

**Before the Commissioners appointed by Canterbury  
Regional Council**

**IN THE MATTER OF** The Resource Management Act  
1991

**AND**

**IN THE MATTER OF** Applications CRC042011,  
CRC042015, CRC042017 and  
CRC042018 by Maree Horo for  
four Water Permits to divert, take  
& use surface water.

## **Section 42A Officer's Report of Claire Penman**

**Date of Hearing: 21 September 2009**

1. This report should be read together with the introductory s42A report which gives an overview of all applications presented at this hearing (Report 1), the planning and technical reports on hydrology and minimum flows (Report 2A and 2B), the planning report outlining annual allocations (Report 3) and the reports on cumulative landscape and water quality effects in the catchment (Reports 4 A – F and 5).

### **INTRODUCTION**

2. Maree Horo (the applicant) has applied for a resource consents to:
  - (a) Divert, take and use up to 30 litres per second, from any one of three locations on the Quail Burn and one location on East Diadem Creek, with a combined rate of no more than 90 litres per second and an annual volume of 1,080,000 cubic metres, for irrigation of 180 hectares of pasture and winter crop at Ribbonwood Station, Quailburn Road, Omarama (*CRC042011, CRC042015, CRC042017, CRC042018*);

See Attachment One for a map of the location of take and irrigation areas.

3. The applicant engaged Mr Robin Brooks of Brooks and Associates Ltd to prepare the application and assessment of environmental effects and respond to further information requests on their behalf. Ms Keri Johnston of Irricon Resource Solutions has also been engaged to provide technical advice on behalf of the applicant.
4. A 16 year duration is sought to 2025. These are applications for new activities, however they are seeking to resume activities previously consented on the property.
5. A site visit was undertaken during the audit of this application in July 2009.

### **Background**

6. Applications CRC042011, CRC042015, CRC042017 and CRC042018 were lodged on 23 March 2004 and considered to be notifiable on 24 March 2005. Requests for further information have been sent covering effects including, but not limited to, water

quality, landscape, irrigation volumes, minimum flows, intake design and derogation approvals.

7. Since the application was lodged, there have been a number of amendments.
8. The applicant has clarified that the notification of all four applications as if they were to each abstract up to 57 litres per second and irrigate 100 hectares each was incorrect. The proposal is in effect to abstract up to 30 litres per second from each of four locations (three on the Quail Burn and one on East Diadem Stream) with a total of no more than 90 litres per second for the irrigation of up to, as revised on 15 April 2009, an area of 180 hectares. At any point in time only a portion of the 180 hectares will be irrigated within the area identified on the plan in Attachment One.
9. The total annual volume now being sought across these consents has been reduced from a total of 2,400,000 cubic metres (as notified) to the currently proposed 1,080,000 cubic metres. The total rate of diversion and take has also been reduced from 228 litres per second diversion and 120 litres per second take (as notified), to only provide for a take of water at a rate of 90 litres per second. The irrigation area was initially 400 hectares (as notified), but is now a total of 180 hectares.
10. The minimum flow now proposed has also been increased in line with the flow sharing requirements in Table 3 of the WCWARP. This is due to the allocation limit being full as a result of two replacement consents with higher priority (see instantaneous allocation tables in Report 2A).
11. All associated discharge permits have been withdrawn as the applicant no longer proposes to divert and discharge excess water. The entire system will be spray irrigated instead of border-dyke.
12. Applications CRC042020, CRC042022, CRC042024 and CRC042025 have also been lodged by the applicant to take and use water for irrigation of a further two blocks of land in the East Branch Ahuriri River and Wairepo Creek catchments. These applications are assessed in Reports 21B and 21C.

### **Previous consents**

13. The consents that these applications are replacing – WTK691014A and WTK691016B (East Diadem) and WTK691017A & B, WTK691011A & B and WTK691013 – expired on 1 October 2001 (A copy can be found in Attachment Two). As these applications were lodged two and half years after the expiry of the above consents, the applicant is not operating under section 124 of the RMA continuation.
14. It is not clear to what extent the irrigation component of these consents were exercised in the past.
15. The original consents provided for the diversion, take and use of water from the Quail Burn and East Diadem at a maximum rate not exceeding 57 litres per second each, for stock water and irrigation of 150 hectares each.

### **Notification**

16. Details of the notification and wording are contained in Appendix 4 of the introductory s42A report (Report 1). These consents were notified in August 2007 with 200 other applications for similar activities in the Waitaki catchment.

## Submissions

17. In the 2007 public notification, 23 submissions in total were made on each of the water permit applications. Of these:
- (a) 2 were in support;
  - (b) 19 in opposition; and
  - (c) 2 neither supported nor opposed these applications.
18. Details of submissions made in response to all applications which were publicly notified at the same time in 2007 are contained in Report 1, Appendix 5. Additionally, Table 1 below summarises submissions made individually on these applications, or submissions which raise particular concerns in relation to this proposal. Please note that all submissions hold equal importance, even if not specifically listed below.
19. Overall, the key effects of concern to submitters include effects on: ecosystems, water quality, allocations, minimum flows, natural character and landscape, efficiency and cultural values.

Submitter	Issues	Support/Neutral/Oppose	To be heard
Fish & Game NZ	Quail Burn is important spawning tributary and stream is over-allocated	Oppose	Yes
Meridian Energy Ltd	Concerned about water quality, metering and reasonable use	Oppose	Yes
Canterbury Aoraki Conservation Board	Concerns regarding effects on instream values, landscape, water quality and consider 35 yr duration too long.	Oppose	Yes
H & P Smith	Owners of Ben Dhu Station concerned that abstraction may reduce water levels in the Quail Burn swamps reducing stock water availability and increase in nitrates from irrigation may decrease water quality of stock water.	Oppose	No
The Glens Ltd, Greenfield Developments Ltd & DW McAughtrie	Downstream water user concerned about reduction in reliability of supply	Oppose	Yes
DW McAughtrie	Downstream water user concerned about reduction in reliability of supply	Oppose	Yes
Bellfield Land Co Ltd	Downstream water user concerned about reduction in reliability of supply	Oppose	Yes

**Table 1: Summary of submissions on application CRC042011, CRC042015, CRC042017 & CRC042018**

## DESCRIPTION OF THE PROPOSED ACTIVITY

20. The applicant proposes to divert, take and use water at a rate of 30 litres per second from each of four locations on the Quail Burn and East Diadem Stream up to a combined rate of 90 litres per second to irrigate an area of 180 hectares within Ribbonwood Station (see photos of streams in Attachment Three).
21. Water will be taken via a mobile pump from any one of the Quail Burn intake sites and piped to the spray irrigation system which serves a portion of the total 180 hectares.

