

IN THE MATTER OF

The Resource Management Act 1991

AND

IN THE MATTER OF

An application by the Waimakariri District Council for a water permit to take and use groundwater for community drinking water supply.

BETWEEN

WAIMAKARIRI DISTRICT COUNCIL
Applicant

AND

CANTERBURY REGIONAL COUNCIL
Consent Authority

REPORT AND DECISION OF HEARINGS COMMISSIONER

Sharon McGarry

15 June 2018

Heard on the 28 May 2018 in the Oxford Jaycee Hall, 56 Main Street, Oxford.

Representations and Appearances

Applicant:

Mr C. Carranceja, Counsel (Buddle Findlay)

Mr K. Simpson, 3 Waters Manager (Waimakariri District Council)

Mr C. Steffens, Groundwater Services Leader (Pattle Delamore Partners Limited)

Mr B. McGillan, Resource Management Planner (Pattle Delamore Partners Limited)

Submitters:

Gleneyre Farm, Lees Valley Station

- **Ms R. Creswell**, Operations Manager (Gleneyre Farm)
- **Mr J. Talbot**, Environmental Consultant (Bowden Environmental)
- **Ms C. Mawhinney**, Environmental Consultant (Bowden Environmental)

Canterbury District Health Board

- **Ms L. Bruce**, Health Protection Officer and trainee Drinking Water Assessor
- **Ms D. Tully**, Health Protection Officer and Drinking Water Assessor, and Technical Manger of South Island Assessment Unit

Section 42A Reporting Officer:

Ms N. Duke, Consents Planner (Canterbury Regional Council)

- **Dr L. Burbery**, Groundwater Scientist (Institute of Environmental Science and Research)

It is the decision of the Canterbury Regional Council, pursuant to sections 104 and 104C, and subject to Part 2 of the Resource Management Act 1991, to GRANT the Waimakariri District Council Water Permit CRC183143 to take and use groundwater for community drinking water supply, for a duration of 35 years, subject to conditions set out in Appendix 1 attached to this decision.

BACKGROUND AND PROCEDURAL MATTERS

1. This is the report and decision of independent Hearings Commissioner Ms Sharon McGarry. I was appointed by the Canterbury Regional Council (**CRC**) to hear and decide an application by the Waimakariri District Council (**WDC** or ‘the Applicant’) pursuant to the Resource Management Act 1991 (**RMA** or ‘the Act’) for a resource consent to take and use groundwater for community drinking water supply to properties in the Oxford Rural No.1 Scheme.
2. The application is to replace the existing water supply for the Oxford Rural No.1 Scheme from a shallow intake in the bed of the Waimakariri River.
3. The Applicant currently holds two water permits to take and use water for public supply. Water Permit CRC990926.1 (expiry August 2034) authorises the abstraction of water from two bores (L35/0576 and L35/0327) at a rate not exceeding 25 litres per second (**L/s**), with an annual volume not exceeding 1,987 cubic metres (**m³**) per day. Water Permit CRC144773 (expiry December 2050) authorises abstraction from bore BW22/0070 at a rate not exceeding 7 L/s, with a volume not exceeding 864m³per day and an annual volume not exceeding 220,752m³.
4. The hearing commenced at 9.30am on Tuesday 28 May 2018 and was adjourned at 3.30pm the same day.
5. Prior to the hearing, a report was produced pursuant to section 42A of the Act by CRC’s Reporting Officer, Ms Nicola Duke. This ‘s42A Report’ included a technical review of the applications by Mr Matthew Smith, Principal Consents Planner for CRC and Dr Lee Burberry, Senior Groundwater Scientist with the Institute of Environmental Science and Research.
6. The s42A Report provided an analysis of the matters requiring consideration and stated the Reporting Officer was unable to reach a decisive recommendation. However, in the event consent is granted, the s42A Report included draft consent conditions for consideration.
7. The s42A Report, the Applicant’s evidence and submitter expert evidence was pre-circulated to the parties prior to the hearing in accordance with s103B of the Act. This evidence was pre-read prior to the hearing.
8. Expert conferencing between Ms Mawhinney, Mr Steffens and Dr Burberry occurred on 21 May 2018. A joint statement of evidence signed by Mr Steffens and Dr Burberry was provided on 25 May 2018.
9. I did not undertake a site visit as part of my consideration of the application.
10. A written right of reply on behalf of the Applicant and further statements of evidence in reply from Mr Colin Roxburgh and Mr Carl Steffens were received on 5 June 2018. I closed the hearing on 8 June 2018.

THE APPLICATION

11. The application and Assessment of Environmental Effects (**AEE**) was prepared by Mr Ryan Nicol of Pattle Delamore Limited (**PDP**).
12. The AEE and s42A Report included a description of the proposed activity and the affected environment. I adopt the description of the affected environment contained in the s42A Report pages 8-10¹.
13. The application seeks to take groundwater from bore BW22/0088 (107m deep) at a rate not exceeding 30 L/s, with a volume not exceeding 2,592 m³ per day and an annual volume not exceeding 800,000 m³. A protection zone is proposed within a 100m radius of the proposed community supply bore.
14. A consent duration of 35 years is sought.

