

**IN THE MATTER OF THE**

Resource Management Act 1991

**AND**

**IN THE MATTER OF**

Resource Consent Application  
CRC042124 to take and use water  
for the irrigation of pasture by Mr D  
D and Mrs V J Chalmers

### **DECISION OF THE HEARING COMMISSIONERS**

#### **Introduction:**

- 1) This is an application to take and use groundwater for irrigation purposes. The applicants are part of a group known as MRNAG (Mid River New Applications Group) and their case was presented as part of a series of presentations on behalf of that group and other applicants in the period between 11 August 2008 and 2 October 2008.
- 2) All these applications were heard by the same panel comprising Commissioners Peter Skelton, Michael Bowden and Gregory Ryder. On 2 October 2008 the hearing of all these applications was adjourned sine die on 21 days' notice. The hearings were resumed for some of the applications in April 2009, and again adjourned sine die, on 21 days' notice. The hearing of this application is now at an end and this decision is issued accordingly.

#### **The Proposal:**

- 3) Counsel for the applicants was Ms Jane Borthwick who has since been appointed an Environment Court Judge. Her cases have been taken over by Ms Pru Steven, but for the purposes of this decision where we refer to the submissions of counsel they are to the submissions made by Ms Borthwick, as she then was.
- 4) In her opening for MRNAG, which covered a number of matters the only matter relevant for present purposes related to the minimum flow cutoff that was the subject of considerable discussion and debate at the hearings.
- 5) This, and a number of other applications in this Group are to take surface water, or in this case connected groundwater, from the Lower Waitaki River. The Waitaki Catchment Water Allocation Regional Plan (the Allocation Plan) provides for a minimum flow in the Lower Waitaki River from the Waitaki Dam to the sea of 150 cumecs. In a number of applications by this Group, and also in an application by Meridian Energy Limited and the South Canterbury Irrigation Trust in respect of the Hunter Downs' Irrigation Scheme, those applicants sought to have a minimum flow for irrigation purposes of 100 cumecs. We record here that the flow

measurement is at the Kurow recorder, which is in fact above all the abstractions, including this one, which is in fact the last from the Lower Waitaki River before it discharges to the sea.

- 6) Ms Borthwick told us in opening that these applicants, Mr and Mrs Chalmers, do not seek a cutoff flow of 100 cumecs even though as part of MRNAG they support those who do. Also, like the rest of the irrigators in this Group, and in the case of the Hunter Downs' Irrigation Scheme as well, the applicants are seeking a flow measurement at the Kurow recorder that is not, as the Allocation Plan provides a one hour rolling average, but is a 24 hour average, and in some cases was argued to be based on a 72 hour mean flow. This is a matter that will be mentioned again later.
- 7) We also record here that the issue about the 100 cumec cutoff flow has been resolved for all those applicants seeking that cut off, in our decision on the Hunter Downs' Irrigation Scheme. In that decision we declined to adopt the proposal for a 100 cumec cutoff flow, and instead we have determined that the cutoff flow should be 152 cumecs, ramping down from 175.5 cumecs, Consequently, this issue is no longer a live one.
- 8) Then, because this application also complies with Rule 2 Table 3 in the Allocation Plan as being within the allocation limit of 90 cumecs and also with Rule 6 Table 5 in the Plan as regards annual volumetric allocation limits it can be assessed as one requiring consent to a discretionary activity and not a non complying activity except with regard two "technical" matters one concerning the Kurow recorder measurement issue (see above) and one concerning Rule 15 in the Allocation Plan both of which we will refer to later.
- 9) The principal evidence in support of this application came from the applicant's consultants, Ms Keri Johnston, and Ms Melissa Anthony, with the evidence being given viva voce by Ms Johnston. She told us that the applicants farm a dairy farm (the Seadiff Farm) located at Andrews Road just east of Glenavy, towards the coast. They also own the adjacent dairy farm, the River Cliff farm, which has a total area of 247 hectares.
- 10)The applicants hold two existing resource consents. CRC002085 is to take groundwater at a rate of 10.5 litres per second for irrigation of an area of 28 hectares. CRC990250 is to take and use surface water from Andrews Stream at a rate of 200 litres a second for the irrigation of 200 hectares. In addition the applicants hold 198 shares in the Morven, Glenavy and Ikawi Irrigation Scheme (MGIS) for the irrigation of 198 hectares using border dyke irrigation. The present application CRC042124 is to take and use water from bore J41/0124, 300 millimetre diameter and 34.4 metres deep at a rate of 34 litres/second for the irrigation of 90 hectares of dairy pasture.
- 11)The 90 hectares applied for in this application is currently irrigated using water from the MGIS. However Ms Johnston told us that the border dyke system is to be decommissioned because it is inefficient and the applicant is converting to spray irrigation using a centre pivot. The 90 hectares is also part of the 200 hectares irrigated under CRC990250. In respect of this take Ms Johnston said that it is intermittent because Andrews Stream is ephemeral. The applicants have advised her that this consent has not been practical to use as all water dissipates