The current race system (which conveys stock water) on the East Diadem will be utilised to convey water around to the irrigation area, at which point it will be piped in order to provide suitable pressure to have a gravity-fed spray system.

22. The applicant has also not yet provided details about the pump design or any upgrade that may be required for the East Diadem intake and whether or not works in, on or under the bed and banks of the river will be required for those structures. An application for resource consent under section 13 has not been lodged, if required.
23. The proposed annual volume does not include provision for stock water for the property. The applicant considers that the provision of stock water is covered by section 14(3)(b) of the RMA.
24. The applicant proposes the following activities, which are described here as if they were to be issued as one consent:

CRC042011, CRC042015, CRC042017 & CRC042018

- (a) To divert, take and use water from at a rate not exceeding 30 litres per second from each location up to a combined volume of 90 litres per second, with a volume not exceeding 1,080,000 cubic metres per year from the Quail Burn or East Diadem Stream, at or about map reference NZMS 260 H39:583-441, H39:558-446, H39:581-443 or H39:563-411.
- (b) Water shall be used for spray irrigation of up to 180 hectares of crops and pasture excluding dairy cows.
- (c) A minimum flow of 1m<sup>3</sup>/s is proposed at Hen Burn Road, in accordance with the WCWARP.
- (d) 1:1 flow sharing with the river is proposed, in accordance with the WCWARP ("B" allocation block).
- (e) A fish screen will be installed on the intakes, however, details of this have not been provided.
- (f) The take of water will be metered.

## LEGAL AND PLANNING MATTERS

### Consent Requirements

25. An overview of the consent requirements under the Resource Management Act (RMA), Transitional Regional Plan (TRP) and Waitaki Catchment Water Allocation Regional Plan (WCWARP) for water permit applications is provided in the introductory s42A report (Report 1). A summary of the requirements for this application is provided below:

#### TRP

The TRP permits the abstraction of surface water from any surface waterway provided the annual volume abstracted is less than 10 cubic metres per day, and the rate of take is limited to 5 litres per second. Given that the proposed takes exceed these limits, consent is required as a discretionary activity.

#### WCWARP

- (a) Rule 2, clause (1) – The applicant proposes a minimum flow of 1 cubic metre per second on the Quail Burn at Hen Burn Road, as required in Table 3, row (xi). The reason this higher minimum flow is proposed is because there are two replacement applications on the Quail Burn, with higher priority, that fill up the allocation block of 0.31 cubic metres per second, as identified in the WCWARP. The applicant also proposes 1:1 flow sharing with the river as required by Table 3, row (xi)(c). The take from the East Diadem is also subject to the above as row (xi) applies to the Quail Burn and its tributaries,
  - (b) Rule 6 – The annual volume for the proposed take and use of 1,080,000 cubic metres is within the allocation limit of 275 million cubic metres for agricultural activities upstream of Waitaki Dam (see Report 3 for annual allocation and priority tables).
  - (c) Rule 15 - Classifying rule – discretionary activity
26. Overall, the proposed water permit is a **discretionary** activity under Rule 15 of the WCWARP (and TRP) and resource consent is required in accordance with section 14 of the RMA.
27. A consent under section 13 of the RMA to undertake works in the bed and banks of the Quail Burn or East Diadem Stream to utilise mobile pumps or upgrade the intake has not yet been lodged, but consent may be required (see paragraph 19 above).
28. No discharge is proposed so consent under section 15 of the RMA is not required.

### Priority

29. In terms of instantaneous allocation under Rule 2, a detailed list of all applicants who fall within Rule 2, Table 3 can be found in Report 2A.
30. For Rule 6, Table 5 (annual allocations), refer to Report 3 for a full list of all existing consents and applications in priority order.
31. For these applications the allocation limits are not exceeded and there are no priority issues.

### Derogation Approval

32. At the time of preparing this report, Meridian Energy Limited (MEL) had not provided approval for Maree Horo to derogate from its consents.

### CONSULTATION

33. The applicant undertook consultation and gained written approval from adjoining land owners Tarnbrae Farm Ltd and TJ & J Cooke prior to notification of this application. However, I note that Tarnbrae Farm Ltd no longer appears to be a neighbouring landowner.
34. I am unsure if any consultation has occurred since notification with any party.

### DESCRIPTION OF THE AFFECTED ENVIRONMENT

35. A description of the values of the Waitaki Basin in general is provided in the introductory s42A report (Report 1).

36. In addition to the above overall summary, the applicant notes the following:
- (a) The East Diadem is a small stream with many tributaries. Channel width varies from 1 to 3 metres, with a depth of 0.3 to 0.5 metres. No flow data is available but the applicant estimates flows are between 100 and 500 litres per second.
  - (b) There are no recorded users of the East Diadem and the applicant considers there to be no significant native or protected species habitat in the vicinity of the diversion.
  - (c) The Quail Burn is a small braided river with channel width of 8 to 10 metres and average deepest depth of 0.5 metres with a range of 0.1 to 0.5 metres. Expect flows to range between 60 and 890 litres per second.
  - (d) Considers that there is no significant native wildlife evident and no other users near the diversion site. They also note that the river at the diversion points is not known for significant fish spawning.
37. Fish & Game provided comment on the values in the Quail Burn in their submission from the August 2007 notification, and consider it to be an important spawning and juvenile rearing tributary of the Ahuriri River. Particularly for rainbow trout which are tributary spawners. Good angling is available early in the season, in the lower reaches before these are dewatered later in the summer. However, they note that the reaches crossing Ribbonwood Station would not be considered as prime angling waters.
38. The Ribbonwood Station Conservation Resources Report (2002), produced by the Department of Conservation for Tenure Review, provides additional information regarding the landscape and ecological values of the area.
- (a) Ribbonwood Station covers an area of 7,289 hectares of land stretching from the outwash plains of Lake Ohau across the Diadem Range to the river terraces of the Ahuriri River.
  - (b) The Ohau Basin flats which comprise all the flat land from the base of the Diadem Range to the eastern boundary, are the main proposed irrigation areas. The natural landscape has been transformed into productive agricultural landscape of conifer shelter belts, plantation forestry, "improved" pasture and paddocks. It is clearly differentiated from surrounding land by the shelter belts and improved pasture (see photos in Attachment Three) and has no conservation value remaining in terms of native species.
  - (c) Freshwater fish species include koaro, alpine galaxias, Canterbury galaxias and upland bully, mostly inhabiting the gravel bottomed streams making up the Serpentine Creek. Brown and rainbow trout use these streams for spawning if flows and passage allow.
  - (d) A small wetland area is the only remaining area of importance to birdlife on the eastern boundary of the property. In this wetland, black stilt, banded dotterel and pied oyster catcher breed and feed, as well as several other species which feed on this wetland.
39. I also note that the proposed irrigation area is predominantly flat land located at the base of the East Diadem Range. The irrigation area is not visible to traffic on the

State Highway and would have only limited visibility from Quail Burn Road which is not used by general traffic, as a result of the number of shelter belts.