NOTIFICATION AND SUBMISSIONS

15. The application was publicly notified on 7 February 2018, at the Applicant's request. Notice of the application was sent to owners of all active abstraction bores within 2,000 m of the application site and landowners within the proposed protection zone.
16. A total of four submissions were received; one in support and three in opposition, with two submitters indicating they wished to be heard.
17. The s42A Report summarised the submissions in Table 1 of the s42A Report. The primary concerns of the submissions in opposition to the application relate to potential well interference effects and potential impacts of the protection zone on land use activities. The submission in support relates to the reduced risk of adverse effects on the health of people and the community.

THE HEARING

Applicant's Case

18. **Mr Cedric Carranceja** conducted the Applicant's case presenting legal submissions and calling three witnesses. In summary, he made the following key points:
 - a) The WDC has statutory obligations under the Local Government Act 2002 and the Health Act 1956 (as amended by the Health (Drinking Water) Amendment Act 2007) to provide water for 850 people through the Oxford Rural No.1 Supply Scheme;
 - b) The current supply of water does not comply with the Drinking Water Standards for New Zealand (**DWSNZ**) and the scheme is at risk of contamination from both bacterial and protozoa;

¹ In accordance with section 113 of the RMA.

- c) Treatment of water is not a feasible options and chlorination is not effective against protozoa;
 - d) Locating an alternative water source has been challenging and difficult, and this application relates to the third well drilled;
 - e) One of the first two wells drilled was partially successful (yielding only 7 L/s) and has been commissioned and consented as an emergency back up supply for the scheme;
 - f) The application is of utmost importance to WDC and will provide significant benefit to the current and future needs of the community by providing a suitable replacement drinking water source and better protecting public health;
 - g) The joint statement of evidence from Mr Steffens and Dr Burbery shows a high level of agreement that effects on the operation and yield of neighbouring bores will be minimal;
 - h) There is no evidence that the proposed 100m community drinking-water protection zone surrounding the bore will have any significant impacts on the existing farming operation of Lees Valley Station;
 - i) Granting the application will provide significant positive effects to people and the community and will protect and promote public health by replacing existing water sources that are at significant risk of contamination; and
 - j) The application in consistent with the relevant planning provisions and the purpose of the Act would be better served by granting consent.
19. **Mr Kalley Simpson**, 3 Waters Manager for WDC, provided a written statement of evidence outlining the need for the Oxford Rural No.1 Upgrade, alternatives considered, and impacts on the community is the consent is not granted. He explained that the existing supply is prone to contamination and high turbidity when the Waimakariri River is in flood and does not meet the requirements of DWSNZ or the Health Act 1956. He said the upgrade of the non-compliant drinking water supply for the Oxford Rural No.1 Scheme is being progressed with the utmost importance and urgency. He noted *E. coli* bacterial contamination had been detected in January 2018 and that people had been on a Boil Water Notice since this time. He noted the impact this was having on the community and the continued impact this will have until an alternative source is identified and implemented. He described the extensive investigations of alternative bore locations and the difficulties encountered with the two bores previously drilled. He estimated the cost of the two unsuccessful alternative bores already drilled had cost approximately \$700,000. He considered any alternative location would likely have equivalent effects or greater and would increase the total cost to approximately \$1.2 million. He estimated the cost to treat the existing source water or drilling at the Domain Road headworks site would cost \$2-4 million in capital costs, not including high ongoing operating costs.
20. **Mr Carl Steffens**, a Groundwater Service Leader for PDP, provided a written statement of evidence giving an overview of the proposal, the hydrogeological setting of the proposed groundwater take, details of the pumping tests undertaken, and potential adverse effects on the overall groundwater resource and on neighbouring bores. He noted that the application bore had been chosen to maximise the distance from neighbouring bore, and that any alternative location would likely result in greater potential interference effects or would not provide the required yield. He considered that the recent aquifer testing undertaken had confirmed that use of the parameters derived from the July 2017 aquifer tests were not valid for the entire groundwater system. He noted this had resulted in

considerable over-prediction of cumulative drawdown using the Schedule 12 assessment methodology. He considered that deep groundwater in this area is highly variable and that many deep bores are not in direct hydraulic connection. Overall, he concluded the recent aquifer testing confirmed there will be no more than minimal adverse effects on the operation and yield in neighbouring bores. Mr Steffens also provided a statement of rebuttal evidence at the hearing responding to issues raised in Ms Mawhinney's statement of evidence.