to ground. The remaining 10 hectares of this property is irrigated using CRC002085. This gives a total of 210 hectares of this property currently under irrigation. This is the Seacliff Farm property.

- 12)The annual volume now sought for the present application has been amended from the original figure after consultation with officers of the Canterbury Regional Council and it is 488,800 cubic metres per annum.

**Relevant Statutory Instruments:**

- 13)For the purposes of this application the relevant statutory instruments are the Canterbury Regional Policy Statement, the Transitional Regional Plan, the Allocation Plan mentioned above, and the proposed Natural Resources Regional Plan (NRRP) with particular reference to Chapter 4 concerning water quality. We record here that for the purposes of this case, the relevant broad objectives and policies of the Regional Policy Statement are recognised and provided for in the Allocation Plan. The Transitional Regional Plan, although technically operative, is virtually redundant given the provisions of the Allocation Plan. For these reasons it is the Allocation Plan and Chapter 4 of the NRRP upon which attention will be focused for the purpose of determining this application.

**Submissions:**

- 14)This application was publicly notified on 4 August 2007. There were 13 submissions received, of which eight were in opposition, three were in support and two were neither in support, nor in opposition. At our hearing submissions that could be taken in a general sense anyway, as referring inter alia to this application were received from Meridian Energy Limited – MEL, the Director-General of Conservation, the Central South Island Fish and Game Council, Te Runanga o Ngai Tahu and other runanga and the Lower Waitaki River Management Society Incorporated. We will refer to these submissions later in this decision.

**The Applicant's Case:**

- 15)Ms Johnston addressed the possibility of effects of this application on other water users confirming that the source of water in this case is connected groundwater as defined in the Allocation Plan. She said there are no surface water abstractors in the vicinity of the applicant's take and there are none downstream. As we said earlier this is the last take before the Lower Waitaki River discharges to the sea. There are 16 other bores or galleries within a two kilometre radius of the applicant's bore. Ms Johnston told us that in a Canterbury Regional Council Investigating Officers Consultant file note of 23/01/07 following receipt of information from the applicants, it was recorded that if they obtained written approvals from the owners of two bores, J41/0023 and J41/0022 their application could be considered for non notification. We record here that the application was in fact notified for other reasons. Ms Johnston told us that the appropriate approvals had been obtained and we have no evidence to the contrary. The implication to draw from all this is that none of the other 16 bore holders or takes from galleries will be affected by this proposed take.

- 16) On the matter of the efficient use of water Ms Johnston referred to an assessment she had made that had been carried out in terms of Policy 16 (c) (i) of the Allocation Plan. The parameters applied were that the use would be for dairy pasture, the area was 90 hectares, it was spray irrigation with 80 percent efficiency. The application depth would be 3.26 millimetres. The return period would be seven days. The return period application depth would be 22.82 millimetres, the soil profile is 60 millimetres and the mean annual rainfall is 498 millimetres. On this basis the annual volume of water required is 488,800 cubic metres. The seven day return period and the 22.82 millimetres application depth is less than 50 percent of the average water holding capacity of the soil of this farm and is therefore also an efficient use.
- 17) The proposed take will be metered in terms of Policy 21 of the Allocation Plan and since this is a proposed take from a groundwater bore no fish screening is required. Ms Johnston asserted that there would be no adverse effects of this take on instream values.
- 18) On water quality Ms Johnston said that no assessment is necessary for the purposes of this case because the land is currently being irrigated for grazing dairy cattle, and there is no change in land use as a result of this application. Nevertheless, she told us that a nitrate management condition has been proposed for the consent to ensure that the applicant manages the nitrate nitrogen effects adequately.
- 19) The bore is located 1,690 metres from the coast and the estimated drawdown is 0.092 metres. She also noted that the applicants currently operate bore J41/0106 under CRC002085 and this bore is located 440 metres west of bore J41/0124. This consent was granted in 2000 and to date there has been no evidence of saltwater intrusion. Consequently, she does not expect any saltwater intrusion from the use of bore J41/0124. Ms Johnston also said that the take will not affect aquifer stability and there will be no cross connection because a back flow preventer will be installed to ensure there is no fertiliser contamination.
- 20) On the matter of water quality brief evidence was also given by Ms Lyn Torgeson, who gave evidence on behalf of a number of MRNAG applicants on groundwater quality effects. For the purposes of this application she confirmed that no assessment had been made because it is in fact the same activity as that at present, and indeed in her opinion, there is likely to be less prospect of deleterious effects on water quality because there will be less water applied under the spray irrigation system than was the case with the border dyke irrigation system.