40. There are two applicant's seeking replacement consents on the Quail Burn who have higher priority and both abstract further downstream.

## ASSESSMENT OF PROPOSED ACTIVITY

41. The proposed water permit activities are discretionary and must be considered in the context of s104 of the RMA.
42. Section 104(1) outlines matters that the consent authority must have regard to when considering an application for resource consent, including any actual and potential effects on the environment, any relevant statutory provisions, and any other matter the consent authority considers relevant.

### Assessment of Actual and Potential Effects (s104(1)(a))

43. The effects that have been considered for this type of activity (surface water diversion and abstraction) are presented in the introductory s42A report (Report 1). That report includes the identification of the relevant plan provisions which direct us to consider these effects. A summary table regarding the assessment of individual effects for this application is provided below and a detailed discussion of those outstanding matters or areas of concern is provided in the following sections.

Adverse Effects	Applicant's assessment	My assessment	My Conclusion
Ecosystems	Consider with fish screen & min flow that effects minor.	Flow sharing minimum flow as set out in Table 3 will protect instream values, flow variability and fish spawning. Fish screen proposed which needs to be consistent with recommended condition.	Effects minor provided fish screen suitable.
Other water users	No other users in close proximity to proposed diversion points. Other applicants seeking replacement consents downstream, but proposed flow sharing min flow will protect their abstractions. The diversions also operated in the past without known effects on other users or the environment. Water meter proposed.	Water meter proposed. The proposed flow sharing min flow will ensure flow availability maintained for downstream users, both applicants and permitted users (e.g. stock water).	Effects minor.
People, communities & recreational values	Part of substantially modified environment with human influences from improved pasture and shelter belts. Cannot be seen from main highway. No change to contour of land, but greening effects of irrigation part of agricultural landscape. Cumulative effects too remote, unnecessary to determine application &	The irrigation area is not visible from the State Highway and has only limited visibility from Quail Burn Road. Already substantially cultivated pasture and modification of environment through shelter belts. Conclusions of Chris Glasson on landscape effects (Report 5) consider that effect on landscape from this proposal are likely to be acceptable provided the wetland areas on the property are retained and protected.	Effects acceptable if recommended conditions are adopted.

	beyond scope of Regional Council.  Recreational & amenity effects have not been assessed.	Appropriate min flow proposed to protect recreational use and aesthetic amenity of waterway.  I also note that use of water for irrigation may result in improved productivity of the land & positive economic benefits for the wider community.	
Inefficient take and use	Applicant proposes 1,080,000m <sup>3</sup> /yr for irrigation.	Disagree that this is an efficient volume. Consider 875,700m <sup>3</sup> /yr more appropriate for irrigation using the methodology outlined in Report U05/15.	Effects may be more than minor.
Water quality	MWRL report for cumulative effects.	Not satisfied given conclusions in s42A reports on cumulative effects (Report 4A-F). There are a number of submitters to be heard on this matter.	Effects may be more than minor.
Tangata Whenua values	No assessment provided.	Submissions concerned & have not been addressed by applicant.	Effects uncertain.

#### **Adverse effects of inefficient take and use on other users**

44. The taking of water in excess of that required for the intended use may contribute to water levels being unnecessarily reduced and less water available for other users. A number of submitters have identified this issue.

#### ***Irrigation volumes***

45. The applicant proposes to take water at a rate not exceeding 57 litres per second, and use up to 1,080,000 cubic metres of water per year for irrigation of up to 180 hectares. The irrigation volume has been calculated based on the volume adopted by Mackenzie Irrigation Company of 600 millimetres per hectare per year.
46. I note that the gross application depth with the rate of water applied for would be 2.7 millimetres per day, and at 80% efficiency, the maximum application depth would be 2.2 millimetres per day. This is much less than the expected evapotranspiration rates of around 6 millimetres per day.
47. I note that the application depth, if assuming irrigation across the whole area, could be considered inefficient as it is not enough to meet the demands of evapotranspiration. However, after discussions with the applicant, it is clear that they do not propose to irrigate the entire 180 hectares at any one time, but instead blocks of the proposed irrigation area that can be serviced from one of the four take points.
48. I also note that with a rate of 90 litres per second and the proposed volume of 1,080,000 cubic metres per year, abstraction could occur for up to 138 days continuously. This is not likely to be feasible given the proposed minimum flow. For this reason, the applicant has considered that out-of-stream storage ponds will need to be considered once the water consents are granted to provide adequate reliability of supply.
49. As a comparison to the applicant's annual volume calculation, I have used CRC's GIS system and the method outlined in Report U05/15 to determine an appropriate annual

volume for irrigation of the proposed area in accordance with Policy 16(c). I based this calculation on intensive land use with 90% medium soil (PAW 75-110mm) and 10% light soils (PAW <75mm) and Effective Summer Rainfall of 270mm.

50. Using the above figures, a recommended annual volume 875,700 cubic metres would be a more appropriate and efficient volume of water for spray irrigation of this area using one of the methods outlined in Policy 16(c).
51. I note that this methodology (Report U05/15) assumes an irrigation efficiency of 80% which is largely achievable for modern spray systems (consistent with Policy 16(b)) and takes into consideration on-site physical and climatic factors (Policy 16(a)).
52. Given the above discussion, I am not satisfied that either of the annual volumes being sought by the applicant of 1,080,000 cubic metres per year would be reasonable and appropriate for the area and method of irrigation proposed.
53. I also consider that an efficiency condition (WP05) is appropriate to ensure that water is not applied to the soils above their average water holding capacity, nor onto unproductive areas of land.

#### **Stockwater volumes**

54. The proposed annual volume has not be calculated with any allowance for stock water, however, stockwater has been applied for in the original application. The applicant has outlined that they do not require consent for stock water as they are relying on their rights prescribed in the RMA under s14(3)(b) which allows for the taking of water for "*the reasonable needs of an individual's animals for drinking water*" as a permitted activity (s92 response dated 5 December 2008).
55. The applicant has detailed their stockwater requirements for the property as being 15,600 cubic metres per year (of a total 52,000 cubic metres for the property), but has not provided a breakdown of how this volume is calculated.

