggate Creek at SH 6 gauging site

Location	G40: 146-999
Site Description	Luggate Creek at SH6 bridge
Basin Area (km^2)	121
Precipitation (m/yr.)	0.852 (from rainfall contour maps 1:250,000)
SMALF Q7,m ($l/s/km^2$):	
Pearson's Contours	0.5 – 5.0 (NIWA's Package)
Pearson's Regression	0.5 – 10.0 (NIWA's Package)
Otago's Regression	$1.58\ P^{3.618} = 0.885$
Actual Observations	
1977 observations	3.70 (5 gaugings in January – April incl.)
1978 observations	1.26 (5 gaugings in January – April incl.)
1979 observations	6.00 (3 gaugings in January – April incl.)
1981 observations	4.91 (3 gaugings in January – April incl.)
1982 observations	1.04 (6 gaugings in January – April incl.)
1983 observations	4.17 (3 gaugings in January – April incl.)
1984 observations	6.60 (1 gaugings in January – April incl.)
Lindis at Lindis Peak (1977-2004)	6.5 (MALF of 1,391 l/s)
Mt Barker, Cardrona (1976 - 2004)	3.3 (MALF 980 l/s) (over 2000 l/s primary consented above recorder)
Nominated SMALF	4.5
Justification	Catchment topography, land use and rainfall are similar to the Cardrona River. The Cardrona River SMALF values above are heavily affected by irrigation takes upstream during the low flow period, thus the nominated SMALF for Luggate Creek is slightly higher.
MALF $Q_{7,m}$ (l/s)	550 l/s



Relevant Objectives from National Policy Statement for Freshwater Management 2014

Relevant Objective	Reason
Objective B1- *'To safeguard the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of freshwater, In sustainably managing the taking, using, damming, or diverting of freshwater."*	The proposed take will be subject to the minimum flow requirements detailed in the Regional Plan. This safe-guards the values of the Luggate Creek Including the life, supporting capacity, ecosystem processes and indigenous species and their associated ecosystems' This application is consistent with this objective.
Objective B3- *'To improve and maximize the efficient use and efficient allocation of water."'*	The Partnership was formed to manage the current deemed permits and mining privileges'. This improves the efficiency of the water allocation and provides a body to manage the allocation over the command area. If the consent is secured, this will provide the necessary security to allow capital expenditure to Improve the efficiency of the infrastructure, allowing more efficient use of the water. This application is consistent with this objective.
Objective C1- *"To Improve integrated management of fresh water and the use and development of land in whole catchments, including the Interactions between fresh water, land, associated ecosystems and the coastal environment."*	The Partnership provides an integrated management body to allocate the water over it's command area, some 600 hectares, The consent will be subject to the minimum flow re time which will ensure takes on the creek are managed to avoid effects on ecosystem values. This application is consistent with this objective.

Appendix V

WATER INSPECTION SHEET

Otago Regional Council

Inspector:	M. Heather #522062	Date:	26 January 2018	Catchment:	Luggate	Consent:	WR7284cr/ WR7285cr/ WR7286cr/ WR7298cr
☑ Surface Take	☑ Deemed Permit	☑ Undertake		WM Number:	WM0671	Photos taken:	☑ Yes ☐ No

PROPERTY DETAILS

Consent holder	Luggate Irrigation Company Limited		
Physical location:	Luggate Creek	Mailing Address:	C/- Colin Harvey, PO Box 36240, Northcote,
Town / District:		Town / District:	Auckland 0748
Telephone:		Mobile:	Colin - 021 952 988 Jock Meehan – 027 443 5031
Site Contact Name: Colin Harvey Jock Meehan	Position: Owner Farm Manager	Email:	colin.harvey@hif.co.nz

Map ref. (from consent):	GPS of Point of Take: WR7285cr & WR7298cr	E	1302755	N	5037562	WEX GPS: E 1303023 N 5037743
	GPS of Point of Take: WR7284cr & WR7286cr		1302961		5037944	

WATER USE

☐ Piped	☑ Open Channel	☐ Pumped	☐ Gravity Fed	Water use:	☐ Domestic	☑ Irrigation	☐ Stock Water	☐ Dairy Shed	☐ Hydro Generation
Pump:	☐ Mobile	☐ Stationary			☐ Communal	How Many		☐ Other	

MEASURING DEVICE – *Include Photos*

Water Measuring Device:	☑ Yes ☐ No	Measuring Device GPS:	E 1303023	N 5037743	Installer:	Waterforce	
Type of Device:	☐ Mechanical	☐ Magflow	☐ Ultrasonic	☐ Weir	☐ V-Notch	☑ Parshall Flume	☐ Flumemeter	☑ Water level Sensor
Brand: Krohne	Serial Number: 33443209	Meter Reading: 69.7 l/s	Units: ☑ Litres ☐ Cubic m				

DATALOGGER/TELEMETRY

Datalogger:	☑ Yes ☐ No	Serial Number: OP9063	Installer: Waterforce	RS Form Received:	enter a date.
Brand: Outpost		Datalogger Reading:	Units: ☐ Litres ☑ Cubic m		
Telemetry Installed:	☑ Yes ☐ No	Telemetered to ORC? ☑ Yes ☐ No	Consent Telemetry? ☑ Yes ☐ No		
Brand: Evo-2G-STD		Serial Number:	Data Service Provider:		

VERIFICATION

Date of last verification:	Verified By:	Company
How it was Verified? ☐ Reference Meter ☐ Gaugings ☐ Volumetric Method ☐ Other (as approved)		

DATA – *For Audit Use, Include Hilltop graphs*

Date Data Last Received:	21 January 2018	Rate Compliant:	☑ Yes ☐ No	Volume Compliant	☑ Yes ☐ No
Comments?	Data has been compliant since late September 2017. Please keep an eye on minimum flow levels in Luggate Creek.				

Compliance use

Consent Holder Correct?	☑ Yes ☐ No	Comments:
Location Compliant:	☑ Yes ☐ No	Verification next due 31 December 2018 according to Data team. Combined flow not to exceed 254.7 L/s. WEX 0162. OPUS (Mike Kelly) is working on the renewal of these consents. WR7285cr & WR7298cr – the water from here is diverted in to a race (which can be diverted back in to the creek). This water then enters a pipe over Luggate Creek and feeds in to a race that is also fed by the WR7284cr & WR7286cr take from Luggate Creek. At the time of visit the gate valve on the WR7284cr & WR7286cr take was closed to aid with replenishing Luggate creek. Water from the race which combines the two takes water (WR7285cr & WR7298cr and WR7284cr & WR7286cr) was also being diverted back in to Luggate Creek below the meter at the time of visit. Luggate Creek levels were above minimum flow. Continue to work with Criffel Water Ltd to maintain flows above minimum flow levels in Luggate Creek.
Use Compliant:	☑ Yes ☐ No	
Metering Compliant:	☑ Yes ☐ No	
Verification Current?	☑ Yes ☐ No	
Exemption Required?	☐ Yes ☑ No	
Is Non-Standard Install Required?	☐ Yes ☑ No	

Overall compliance grade

i Compliant	☑	No follow up required:	☑
ii Non-Compliant – Minor (no adverse effects)	☐	Follow up phone call / letter:	☐
iii Non-Compliant – Significant (no adverse effects)	☐	Follow up Inspection required:	☐
iv Non-Compliant – Minor Actual or Potential Effects	☐	Enforcement Action : Infringement / Prosecution:	☐
V Non-Compliant – Significant Actual or Potential Effects	☐	Date follow up action due:	☐
Project Code: CM20230		Account Code: 4876	

Figure 1: Flow at Luggate Creek (cumecs) and minimum flow level <u>at the time of the Audit</u>

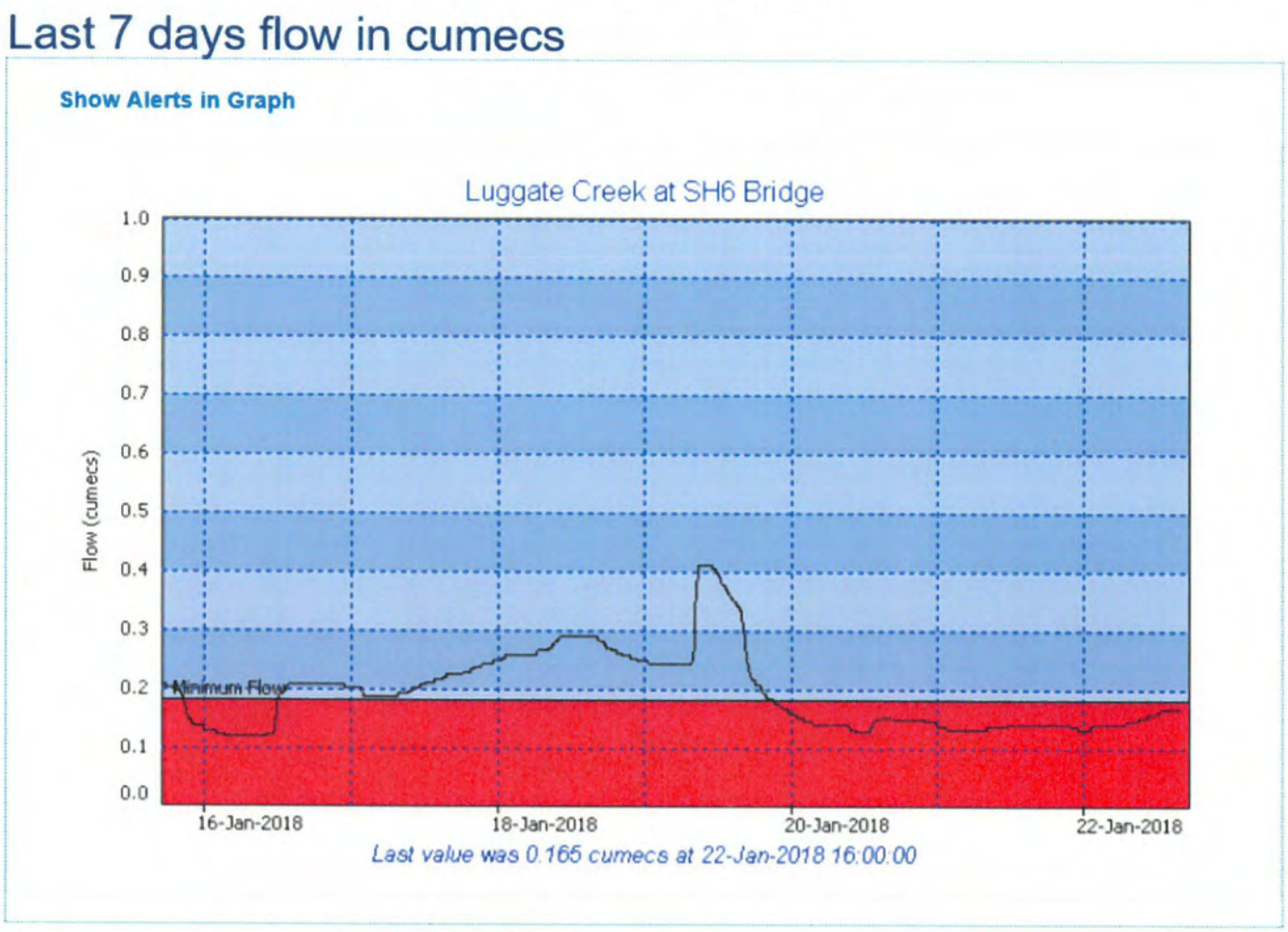


Figure 2: Flow at Luggate Creek (cumecs) and minimum flow level <u>post Audit</u>

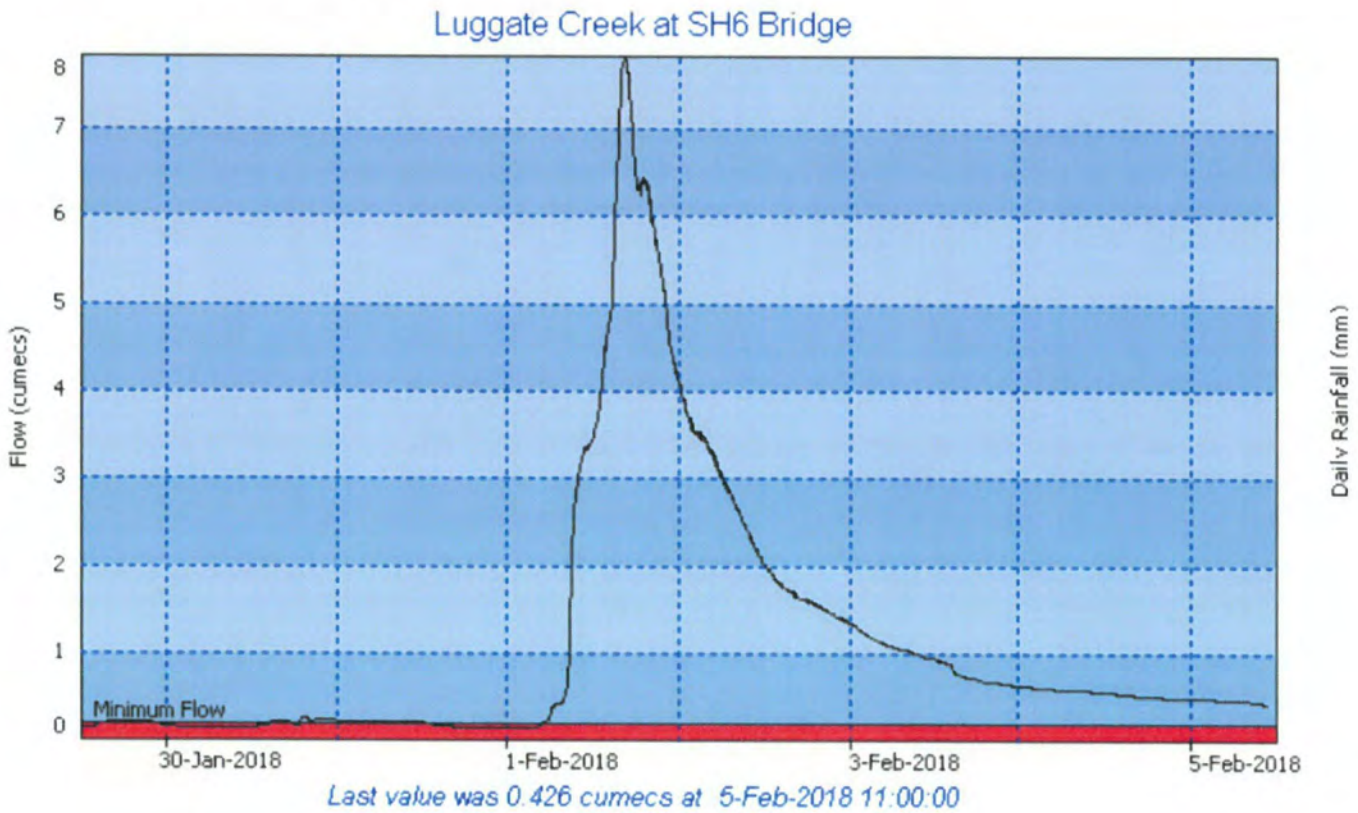


Figure 3: Flow Rate (l/s) v Min Flow Levels in Luggate Creek (cumecs)