#### **The Case For The Submitters:**

- 21) In her submission, as counsel for MEL, Ms Jo Appleyard said that MEL supports this application but she took the view that there should be some provision for flow sharing in times of low flow. This matter has been addressed in our decision on the Hunter Downs' Irrigation Scheme. There was no other evidence called by this submitter that was relevant to this application.
- 22) So far as the Director-General of Conservation is concerned we were informed by its counsel, Ms Phillipa Rutledge that the only reason this application would be

opposed would be if it sought a reduced minimum flow, or as we discussed earlier, a cutoff flow below 150 cumecs in the Lower Waitaki River. The Director-General's principal concerns with respect to main stem applications, or applications to use groundwater connected to the main stem is in respect of effects on braided river habitat for birds and on mudfish in the riparian wetlands. There is no evidence in this case that any of these values will be adversely affected by the granting of this application.

23) The Central South Island Fish and Game Council was represented at our hearings by Ms Camilla Owen, as counsel. She said in her submissions that because these applicants are not seeking the cutoff flow of 100 cumecs, the Fish and Game Council is not opposed to the application but would be seeking some conditions. In evidence for the Fish and Game Council, Ms Bridget Pringle, its Resource Officer, said that for this application the Council wanted to see conditions that would require the applicants to carry out best land management practices and monitoring and a reduced duration hopefully leading towards a common expiry date. It sought a term of 15 years as it did in all other cases involving this particular Group.

24) Te Runanga o Ngai Tahu and other Runanga were represented at these particular hearings by Mr Malcolm Wallace as counsel. He told us that the Runangas' main concern with the Lower Waitaki River main stem applications was the proposal for the 100 cumec cutoff flow. This, of course, is now resolved favourably to the Runanga in terms of the Hunter Downs Irrigation Scheme decision.

25) Mr Wallace also repeated a submission that he had made at the hearing for the Hunter Downs' Irrigation Scheme about the applicability of Rule 4 of the Allocation Plan. This rule in effect prohibits the taking or diverting of water from wetlands. It was Mr Wallace's submission that by removing water from the Lower Waitaki River main stem, this was in effect taking or diverting water from the wetland, and therefore, all the applications, were prohibited activities. We have also dealt with this matter in our decision on the Hunter Downs' Irrigation Scheme where we have respectfully and gratefully adopted the reasoning of the Environment Court in its judgment on the North Bank Tunnel Concept appeal when it ruled against this submission. We record too, in case it should be necessary, that in respect of this particular case, there is no evidence that any wetland will be affected by this proposed take of groundwater.

26) The Lower Waitaki River Management Society was also a submitter at these hearings, and evidence was given in support of its submission by Mr J T McIlraith. He affirmed, as we have recorded in other decisions, that the Society is opposed to all applications that require consents for non complying activity. It also supports sustainable irrigation. It sought 15 year terms with a move towards a common expiry date to allow coordinated adjustments between activities as required.

**The Advice of the Section 42A Reporter:**

27) The Section 42A report in this case was provided by Ms Claire Penman, an Environmental Consultant. On the potential adverse effects of the proposed take on surrounding groundwater users Ms Penman agreed with the conclusions reached by Ms Johnston that if written approval was obtained from two owners of

potentially affected bores the effects, if any, would be no more than minor. A similar conclusion was reached by Ms Penman regarding cumulative effects.