#### **Conveyance / distribution efficiency**

56. The historic system of diversion and abstraction on previous consents was via a race network. For the East Diadem diversion, the applicant proposes to use the existing race and losses may be in the order of approximately 10 percent for the open race conveyance system. The applicant notes that no additional water has been applied for to "counter" losses in the race network so it will be up to them to manage and improve the system to ensure the water applied for is able to be used and not "lost" from the system.
57. For the Quail Burn abstraction points, a mobile pump will be used that conveys water via a pipe.
58. I consider that the applicant's analysis of the conveyance efficiency is appropriate and that the race network appeared to be reasonable well maintained during my site visit. Provided an effort is made to minimise any significant race losses, and given no "additional" water has been applied for, I consider that the proposal has adequately considered Policy 19 of the WCWARP.

#### **Efficiency conclusions**

59. I would recommend an annual volume for the diversion and take of 875,700 cubic metres per year for irrigation, compared with the applicant's proposed 1,080,000 cubic metres per year. Once an appropriate stockwater volume has been determined

this should be added on to the recommended irrigation volume, provided it does not exceed the volume that was notified.

60. Given the above discussion, I am not satisfied that that the proposed seasonal allocation is reasonable for the proposed irrigation area.

### **Adverse effect of use on water quality**

#### ***Local effects***

61. In terms of effects at the local scale, the applicant has considered that effects on water quality will be minor. They noted in their s92 response dated 15<sup>th</sup> December 2006, that spray irrigation is an efficient use of water which minimises runoff and leaching.
62. No nitrates assessment for the property has been provided and depth to groundwater is unknown. Conditions to mitigate water quality effects have not yet been provided by the applicant (for example farm management plans).
63. No submissions were received on the local effects on water quality of this proposal.
64. Given the lack of assessment and mitigation measures, I cannot be satisfied that the adverse effects on water quality from the proposed activity will be minor.

#### ***Cumulative effects***

65. An assessment of cumulative effects on water quality was requested to address the above concerns and in reference to Policy 13 of the WCWARP. The applicant has been involved with the study by Mackenzie Water Research Ltd (MWRL) on cumulative effects within the catchment.
66. There are a number of submissions which identify water quality as a result of land use intensification as a concern, including a submission from Meridian Energy Ltd who effectively hold consent to use all the water in the Upper Waitaki catchment. Those submitters and their concerns are outlined in more detail in Appendix 5 of Report 1.
67. The report by MWRL has been audited and a separate s42a overview report prepared by Dr Mike Freeman as well as numerous technical s42A reports (see Reports 4A-F).
68. The conclusion of Dr Mike Freeman and other experts (as outlined in Reports 4A-F) is that given the significant level of uncertainties involved in, and technical concerns with, critical aspects of the MWRL/GHD assessment of the adverse effects, together with the lack of mitigation measures yet proposed by resource consent applicants means that it is premature to make adequate conclusions about the potential adverse cumulative effects.

### **Adverse effect on Tangata Whenua values**

69. The applicant has not provided an assessment of the effects of the proposed activity on cultural values. The sites of the proposed activities are within the rohe of Te Runaka O Waihao, Te Runaka O Arowhenua and Te Runaka O Moeraki. All three runanga and Te Runanga O Ngai Tahu were served notice of the applications in August 2007.
70. Submissions were received in opposition to these applications from Te Runanga o Ngai Tahu and Ngai-Tahu Mamoe Fisher People. The concerns of the Ngai-Tahu

Mamoe Fisher People seem to relate specifically to the resource consent process, rather than this specific application.

71. Te Runanga o Ngai Tahu have raised concerns relating to mixing of waters between catchments, deterioration of water quality, dewatering and residual flows, changes to sediment flow and deposition and impacts on sites of cultural significance.
72. Given that there are a number of submissions which identify cultural values, I cannot determine the scale of the actual and potential effects on the cultural values of the area.

### **Overall Conclusion**

73. With regard to section 104(1)(a), the actual and potential effects of the activities have been discussed above.
74. In particular, there is uncertainty regarding the following effects:
  - (a) Localised and cumulative impacts on water quality;
  - (b) Whether the proposed annual is a reasonable and efficient volume of water for the intended purpose;
  - (c) Whether there are any adverse effects on Tangata Whenua values.
75. I consider that the effects of inefficient take and use and landscape values can be mitigated, if the recommended conditions are included as part of the consent, if granted. For the other effects, I am unsure if these can be mitigated. The applicant may wish to address these matters at the hearing.

### **Statutory Assessment (s104(1)(b))**

#### **Regional Policy Statement (RPS)**

76. Under Section 104(1)(b)(iii) of the RMA, the consent authority shall have regard to any relevant regional policy statement. The Canterbury Regional Policy Statement has been operative since 26 June 1998.
77. Of significance to these applications is Chapter 9, which relates to the management of the Region's water resources. The WCWARP takes into account policies in the RPS and addresses the issues outlined in more detail. Any assessment of effects has been made using these documents and therefore I have had regard to the RPS throughout this assessment.

#### **Waitaki Catchment Water Allocation Regional Plan (WCWARP)**

78. The objectives and policies of the WCWARP that are relevant to each potential adverse effect have been identified in the introductory s42A report. A table of all those objectives and policies considered to be relevant to these applications is appended in Attachment Four. A discussion of the objectives and policies which are particularly relevant to these applications is provided in the following paragraphs. Where I am satisfied there is no conflict with the objectives and policies, I have not discussed them.

## **Objectives**

79. Objective 1 is a key objective in relation to the proposed taking of water. I have considered whether Objective 1 can be met in terms of sustaining the quality of the river and surrounding environment. While the proposal may not entirely be consistent with Objective 1 and the associated policies (particularly policy 13 relating to water quality and policies 15 & 16 relating to efficient use), it is difficult to determine if the inconsistencies are significant enough to make the proposal contrary to Objective 1.
80. The proposed activity will impact on the matters outlined in Objective 1. In particular, (a) relating to spiritual and cultural values, given that effects on Tangata Whenua have been raised as a concern by submitters and have not yet been addressed by the applicant, and (b) life-supporting capacity of river and ecosystems, given that the potential adverse effects on water quality remain an outstanding concern. The cumulative impacts of the proposal on natural character and landscape values of the catchment (c) may be addressed by requiring appropriate buffer distances between the irrigation area and sensitive areas, such as wetlands. There have been a wide range of people who have submitted against the proposed activity due to concerns about impacts on these values. Given this, and that no mitigation has been proposed by the applicant, I cannot determine whether the proposed activity is contrary to these values at the time of preparing this report.
81. The proposed activity is within the Table 5 allocation limits set by the WCWARP, therefore, it may be considered to be consistent with Objective 2.
82. Objective 4 aims to achieve a high level of technical efficiency in the use of water. The applicant has not provided sufficient information to confirm that the annual volume of water requested is reasonable to meet the demands of the soils within the irrigation area, therefore, the proposal may not be consistent with Objective 4.
83. I am satisfied that the proposal will not affect the reliability of supply to other users downstream on the Quail Burn given the proposed minimum flow of the flow sharing threshold, and can conclude that it is consistent with Objective 5 of the WCWARP.