Site: WM0671 **Consents:** WR7284CR, WR7285CR, WR7286CR & WR7298CR

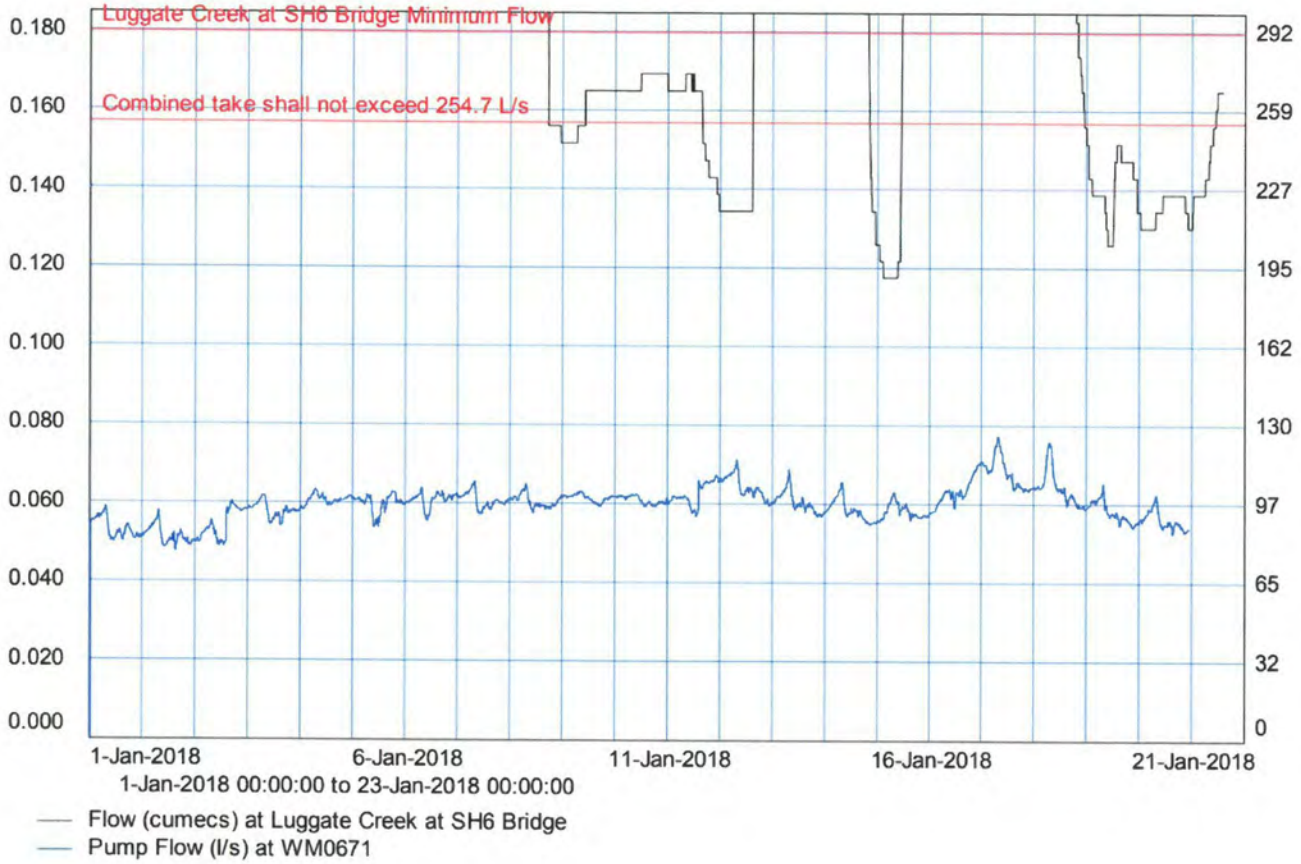
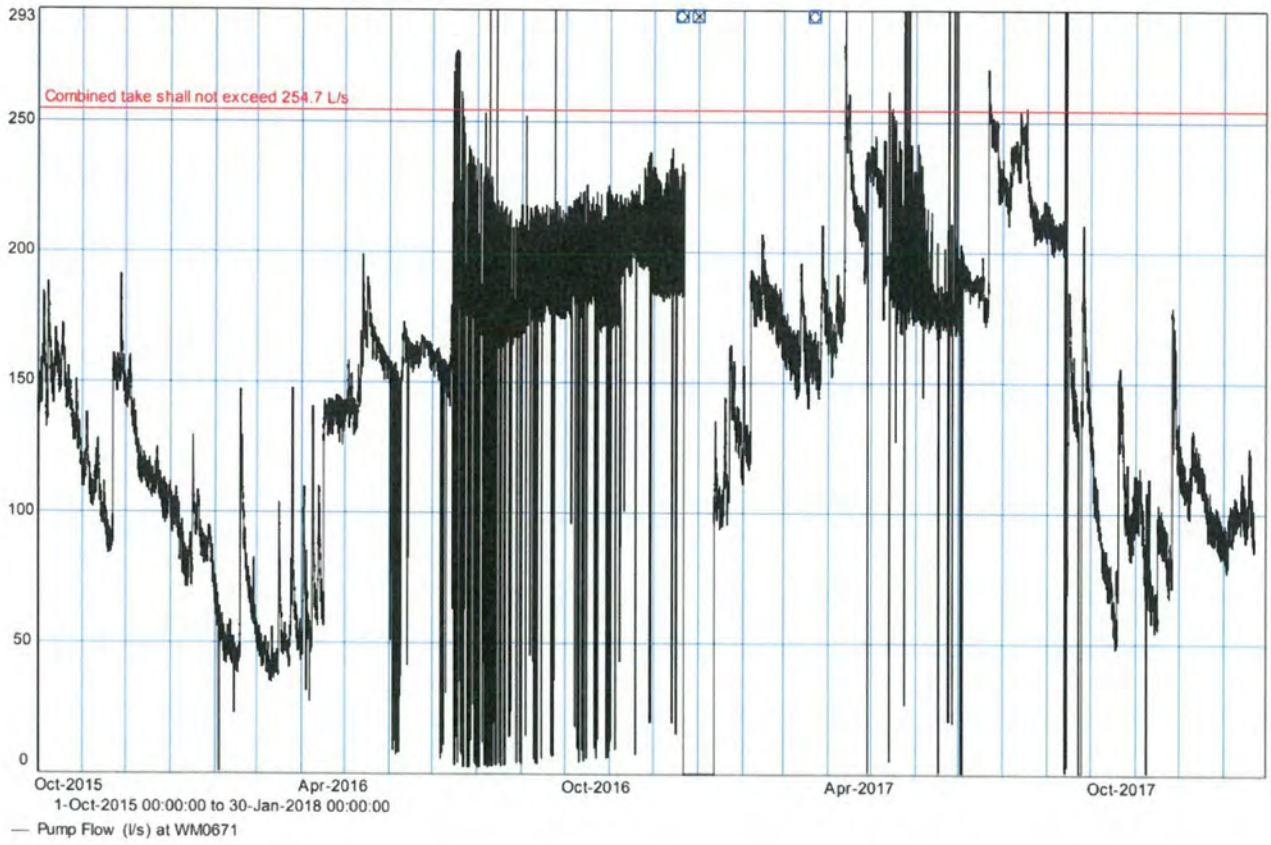
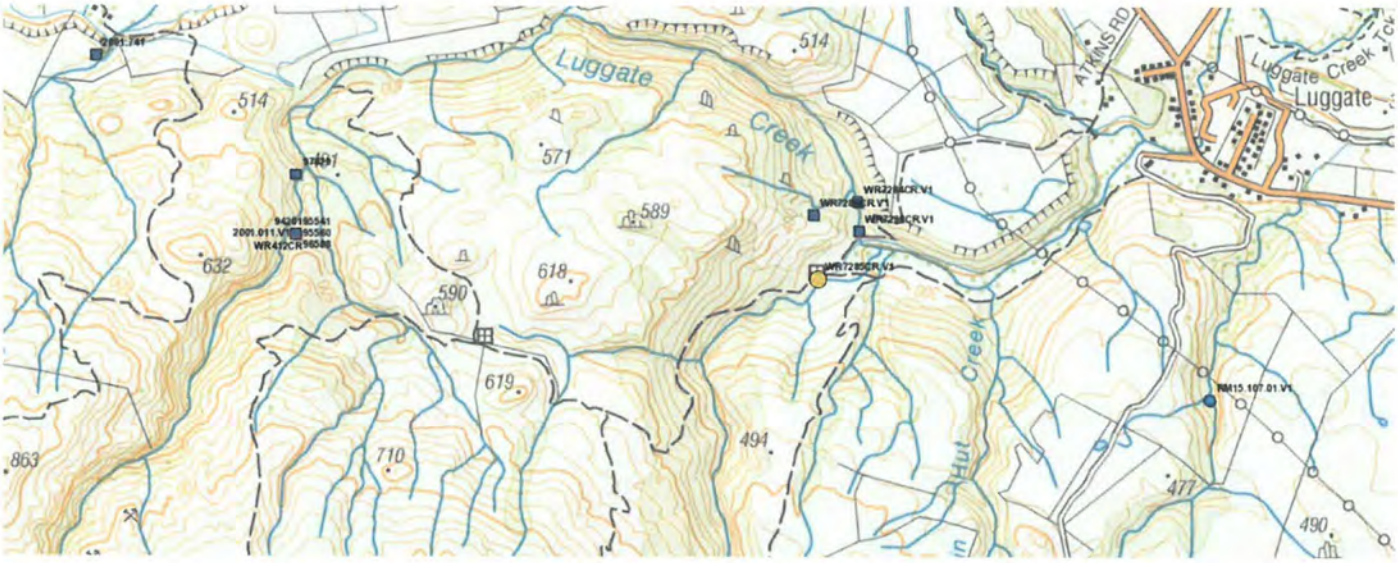


Figure 4: Flow Rate (l/s)



Photograph Log

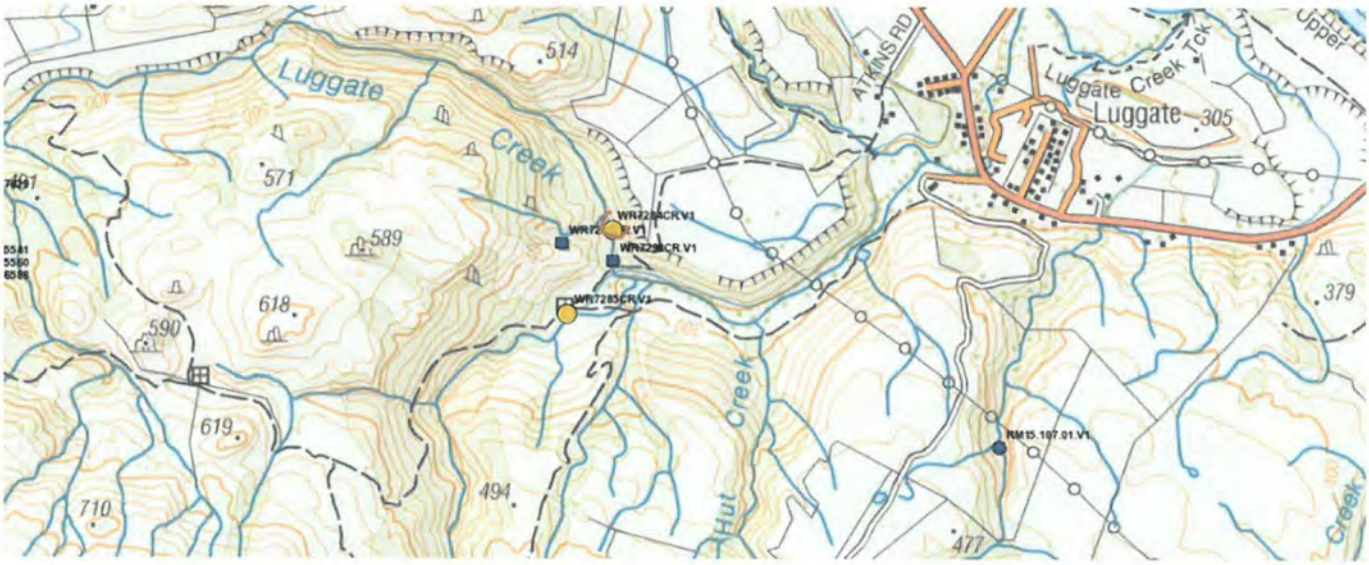


Photos below are taken where the yellow circle is – WR7285cr & WR7298cr, a tributary of Luggate Creek.

Just by the diversion.

Race for WR7285cr & WR7298cr, a tributary of Luggate Creek (to the right).

Race for WR7285cr & WR7298cr, a tributary of Luggate Creek – race enters pipe over Luggate Creek to join take from Luggate Creek.



Photos below are taken where WR7284cr & WR7286cr is abstracted from on Luggate Creek.

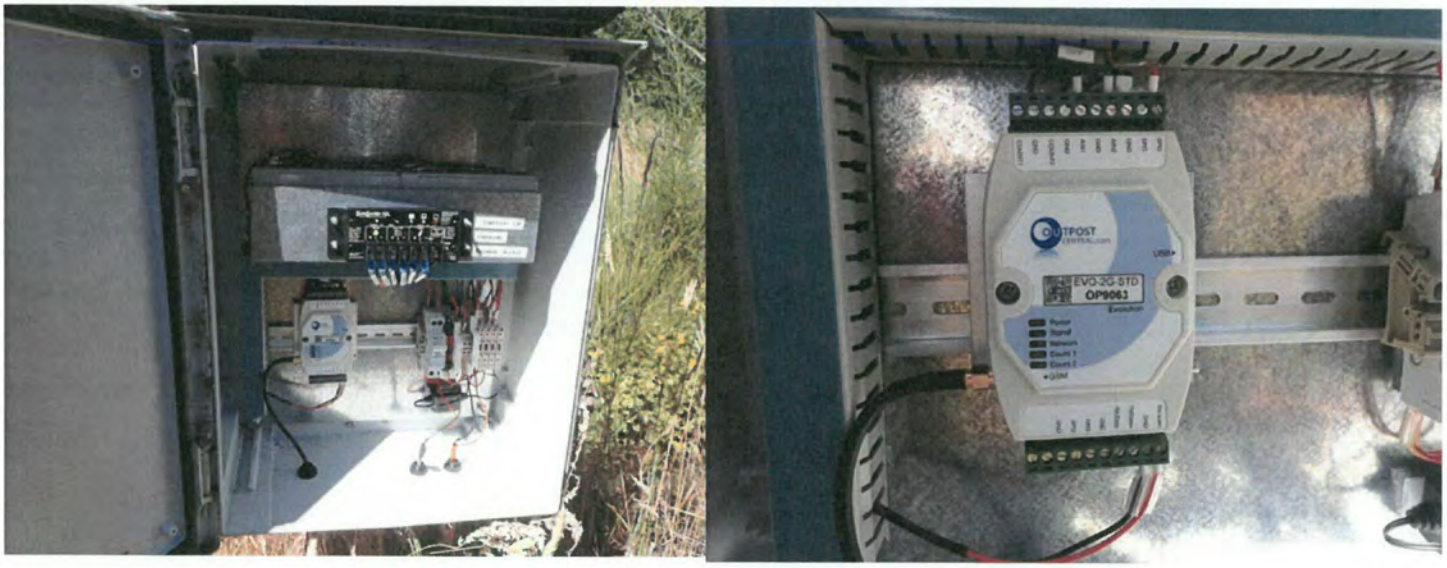
WR7284cr & WR7286cr is abstracted from on Luggate Creek.

WR7284cr & WR7286cr is abstracted from on Luggate Creek.

Water meter location for both takes E1303023 N5037743.

Water meter location for both takes E1303023 N5037743.

Water meter for both takes E1303023 N5037743.



Datalogger for both takes E1303023 N5037743.

WATER INSPECTION SHEET

Otago Regional Council

Inspector:	M. Heather (#519639)	Date:	8 February 2018	Catchment:	Luggate	Consent:	97803.v1 & 2008.519.v1
☑ Surface Take	☑ Deemed Permit	☐ Undertake		WM Number:	WM0487	Photos taken:	☑ Yes ☐ No

PROPERTY DETAILS

Consent holder	Lake McKay Station Limited				
Physical location:	Alice Burn			Mailing Address:	PO Box 36240, Northcote
Town / District:	Luggate			Town / District:	Auckland 0748
Telephone:				Mobile:	Colin - 021 952 988 Jock – 027 443 5031
Site Contact Name:	Colin Harvey Jock Meehan	Position:	Managing Director Farm Manager	Email:	colin.harvey@HIF.CO.NZ

Map ref. (from consent):	NZMS 260 G40:104-945	GPS of Point of Takes:	E	1300464 1301861	N	5032792 5033204	WEX GPS:	E 1302463	N 5035595

WATER USE

☑ Piped	☐ Open Channel	☐ Pumped	☑ Gravity Fed	Water use:	☐ Domestic	☑ Irrigation	☐ Stock Water	☐ Dairy Shed	☐ Hydro Generation
Pump:	☐ Mobile	☐ Stationary			☐ Communal	How Many		☐ Other	

MEASURING DEVICE – *Include Photos*

Water Measuring Device:	☑ Yes ☐ No	Measuring Device GPS:	E	1302487	N	5035594	Installer:	Waterforce	
Type of Device:	☐ Mechanical	☑ Magflow	☐ Ultrasonic	☐ Weir	☐ V-Notch	☐ Parshall Flume	☐ Flumemeter	☐ Water level Sensor	
Brand:	Krohn, Waterflux 3000	Serial No.:	S12315615 (Dn300)	Meter Reading:	84.69 L/s	Units:	☑ Litres	☐ Cubic m	

DATALOGGER/TELEMETRY

Datalogger:	☑ Yes ☐ No	Serial Number:	OP29643	Installer:	Waterforce	RS Form Received:	21 November 2013
Brand:	Outpost, Wasp2	Datalogger Reading:	84.69 L/s	Units:	☐ Litres	☑ Cubic m	
Telemetry Installed:	☑ Yes ☐ No	Telemetered to ORC?	☑ Yes ☐ No	Consent Telemetry?	☑ Yes ☐ No		
Brand:	Outpost, Wasp2	Serial Number:	OP29643	Data Service Provider:	Watercheck		

VERIFICATION

Date of last verification:	20 November 2013	Verified By:	LB Wickham	Company	Waterforce
How it was Verified?	☑ Reference Meter	☐ Gaugings	☐ Volumetric Method	☐ Other (as approved)	

DATA – *For Audit Use, Include Hilltop graphs*

Date Data Last Received:	21 January 2018	Rate Compliant:	☑ Yes ☐ No	Volume Compliant	☑ Yes ☐ No
Comments?	Waterforce carried out work to resolve the high reading issue on 20 January 2018. Data is now within consent limits and compliant.				

Compliance use

Consent Holder Correct?	☑ Yes ☐ No
Location Compliant:	☑ Yes ☐ No
Use Compliant:	☑ Yes ☐ No
Metering Compliant:	☑ Yes ☐ No
Verification Current?	☑ Yes ☐ No
Exemption Required?	☐ Yes ☐ No
Is Non-Standard Install Required?	☐ Yes ☐ No

Comments:

WEX 0047 issued April 2013. Consents expire **1 October 2021**. Opus (Mike Kelly) is working on the consent renewals for McKay Station. The next verification of water measuring device is due by **30 November 2018**.

Waterforce carried out work to resolve the high reading issue on 20 January 2018. Data is now within consent limits and compliant. The datalogger has been replaced (new info. above). It is evident that air can easily get in the system due to a number of break tanks along the system where the water can get aerated before entering the 300mm dia pipe again. The flowmeter had to be installed far down the line so the telemetry could be connected in cell phone reception. The screens are cleaned as and when required but it is generally every 2 weeks. Note two out of the four permitted takes are not used (one on Tin Hut Creek and the other on a tributary of the Aliceburn). Refer to map overleaf.

Please keep an eye on the Luggate Creek flows on the ORC website: **https://www.orc.govt.nz/managing-our-environment/water/water-monitoring-and-alerts/upper-clutha/luggate-creek-and-sh6-bridge**. Ensure you work with Criffel Water Ltd (Criffel Station) at maintaining minimum flows in Luggate Creek.

If Waterforce has carried out tests to confirm the max capacity the system can deliver it is worthwhile submitting this inspection formally to the ORC (compliance@orc.govt.nz) if it is within the consent limits of 169.8 L/s / 400 m^3/hr.

WATER INSPECTION SHEET

Regional Council

Overall compliance grade

i	Compliant	☑	No follow up required:		☑
Ii	Non-Compliant – Minor (no adverse effects)	☐	Follow up phone call / letter:		☐
iii	Non-Compliant – Significant (no adverse effects)	☐	Follow up Inspection required:		☐
Iv	Non-Compliant – Minor Actual or Potential Effects	☐	Enforcement Action : Infringement / Prosecution:		☐
V	Non-Compliant – Significant Actual or Potential Effects	☐	Date follow up action due:		☐
Project Code:	CM13790		Account Code:	4876	

Figure 1: Flow at Luggate Creek (cumecs) and minimum flow level

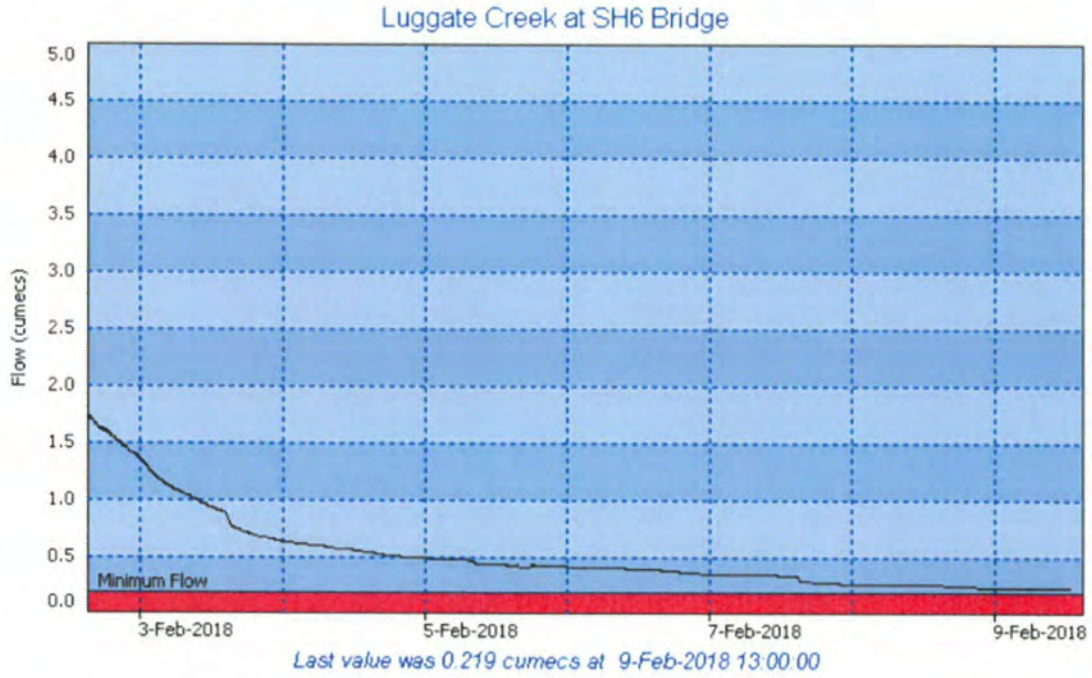


Figure 2: Flow Rate (l/s) v Min Flow Levels in Luggate Creek (cumecs)