28) Ms Penman also said she was satisfied that, given the depth of the proposed abstraction, the volume of water discharging from the Lower Waitaki River, and proposed monitoring, adverse effects on other groundwater users from saltwater intrusion would also be minor. Similar conclusions were reached regarding aquifer stability and potential adverse effects from cross connection given the proposal to install a backflow preventer.

29) On effects on the ecosystem she said that if the proposal complied with the relevant minimum flow and the allocation limit in the Allocation Plan there should be no more than minor effects, if any, on the ecosystem.

30) In regard to existing users Ms Penman expressed some concerns about the relationship between current consents and new consents and the sharing of water within the 90 cumec allocation limit which is provided for in the Lower Waitaki River main stem. However, again we have dealt with this matter in our decision on the Hunter Downs Irrigation Scheme and our conclusions in that decision apply to this application as well.

31) Ms Penman also expressed herself as being satisfied that this application would constitute an efficient use of water in terms of the relevant provisions of the Allocation Plan. She also concluded that the proposal was consistent with most of the other relevant provisions of the statutory instruments, and in particular, Policies 5 and 6 of the Allocation Plan that relate specifically to groundwater.

32) However because of her concerns about the effects on existing users, she was unable to recommend granting of consent. Ms Penman also addressed the matter of the term of the consent drawing our attention to the relevant parts of Chapter one of the proposed NRRP that we have discussed in other decisions. We will address this issue later, but we note here that the applicant seeks a term of 35 years.

#### **Our Consideration Of The Issues:**

33) We return to the two "technical" matters referred to earlier in this decision under "The Proposal". In our decision on the Hunter Downs Irrigation Scheme we have addressed both these matters when dealing with legal issues. We have held in that decision that neither of the "technical" non-compliances with the Allocation Plan (the change in the Kurow recorder regime and the failure to comply with Rule 7) should stand in the way of granting consent for the purposes of section 104D of the RMA. We adopt those findings in this case and consequently reach the same conclusion.

34) As we said earlier in this decision this is in effect an application for consent to a discretionary activity- see Rule 15 of the Allocation Plan. Of the matters referred to in that Rule, to which we are required to have regard, Policies 13, 15 to 20, Policy 21 and to some extent policies 23 to 27 and 45, concerning times of low flow are applicable.

- 35) On the matter of water quality no assessment was carried out because there is no change in the existing land use if this consent was granted. Then as Ms Torgeson said, in fact there is likely to be an improvement because there will be less water applied to the land than is currently the case, and therefore, less drainage. In addition as we stated earlier the applicants have offered through their advisers to accept conditions requiring them to provide a farm management plan and adopt management techniques to control potential adverse effects of their farming activities particularly with regard to water quality.
- 36) On the matter of efficient use Ms Johnston's evidence is that this will comply with the relevant efficiency provisions of the Allocation Plan, and Ms Penman concurs. Water metering will also be provided for in the conditions of consent. On this matter too we say that to ensure continued efficiency for the future we intend to require the applicants to surrender their right to use water from the MGI scheme for the area of land to be irrigated by this new consent as is proposed by them and to place a restriction on the concurrent use of this new consent with consent CRC990250 so that the annual volume is not exceeded
- 37) Again as we said earlier the position relating to low flow restrictions is covered by the decision to require all these "new water" consents to take water from the Lower Waitaki River main stem to comply with a cut-off flow of 152 cumecs ramping down from 175.5 cumecs and because this application conforms to the environmental flow regime for the Lower Waitaki River provided for in the Allocation Plan it is in accord with Policy 45 of the Plan.
- 38) Having regard to the assessments and conclusion just recorded it is our judgment that the applicants' proposal is not in conflict with any of the relevant matters in sections 6, 7 and 8 of the Resource Management Act 1991 and accordingly granting consent will achieve the purpose of that Act.
- 39) Finally we turn to the matter of the term of consent. From what we have already said it will be apparent that we are satisfied that any adverse effects of granting this application will be minor and there are no problems associated with the availability of water since the proposal meets the Allocation Plan's provisions in this regard.
- 40) The existing consent for this farm CRC990250 and the existing consent for Rivercliff Farm CRC002085 that irrigates 10 ha of the Seacliff Farm expire on 16 September 2033 and 18 July 2035 respectively. Giving weight to the evidence that CRC 990250 is of little practical use to the applicants and that consequently the new consent will be the one more likely to be relied on by them we think it should expire at the same time as CRC002085 so that the applicants' total irrigation regime can be assessed at the same time for the purposes of replacement applications. This means that the new consent is to expire on 18 July 2035 which is approximately 25 years from now.