## **Environmental flow and level regimes**

84. Policies 2 – 8 deal with minimum flows for the Quail Burn and its tributaries.
85. Policies 3 and 4 outline the values that must be maintained in the water bodies, and a number of matters that must be considered when setting an environmental flow and level regime, and are particularly relevant to this application. As the applicant is proposing to adopt the minimum flow required by the WCWARP and falls within the instantaneous allocation limits, I am satisfied that the proposal is consistent with these policies.

## **Policies on water quality**

86. Policy 13 deals with water quality issues resulting from land use intensification and enables the consent authority to have regard to the water quality objectives in the PNRRP. The WCWARP incorporates by reference Objectives WQL1, 2 and 3 of the PNRRP which contain particular outcomes to be achieved in the regions waterbodies. Report 4F, by Dr Mike Freeman, addresses this policy in more detail, particularly on the cumulative scale. Given his conclusions, I cannot determine if this application is contrary to this policy.

### ***Policies on efficient and effective use***

87. Policies 15 – 20 deal with efficient and effective use and all are applicable to this application.
88. Policy 15 ensures that the rate of abstraction and the annual volume is reasonable for the intended use. As discussed in the assessment of effects section of this report, I am not satisfied that the annual volume is reasonable for the intended use.
89. Policy 16 provides guidance for determining reasonable and efficient use for agriculture activities. As discussed in the assessment of effects, I am not satisfied that the requested volume of water is required under these consent applications.

### ***Policies for other rivers and streams in the upper catchment***

90. Policy 40 deal with the environmental flow regime in the rivers and streams in the upper catchment (see Map 2 in the WCWARP). Policy 40 enables access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.
91. As the environmental flow and level regime in the plan is proposed by the applicant, and as it is within the allocation for agricultural and horticultural activities identified in Rule 6, Table 5, the proposal would be considered to be consistent with this policy.

### **Conclusion**

92. With regard to section 104(1)(b), the relevant provisions of the RPS and WCWARP have been considered above. I do not consider that these applications are consistent with Policy 13 due to likely effects on water quality, and Policies 15 – 20 due to effects of inefficient taking and use. In addition, I cannot make a conclusion about whether the applications are consistent with Objective 1.

### **Other Matters (s104(1)(c))**

93. With regard to section 104(1)(c), the consent authority can consider any other matter relevant and reasonably necessary to determine the applications. I consider that the high court decision *Aoraki Water Trust and Others v Meridian Energy Limited*<sup>1</sup> is relevant to these applications (see discussion in Report 1).

## **PART II PURPOSE AND PRINCIPALS**

94. Part 2 of the RMA contains sections 5 to 8 which define the purpose and principals of the RMA.

### **Purpose of the RMA (s5)**

95. Under Section 104, the consent authority must consider applications “subject to part II” of the RMA. The purpose of the RMA (Section 5(1)) is to:

*“promote the sustainable management of natural and physical resources.”*

96. Section 5(2) defines the meaning of “sustainable management”, which is to manage resources in a manner that provides for the social, economic and cultural wellbeing of communities while protecting the life-supporting capacity of the environment for the needs of future generations. This section also states that this should be achieved

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<sup>1</sup> [2004] NZMRA 251

while "safeguarding the life-supporting capacity of water" and "avoiding, remedying or mitigating" the adverse effects of activities.

97. The proposal will allow the development of land to occur, which may provide for the economic and social well-being of the community. The applicant however has not proposed measures to "safeguard the life-supporting capacity of water" and "avoid, remedy or mitigate" the potential impacts on water quality and landscape values as required in Section 5(2)(c), or provided information to confirm that the proposed annual volumes requested are reasonable and consistent with the objectives of Section 5(2)(a), which aims to provide for the needs of future generations.

### **Matters of National Importance (s6)**

98. Sub-sections (a), (b) and (e) of Section 6 of the RMA are particularly relevant to this application. The proposal will may impact on the visual aesthetics in an area of high amenity that need to be mitigated and may result in effects on water quality and ecosystems that have not yet been adequately mitigated. The applicant has not yet proposed measures to address these effects. The applicant has not assessed the impacts on cultural values, and runanga have submitted in opposition on this application.

### **Other Matters (s7)**

99. In achieving the purpose of the RMA, the consent authority is directed to have particular regard to a number of matters as set out in (a) – (j) of Section 7.
100. Sub-sections (b), (c) and (f) are specifically relevant to this application and should be considered when deciding the acceptability of effects resulting from the proposed take and use of water from the Quail Burn and its tributaries. Section (b) relates to the efficient use of water and as discussed above there is currently insufficient conclusive evidence to confirm that the applicant's requested annual volume is reasonable.
101. Section (c) refers to the maintenance and enhancement of amenity values. The applicant has not proposed mitigation measures to ensure that this objective is achieved. However, maintaining buffer distances between the irrigation area and significant areas, such as wetlands, may ensure that the amenity values of the area are not compromised.
102. Section (f) refers to the maintenance and enhancement of the quality of the environment. The applicant has not proposed mitigation measures to ensure that this objective is achieved, particularly with regards to water quality.

### **Principles of the Treaty of Waitangi (s8)**

103. Section 8 of the RMA requires the consent authority to take into account the principles of the Treaty of Waitangi. The site lies within the rohe of Te Runaka O Waihao, Te Runaka O Arowhenua and Te Runaka O Moeraki. Runanga were informed separately when ECan received the application and later when the application was notified. Submissions have been received from Ngai Tahu and runanga on this application.