Site: WM0487 (zero usage from July 2017 till now). High reading since fixed. **Consents:** 2008.519 & 97803

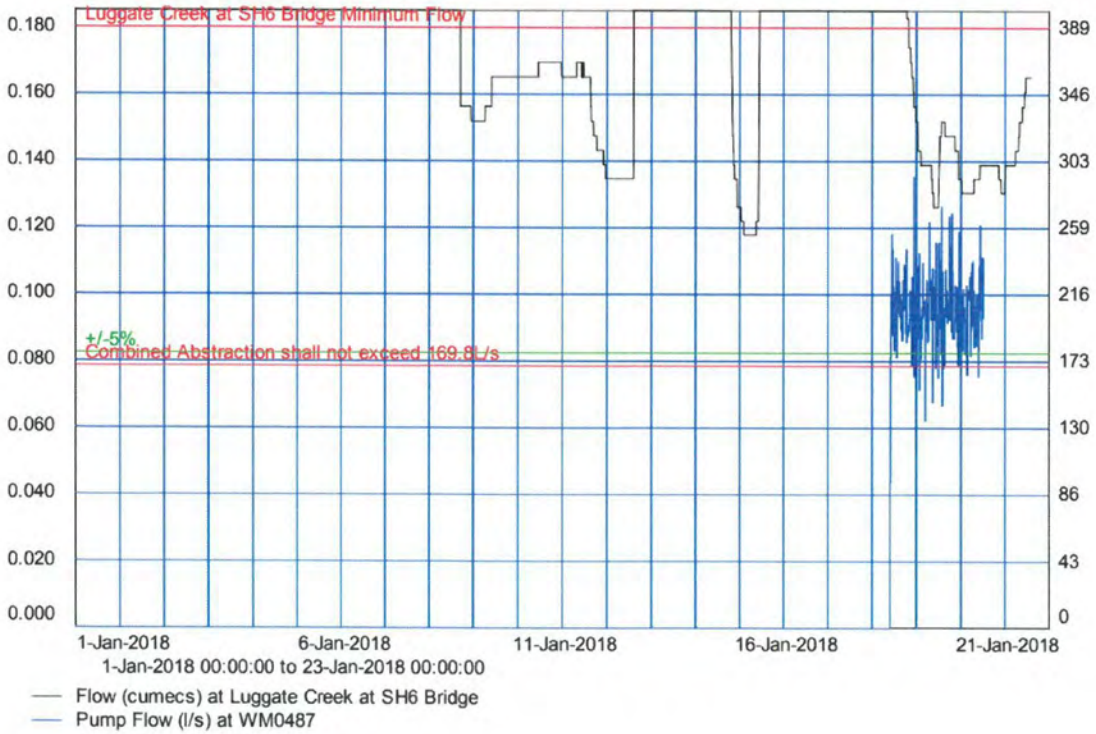
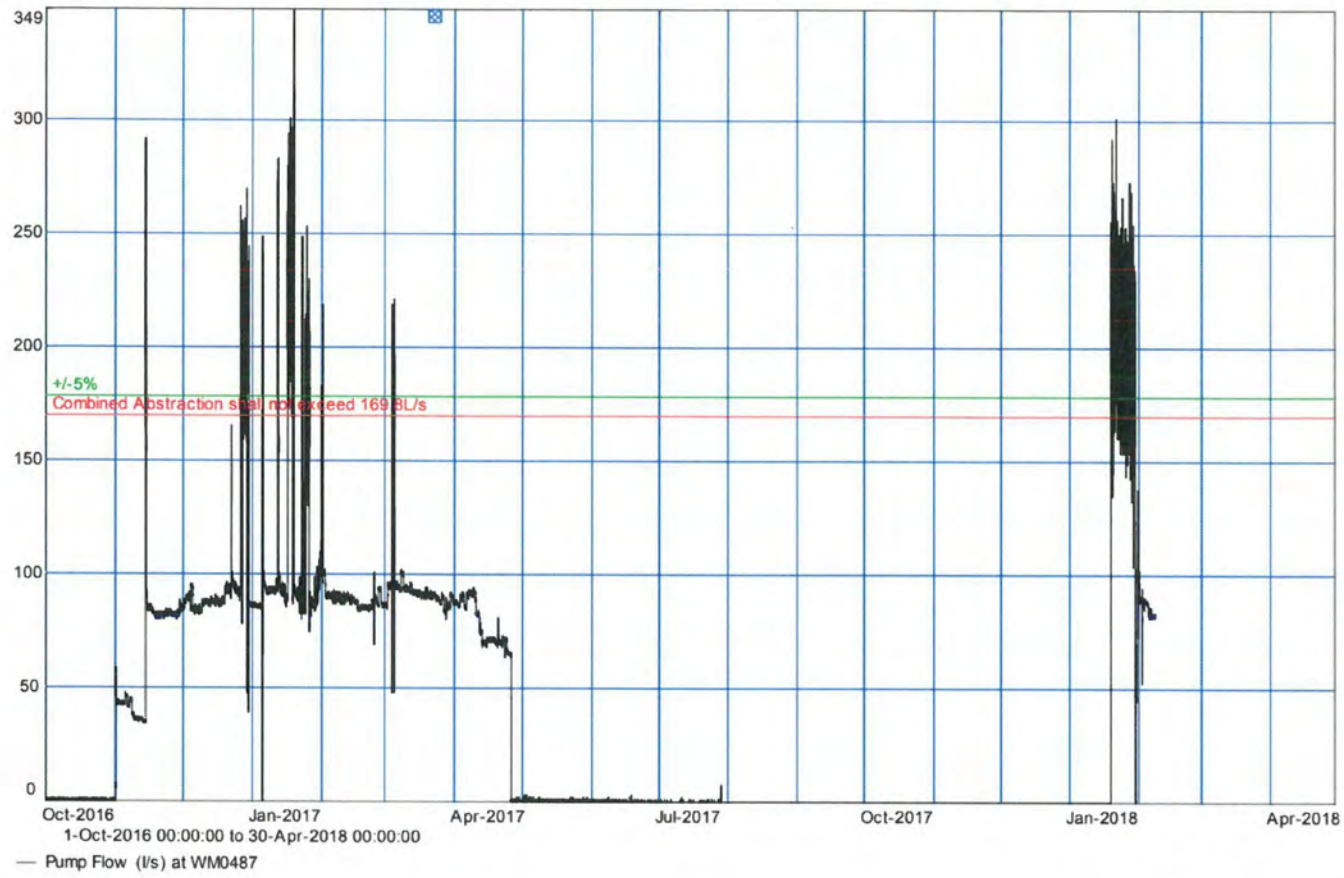


Figure 3: Flow Rate (l/s)



Some work done by Waterforce on 30th January – note work done to fix high reading

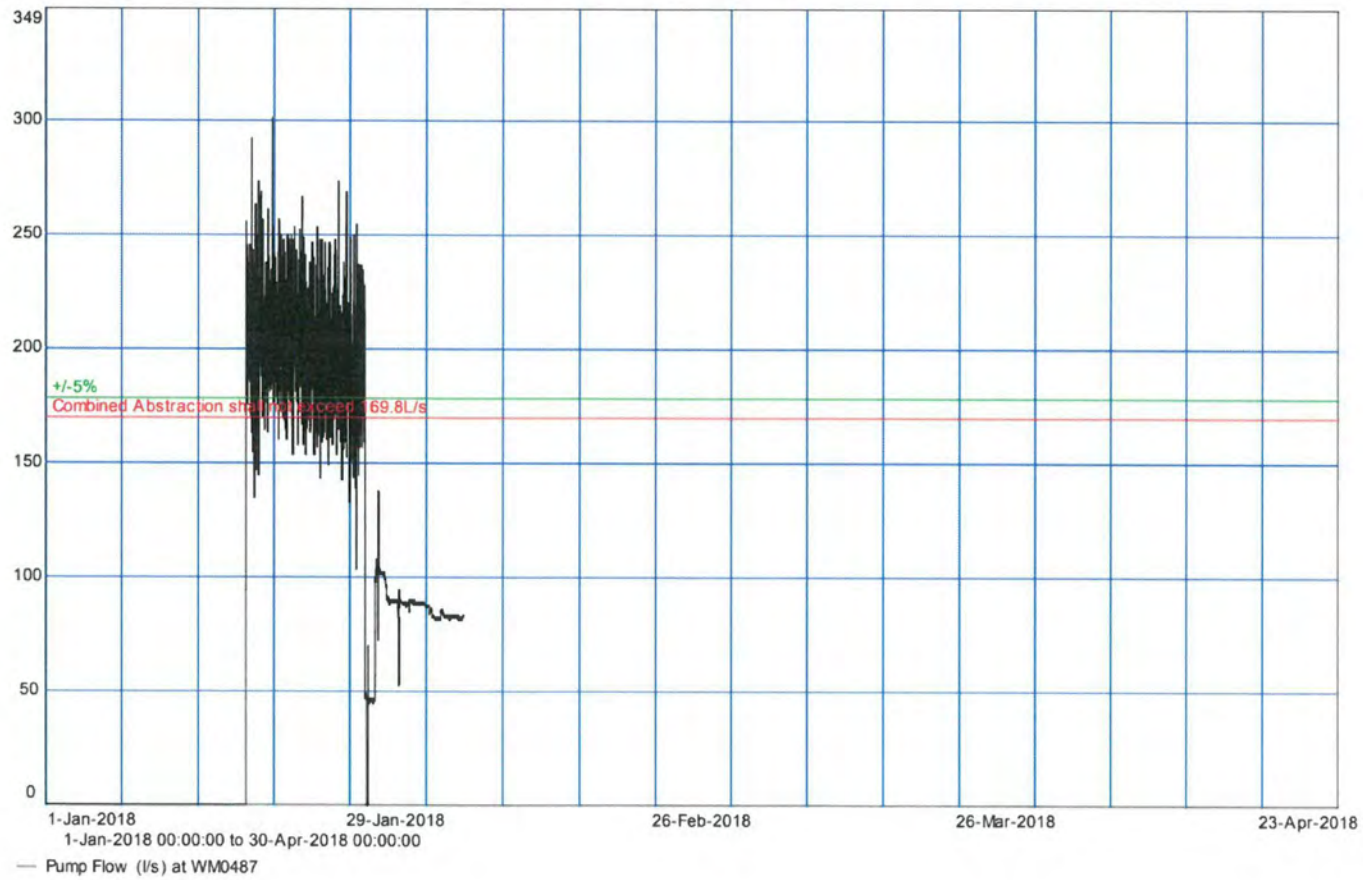
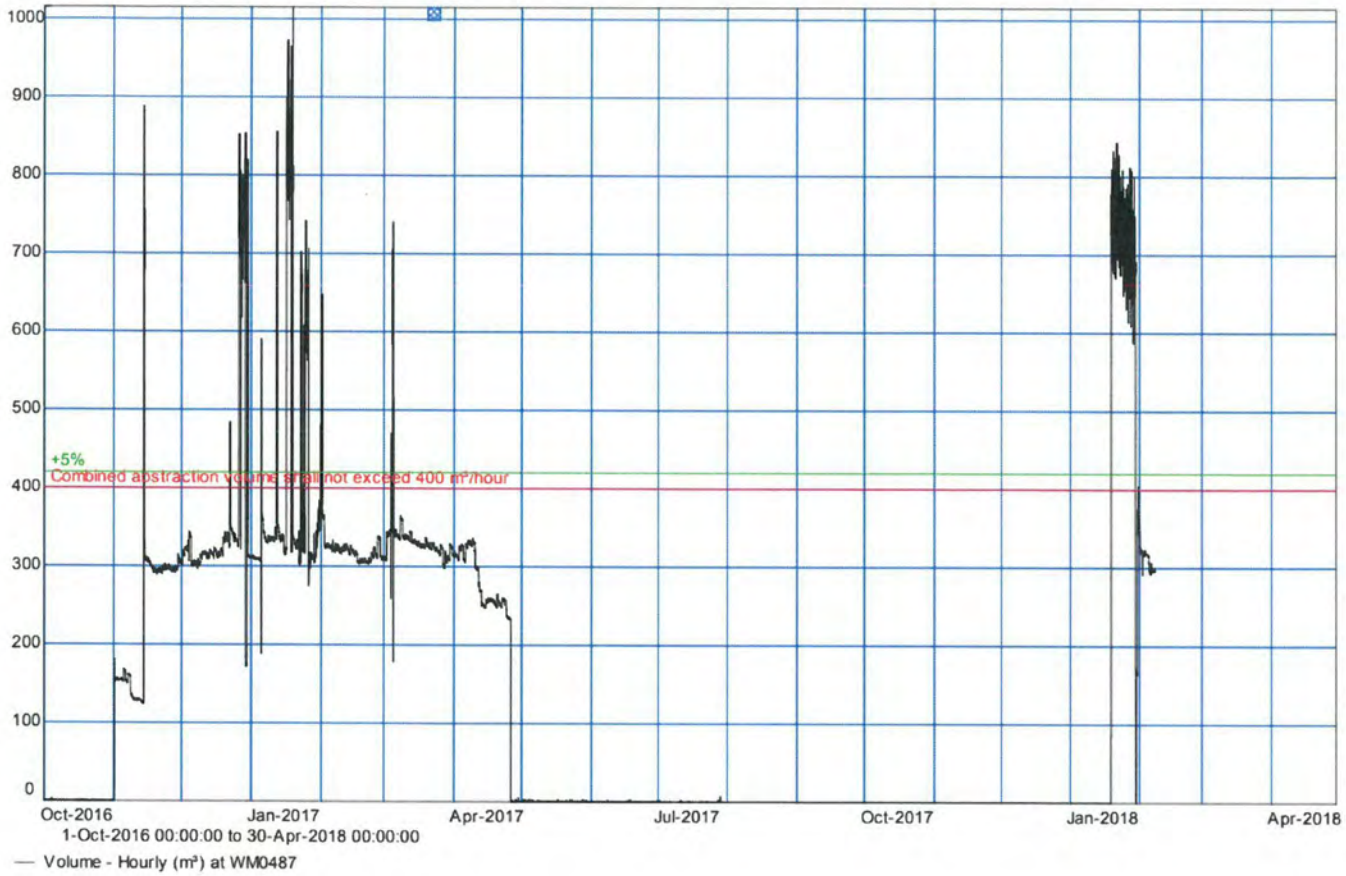


Figure 4: Hourly Rate (m³/hr)



Photograph Log

2008.519 & 97803 Aliceburn River, main intake.

Upstream of intake.

2008.519 & 97803 Aliceburn River, main intake.

2008.519 & 97803 Aliceburn River, main intake.

2008.519 & 97803 Aliceburn River, main pipeline to overflow tank.

2008.519 & 97803 Aliceburn River, main pipeline to overflow tank.

2008.519 & 97803 Aliceburn River overflow tank – overflow goes back in to the Aliceburn River. Overflow located at E1300519 N5032996.

The second most western permitted take location (trib of the Aliceburn) is not in use or set up to take any water.

Water is being abstracted under Permit 97803 at this location (trib of Aliceburn) E1301861 N5033204. Screen in place and junction box / break tank.

Flowmeter box.

Flowmeter.

Flowmeter.

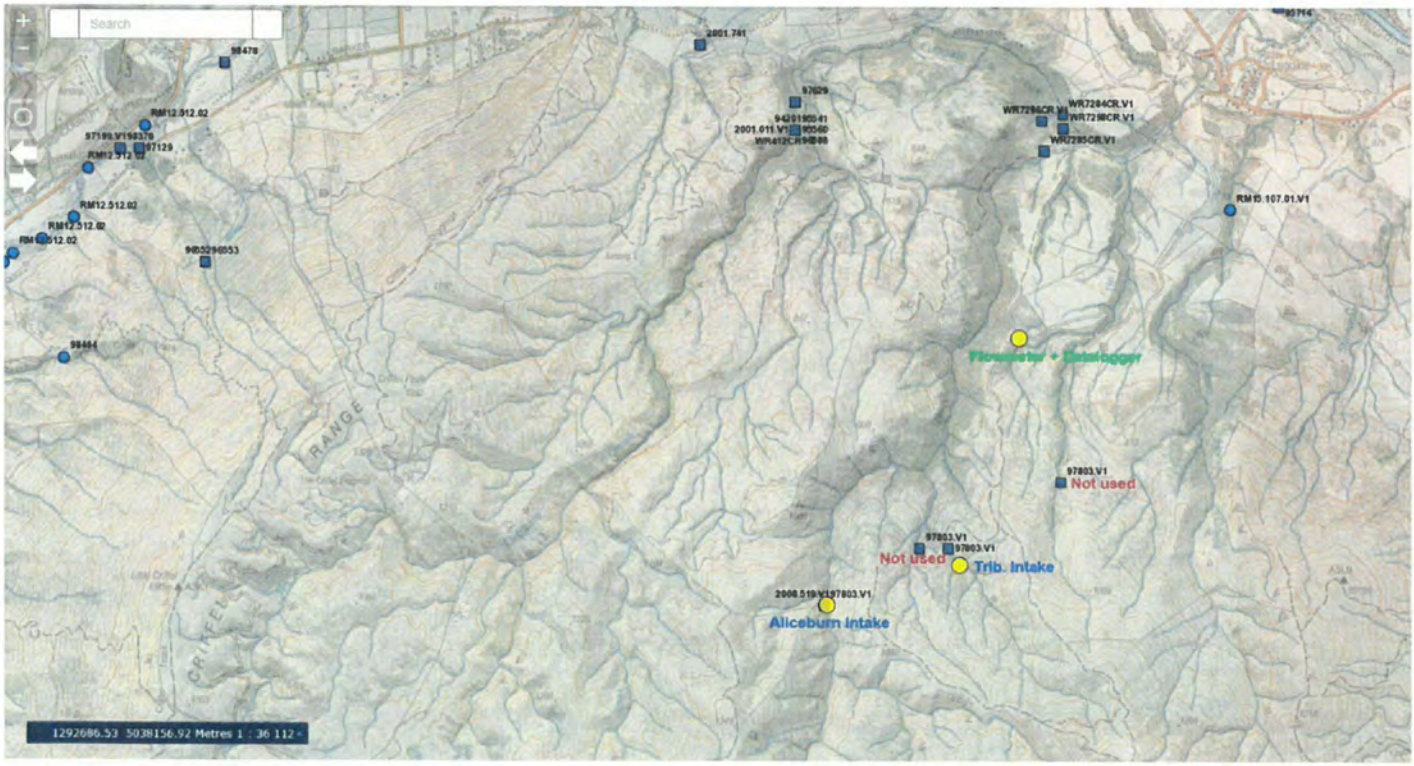
Flowmeter and datalogger.