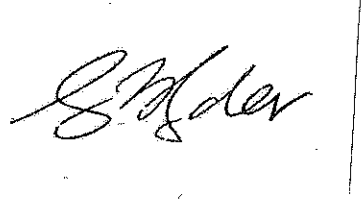
**DECISION**

For all the foregoing reasons this application is granted on the terms and conditions set out in Appendix 1 to this decision.

Dated at Christchurch this 5<sup>th</sup> day of May 2010

**Peter Skelton**  
Commissioner and Chair 

**Michael Bowden**  
Commissioner 

**Gregory Ryder**  
Commissioner 

## Appendix 1

### Mr & Mrs D D & V J Chalmers

**CRC042124** - To take and use water from bore J41/0124 (34.4 metres deep, 300 millimetres diameter), at or about map reference NZMS 260 I41:624-854, at a maximum rate of 34 litres per second, with an annual volume not exceeding 488,800 cubic metres, for the spray irrigation of up to 90 hectares of pasture for an existing dairying operation on Andrews Road, Glenavy. This consent shall expire on 18<sup>th</sup> July 2035.

1. Water may be taken only from bore J41/0124, 300 millimetres diameter and 34.4 metres deep, at map reference NZMS 260 I41:624-854.
2. Water may be taken at a rate not exceeding 34 litres per second, with a volume not exceeding 488,800 cubic metres between 1st July and the following 30th June.
3. Whenever the flow expressed in cubic metres per second in the Lower Waitaki River, as estimated by the Canterbury Regional Council based on the daily mean flow for the previous day at the Kurow recorder site map reference NZMS 260 I40:079:088:
  - (a) is equal to or greater than 152 cumecs, the maximum rate at which water is taken, shall not exceed 34 litres per second, with a daily volume not exceeding 2,938 cubic metres per day.
  - (b) falls below 175.5 cubic metres per second, then the rates of abstraction permitted in terms of this permit shall not exceed those shown in the following table.

<b>CRC042124 Chalmers DD &amp; VJ</b>	
<b>Waitaki River Flow (cumecs)</b>	<b>Allowable Abstraction Rate (Litres per Second)</b>
175.5	34.0
173.2	30.6
170.8	27.2
168.5	23.8
166.1	20.4
163.8	17.0
161.4	13.6
159.1	10.2
156.7	6.8
154.4	3.4
152	0.0

(c) falls below 152 cubic metres per second, the taking of water in terms of this permit shall cease.

- 4 For the purposes of determining compliance with Condition 3 the flow in the Lower Waitaki River at the Kurow Gauge shall include any flow taken from the Waitaki catchment upstream of the Kurow Gauge and returned downstream of the Kurow Gauge but upstream of the Black Point.

5. Water shall only be used for irrigation of crops and pasture for grazing stock, including milking dairy cows, as described in the application, on the 90 hectares of land shown in attached plan CRC042124, which forms part of this consent.

**6. Nitrate management**

Prior to the exercise of this consent the consent holder shall:

- a. select one of the three approved methods listed below:
  - i. Overseer' (AgResearch)
  - ii. The Soil Plant Atmosphere Model (SPASMO- HortResearch)
  - iii. Any other method approved by the Canterbury Regional Council.
  
- b. Put in place recording practices that will ensure records shall be maintained throughout the year of the farm management practices and associated data that will be used as input to the approved method.
  
- c. Within two months of the 30<sup>th</sup> June, following the first anniversary of the first exercise of this consent and then each year thereafter, the approved method shall be used to
  - i. Calculate the nitrate-nitrogen concentration in the soil drainage water below the plant root zone and a nutrient budget for the subject land for the preceding twelve month period of 1<sup>st</sup> July to 30<sup>th</sup> June;
  - ii. Determine what practical changes to farm management practices used in the preceding twelve month period will result in lower nitrate leaching.
  
- d. A record of the predicted and measured input data, the calculations undertaken and the calculated nitrate-nitrogen concentration in the soil drainage water below the plant root zone in accordance with clause 6(c) shall be:
  - i. Certified as an accurate record by a suitably qualified person;
  - ii. Maintained for the subject land for the duration of the consent; and
  - iii. Provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, by 30 September each year.
  