## RECOMMENDATION

### Grant or Refuse

104. Section 104B applies to any application which is a discretionary or non-complying activity and states that the consent authority may grant or refuse the application and may impose conditions under s108.
105. For applications CRC042011, CRC042015, CRC042017 and CRC042018, I am not satisfied that the actual and potential effects of the proposed activities are acceptable. In particular, there are a number of outstanding matters as follows:
- (a) *Water quality* - No impact assessment or measures to address the water quality impacts that could arise from irrigation at this site. Given the conclusion regarding the potential cumulative adverse effects on water quality, it is premature to make any recommendation to grant or refuse this application as it relates to cumulative water quality;
  - (b) *Efficient and reasonable use* – There is a lack of conclusive information to support the annual volume requested in accordance with the direction provided by Policies 15-20 of the WCWARP;
  - (c) *Ecosystems* – The applicant has proposed a fish screen but has not included any details of what this will entail;
  - (d) *Landscape and amenity* – The irrigation area is close to sensitive wetland areas;
  - (e) *Cultural values* – The applicant has not provided any assessment on cultural values and there are outstanding submissions from runanga in opposition to this proposal.
106. I have recommended conditions to address (c), above, however having considered all relevant matters outlined in section 104D, I am not satisfied that the actual and potential effects of the proposed activity are minor due to concerns those matters outlined as (a) (b) (d) and (e) above. I also cannot be satisfied that the proposal is consistent with objectives and policies of the relevant planning documents given that no assessment or mitigation has been provided for the above.
107. Under s104B, I cannot recommend that consent applications CRC042011, CRC042015, CRC042017 and CRC042018 be granted.

## RECOMMENDED CONDITIONS

108. Comments on the mitigation proposed by the applicant are provided earlier in this report.
109. If the Commissioners decide to grant these applications, I recommend they be granted as one consent rather than four individual consents. A list of conditions that are usually included in a water permit are provided in Appendix 6 of the introductory s42A report. A list of draft recommended conditions specific to these applications is provided below.

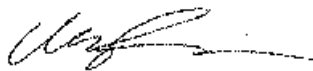
110. It should be noted that the investigating officer is not satisfied that these conditions would adequately mitigate the adverse effects that are identified in paragraph 105 above.

<b>Table 3: Recommended draft conditions for water permit CRC042011, CRC42015, CRC042017 &amp; CRC042018</b>		
<b>No.</b>	<b>Condition Code<sup>2</sup></b>	<b>Details</b>
<b>Divert &amp; Take</b>		
1	WP01	<p><i>Name of waterbody:</i> Quail Burn &amp; East Diadem Creek</p> <p><i>Map reference:</i> NZMS 260 H39:583-441, H39:558-446, H39:581-443 or H39:563-411</p> <p><i>Instantaneous rate:</i> 30 litres per second each up to a combined 90 litres per second</p> <p><i>Volume:</i> 7,776 cubic metres per day and 875,800 cubic metres between 1<sup>st</sup> July and the following 30<sup>th</sup> June</p>
<b>Use</b>		
2	WP04	<p><i>Type of irrigation:</i> Spray irrigation</p> <p><i>Number of hectares:</i> 180 hectares</p> <p><i>Use:</i> crops and pasture for grazing stock excluding milking dairy cows</p> <p><i>Plan No:</i> 'Maree Horo (Attachment 1)</p>
3	WP05	Efficiency of use
4	WP06	Backflow preventer
<b>Mitigation</b>		
5	WP07	<p><i>Name of waterbody:</i> Quail Burn</p> <p><i>Map reference:</i> NZMS 260 H39:6553-3542</p> <p><i>Minimum flow:</i> 1,000 litres per second</p> <p><i>Flow graph:</i> See Report 2A</p>
6	WP09	Fish screen
<b>Measuring &amp; Metering</b>		
7	ME02	East Diadem take
8	ME03	Quail burn takes
9	ME04	
10	ME05	

<sup>2</sup> See Report 1, Appendix 6 for condition code and wording.

11	ME06	
12	ME07	<i>Waterway: Quail Burn</i>
13	WP08	<i>Waterway: Quail Burn</i> <i>Map reference: NZMS 260 H39:6553-3542</i> <b>To be used with ME03-05</b>
<b>Administrative Conditions</b>		
14	AD01	
15	AD02	<i>Number of working days: 5</i> <i>Month 1: March</i> <i>Month 2: July</i> <i>Waterbody: Quail Burn</i> <i>Cross reference to Condition: 5</i>
16	AD04	Lapse date

Signed:



Date: 31<sup>st</sup> August 2009

*Claire Penman*  
*Consents Investigating Officer*

## REFERENCES

Canterbury Regional Council 2004. Proposed Natural Resources Regional Plan – Chapter 4: Water Quality.

Canterbury Regional Council 2004. Proposed Natural Resources Regional Plan – Chapter 5: Water Quantity.

Canterbury Regional Council 2004. Proposed Natural Resources Regional Plan – Chapter 6: Beds and margins of Lakes and Rivers

Canterbury Regional Council 1998. Regional Policy Statement. Report No R98/4. ISBN 1-86937-337-5.

Canterbury Regional Council 1991. Transitional Regional Plan. October 1991.

Department of Conservation 2002. Ribbonwood Station Tenure Review - Conservation Resources Report.

Gabites, S, & Horrell, G. 2005. Seven day mean annual low flow mapping of the tributaries of the Waitaki River. Canterbury Regional Council Report R05/16. ISBN: 1-86937-570-X.

Keller, J & Pfluger, Y. 2005. Working papers about the Natural and Physical Resources of the Waitaki catchment by locality. Report provided to the Waitaki Catchment Water Allocation Board.

Ministry for the Environment, 2006. Waitaki Catchment Water Allocation Regional Plan.

Te Maire Tau, Anake Goodall et al., 1990. Te Whakatau Kaupapa: Ngai Tahu Resource Management Strategy for the Canterbury Region. ISBN: 0-908925-06-9.

The Resource Management Act 1991. Consolidated version including the Resource Management Amendment Act 1995. August 2005.