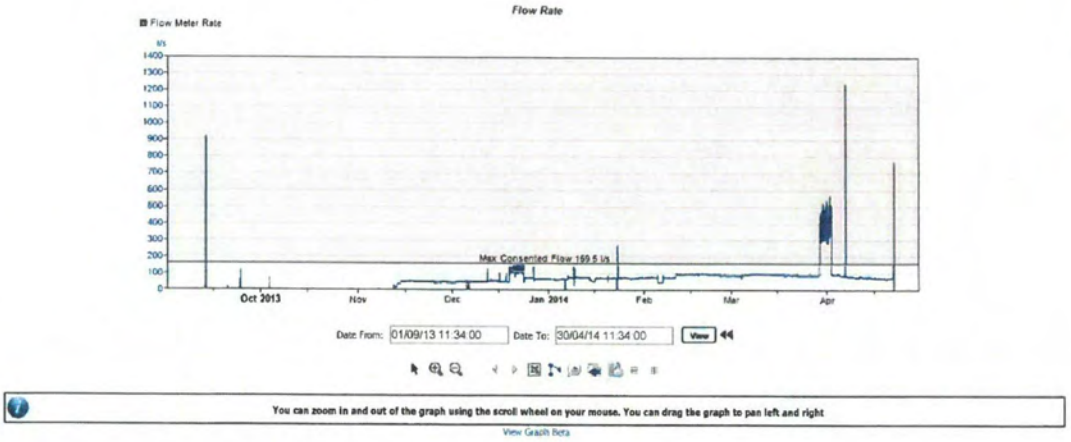
New datalogger installed.

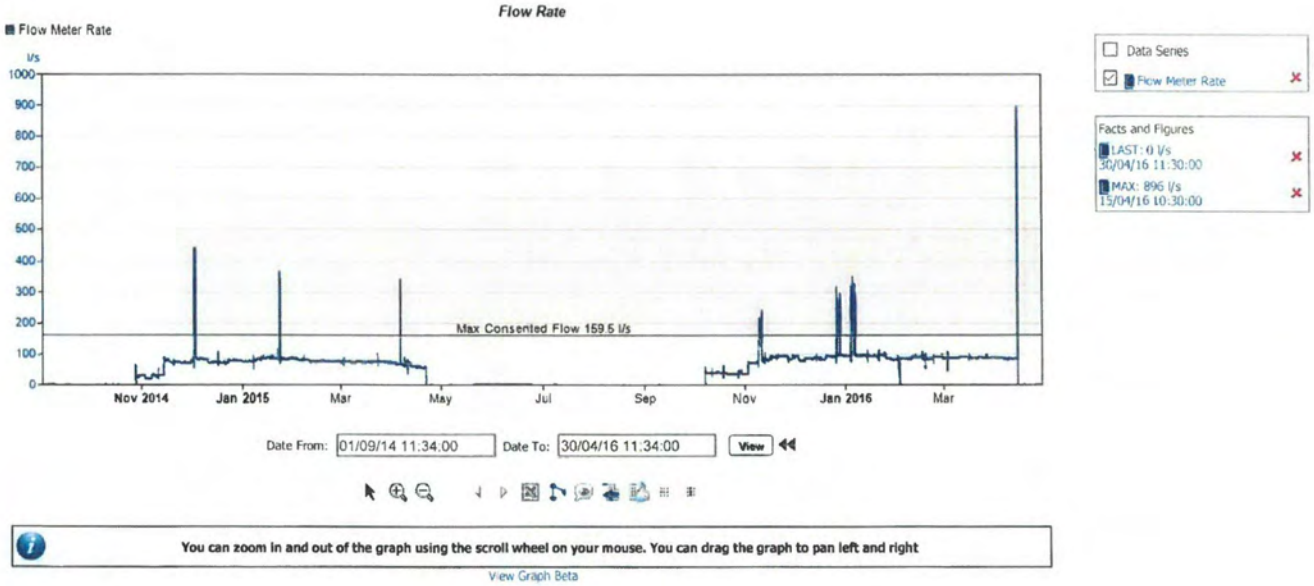
Flowmeter and datalogger location E1302487 N5035594.

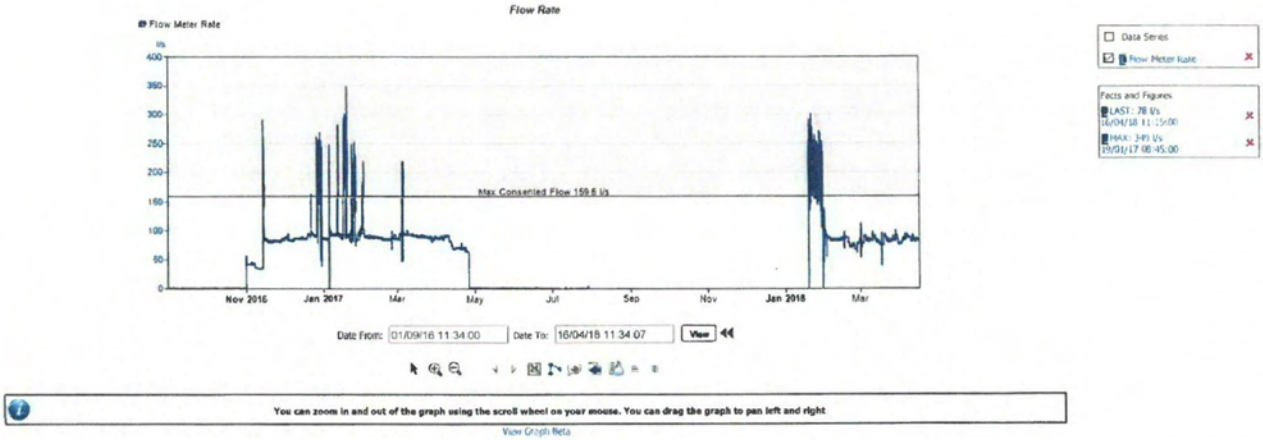
Filters before water goes through irrigation system.

Break tank.




Flow Rate
Flow Meter Rate
l/s
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
Max Consented Flow 159.5 l/s
Oct 2013
Nov
Dec
Jan 2014
Feb
Mar
Apr
Date From: 01/09/13 11:34:00
Date To: 30/04/14 11:34:00
View
You can zoom in and out of the graph using the scroll wheel on your mouse. You can drag the graph to pan left and right
View Graph Beta
Data Series
Flow Meter Rate
Facts and Figures
LAST: 0 l/s
30/04/14 11:30:00
MAX: 1,242 l/s
05/04/14 22:19:33


Flow Rate
Flow Meter Rate
l/s
1000
900
800
700
600
500
400
300
200
100
0
Max Consented Flow 159.5 l/s
Nov 2014
Jan 2015
Mar
May
Jul
Sep
Nov
Jan 2016
Mar
Date From: 01/09/14 11:34:00
Date To: 30/04/16 11:34:00
View
You can zoom in and out of the graph using the scroll wheel on your mouse. You can drag the graph to pan left and right
View Graph Beta
Data Series
Flow Meter Rate
Facts and Figures
LAST: 0 l/s
30/04/16 11:30:00
MAX: 896 l/s
15/04/16 10:30:00


Flow Rate
Flow Meter Rate
l/s
400
350
300
250
200
150
100
50
0
Max Consented Flow 159.6 l/s
Nov 2016
Jan 2017
Mar
May
Jul
Sep
Nov
Jan 2018
Mar
Date From: 01/09/16 11:34:00
Date To: 16/04/18 11:34:07
View
You can zoom in and out of the graph using the scroll wheel on your mouse. You can drag the graph to pan left and right
View Graph Beta
Data Series
Flow Meter Rate
Facts and Figures
LAST: 78 l/s
16/04/18 11:15:00
MAX: 349 l/s
19/01/17 08:45:00

WATER INSPECTION SHEET

Otago Regional Council

Inspector:	M. Heather #522062	Date:	26 January 2018	Catchment:	Luggate	Consent:	WR7284cr/ WR7285cr/ WR7286cr/ WR7298cr
☑ Surface Take	☑ Deemed Permit	☑ Undertake		WM Number:	WM0671	Photos taken:	☑ Yes ☐ No

PROPERTY DETAILS

Consent holder	Luggate Irrigation Company Limited		
Physical location:	Luggate Creek	Mailing Address:	C/- Colin Harvey, PO Box 36240, Northcote,
Town / District:		Town / District:	Auckland 0748
Telephone:		Mobile:	Colin - 021 952 988 Jock Meehan – 027 443 5031
Site Contact Name:	Colin Harvey Jock Meehan	Position:	Owner Farm Manager
		Email:	colin.harvey@hif.co.nz

Map ref. (from consent):		GPS of Point of Take: WR7285cr & WR7298cr	E	1302755	N	5037562	WEX GPS: E 1303023 N 5037743
		GPS of Point of Take: WR7284cr & WR7286cr		1302961		5037944	

WATER USE

☐ Piped	☑ Open Channel	☐ Pumped	☐ Gravity Fed	Water use:	☐ Domestic	☑ Irrigation	☐ Stock Water	☐ Dairy Shed	☐ Hydro Generation
Pump:	☐ Mobile	☐ Stationary			☐ Communal	How Many		☐ Other	

MEASURING DEVICE – *Include Photos*

Water Measuring Device:	☑ Yes ☐ No	Measuring Device GPS:	E 1303023	N 5037743	Installer:	Waterforce	
Type of Device:	☐ Mechanical	☐ Magflow	☐ Ultrasonic	☐ Weir	☐ V-Notch	☑ Parshall Flume	☐ Flumemeter	☑ Water level Sensor
Brand: Krohne	Serial Number: 33443209	Meter Reading: 69.7 l/s	Units: ☑ Litres ☐ Cubic m				

DATALOGGER/TELEMETRY

Datalogger:	☑ Yes ☐ No	Serial Number:	OP9063	Installer:	Waterforce	RS Form Received:	enter a date.
Brand:	Outpost	Datalogger Reading:		Units:	☐ Litres	☑ Cubic m	
Telemetry Installed:	☑ Yes ☐ No	Telemetered to ORC?	☑ Yes ☐ No	Consent Telemetry?	☑ Yes ☐ No		
Brand:	Evo-2G-STD	Serial Number:		Data Service Provider:			

VERIFICATION

Date of last verification:		Verified By:		Company
How it was Verified?	☐ Reference Meter	☐ Gaugings	☐ Volumetric Method	☐ Other (as approved)

DATA – *For Audit Use, Include Hilltop graphs*

Date Data Last Received:	21 January 2018	Rate Compliant:	☑ Yes ☐ No	Volume Compliant	☑ Yes ☐ No
Comments?	Data has been compliant since late September 2017. Please keep an eye on minimum flow levels in Luggate Creek.				

Compliance use

Consent Holder Correct?	☑ Yes ☐ No	Comments:
Location Compliant:	☑ Yes ☐ No	Verification next due 31 December 2018 according to Data team. Combined flow not to exceed 254.7 L/s. WEX 0162. OPUS (Mike Kelly) is working on the renewal of these consents. WR7285cr & WR7298cr – the water from here is diverted in to a race (which can be diverted back in to the creek). This water then enters a pipe over Luggate Creek and feeds in to a race that is also fed by the WR7284cr & WR7286cr take from Luggate Creek. At the time of visit the gate valve on the WR7284cr & WR7286cr take was closed to aid with replenishing Luggate creek. Water from the race which combines the two takes water (WR7285cr & WR7298cr and WR7284cr & WR7286cr) was also being diverted back in to Luggate Creek below the meter at the time of visit. Luggate Creek levels were above minimum flow. Continue to work with Criffel Water Ltd to maintain flows above minimum flow levels in Luggate Creek.
Use Compliant:	☑ Yes ☐ No	
Metering Compliant:	☑ Yes ☐ No	
Verification Current?	☑ Yes ☐ No	
Exemption Required?	☐ Yes ☑ No	
Is Non-Standard Install Required?	☐ Yes ☑ No	

Overall compliance grade

i	Compliant	☑	No follow up required: ☑
ii	Non-Compliant – Minor (no adverse effects)	☐	Follow up phone call / letter: ☐
iii	Non-Compliant – Significant (no adverse effects)	☐	Follow up Inspection required: ☐
iv	Non-Compliant – Minor Actual or Potential Effects	☐	Enforcement Action : Infringement / Prosecution: ☐
v	Non-Compliant – Significant Actual or Potential Effects	☐	Date follow up action due: ☐
Project Code:	CM20230		Account Code: 4876

Figure 1: Flow at Luggate Creek (cumecs) and minimum flow level at the time of the Audit

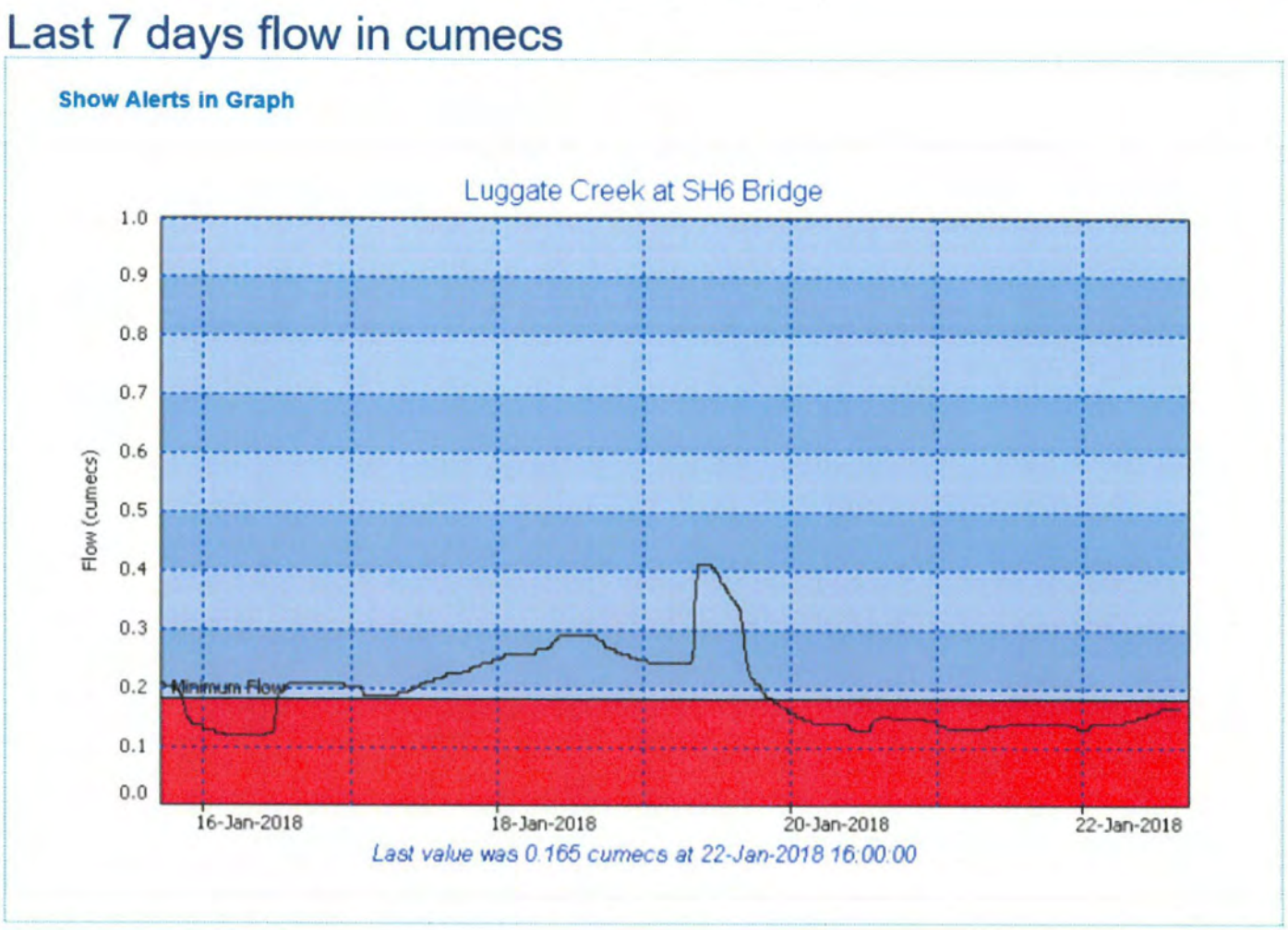


Figure 2: Flow at Luggate Creek (cumecs) and minimum flow level post Audit

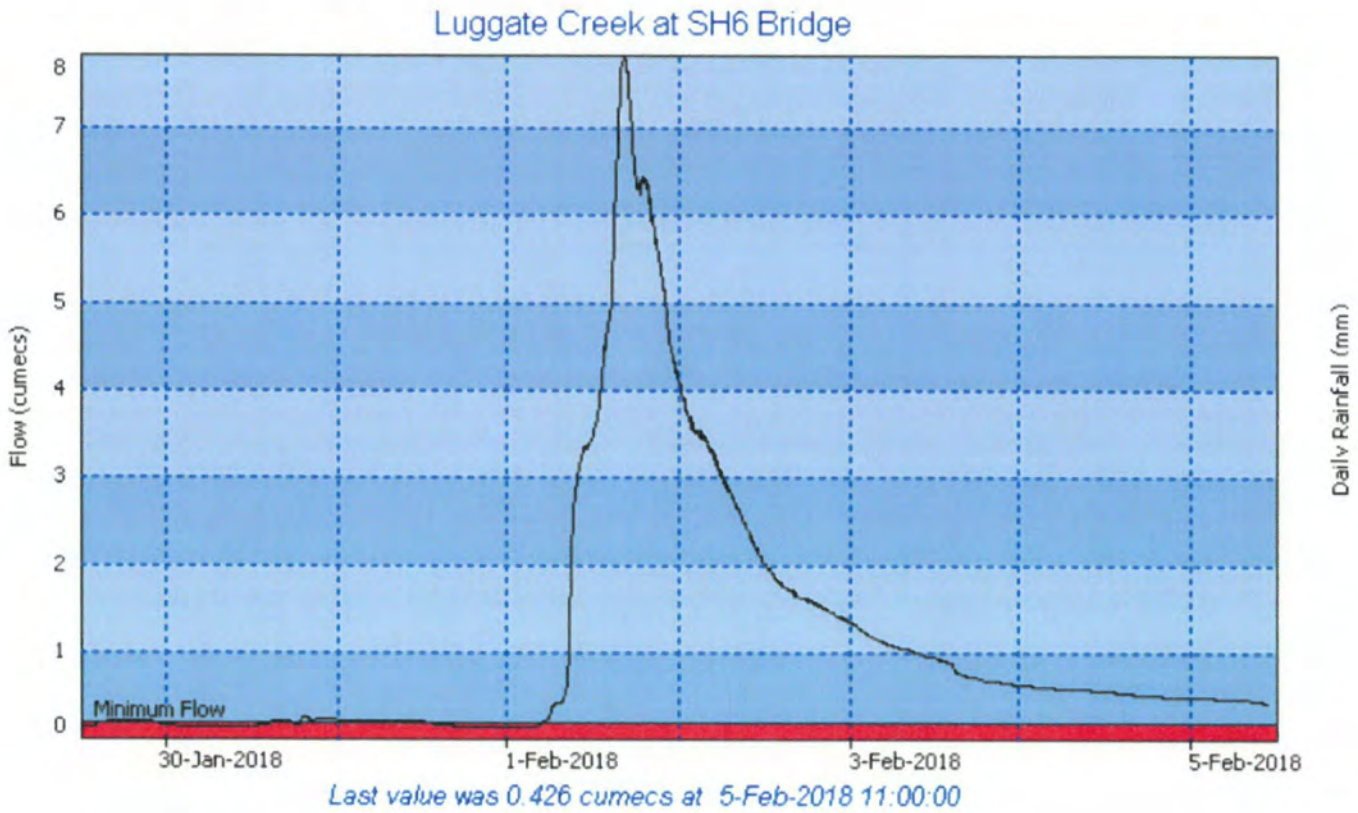


Figure 3: Flow Rate (l/s) v Min Flow Levels in Luggate Creek (cumecs)