- e. For the purposes of this condition, the subject land means the area shown in plan CRC042124
  
- f. Between the 1<sup>st</sup> September and 30<sup>th</sup> November of each year a groundwater sample ('the Sample') will be taken from the shallowest bore on the property to which this consent applies and analysed for nitrate-nitrogen by a laboratory that is certified for that method of analysis for nitrate-nitrogen.
  
- g. The results of the analysis detailed in paragraph f. above shall be provided to the Canterbury Regional Council, Attention RMA Compliance and Enforcement Manager by the 30<sup>th</sup> January of each year.

## 7. Fertiliser

- a. Fertiliser shall be applied in accordance with a nationally recognized quality assurance program for fertilizer application.
- b. For the purposes of this condition an approved quality assurance program is:
  - i. The New Zealand Fertiliser Manufacturers' Research Association Code of Practise for Fertiliser Use;
  - ii. The Code of Practise for Nutrient Management (With Emphasis on Fertiliser Use) NZFMRA 07;
  - iii. Any other method approved by the Canterbury Regional Council.

## 8. Saltwater intrusion

- a. A sample of water shall be taken from bore J41/0124, in accordance with the following schedule:
  - i. During the first two years after the first exercise of this consent, once every month during the period commencing the last week in September and ending the last week in April, and
  - ii. All samples shall be analysed for conductivity,T
  - iii. The laboratory carrying out the analyses shall be accredited to a NZS/ISO/IEC Guide 17025 or equivalent defined by an accreditation body recognized as operating to ISO/IEC Guide 58 for those analyses,
  - iv. The results of each analysis, and the date and time of sampling, along with the date and time the sample is sent to the laboratory, shall be provided to the Canterbury Regional Council within 10 working days of the receipt of the analytical result from the laboratory.
- b. Whenever analysis of any sample of water taken from bore J41/0124 indicates conductivity exceeding 100 millisiemens per metre, the taking of water in terms of this consent from the bore shall cease, and shall not recommence until analysis of a sample of water taken from the bore indicates conductivity is less than 100 millisiemens per metre.

## 9. Standing water level

- a. The standing water level, related to mean sea level datum, in the bore specified in this consent shall be measured and recorded monthly in a log kept for that purpose and a copy of the records provided before 31 May each year to the Canterbury Regional Council.
- b. The taking of water in terms of this permit shall cease for a period of at least 24 hours prior to recording the standing water level as required in condition 10(a).

10. The consent holder shall, before the first exercise of this consent, install an easily accessible straight pipe, with no fittings or obstructions that may create turbulent flow conditions, of a length at least 15 times the diameter of the pipe, as part of the pump outlet plumbing or within the mainline distribution system.
11. The consent holder shall before the first exercise of this consent:
  - a.
    - i. install a water meter(s) that has an international accreditation or equivalent New Zealand calibration endorsement, and has pulse output, suitable for use with an electronic recording device, which will measure the rate and the volume of water taken to within an accuracy of plus or minus five percent as part of the pump outlet plumbing, or within the mainline distribution system, at a location(s) that will ensure the total take of water is measured; and
    - ii. install a tamper-proof electronic recording device such as a data logger(s) that shall time stamp a pulse from the flow meter at least once every 60 minutes and have the capacity to hold at least one season s data of water taken as specified in clauses (b)(i) and (b)(ii), or which is telemetered, as specified in clause (b)(iii).
  - b. The recording device(s) shall:
    - i. be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and
    - ii. store the entire season s data in each 12 month period from 1 July to 30 June in the following year, which the consent holder shall then download and store in a commonly used format and provide to the Canterbury Regional Council upon request in a form and to a standard specified in writing by the Canterbury Regional Council; or
    - iii. shall be connected to a telemetry system which collects and stores all of the data continuously with an independent network provider who will make that data available in a commonly used format at all times to the Canterbury Regional Council and the consent holder. No data in the recording device(s) shall be deliberately changed or deleted.
  - c. The water meter and recording device(s) shall be accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval.
  - d. The water meter and recording device(s) shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer 's instructions.
  - e. All practicable measures shall be taken to ensure that the water meter and recording device(s) are fully functional at all times.
12. The Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, shall be informed immediately on first exercise of this consent by the consent holder.