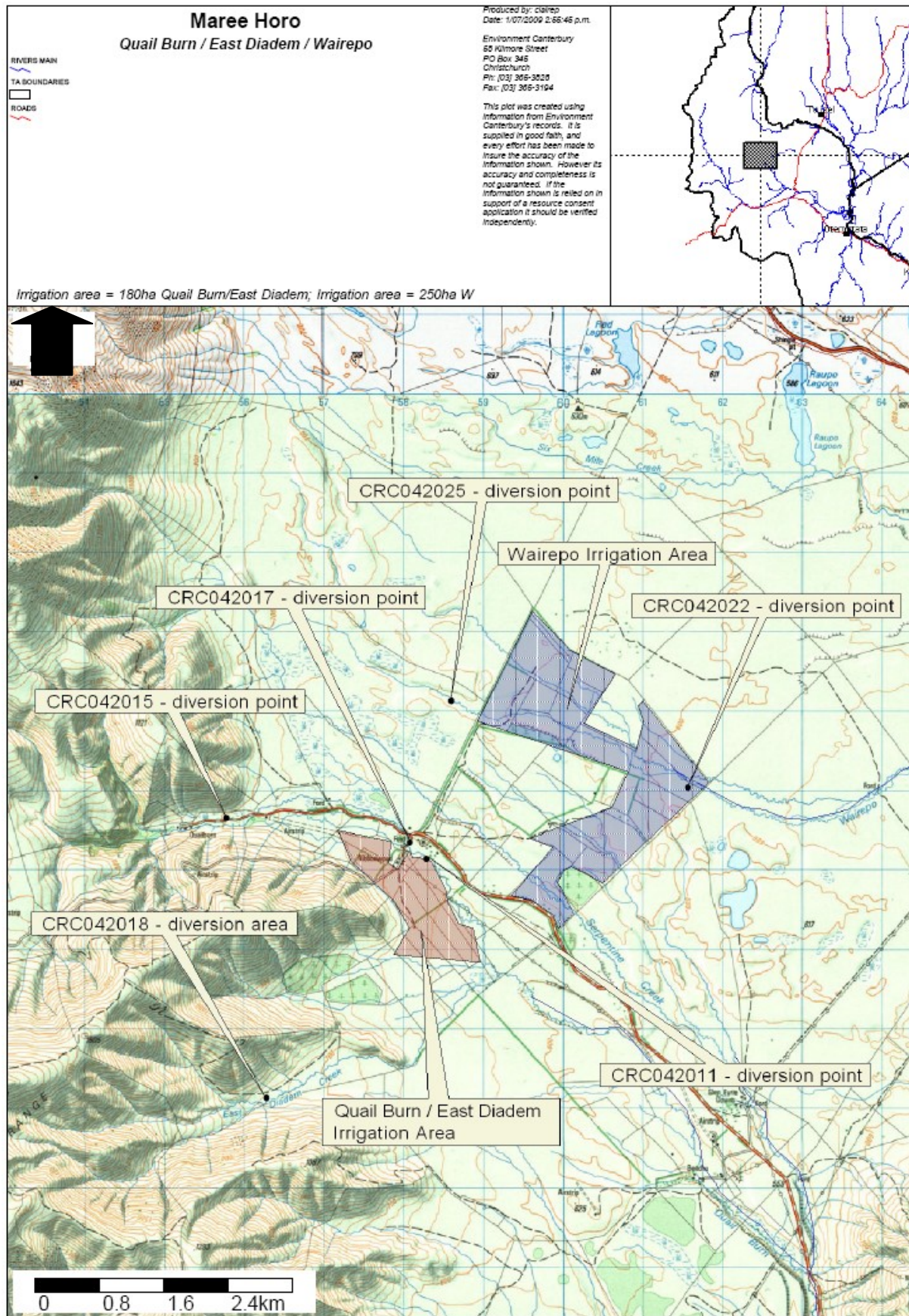
Waitaki Catchment Water Allocation Board 2006. Waitaki Catchment Water Allocation Regional Plan. ISBN: 0-9582620-7-1.

Waitaki Catchment Water Allocation Board 2006. Waitaki Catchment Water Allocation Regional Plan, Material Incorporated by Reference. ISBN: 0-9582620-6-3.

Waitaki Catchment Water Allocation Board 2006. Waitaki Catchment Water Allocation Regional Plan, Annex 1 – Decision and principal reasons for adopting the Plan provisions. ISBN: 0-9582620-4-7.

Waitaki Catchment Water Allocation Board 2006. Waitaki Catchment Water Allocation Regional Plan, Section 32 Report. ISBN: 0-9582620-5-5.

# ATTACHMENT ONE – LOCATION MAP



## ATTACHMENT TWO – PREVIOUS CONSENTS

**RecordNo** WTK691017A

**Type** Consent  
**Source** Existing Use Wtr  
**PermitType** Water Permit  
**FileNo** CO6T/00828

**ClientID** 1540 **ClientName** Mr C C MacKay

**To** [Notified Use No.101/7 Divert]: to divert up to 35 megalitres of water per week from the Quail Burn at a maximum rate of 57 litres per second, at map reference S108:554-537 (H39:583-441), for stock water and irrigation.

### Location

**Status** Expired

**Events** 28/Mar/1969 Consent Issued  
23/Mar/2001 1st Expiry Reminder  
01/Oct/2001 Consent Expires

### Subject to the following conditions:

- 1) No Conditions

### Consent Summary



**RecordNo** WTK691017B

**Type** Consent  
**Source** Existing Use Wtr  
**PermitType** Water Permit  
**FileNo** CO6T/00828

**ClientID** 1540 **ClientName** Mr C C MacKay

**To** [Notified Use No.101/7 take]: to take up to 35 megalitres of water per week up to a maximum rate of 57 litres per second, at map reference S108:554-537 (H39:583-441), for stock and irrigation.

### Location

**Status** Expired

**Events** 28/Mar/1969 Consent Issued  
23/Mar/2001 1st Expiry Reminder  
01/Oct/2001 Consent Expires

### Subject to the following conditions:

- 1) No Conditions

### Consent Summary



**RecordNo** WTK691017C

**Type** Consent  
**Source** Existing Use Wtr  
**PermitType** Discharge Permit  
**FileNo** CO6T/00828

**ClientID** 1540 **ClientName** Mr C C MacKay

**To** [Notified Use No. 101/7 Discharge]: to discharge up to 35 megalitres of water per week at a maximum rate of 57 litres per second at map reference S108:559-529 (H39:588-434 Quail Burn) to dispose of surplus.

**Location**

**Status** Expired

**Events** 28/Mar/1969 Consent Issued  
23/Mar/2001 1st Expiry Reminder  
01/Oct/2001 Consent Expires

**Subject to the following conditions:**

- 1) No Conditions

**Consent Summary**



**RecordNo** WTK691011A

**Type** Consent  
**Source** Existing Use Wtr  
**PermitType** Water Permit  
**FileNo** CO6T/00828

**ClientID** 1540 **ClientName** Mr C C MacKay

**To** [Notified Use No.101/1 Divert]: to divert up to 35 megalitres of water per week from the Quail Burn at a maximum rate of 57 litres per second, at map reference S108:527542 (H39:558-446) for stock water and irrigation.