Site: WM0671 **Consents:** WR7284CR, WR7285CR, WR7286CR & WR7298CR

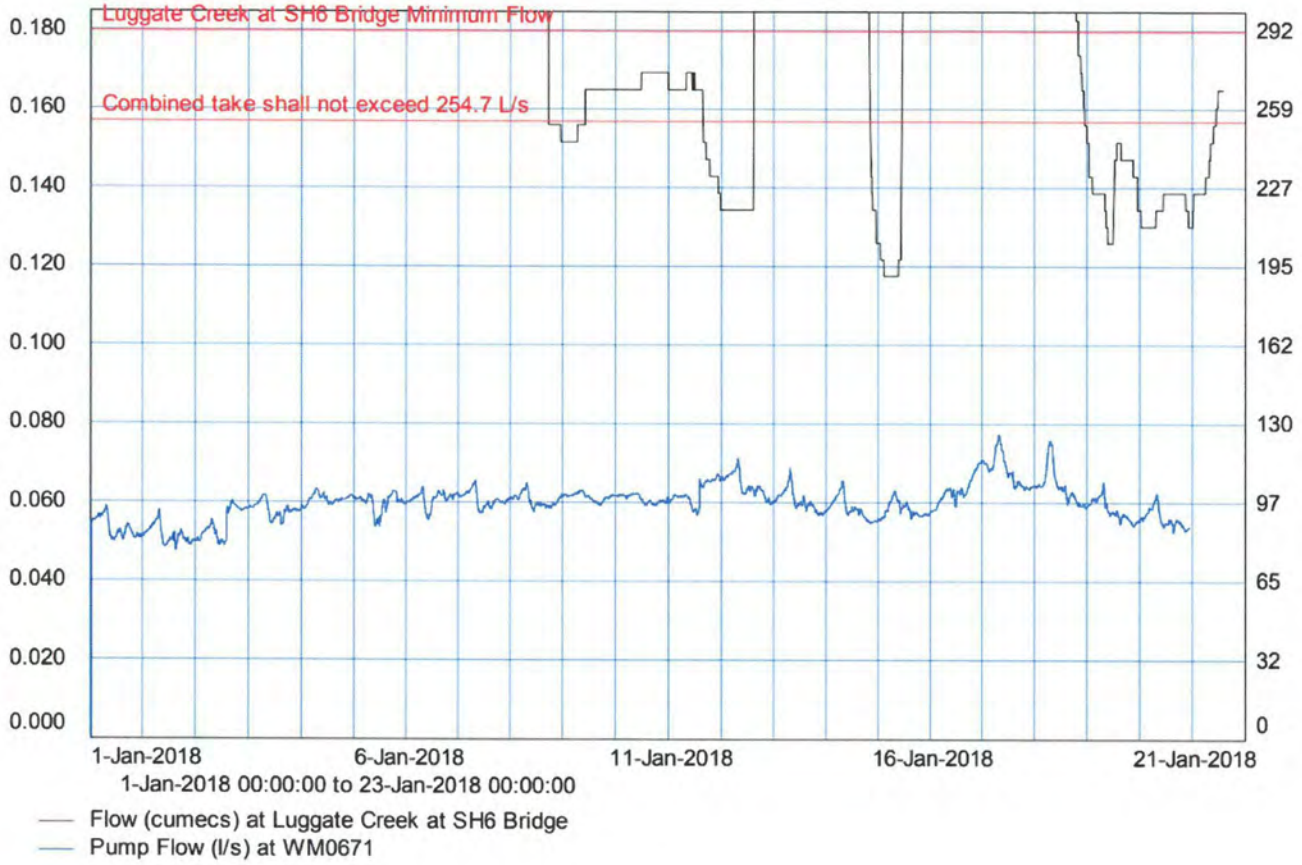
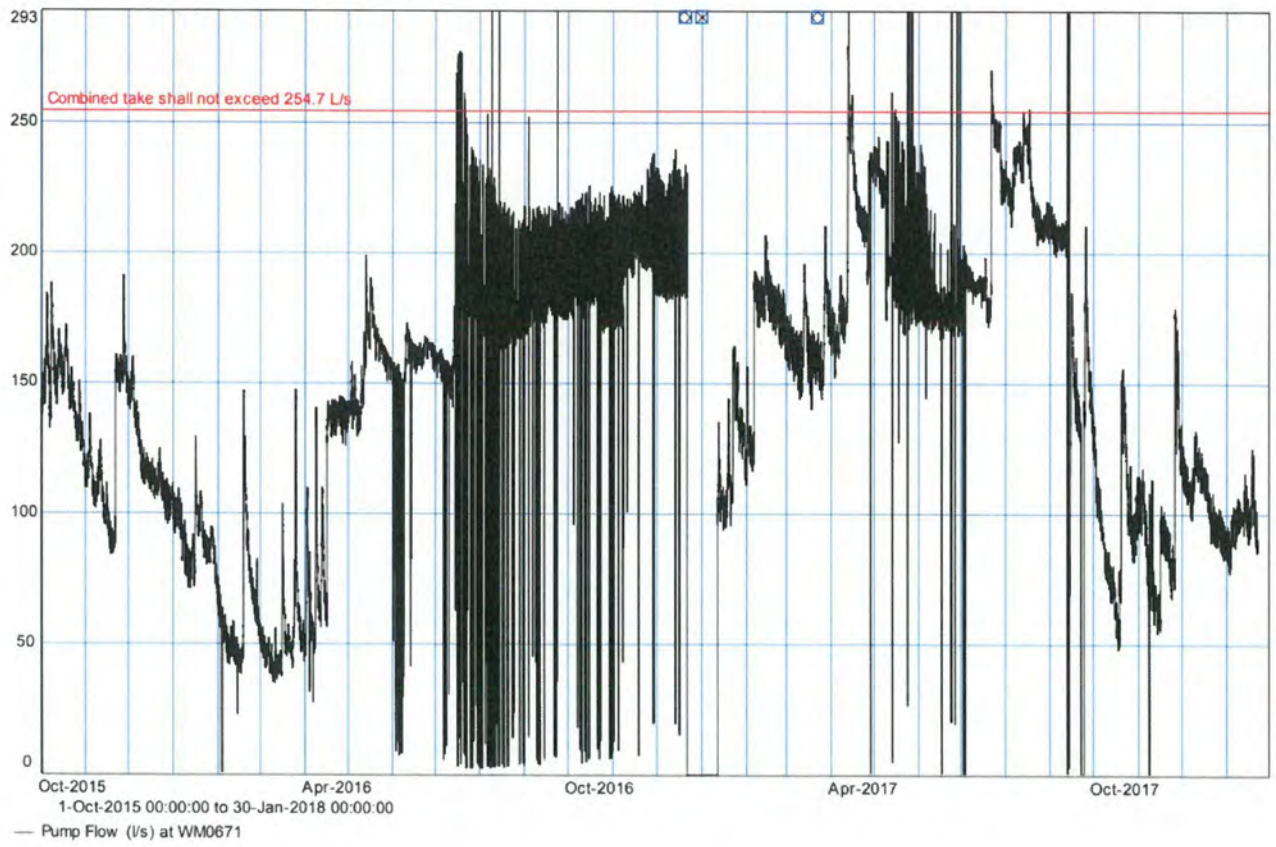
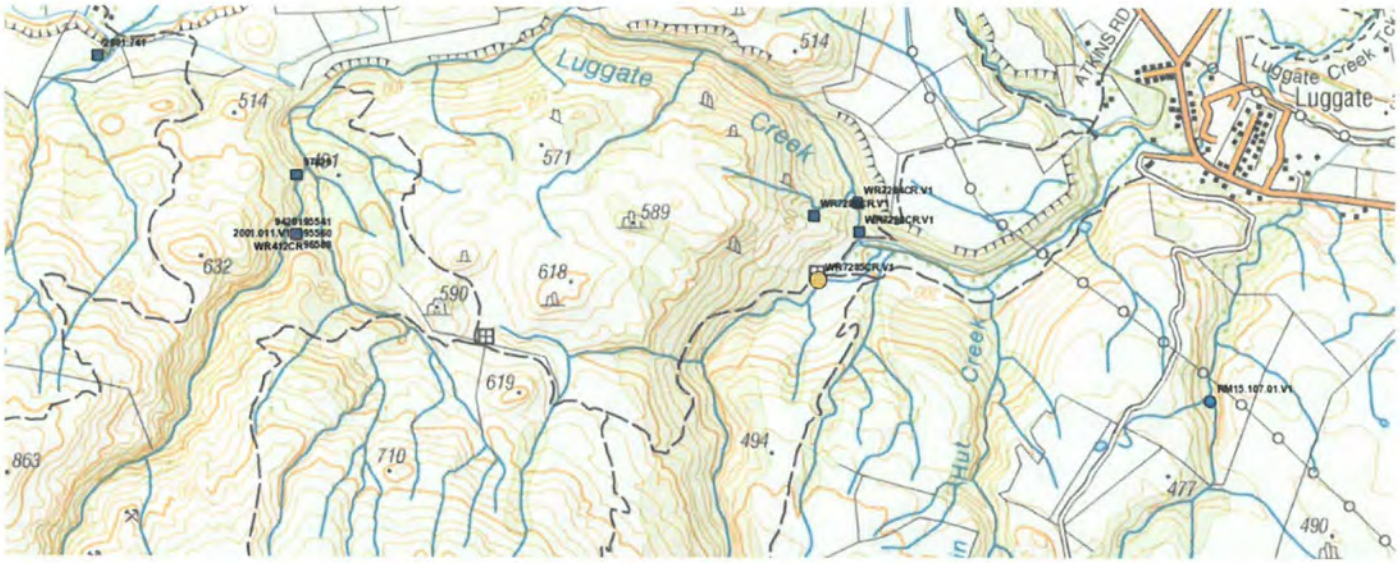


Figure 4: Flow Rate (l/s)



Photograph Log

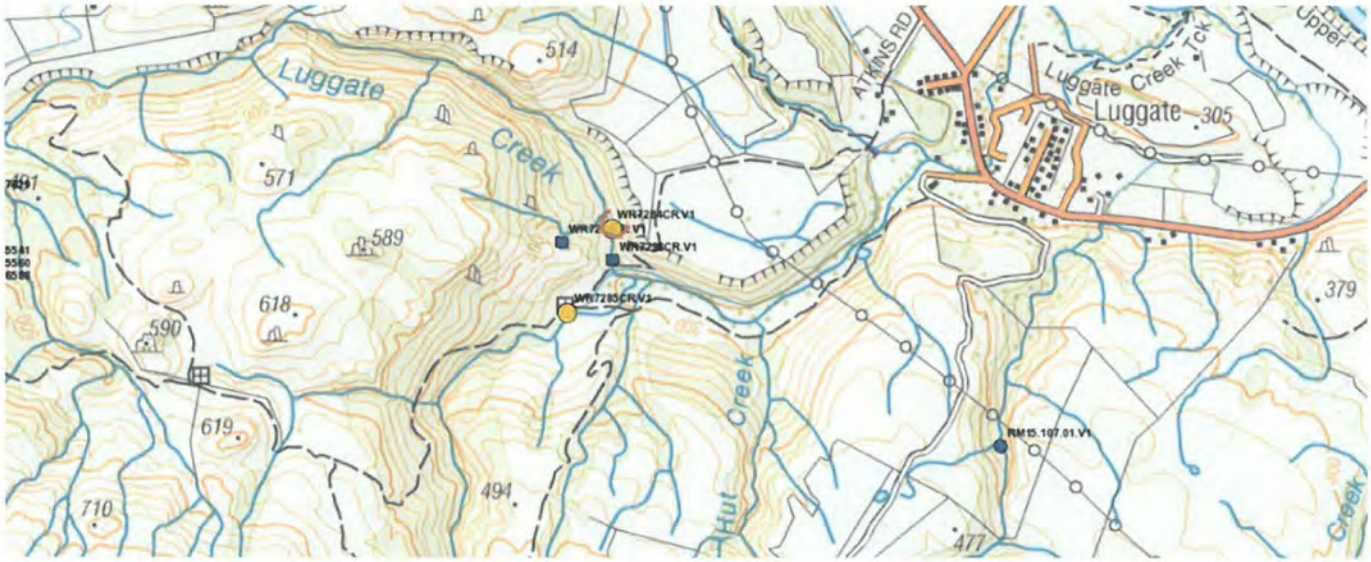


Photos below are taken where the yellow circle is – WR7285cr & WR7298cr, a tributary of Luggate Creek.

Just by the diversion.

Race for WR7285cr & WR7298cr, a tributary of Luggate Creek (to the right).

Race for WR7285cr & WR7298cr, a tributary of Luggate Creek – race enters pipe over Luggate Creek to join take from Luggate Creek.



Photos below are taken where WR7284cr & WR7286cr is abstracted from on Luggate Creek.

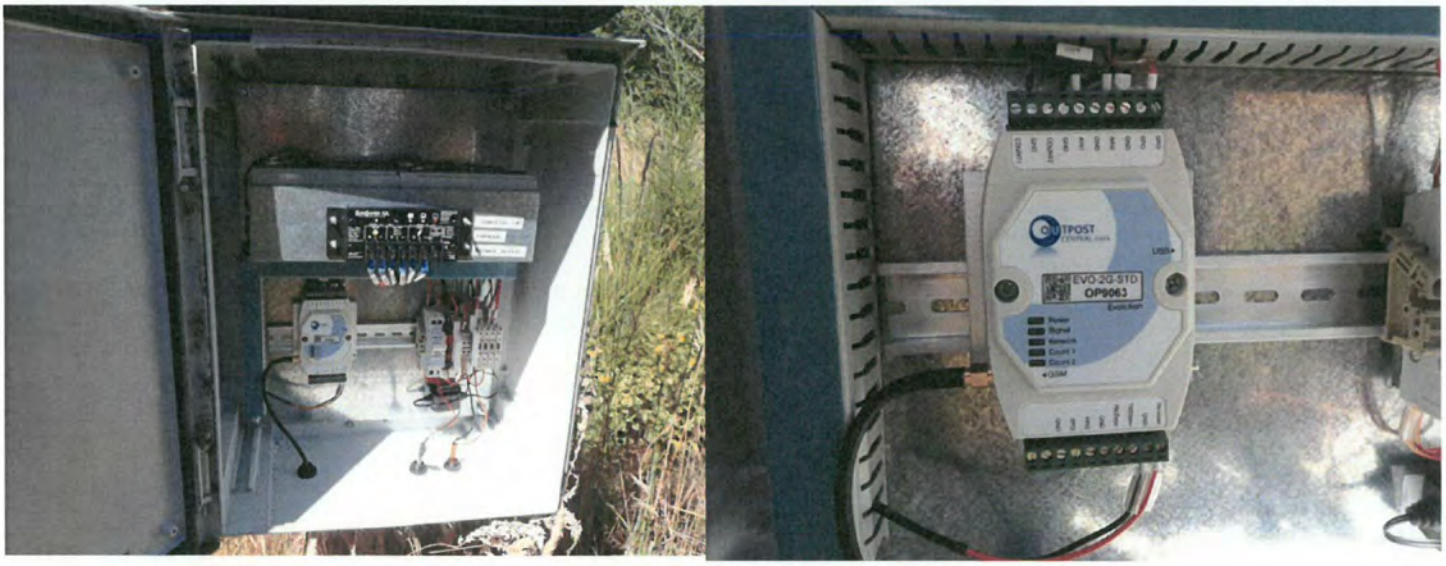
WR7284cr & WR7286cr is abstracted from on Luggate Creek.

WR7284cr & WR7286cr is abstracted from on Luggate Creek.

Water meter location for both takes E1303023 N5037743.

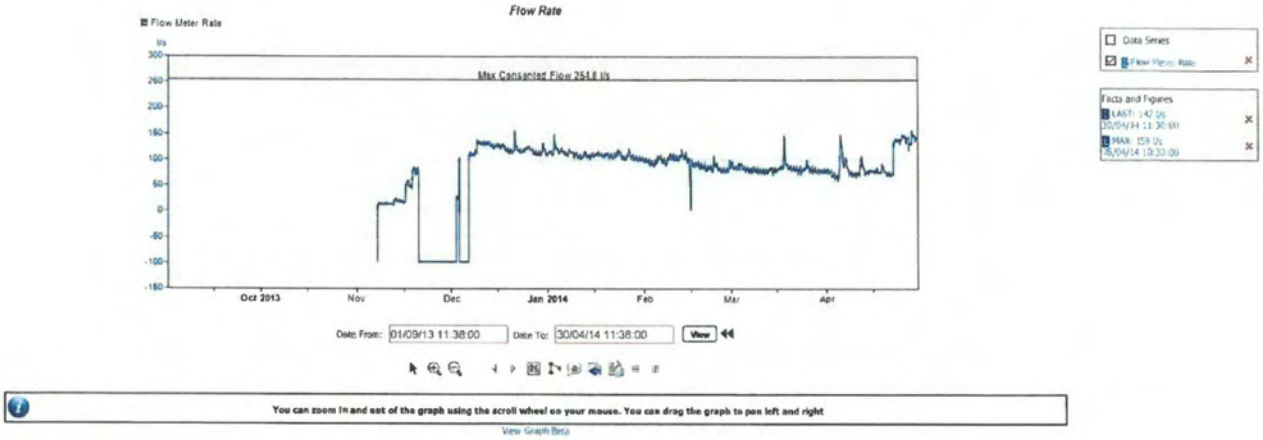
Water meter location for both takes E1303023 N5037743.

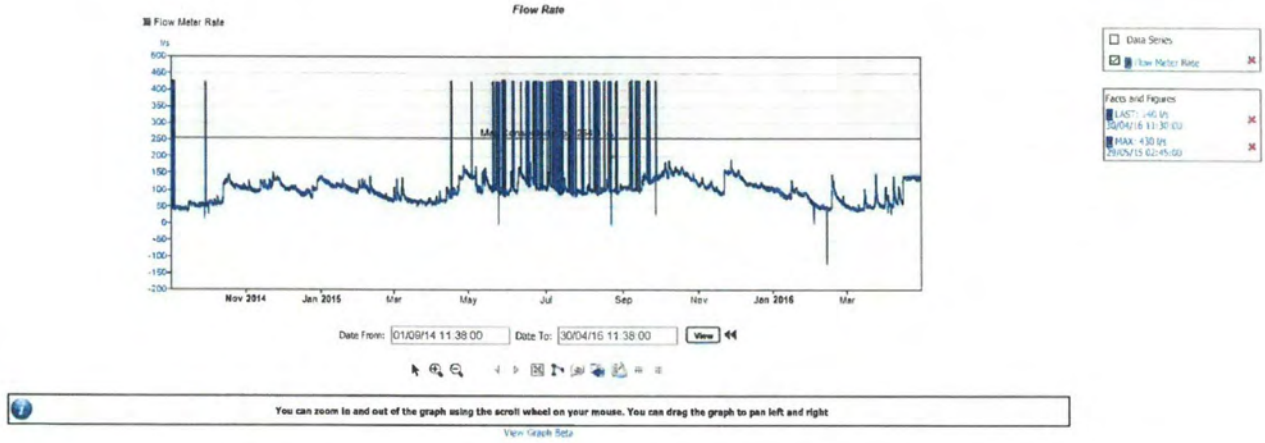
Water meter for both takes E1303023 N5037743.