13. Within one month of the installation of the measuring or recording device(s), or any subsequent replacement measuring or recording device(s), and at five-yearly intervals thereafter, and at any time when requested by the Canterbury Regional Council, the consent holder shall provide a certificate to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:
  - a. The measuring and recording device(s) has been installed in accordance with the manufacturer s specifications; and
  - b. Data from the recording device(s) can be readily accessed and/or retrieved in accordance with clauses (b) and (c) of condition (11).
14. All new irrigation infrastructures shall be designed and accredited by a qualified professional, and installed in accordance with the accredited design. The design shall take into account the specific requirements of the property's soil types.
15. If a consent holder is using existing irrigation infrastructure they shall obtain an evaluation report prepared by a certified irrigation evaluator. The evaluation shall determine the system's current performance in accordance with the Code of Practice for Irrigation Evaluation 2005. This report shall be obtained within 3 months of the first exercise of the consent. Any recommendations identified in the report shall be implemented within 12 months from the date of receipt of the report. A copy of the report shall be given to the Canterbury Regional Council: attention the RMA Compliance and Enforcement Manager, within one month of receiving the report.
16.
  - a. If the irrigation system used to distribute water taken in terms of this permit is used to distribute effluent, fertiliser or any other added contaminant, a backflow preventer manufactured in accordance with AS 2845.1 (1998) or the American Society of Sanitary Engineers standards shall be installed within the pump outlet plumbing or within the mainline, to prevent the backflow of water into the bore.
  - b. The backflow preventer shall be tested to the standard set out in AS 2845.3 (1993) or an equivalent method within one month of its installation and annually thereafter by a suitably qualified person. A test report shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within two weeks of each inspection.
17. The consent holder shall take all practicable steps to:
  - a. Ensure that the volume of water used for irrigation does not exceed that required for the soil to reach field capacity; and
  - b. Avoid leakage from pipes and structures; and
  - c. Avoid the use of water onto non-productive land such as impermeable surfaces and river or stream riparian strips.

## 18. Farm Management Plan

- a. Prior to exercise of this consent, the consent holder shall prepare and submit to the Canterbury Regional Council a Farm Management Plan.
  - b. The Farm Management Plan shall provide details of the practices and procedures to be put into place to manage the environmental effects arising from the use of the water within the irrigated area, in order to ensure compliance with the conditions of consent and to minimise the potential for adverse effects on the environment arising from the exercise of this consent.
  - e. A Farm Management Plan shall be prepared and shall address the following objectives:
    - To achieve technically efficient use of water, minimising runoff and drainage;
    - To minimise contamination of groundwater and surface water, particularly in terms of fecal contamination, nitrogen and phosphorus;
    - To minimise nutrient losses to water while managing soil fertility to optimise pasture and crop productivity;
    - To minimise adverse effects on groundwater and surface water levels;
    - Soil in good physical condition;
    - To minimise adverse effects on water bodies and riparian areas through healthy riparian margins;
    - To safeguard significant indigenous biodiversity and ecosystem values within the Scheme area;
    - To provide information to the consent holder including land use, area irrigated, stock numbers, and fertiliser use.
    - Procedures to ensure the preparation, implementation, regular review, updating of the Farm Management Plan.
  - (d) An audit shall be undertaken by an appropriately qualified person to determine compliance by the consent holder with the provisions of the Farm Management Plan. The audit shall take place each year for the first 3 years after taking of water commences under this consent and thereafter at least once every 5 years. A copy of the audit shall be provided to the Canterbury Regional Council: attention the Compliance and Enforcement Manager.
19. Prior to first exercise of this consent, the right to use water from the Morven Glenavy Irrigation Scheme for irrigation of the area shown in attached plan CRC990250 shall be surrendered.
  20. If water authorized by any consent other than CRC042124 is used for the irrigation of the area shown in Plan CRC042124 the combined volume of water used from all sources shall not exceed 488,800 cubic metres between 1 July and 30 June the following year. The consent holder must ensure that verifiable records are available to the Canterbury Regional Council to establish the volume of 488,800 cubic metres has not been exceeded.
  21. The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of dealing with any adverse effect on the environment

which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage.

22. The lapsing date for the purposes of section 125 shall be 5 years.

# ATTACHMENT ONE – MAP SHOWING LOCATION OF ABSTRACTION AND IRRIGATION AREA