**Location**

**Status** Expired

**Events** 28/Mar/1969 Consent Issued  
23/Mar/2001 1st Expiry Reminder  
01/Oct/2001 Consent Expires

**Subject to the following conditions:**

- 1) No Conditions

**Consent Summary**



**RecordNo** WTK691011B

**Type** Consent

**Source** Existing Use Wtr

**PermitType** Water Permit

**FileNo** CO6T/00828

**ClientID** 1540

**ClientName** Mr C C MacKay

**To** [Notified Use No.101/1 Take]: to take up to 35 megalitres of water per week from the Quail Burn at a maximum rate of 57 litres per second, at map reference S108:527542 (H39:558-446) for stock water and irrigation.

**Location**

**Status** Expired

**Events** 28/Mar/1969 Consent Issued  
23/Mar/2001 1st Expiry Reminder  
01/Oct/2001 Consent Expires

**Subject to the following conditions:**

- 1) No Conditions

**Consent Summary**



**RecordNo** WTK691011C

**Type** Consent

**Source** Existing Use Wtr

**PermitType** Discharge Permit

**FileNo** CO6T/00828

**ClientID** 1540

**ClientName** Mr C C MacKay

**To** [Notified Use No. 101/1 Discharge]: to discharge up to 35 megalitres of water per week from a water race to the Quail Burn, at map reference S108:558523 (H39:587-429), to dispose of surplus water.

**Location**

**Status** Expired

**Events** 28/Mar/1969 Consent Issued  
23/Mar/2001 1st Expiry Reminder  
01/Oct/2001 Consent Expires

**Subject to the following conditions:**

- 1) No Conditions

**Consent Summary**



**RecordNo** WTK691013

**Type** Consent  
**Souce** Existing Use Wtr

**PermitType** Water Permit

**FileNo** CO6C/05673

**ClientID** 1540

**ClientName** Mr C C MacKay

**To** [Notified Use No.101/3 Take]: to take, by pumping, up to 35 megalitres of water per week from the Quail Burn at a maximum rate of 57 litres per second, at map reference S108:552-539 (H39:581-443) for domestic and irrigation water.

**Location**

**Status** Expired

**Events** 28/Mar/1969 Consent Issued  
23/Mar/2001 1st Expiry Reminder  
01/Oct/2001 Consent Expires

**Subject to the following conditions:**

- 1) No Conditions

**Consent Summary**



**ATTACHMENT THREE – PHOTOS OF EAST DIADEM STREAM AND QUAIL BURN TAKEN ON 10 DEC 2008 AND 21 MAY 2009 BY CLAIRE PENMAN**



East Diadem Stream downstream of intake



Quail Burn (looking upstream) near location of intake for CRC042017



East Diadem Stream (looking upstream) downstream of intake



Quail Burn (looking downstream) near location of intake for CRC042017

See photos in Report 5 By Chris Glasson for Quail Burn/East Diadem irrigation area

## ATTACHMENT FOUR – OBJECTIVES & POLICIES

Objective / Policy	Description	Assessment
Objective 1	To sustain the qualities of the environment of the Waitaki River and associated beds, bars, margins, tributaries, islands, lakes, wetlands and aquifers.	The proposed activity will impact on the matters outlined in Objective 1, particularly (a), (b) and (c). There have been a wide range of people who have submitted against the proposed activity due to concerns about impacts on these values. I therefore cannot determine whether the proposed activity is contrary to these values at the time of preparing this report.
Objective 2	Provide water for different activities.	The proposed activity is within the annual allocation limit for agricultural and horticultural activities outlined in Rule 6. Therefore, this application would not affect availability of water to other users.
Objective 3	Recognise that there are beneficial and adverse effects on the environment at a national and local scale.	These factors have been considered in the assessment of effects.
Objective 4	Achieve a high level of technical efficiency in the use of water.	The applicant has not demonstrated that the use of water for irrigation is technically efficient.
Objective 5	Provide for practical and fair sharing of allocated water during times of low water availability.	Appropriate minimum flow proposed and the proposal would not affect the reliability of supply to other users.
Policy 1	Recognising connectedness between all parts of the catchment	By providing a suitable minimum flow, the connectedness with the catchment is recognised.
Policy 3	Setting of environment flow and level regimes for all activities in Objective 2 and consistent with Objective 1.	Applicant proposes flow sharing minimum flow as established in Table 3 of the plan which will enable access for the activities in Objective 2.
Policy 4	Outlines a number of matters that must be considered when setting an environmental flow and level regime	Applicant proposes minimum flow as established in Table 3 of the plan which will ensure those matters have been considered
Policy 8	Promoting water harvesting when flows are low	Water harvesting is not proposed
Policy 9	Discouraging further mixing of water between catchments	Water will be taken and used within the same catchment and sub-catchment
Policy 10	Enabling small amounts of water to be taken or diverted where effects are minor.	The proposed volume exceeds what is considered to be a small amount
Policy 11	Consider effects on Tangata Whenua values, local and national effects when allocating water to activities	Submissions received on Tangata Whenua values, but application falls within allocation limits for agricultural and horticultural activities
Policy 12	Outlines matters that must be considered when establishing allocation limits.	Application falls within allocation limit for activities in Objective 2
Policy 13	Addresses water quality objectives in the NRRP	Addressed in more detail in Report 4A
Policy 15	Ensuring take and use of water is reasonable for its intended use	Applicant is seeking what I consider to be an unreasonable volume of water
Policy 16	Requiring irrigation applications to meet the specified reasonable use test	As above – applicant has not provided an adequate assessment
Policy 19	Encouraging piping or sealing of	The proposed conveyance via open water race

	water distribution systems to minimise water losses and maintain water quality.	will mean here is some water loss via evaporation, but the applicant has not applied for additional water to counter this and will therefore make every effort to ensure as little water is lost as possible.
Policy 20	Promoting the integration of multiple uses of water.	Multiple uses of water are not proposed
Policy 21	Requiring the installation and use of water-measuring and recording devices.	A suitable water metering device is proposed to be installed
Policy 23	Restricting taking or diverting of water (surface and shallow and connected groundwater) upstream of Lake Benmore during times of low flow except for essential uses	A suitable minimum flow is proposed for restricting the abstraction of water in times of low flow
Policy 25	Allowing for sharing of available water within a water-users group	Suitable min flow proposed above that for those within the allocation limit so no flow sharing required for users, but flow sharing with river is proposed.
Policy 26	Setting priority bands for upper or mid-catchment tributaries and the Ahuriri catchment.	Priority bands have not been established for this catchment
Policy 27	Giving priority during low flows or levels to integrated schemes where water used for more than one purpose.	There are no integrated schemes with this sub-catchment
Policy 40	Setting an environmental flow and level regime for these tributaries	An appropriate minimum flow has been proposed to ensure consistency with this policy