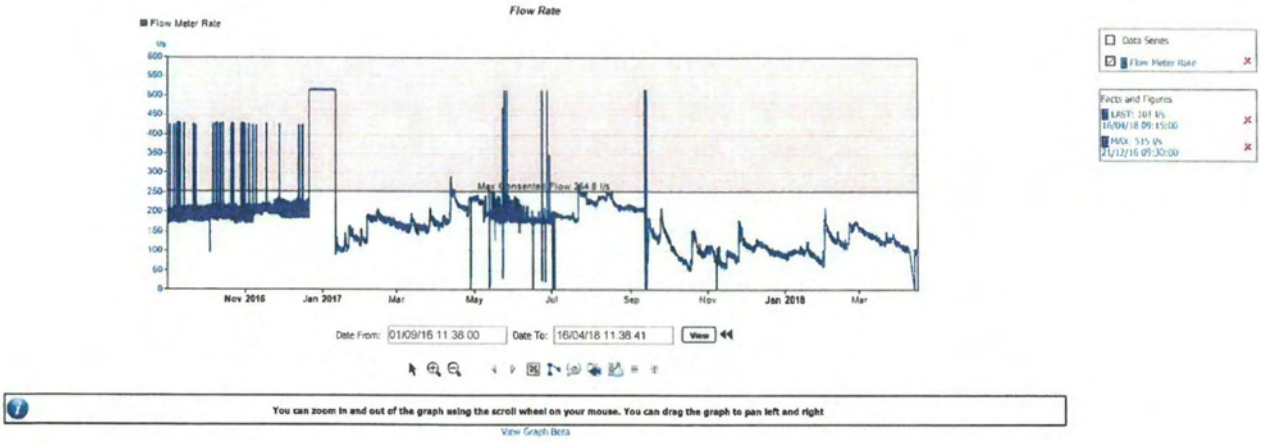


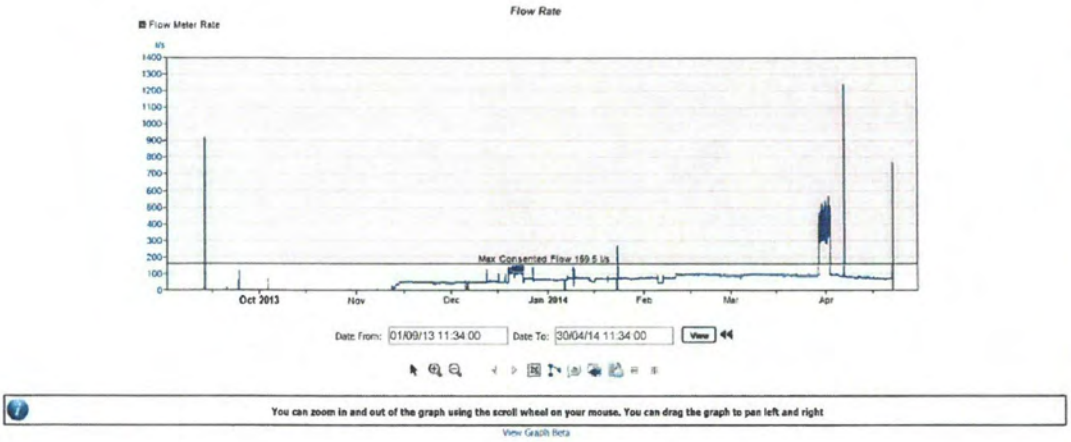
Datalogger for both takes E1303023 N5037743.

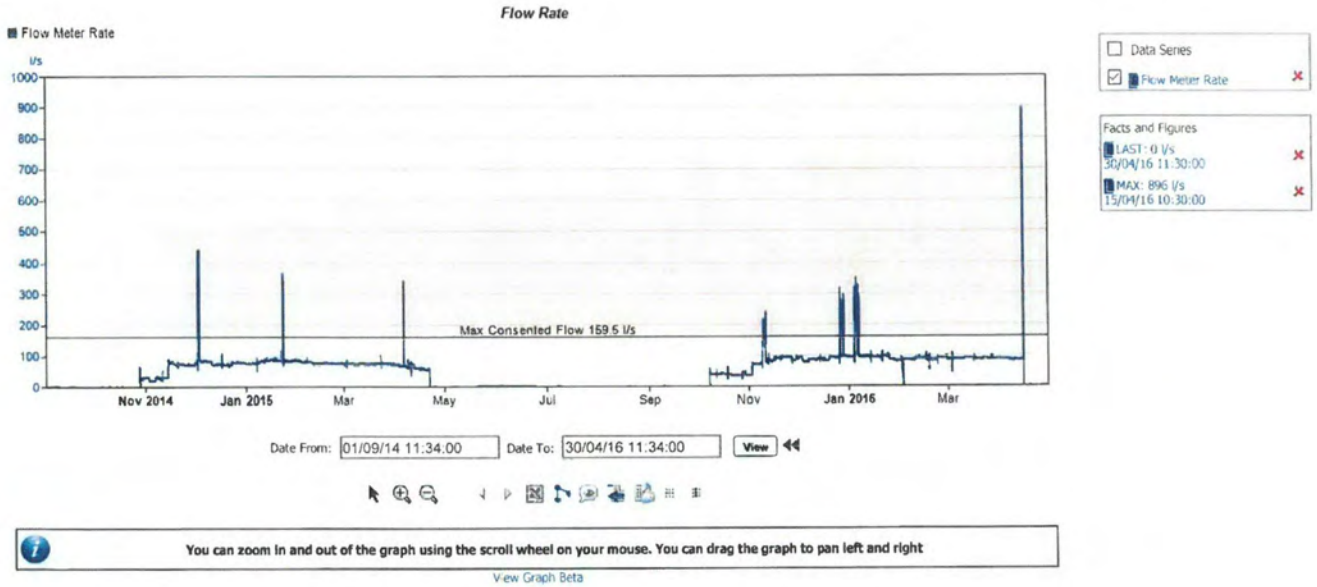
Appendix VIII - Luggate Irrigation Flows

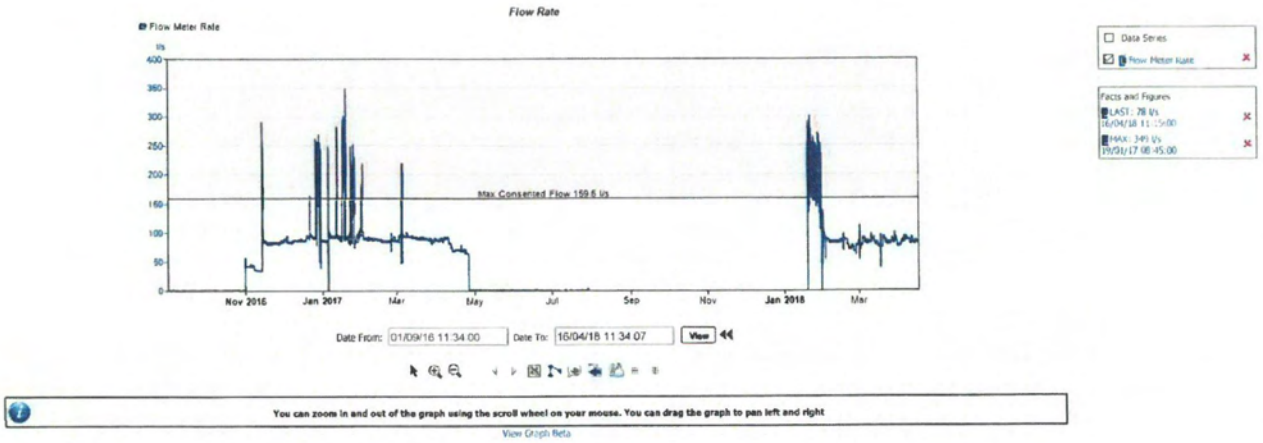


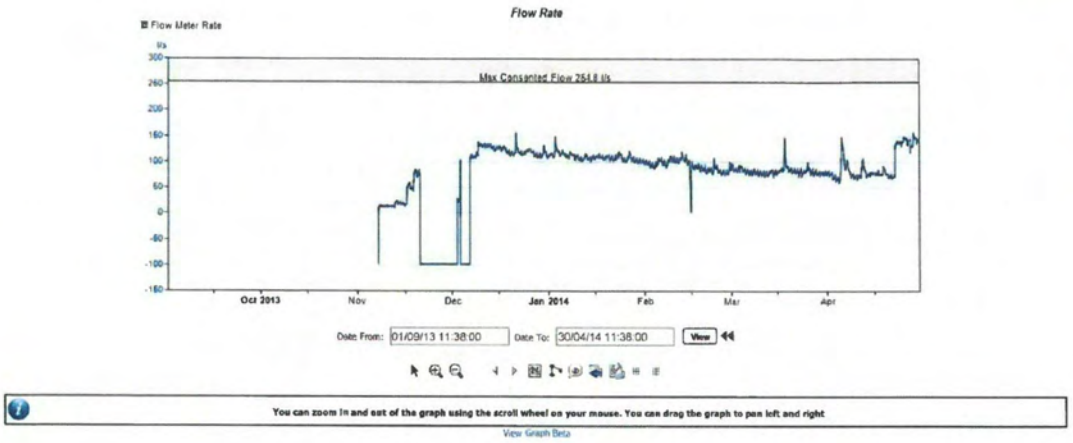


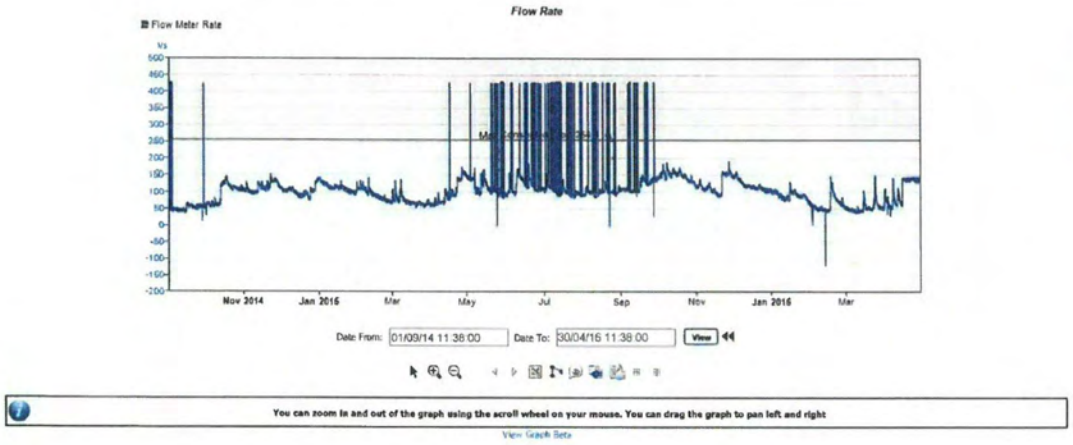

Flow Rate
Flow Meter Rate
l/s
600
550
500
450
400
350
300
250
200
150
100
50
0
Nov 2016
Jan 2017
Mar
May
Jul
Sep
Nov
Jan 2018
Mar
Date From: 01/09/16 11:38:00
Date To: 16/04/18 11:38:41
View
Data Series
Flow Meter Rate
Facts and Figures
LAST: 101 l/s
16/04/18 09:15:00
MAX: 535 l/s
21/12/16 09:30:00
You can zoom in and out of the graph using the scroll wheel on your mouse. You can drag the graph to pan left and right
View Graph Beta


Flow Rate
Flow Meter Rate
l/s
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
Max Consented Flow 159.5 l/s
Oct 2013
Nov
Dec
Jan 2014
Feb
Mar
Apr
Data Series
Flow Meter Rate
Facts and Figures
LAST: 0 l/s
30/04/14 11:30:00
MAX: 1,242 l/s
Date From: 01/09/13 11:34:00
Date To: 30/04/14 11:34:00
View
You can zoom in and out of the graph using the scroll wheel on your mouse. You can drag the graph to pan left and right
View Graph Beta


Flow Rate
Flow Meter Rate
l/s
1000
900
800
700
600
500
400
300
200
100
0
Max Consented Flow 159.5 l/s
Nov 2014
Jan 2015
Mar
May
Jul
Sep
Nov
Jan 2016
Mar
Data Series
Flow Meter Rate
Facts and Figures
LAST: 0 l/s
30/04/16 11:30:00
MAX: 896 l/s
15/04/16 10:30:00
Date From: 01/09/14 11:34:00
Date To: 30/04/16 11:34:00
View
You can zoom in and out of the graph using the scroll wheel on your mouse. You can drag the graph to pan left and right
View Graph Beta


Flow Rate
Flow Meter Rate
l/s
400
350
300
250
200
150
100
50
0
Max Consented Flow 159.6 l/s
Nov 2016
Jan 2017
Mar
May
Jul
Sep
Nov
Jan 2018
Mar
Date From: 01/09/16 11:34:00
Date To: 16/04/18 11:34:07
View
Data Series
Flow Meter Rate
Facts and Figures
LAST: 78 l/s
16/04/18 11:15:00
MAX: 349 l/s
19/01/17 08:45:00
You can zoom in and out of the graph using the scroll wheel on your mouse. You can drag the graph to pan left and right
View Graph Beta


Flow Rate
Flow Meter Rate
l/s
Max Consented Flow 254.8 l/s
Oct 2013
Nov
Dec
Jan 2014
Feb
Mar
Apr
Date From: 01/09/13 11:38:00
Date To: 30/04/14 11:38:00
View
Data Series
Flow Meter Rate
Facts and Figures
LAST: 142 l/s
30/04/14 11:30:00
MAX: 158 l/s
28/04/14 10:30:00
You can zoom in and out of the graph using the scroll wheel on your mouse. You can drag the graph to pan left and right
View Graph Beta


Flow Rate
Flow Meter Rate
l/s
Nov 2014
Jan 2015
Mar
May
Jul
Sep
Nov
Jan 2016
Mar
Date From: 01/09/14 11:38:00
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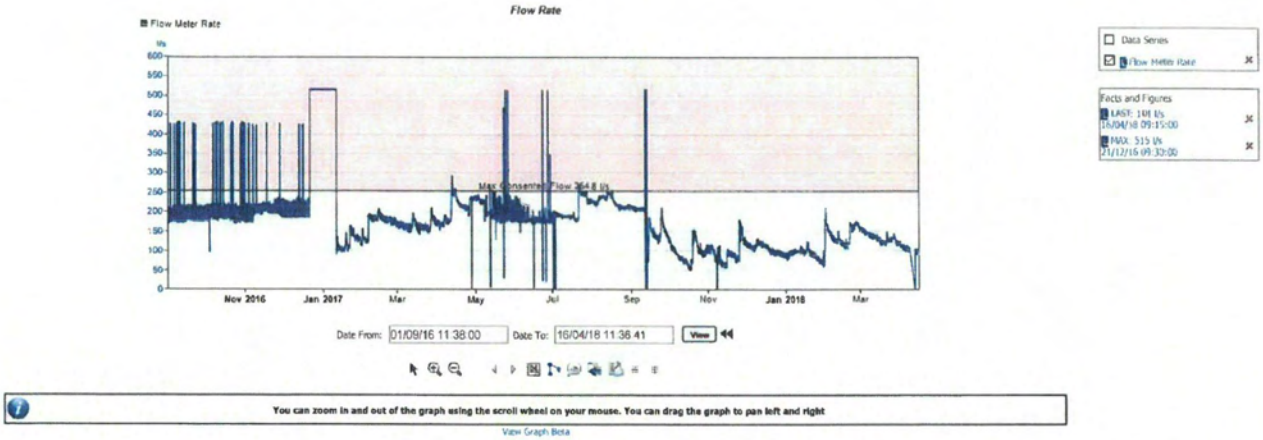
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Relevant Objectives and Policies from Operative Regional Policy Statement

Relevant Objective or Policy	Reason
Objective 6.4.1-"To *allocate Otago's water resources in a sustainable manner which meets the present and reasonably foreseeable needs of Otago's people and communities.*	The Partners application is consistent with this objective as the.need to efficiently irrigate the command area is reasonably foreseeable. This allocation has been used historically and it fs planned to continue using this allocation Into the future. The Partners application will be subject to.the minimum flow requirements of the Luggate Creek. This will ensure the sustainable management of this resource while allowing the community to provide for their economic, social and cultural well being In a manner consistent with how the deemed permits and mining privileges provide for that well being currently.
Objective 6.4.3- '7o *safeguard the life- supporting capacity of Otago's water resources through protecting the quantity and quality of those water resources.*[0]	The Partners proposal will be subject to the minimum flow requirement which will protect the quantity of the Luggate Creek, providing for the instream values to be maintained. The application is consistent with this objective.
Objective 6.4.4- '7o *maintain and enhance the ecological, intrinsic, amenity and cultural values of Otago's water resources*	The Partners take will be subject to the minimum flow requirements of the Luggate Creek. This will maintain the values of the Creek. This application Is consistent with this objective.
Policy 6.5.2(b) - '7o *allocate water In areas of Otago where there is or potentially will be insufficient water supplies through considering the needs of primary and secondary industry.*	.The proposed take is consistent with what has been authorized historically. The Partners take " will be subject to the minimum flow requirements which will ensure the values of the Luggate Creek are maintained. Given that the water take will be used for primary Industry, this application is consistent with this policy.
Policy 6.5.3-'7o *promote efficient consumptive water use through:* *(a) Promoting water use practices which minimize losses of water before, during and after application; and* *(b) Promoting water use practices which*	There Is currently some water loss due to Infrastructural inefficiencies. Securing this consent will allow The Partners to undertake capital expenditure to improve the efficiency of their Infrastructure, allowing a greater area to be irrigated.

require less water; and *(c) Promoting Incentives for water users to use less water.*[11]	Despite these infrastructure upgrades, the Partners will still be taking the same volume of water, It will however allow for greater productivity to be achieved through applying water more efficiently over a greater command area. Therefore, the application is consistent with this policy.
Policy 6.5.4 - *"To investigate and, where appropriate, set minimum flow levels and flow regimes for Otago waterbodies and maximum and minimum lake levels to protect any of the fol/owing...*[11]	The Otago Regional Plan: Water sets a minimum flow requirement for the Luggate Creek. The Partners have proposed a rationing scheme to ensure this is maintained . The application is consistent with this policy.

The following objectives and policies are not applicable to this application: 6.4.2, 6.4.3, 6.4.5, 6.4.6, 6.4.7, 6.4.8, 6.5.1, 6.S.5, 6.5,6, 6,5.7, 6.5.8, 6.S.9, 6.5.10 and 6.5.11.

Relevant Objectives and Policies In the Otago Proposed Regional Policy Statement

Provision	Reason
Objective 2.1 - The values of Otago's natural and physical resources are recognized, maintained and enhanced	The proposed application provides irrigation for the command area. This allows land values to be maintained. The water take will be subject to the minimum flow requirements of the Luggate Creek. This will ensure the values of the Creek are maintained. The application is consistent with this objective.
Policy 2.1.1 - Managing for freshwater values	The Partners application will be subject to the minimum flow requirements of the Luggate Creek. This will ensure that the values of the creek are maintained. The application is consistent with this policy.
Policy 2.1.s - Managing for soil values	The Partners application *is* consistent with (a), (b), (c), (d), (f), 0) and relevant to (e) and (h). Providing for the continued take of water allows the soil of the Partners command area to maintain its life supporting capacity. The soil and pasture helps feed a variety of pastoral animals which in turn provide food and income for the region's communities. With a continued water take the consistency of the pasture growth can be preserved and through that the soil biodiversity and biological activities. The Partners application is particularly consistent with retaining the soil resources for primary production. The water use *is* intended for primary production land, therefore will retain the soil resources for primary production. The continued Irrigation will maintain their values. Continued irrigation will maintain the soil's function as a buffer or filter for pollutants resulting from human activities and provide for other cultural valus as stated above.
Potlcy 2.1.6 - Managing for ecosystem and Indigenous biodiversity values.	The application is consistent with (a). The continued Irrigation of the command area allows the Partners to maintain enhance the ecosystem health of their command area.

	Further, the application will be subject to the minimum flow rationing scheme to maintain the minimum flows of the Luggate Creek. This will ensure the values of the Creek are maintained.
Objective 2.3 - Natural resource systems and their interdependencies are recognized.	This application recognizes that the take of water from the Luggate Creek has interdependencies on the productiveness of the command area. The water take has a number of flow on effects Including the productive use of primary land. and through that the communities well being is enhanced. The application will be subject to the minimum flow requirements of the Luggate Creek. This recognizes the Interdependencies of this resource and allows the values to be maintained. The application Is consistent with this policy.
Polley 2.3.1 - Applying an Integrated management approach among resources	The Partners are aware of the impact that it's take has on other resources. These impacts are positive as the water take helps ensure efficient primary production. The water take helps improve the land values. This application Is consistent with this policy.
Policy 2.3.2 - Applying an integrated management approach within a resource.	This application ensures that the effects of activities on the whole of a resource are considered when that resource is managed by sub-units.· The Partnership was formed to provide a single entity for the renewal of deemed permits. This single entity helps provide an integrated approach to the water distribution over the command area. The application will be subject to the minimum flow requirements of the Luggate Creek. This will maintain the values and apply an Integrated approach to this resource. The application is consistent with this proposal.
Policy 2.3.3 - Applying an integrated management approach for freshwater catchments.	The Partners application applies an integrated management approach to activities In freshwater catchments by coordinating the management of land use and freshwater.

	The application will be subject to the minimum flow requirements of the Luggate Creek. This will help maintain the values of the Luggate Creek.
Objective 3.1- Protection, use and development of natural and physical resources recognizes environmental constraints	This application will be subject to the minimum flow requirements of the Luggate Creek, This will maintain the values of the creek. The minimum flow recognizes the environmental constraints. The application is consistent with this objective.
Policy3.1.1-Recognizing natural and physical environmental constraints.	This application will be subject to the minimum flow requirements of the Luggate Creek. This will maintain the values of the Creek. The minimum flow recognizes the environmental constraints. The application is consistent with this policy.
Objective4.3-Sufficient land is managed and protected for economic production.	Securing water supply will allow the Partners to undertake infrastructural upgrades. This will allow a greater area to be Irrigated, allowing more production. This will allow the community to provide for their economic and social wellbeing. The application is consistent with this objective.
Polfcy 4.3.1-Managlng for rural activities.	This application enables farming and.other rural activities to continue to be productive. The application is consistent with this policy.
Objective 4.4 - Otago's communities can make the most of the natural and built resources available for use.	The Partners application provides supply for its partners to Irrigate the command area. securing the supply will allow capital

	expenditure to undertake Infrastructural upgrades. This will result in a greater area of the command area being able to be irrigated. This will allow the community to make the most of the natural resources available for use. The application will be subject to the minimum flow requirements of the Luggate Creek. This will protect the ecological and recreational values of the Creek. The application is consistent with this objective.
Policy 4.4,1-Ensuring efficient water allocation and use.	The Partnership was formed to combine the rights of holders of existing deemed permits and mining privileges. Securing the supply will allow capital expenditure to undertake Infrastructural upgrades. This will result In a greater area of the command area being able to be irrigated. This will allow the community to provide for their economic and social wellbeing. The application is consistent with this policy.
Objective 4.5-Adverse effects of using and enjoying Otago's natural and built environment are minimized.	The application will be subject to the minimum flow requirement of the Luggate Creek. This will result In the values of the Creek being maintained and the minimizing of any adverse effects. The application is consistent with this policy.
Policy 4.5.4 - Minimizing soil erosion	Adequate Irrigation will prevent erosion in an area which is dry during the summer. The application *is* consistent with this policy.

Objectives and Policies of ORC: Water Ch6- Quantity

Objectives

Objective	Analysis
6.3.1 -Retain flows In rivers sufficient to maintain life-supporting capacity for aquatic ecosystems and their natural character	Schedule 2A determines the minimum flow requirement for the Luggate Creek. This application will adhere to the minimum flow requirement so the life-supporting capacity for aquatic ecosystems and their natural character will be protected. The application is consistent with this objective. .
6..3.2 - Provide for the water needs of · Otago's primary and secondary Industries, and community domestic water supplies	The Partnership will provide water for Irrigation and stock drinking water. That will help improve productivity and economic sustainability of 600 ha of productive land. The proposed take will not compromise any community water supplies. Securing the water take will allow the Partners to undertake capital expenditure to Improve the Infrastructure currently used. This will Improve the efficiency of the scheme and allow more land to be irrigated. This will increase the productivity of the primary Industries of this area and provide for the economic, social and spiritual well being of the community. Therefor the Partners application is consistent with this objective.
6.3.3 - minimize conflict among those taking water	The Partnership has been formed to Manage the rights of the existing deemed permits and mining privileges of the Partners and implement a rationing scheme to maintain minimum flows at critical times, The Partners are aware of one other user, who takes water from the north branch of the Luggate Creek. It is anticipated this party will join the rationing scheme. The application Is consistent with this objective.
6.3.6 - minimize any adverse downstream effect of managed flows	It is anticipated there will be no adverse downstream effects as this application will see the water managed in a way consistent

	with historical use. The Partners will be subject to the minimum flow requirements of the Luggate Creek which addresses effects associated with ecological and recreational values. The application is consistent with this objective.

Policies for Integrated Water Management

Policy	Analysis
6.4.0 - Recognize hydrological characteristics of Otago's water resources, including behavior and trends when managing the take of water	The hydrological characteristics have been taken into account when preparing this application. The Partners have considered "ORC, Management Flows for Aquatic Ecosystems in the Luggate Creek, August **2006**". The consent will be subject to the minimum flow regime which protects the ecological and recreational values of the Luggate Creek. The hydrological characteristics are recognized by the high and low seasonal minimum flows. The application is consistent with this 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 application details the climate and soil characteristics of the Partners command area and calculated the water demand for stock and irrigation water purposes. Future efficiency improvements will allow further land within the command area to be Irrigated. This will allow the community to better provide for their economic, spiritual and social well being. . This application is consistent With this policy.
6.4.0B - To promote and support shared use and management of water that: a) Allows water users the flexibility to work together, with their own supply arrangements; or b) Utilizes shared water Infrastructure which is fit for purpose	The Partnership is formed to manage the existing deemed permits and mining privileges. The Partners proposal utilizes the shared infrastructure and allows the Partners the flexibly to manage their water use. .
6.4.0C- to promote and give preference, as between alternative sources to the take and use of water	The Partners will be taking water in the most efficient manner possible utilizing infrastructure.

from the nearest practicable source	Alternative sources include groundwater and/or surface water such as the Clutha. To take from the Clutha in difficult in this area because of the impervious nature of the river bed. . Given the existing infrastructure and regime which works successfully, identifying groundwater takes or taking from the Clutha is considered impractical and inefficient. The application is consistent with this policy.
6.4.1 - to enable the taking of surface water by : a) Defined allocation quantities; and b) provision for water body levels and flows. except When: (not applicable}.	This policy supports The Partners proposal to take from the Luggate Greek. They are seeking to take 423 l/sec which Is within the Primary allocation limit and will be subject to the minimum flow requirements of the Luggate Creek.
6.4.2 - to define the primary allocation limit for each catchment, from which surface water takes and connected groundwater takes may be granted, as the greater ot. a) that specified In Schedule 2A, but where no limit Is specified In Schedule 2A. 50% of the 7-day mean annual flow; or b) The sum of consented maximum instantaneous, or consented 7-day, takes of: I) Surface water as at: (3) 28 February 1998 in any other catchment [includes Luggate Catchment]..., Less any quantity in a consent where: (1) In a catchment in Schedule 2A, the consent has a minimum flow that was set higher than. that required by Schedule 2A.' (2) •.. (3) ... (4) The consent has been surrendered or has expired (except for the quantity granted to the existing consent holder In a new consent). (5) The consent has been cancelled (except where the quantity has been transferred to a new consent under Section 136(5)). (6) The consent has lapsed.	Luggate Creek Is specified In the Luggate Catchment In Schedule 2.A. The primary allocation limit for the Luggate Creek identified In Schedule 2A is 500L/s. Under paragraph (b) of the policy, the primary allocation limit is equivalent to the existing consented take which is 987L/s. As this Is the greater quantity this will be the primary allocation limit. The current permits held by the applicant shareholders authorize a take of upto 423 l/sec This is within the allocation limit for the catchment. The application is consistent with this policy.
6.4.2A- Where an application Is received to take water and Policy 6.4.2(b) applies to the catchment, to	The policy Is focused on the efficient use of water. The principle reasons that this policy was adopted is to ensure that conflict between users is

grantfromwithinprimaryallocationno more water than has been taken under the existing consentIn atleastthe preceding fiveyears,exceptinthe **case**... (not relevant)	minimizedandthatunderutilizedprimary allocations are reduced In order to lower the supplementary minimum flows. The applicant was formed to efficiently distribute the water resources amongst its members. Thereduction ofconflict amongstwater user from the Luggate Is achieved by this Partnership. Thereisonlyoneother partythat takes water from the Luggate, The rationing scheme will ensure sufficient water for all takes, Withthe applicant's provision ofwatertoother users ensures that conflict between those taking water is minimized. Due to the primary allocation of water in the Luggate Catchmentthereisnosupplementary allocation available. If supplementary allocation were available, it would only be available In times when the Luggate is in high flow. This remains the case should a rate of take consistent with the previous 5 years take be consented. Areduction of authorized rate of take will not allow the supplementary minimum flow to be lowered becausetheprimaryallocationintheLuggate doesnot allowforanysupplementary allocation. Furthermore, thereIsnomeritInauthorizing supplementary allocation on the Luggate, because: i) thereisonlyoneotheruser;and ii) thecurrentallocations wouldnot allow anypotential newtakesto obtain supplementary allocation. This removestheviabilityof*any* new takes and suggests that there will be no possibility for additional takes beyond those currently. Anyreductionoftherateoftakebasedonthe previous 5 yearswouldresultinlimitedbenefitfor the Luggate, and would be detrimental to the applicant due to reduced potentialuseofthe water. Thepolicysuggeststhathistoric usewillbe equivalenttofutureuse. ThisIsnotcorrect. Inthe caseofanewwatertake, theefficiencyofthe proposed infrastructureand utilization ofthewater will be taken into account. The decision to allocate waterwouldbebasedon futurepotential. The same logic should apply to this application. The applicant is proposing significant infrastructural

	upgrades. This will ensure the efficient utilization of the water, Disregarding the volume taken 1n the last 5 years would, in this case, meet the purpose of the policy better than strict adherence to it. The Application of the applicant reduces conflict amongst those taking water from the Luggate. Granting consent to the applied take will allow infrastructural upgrades to occur ensuring absolute utilization of the water. The minimum flow of the Luggate will be maintained In order to ensure environmental sustainability. The.potential benefit that can be achieved through the water combined with the applicants commitment to ensure efficiency upgrades means the 5 year "use it or lose if' requirement of policy 6.4.2A should not apply.
6.4.3 - For catchments Identified in Schedule 2A, except as provided for by Policy 6.4.8, minimum flows are set for the purpose of restricting *primary allocation* takes of water.	The minimum flow for the Luggate Creek has been set at 500L/s (1 May to 30 October) and 180L/s (1 November to 30 April). The proposed consent will be subject to the minimum flow regime. Therefore the application is consistent with this policy.
6.4.5 - The minimum flows established by Policies 6.4.3, 6.4.4, 6.4.6, 6.4.9 and 6.4.10 will apply to resource consents for the taking of water as follows: a) (not relevant); and b) (not relevant); and c) In the case of existing resource consent to take water from the Luggate catchment area ... upon collective review of consent conditions within those catchments under ss128 w132 · RMA; and d) not relevant). 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.	This is not a review process and therefore the policy is not directly relevant. However, the new consent is proposed to commence on 2 October 2021 and will be subject to the minimum flow requirements as detailed In Schedule 2A. The rationing scheme will ensure minimum flows will be maintained with all uses contributing according to the proportion of their take. ... The application is consistent with this policy.
6.4.11 - To provide for the suspension of the taking of water at the minimum flows and aquifer restriction levels set under this Plan	This consent will adhere to the minimum flow requirements and is therefore consistent with this policy.
6.4.16-In granting resource consents to take water. or in any review of the conditions of a resource consent to	A measurement regime is already in place. Therefore this application is consistent with this policy.

take water, to require the volume and rate of take to be measured In a manner satisfactory to the Council unless It is impractical or unnecessary to do so.	
6.4.19 -When setting the duration of a resource consent to take and use wc1ter, to consider: a) The duration of the purpose of use; b) The presence of a catchment minimum flow or aquifer restriction level; o) 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 holders of the deemed permits and mining privileges have been taking water for some years. It is submitted that the values in the Creek have remained largely intact over that time. The Partners needs long term security of supply to support capital upgrades that will contribute to the economic sustainability of landowners within the command area and the wider operation. This will provide for the community's well being, therefore a 35 year duration is appropriate. The catchment is subject to a minimum flow requirement which will be adhered to. This will preserve the values of the catchment and result in Partners take having no more than minor adverse effects while allowing significant benefits to be secured for the community. This application Is consistent with this policy.

Policies for the promotion of management of water resources by users

Polio	Anal is
6.6,.0 - To promote and support development of shared water infrastructure	The Partnership has been formed to manage the combined existing deemed permits and mining privileges into a single resources consent. This allows continued shared use of existing infrastructure. This application is consistent with this policy.
6.6.1 - To promote water conservation practices through: a) Promoting water use practices which minimize losses of water; and b) Promoting water use practices which require less water	If this consent is secured it will provide necessary security of supply that will enable capital expenditure to improve irrigation practices. This will enable more land to be irrigated within the same volume of water. There is currently some water lost due to inefficiency. Should consent be granted the efficiency of the infrastructure will improve due to infrastructure upgrades. This consent will achieve this policy.
6.6.2 - To promote the storage of water at periods of high water availability through: a) The collection and storage of rain water; and b) The use of reservoirs tor holding water that has been taken from an lake or river.	Storage is being considered and may be an option once the Partners has certainty that their water take is secured. Taking water for storage has been allowed for in the application rates and volumes.

	This application is neither consistent nor inconsistent with this policy
6.6.3 -To work with and seek the co--operation of holders of deemed permits in: a) The observance of any minimum flows or levels applying to other users; b) (irrelevant as 6.4.15 repealed); and c) The measuring of takes and return flows.	The application proposes a water rationing scheme based on water volume used for .the take from the Laggate that contribute to the minimum flows. This application is consistent with this polic.

Analysis

The Partners require 439l/sec of water. The minimum flow requirement for the Luggate Catchment is provided in Schedule 2A of the ORC Plan: Water. It states that the minimum flow is 180L/s from November to April and 500L/s from May to October.

Schedule 2A also provides for a Primary Allocation Limit of 500L/s (Luggate Catchment from mouth to headwaters). However, policy 6.4.2(b) provides for an allocation limit of 987L/s. A take of 439L/s .

The proposal to take 439L/s is consistent overall with the objectives and policies of Chapter 6 as The Partners proposes to adhere to the minimum flow requirements. Further, it appears that Council encourages the conversion of mining permits into resource consents provided the minimum flow requirements can be met and the consent holder needs that water. The Partners requires their proposed take for the Irrigation of their command area. This will allow the community to provide for their economic, social and spiritual wellbeing.

Overall, the Partners application Is consistent with the objectives and policies of Chapter 6 ORC Plan: Water.

Relevant Objectives and Policies from the Kai Tahu kl Otago Natural Resource Management Plan 2005

Relevant Objective or Polley	Reason
Section s..3.3.	Theobjectivesofthissectionhavebeen considered. They are not applicable to this proposal.
5.S.4(22)- 'to *require thatresource consent applicants seek on/ythe amount of water actually required for the purpose specified In the application.*[11]	This application seeksthevolume of water that is necessary for itsuse. This application Is consistent with this policy.
5.3.4(23)- *'Torequirethat(J//watertakesare meteredandreported on,,andInformationbe made available to Kai Tahu kl Otago.*[11]	Thetakeiscurrentlymetered.theinformation Is availabletoKaiTahusinceItIsheldin thepublic domain. by the ORC. Theapplicationis consistent withthispolicy
5.3.4(25)-*"Toopposethegrantingofwater take consentsfor35years. ConsistentWitha precautionaryapproach, efther arevlewclause or a reduced term maybesought.*[11]	The Partners seeks a 35year term given that the proposed take will not have adverse effects. Thecreekisalsosubjecttoaminimumflow therefore precautionary approach *is no* longer necessary in thiscatchment.
5.3.4(26) - '7o *encourage those that extract water for irrigation to use the most efficient methodof application. Floodirrigation, border dyke and contour techniques arelesslikelytobe supported thanspray Irrigation techniques.*[0]	Securing this consent will allow the Partners to undertake capital expenditure to improve the efficiencyoftheirinfrastructure.Thiswillallowa greatercommandareatobeirrigated, providing a moreefficientandproductiveuseofland.This will lead to the increased wellbeing of the community. Theapplication whichwillachieve efficiency gains isconsistent with thispolicv.
5.3.4(27)- *"Torequirethat consent terms for Irrigation per 5-1.0 years where Ka Papatipu Runaka considers the method of irrigation to be inefficient to allow foran upgrade toamore efficient method."*	The Partners seeksatermof 35yearsfor it's resource consent.Thiswillprovidesecurityforthem to Justifycapitalexpenditure toimprovethe · efficiency of the Infrastructure, allowing a greater command area to be irrigated. This will increase the economic, social and cultural wellbeingofthecommunity. Thedurationproposedintheapplicationis inconsistent with this policy, however upon the securing of this consent efficiency upgrades will makethetakeconsistentWiththisproposal.
5.3.4(28) - *"To discourage over-watering*	The Partnership does not engage in over-watering and take volumes have been calculated with reference to rainfall and soil characteristics. This application Is consistent with this policy.
5.3.4(29) - *"To encourage irrigation at times when winds are /fght and evaporation low."'*	The Partnershipwillmanagewatertakesand irrigation to ensurethehighestvaluecanbeextractedfrom

	thewater.It's in the Partners interestsstodo this.No specific conditions are proposed in relation to this,Theapplication is neither consistentor Inconsistent with this policy.
5.3.4(30)- '7o _*encourage dry land/arming practices where appropriate.*[11]	Dry land farming Is not appropriate In this location. ThisapplicationIsconsistentwiththispolicy.
Section 10.2.3	The policies of this section have been Considered. These policiesarenotapplicableto this application.

It isworthnotingthatthere may be some policiesthatare relevantdue totheir concernwiththe values associated with Luggate Creek. This application willnot affect the valuesofthe watertaken as the take isconsistent with what has been authorized historically and willbesubject tothe minimum flowrequirementdetailed intheRegionalPlan.Further,theOtago RegionalPlan:Water which becameoperativeon 1June2015isrequired to have regardtotheKaiTahu KiOtago Natural Resource Management Plan.Asthisapplication isbroadlyconsistent withtheOtago Regional Plan: Water,itisconsidered thattheobjectives and policies in the Kai Tahu Ki OtagoNatural Resource Management Plan have been given effect.

Otago Regional Council

Our Reference: A531179

16 May 2013

Luggate Irrigation Company Limited
C/o Colin Harvey
PO Box 36240
Northcote
North Shore City 0748

Dear Sir/Madam

Decision on Resource Consent Application No. RM13.175 Variation to WR7284, WR7285, WR7286 and WR7289 to insert condition that the combined takes does not exceed 255 l/s

I advise that a decision has been given on your application for a variation to resource consents. A copy of the staff recommending report is enclosed along with the consents.

The decision is:

That Council grants to **Luggate Irrigation Company Limited**

Water Permit - Surface Take WR7284CR.V1
to take 55.55 litres per second from the North Branch of Luggate Creek

Water Permit - Surface Take WR7285CR.V1
to take 83.33 Litres per second from the left west branch of Luggate Creek (Fallburn)

Water Permit - Surface Take WR7286CR.V1
to take 55.55 litres per second from Alice Burn, a tributary of Luggate Creek

Water Permit - Surface Take WR7298CR.V1
To take 55.6 litres per second from Alice Burn a tributary of Luggate Creek

Otago Regional Council

Reasons for decision
These are set out at the end of the enclosed recommending report under the heading "Recommendation".

Objection Rights
Section 357 of the Resource Management Act 1991 provides you with the right to lodge an objection with the Council in respect of this decision and/or any associated conditions. Any such objection must be made in writing setting out the reasons for the objection and must be received by the Council within 15 working days of receiving this letter.

Alternatively, in accordance with s.120 of the Act, this decision is subject to a statutory right of appeal directly to the Environment Court, P O Box 2069, Christchurch, which must be lodged with the Environment Court and served on the Council within 15 working days of receiving this letter.

These resource consents has been granted on a non-notified application, therefore the consents commence on the date you receive this letter unless a condition in the consents states otherwise, or an appeal is lodged.

If an appeal is lodged the consents cannot be exercised until the Court has determined the appeal, or the appeal is withdrawn, or a determination of the Court states otherwise.

Conditions of Consent
It is important that you check the conditions of your consents carefully as some of them may require you to surrender your current consent or provide information and/or plans to the Council before you may commence your activity. In addition, in some cases you may also require other permits or consents for your proposed activity and these must be obtained before you can commence your activity.

Consent Charges
At this stage the Council has not calculated the final costs of processing your application. Should the final costs exceed the deposit already paid, then as previously advised, you will be invoiced separately for these costs. Should the final costs be less than the deposit already paid then you will receive a refund.

Compliance Fees and Charges
Council's Environmental Services Unit will monitor your consents to ensure you have complied with the conditions of your consents. The enclosed brochure 'Fees and Charges' explains what charges are applicable to your consents. If you have any query about these charges, please contact the Environmental Data Team at Council.

Otago Regional Council

Please contact **Colin Walker** at this office should you require clarification of any matter relating to this decision letter.

Yours sincerely

Christopher P. Shaw
Manager Consents
Encl

cc Luggate Irrigation Company Limited Opus International Consultants Limited, PO Box 273, **Alexandra 9340** Attention Mike Kelly

Our Reference: A528907

ORIGINAL

Otago Regional Council

Appendices to Mining Privileges

WR7284Cr.V1, WR7285Cr.V1, WR 7286Cr.V1 and Wr7298Cr.V1

These mining permits are deemed to be water permits under S 413(1) of the Resource Management Act 1991. Henceforth they are referred to as "deemed permits".

Expiry date: 1 October 2021

History: WR7284Cr, WR7285Cr, WR7286Cr and Wr7298Cr are all linked to mining privileges first issued in the 1890's. Approval has been given to measure the water takes associated with these water races in terms of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 at a point where the races have combined into one race, and each deemed permit also needed to have a condition added for the combined take.

The following conditions and appendices are hereby attached to WR7284Cr.V1, WR7285Cr.V1, WR7286Cr.V1 and WR7298Cr.V1:

Conditions:

1. The combined takes of Deemed Permits WR72814Cr.V1, WR7285Cr.V1, WR7285Cr.V1 and WR7298Cr.V1 shall not exceed 254.7 litres per second.

2. Appended is a schedule of provisions from the former Water and Soil Conservation Amendment Act 1971 that apply to these deemed permits according to Sections 413(2), 413(3A) and 413(4) of the Resource Management Act 1991. In particular the deemed permit holder shall:

    (a) Take all practical steps to ensure that water taken under this deemed permit is not allowed to run to waste. [Ref. Water & Soil Conservation Amendment Act 1971 S14 (1)(d)]
    (b) Install a flow measuring device at the point of take with an accuracy of +/- 10%. The deemed permit holder shall keep a record of the amount of water that is taken at these intakes by recording the daily volume of water in cubic metres and the rate at which water is taken and shall forward a copy of that record to the Consent Authority by 31 July each year. [Ref. Resource Management (Measurement and Reporting of Water Takes) Regulations 2010)].
    (c) Maintain the water race in good order and repair so as to minimise water losses from the race and to minimise the risk of flooding and damage to property as a result of overtopping of the water race or failure of the water race embankment. [Ref. Water & Soil Conservation Amendment Act 1971 S14 (1)(c) & (d)]

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Notes

1 *All single take domestic and stock water users have right to water before any other user, including a mining privilege holder.*

Issued at Dunedin this 16th day of May 2013 to add condition , append the schedule of provisions from the former Water and Soil Conservation Amendment Act 1971 and WEX0048

Christopher P Shaw
Manager Consents

ISO9001 Certified

Otago Regional Council

Appendix 1

Water and Soil Conservation Amendment Act 1971

The following provisions of the above Act apply to these deemed permits.

In this context "current mining privilege" means:

(a) Any mining privilege in respect of water which was subsisting or in force immediately before 1 April 1973 and which was granted under the Mining Act 1926 after 9 September 1966, and which was current on 1 October 1991

(b) Any mining privilege in respect of water which was so subsisting or in force and which was granted under the Mining Act 1926 or any former Mining Act on or before 9 September 1966 to the extent that it has been authorised under S 21(2) of the WSCA 1967 (as amended by WSCA and 1969), and was current on 1 October 1991

S4 **Water Race Licence** – Every current mining privilege that is a water race licence shall during its currency entitle the holder of the privilege to cut, construct, and maintain a water race, or to use as a water race any natural channel, on the land specified in and in accordance with the conditions of the licence; and also, by means of the race, to divert and use the quantity of water specified in the licence from any watercourse on or running through or adjoining the land in order to continue to supply, sell or dispose of the water for any of the purposes specified in the licence:

provided that where any such licence was granted before 10 September 1966 the diversion and use of water shall be restricted to the extent that it has been authorised under S 21(2) WSCA 1967 (as amended by WSCA and 1969).

S5 **Dam Licence** – Every current mining privilege that is a dam licence shall, during its currency, entitle the holder of the privilege to excavate, construct, maintain and use a dam in accordance with conditions of the licence for the storage of water for any of the purposes specified in the licence:

provided that where any such licence was granted before 10 September 1966 the volume of water stored shall not exceed that authorised under S 21(2) WSCA 1967 (as amended by WSCA and 1969).

S6 **Drainage Area Licence** – Every current mining privilege that is a drainage area licence shall during its currency, entitle the holder of the privilege to the exclusive right to collect and store the water that naturally lies within, or falls upon or percolates through the area of land specified in the licence:

provided that where any such licence was granted before 10 September 1966 the collection and storage of water shall be restricted to the extent that it has been authorised under S 21(2) WSCA 1967 (as amended by WSCA and 1969).

S7 **Tail-Race Licence** – Every current mining privilege that is a tail race licence shall during its currency entitle the holder of the privilege to cut, construct, and use as a race in order to carry off water tailings, sludge, and other refuse or waste from mining operations within the meaning of the Mining Act 1971, or to serve as a ground sluice or race for saving gold:

provided that the holder of the privilege shall not be entitled to treat any portion of the tail race as a ground sluice or race for saving gold:

provided that where any such licence was granted before 10 September 1966 the carrying off of the water, tailings, sludge and other refuse or waste shall be restricted to the extent that it has been authorised under S 21(2) WSCA 1967 (as amended by WSCA amd 1969).

S8 **Main Tail-Race Licence** – Every current mining privilege that is a main tail race licence shall during its currency entitle the holder of the privilege to cut, construct, and maintain a race in order to carry off from such claims or tail races as are specified in the licence any water, tailings, sludge, and other refuse or waste from mining operations within the meaning of the Mining Act 1971:

provided that where any such licence was granted before 10 September 1966 the carrying off of the water, tailings, sludge and other refuse or waste shall be restricted to the extent that it has been authorised under S 21(2) WSCA 1967 (as amended by WSCA and 1969).

S9 **Mining Debris, etc, not to enter public water supply –**

(a) It shall not be lawful to allow the water in any water race, or any watercourse with which any such race is connected or by which it is fed, to be used for the carrying off of any tailings, mining debris, or waste water from mining operations within the meaning of the Mining Act 1971, if the race is held and used by a local authority for the purpose of supplying water to the public:

(b) (a) above shall not apply in the case of any watercourse duly proclaimed under the Mining Act 1926 or any former Mining Act as a watercourse into which tailings, mining debris, or waste water may be discharged, nor in the case of any tail race lawfully discharging into any watercourse below the point at which any water race is connected with or fed by the watercourse and the discharge of the tail race does not, except in unforeseeable circumstances, back up and enter any water race with which it is connected.

S10 **Occupation of land for construction, etc of race or dam**. For the purposes of the construction, maintenance and improvement of any race or dam for which a current mining privilege has been granted, and for the deposit of soil and other matter removed from the race or dam, the privilege shall, during the currency thereof, entitle the holder of the privilege to occupy the land forming the course of the race or, as the case may be, the site of the dam, and also such other land as is specified in that behalf in the privilege.

S11 **Retention of right of priority** – Every holder of a current mining privilege who holds a right that was conferred by the Mining Act 1926 or any former Mining Act, and was in force at April 1973 entitling him to exercise the privilege with priority over any other user of water shall retain that right of priority during the currency of the privilege and of any right granted to him under the WSCAA 1967 in substitution for the privilege on its expiry, until he agrees in writing to a lower order or priority in respect of the privilege and the agreement is notified in writing to the consent authority.

S12 (1) On the application in writing of a holder of a current mining privilege, the consent authority shall supply the holder with a certificate in writing as to the order of priority, as disclosed by its records, of the privilege in relation to any other current mining privilege or right granted under the principle Act.

(2) Every certificate given under this section shall be admitted by all Courts as sufficient evidence of the order of priority specified therein in the absence of proof to the contrary.

S13 **Exercise of priority** – In any case where the water flowing in any watercourse is insufficient to supply fully all the races lawfully connected therewith, the holder of any right granted or authorised under WSCA 1967 or the holder of any current mining privilege in respect of the watercourse shall, on receipt of a notice in writing from the holder of a superior privilege stating that the supply of water in respect of the superior privilege is less than he is entitled to, forthwith cease to use the water or so much thereof is required to make up the full supply in respect of the superior mining privilege; and, if he fails or neglects to do so, he shall be deemed to be wrongfully using the water, in which case the holder of the superior privilege shall be entitled, in any Court of competent jurisdiction, to recover damages for loss of water, and also to restrain by injunction the holder from wrongfully using the same.

S14 **Obligations of holders of current mining privileges –**

(1) Except as otherwise provided in the WSCA 1967 or as authorised by a current mining privilege, the holder of any such privilege shall, as such holder:

(a) Not alter the intake of the water, or use for diverting the water any race other than the race authorised by the privilege:

(b) Not exercise the privilege except for the purpose authorised thereby:

(c) Not exercise the privilege in such a manner as to injure directly any structure, building, bridge, or public road:

(d) Take such action as the consent authority may direct to prevent any water that he may lawfully divert from running to waste:

(e) Not have any right or remedy whatsoever against any person in respect of the discharge of tailings, debris, refuse, or waste water into any watercourse by that person in the lawful carrying on of mining operations within the meaning of the Mining Act 1971:

(f) Comply fully with all conditions and restrictions attaching to the privilege, except to the extent that any may be dispensed with in writing by the consent authority for such period as the consent authority may specify:

(g) Maintain in good repair, order, and condition, to the satisfaction of the consent authority, all bridges and culverts permitting public or private access over water races which have been constructed to enable the privilege to be exercised:

(h) Record in such manner, and furnish to the consent authority such information in respect of the exercise of the privilege as the consent authority may from time to time require.

(2) On the application of any person or local authority likely to suffer damage or injury from unfitness, disrepair, or weakness of any dam (other than a dam owned by the Crown), the Board may order the dam to be inspected by any duly qualified engineer, and, after hearing the holder of the licence in respect of the dam and all interested parties, and after consultation with an Inspector of Mines, the Board may give such directions for the repair or strengthening of the dam or otherwise, and upon such terms as to costs and otherwise (including the expenses of the engineer), as it thinks fit.

(3) In this section, "dam" means a natural or artificial barrier that retains water.

S16 (1) No current mining privilege shall confer any right to the use of natural water as against any person requiring a reasonable quantity for his own domestic needs or for the needs of animals for which he has any responsibility or for or in connection with fire-fighting purposes.

(2) In the event of any dispute arising as to what constitutes a reasonable quantity of water for the purposes of subsection (1) of this section, the consent authority, after hearing the parties to the dispute, shall determine the matter; and the consent authority, after hearing the parties to the dispute, shall determine the matter; and the consent authority's decision shall be final and conclusive.

S19(1) The Governor-General may take, purchase or acquire any current mining privilege as for a public work under the Public Works Act 1981 as otherwise, and hold, sell or lease or otherwise dispose of the privilege to any person in the same manner in as respects as if he were a private person.

S19(4) A current mining privilege held by or on behalf of the Crown shall not be determinable by the effluxion of time, but shall notwithstanding anything in this Act, continue in force until surrendered by the Crown by notice in writing to the consent authority.

S19(5) The Crown or any duly authorised person on the Crown's behalf may use or authorise the use of any current mining privilege held by the Crown for any purpose in connection with a public work or for any purpose for which it was being used at the commencement of this Part of this Act.

S23(1) **Incidents attaching to a current mining privilege held by a local authority-**

(1) A current mining privilege held by a local authority –

(a) Shall confer on the local authority the same rights, powers, and remedies, and impose upon it the same liabilities, as in the case of a private person; and

(b) A current mining privilege held by a local authority shall not be determinable by the effluxion of time, but shall continue in force notwithstanding the expiry of the term for which it was granted,

until it is surrendered by the local authority by notice in writing to the consent authority.

(2) A local authority shall have authority and control over the entire length of any water race held by it under a current mining privilege, notwithstanding that the race may extend beyond the limits of the district within which the local authority has jurisdiction.

S30 (1) The consent authority shall, on payment of the prescribed fee, furnish to any person applying for it, a certified copy of any current mining privilege held by the consent authority under this Part of this Act.

(2) Every such certified copy shall be received in evidence for all purposes for which the original privilege might be put in evidence.

S31 **Produced privileges to be open for search** – Any person may, for the purpose of inspection, without fee, have access to any current mining privilege filed with the District Land Registrar under this Part of this Act, during the hours and on the days appointed by any regulations for the time being in force under the Land Transfer Act 1952.

S32 (1) On the receipt by the District Land Registrar of:

(a) A surrender under the principal Act of all or part of a current mining privilege; or

(b) A copy of an order of the Court cancelling the current mining privilege – he shall note the particulars on his record copy of the privilege affected.

(2) If a current mining privilege has been wholly surrendered, or has been cancelled by the Court, and notice of the existence of the privilege appears on a certificate of title, lease, licence to occupy, provisional register, or other instrument of title under the Land Transfer Act 1952, the District Land Registrar shall, on receipt of notice of the surrender or cancellation from the consent authority, note the certificate of title, lease, licence to occupy, provisional register, or other instrument, to the effect that the privilege has been surrendered or cancelled, as the case may be.

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Appendix 2

Otago Regional Council

WEX0048

NOTICE OF EXEMPTION

Pursuant to Regulation 10 of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, the Otago Regional Council **approves** the use of a water measuring device or system installed near (instead of at) the location from which water is taken.

Relating to Deemed Permit numbers: WR7284Cr.V1, WR7285Cr.V1, WR7286Cr.V1 and WR7298Cr.V1

Map reference of points of take: G40:129-996 and G40:127-993

Map reference of water measuring device or system:
Within a 20 metre radius of NZTM 2000 E1303012 N5037749

For a term expiring on 1 October 2021

Description of the location of the water measuring device or system:
The water measuring device is proposed to be located approximately 1.7 kilometres south west of the intersection of Reid Avenue and Main Road Luggate/State Highway 6, Luggate.

Notes:

1. *In accordance with Regulation 12 this exemption prevails over relevant conditions of the related water permit.*
2. *In accordance with Regulation 11, approval may be revoked by the Otago Regional Council if it has been granted on the basis of incorrect information provided by the permit holder.*

Approved on this 16th day of May 2013

Christopher P Shaw
Manager Consents

MEMORANDUM

ID Ref: A515691
File No: WR7284Cr
Application No: RM13.175
Prepared For: Staff Consents Panel
Prepared By: Colin Walker Senior Resource Officer
Date: 15 May 2013

Subject: **Application by Luggate Irrigation Limited to vary Deemed Permit WR72814Cr,WR7285Cr, WR7285Cr and WR7298Cr**

Background:
Water Permit No WR72814Cr, WR7285Cr, WR7285Cr and WR7298Cr
Consent Holder/s: Luggate Irrigation Limited
Location of point of take: WR7284Cr North Branch Luggate Creek
WR7285Cr South Branch Luggate Creek
WR7286Cr South Branch Luggate Creek
WR7288Cr South Branch Luggate Creek

Legal description of land adjacent to point of abstraction: Crown Land Blk VI Tarras SD and Sec1 SO300466

Deemed Permit WR7284Cr allows the abstraction of 200,000 litres per hour
Deemed Permit WR7285Cr allows the abstraction of 300,000 litres per hour
Deemed Permit WR7286Cr allows the abstraction of 200,000 litres per hour
Deemed Permit WR7298Cr allows the abstraction of 200,000 litres per hour
from their respective points of takes

On the 19 December 2012 an exemption under Clause 10 of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 (the Regulations) being WEX 0048 approved to allow the measuring point to be located not at each point of take but at a point below where the two water races join together to form one water race. The deemed permit can also be modified at this time to reflect this approval.

The applicant has requested a variation to deemed permits WR72814Cr, WR7285Cr, WR7285Cr and WR7289Cr so each permit contains a condition stating what the combined take of all permits is. The applicant requested

"Insert the condition that the combined take from permits WR7284, WR7285, WR7286, WR7298, is not to exceed 255 litres/second."

In the regulations a reference to a "head" is to be treated as a reference to water taken at a rate of 28.3litres/second and based on this the proposed condition to be placed on four deemed permits should be

Date 15 May 2013 Date:15/5/13 Date

Date Decision Notified (Posted) to Applicant .....