21. **Mr Bryan McGillan**, a Resource Management Planner with PDP, provided a written statement of evidence addressing the planning framework and key matters to consider. He noted general agreement with Ms Duke's assessment and focussed on areas of disagreement. He addressed consideration of Part 2 of the Act and the objectives and policies of the Regional Policy Statement (**RPS**) and the Land and Water Regional Plan (**LWRP**). He outlined potential consideration of a permitted baseline in terms of s14(3)(b) of the Act, which allows water takes for an individual's reasonable domestic needs, stockwater and firefighting purposes. He suggested minor changes to the proposed conditions. He concluded the application is consistent with the relevant objectives and policies of the LWRP and RPS; and that the adverse effects of the take are no more than minor, with minimal adverse effects on the yield of existing adequately penetrating bores. Mr McGillan also provided a statement of rebuttal evidence addressing the impacts of the proposed community drinking-water protection zone.

Submitters

22. **Ms Rebecca Creswell**, Operations Manager for Gleneyre Farm, spoke to the submission by Gleneyre Farms/Lees Valley Station in opposition to the application. She said they recognised the need for good drinking water, but considered the application would impact on the property. She noted the proposed activity was not contemplated when the property was purchased and the business plan implemented, and that this could have been material to the purchase price. She was concerned the application had the potential to reduce the value of the land. She said she did not disagree that the impact of the proposed protection zone is minor, but considered it will affect existing land use by reducing the land use and requiring a resource consent. She noted the Gleneyre Farm property operated separately to the Lees Valley Station operation. She said there was uncertainty about the size of the radius of the proposed protection zone and that a larger are would significantly impact on land use.
23. **Mr John Talbot**, an Environmental Consultant with Bowden Environmental, spoke on behalf of Gleneyre Farm and provided an overview of the Applicant's case. He noted there is an overall decline in groundwater in the area due to over-allocation and highlighted the importance of Policy 4.4 of the LWRP. He noted that assessment undertaken using standard methodology shows the Gleneyre Farm/Lees Valley Station bores will be adversely affected. He considered the aquifer testing was uncertain because it is difficult to make long-term predictions. He remained concerned about the ongoing ability to take water from L35/0825. He considered the effects of the proposed protection zone on the current land use activity had not been adequately assessed. In response to questions relating to why he had not provided written evidence for pre-circulation, Mr Talbot confirmed he was giving

an overview of the application in the role of an advocate for Gleneyre Farm and in support of Ms Mawhinney.

24. **Ms Christine Mawhinney**, an Environmental Consultant with Bowden Environmental, provided a written statement of evidence on behalf of Gleneyre Farm/Lees Valley Station. She noted that the well interference modelling using aquifer parameters from the pump test in 2017 shows that bores L35/0825 and BW22/0051 will be adversely affected. She emphasised the uncertainty regarding long-term effects and the fact that these may not be known for some time. She raised concern regarding the effect of the proposed protection zone on existing farming activity and the potential for this to increase if the zone is made larger in the future. She concluded that the long-term effect on the Gleneyre Farm/Lees Valley Station bores is still unclear and are more than minor. She noted the interference effects exceed the LWRP criteria.
25. **Ms Laura Bruce** presented a written statement of evidence in support of the application on behalf of the Canterbury District Health Board (**CDHB**) and was accompanied at the hearing by **Ms Denise Tully**. Ms Bruce outlined the objectives and functions of the CDHB under the Health Act 1956 and assessment of the supply for compliance with the Drinking Water Standards New Zealand 2005 (Revised 2008) (**DWSNZ**). She emphasised the health consequences of water contaminated with bacteria and protozoa, ranging from illness to death. She noted the significant social and economic cost of two recent outbreaks of waterborne illness and the need for a multiple barrier approach to protect water sources. She noted that monitoring indicated significant contamination of the existing shallow bore water and confirms it poses an unacceptably high risk to the community. She considered the current level of treatment is not considered appropriate or effective, as required by the Director General of Health. She said that the proposed well will be subject to less contamination due to protection by the over-lying strata and would enable effective treatment. She noted the community water supplies are identified as a 'first order priority' under the Canterbury Water Management Strategy (**CWMS**) and that irrigation is listed and as 'second order priority'. She stated the CDHB recommended the consent is granted.

Section 42A Report

26. **Ms Nicola Duke**, Consents Planner for CRC, tabled her s42A Report and provided an addendum to the s42A Report (dated 25 May 2018). Ms Duke addressed the joint statement and the additional information regarding potential adverse effects on surrounding groundwater users. She considered that based on the advice from the experts the effects of the application on the yield of existing bores will be no more than minimal and is therefore consistent with Policy 4.59 of the LWRP. She confirmed her view that the effects of the protection zone on landowners was no more than minor remained unchanged having heard the evidence presented. She discussed minor amendments to the conditions and noted her agreement to the changes proposed by Mr McGillan. She advised her recommendation was now to grant the consent sought, subject to the agreed proposed conditions.
27. **Dr Lee Burbery**, a Groundwater Scientist with the Institute of Environmental Science and Research, provided an independent review of the application on behalf of CRC. He referred to the matters agreed in the joint witness statement and the additional aquifer testing

undertaken in April and May 2018. He considered the additional aquifer testing had reduced uncertainty to a low level, but acknowledged there remained some uncertainty about long-term effects due to the limited duration of the testing and the highly variable nature of the strata in the area. In response to questions, he considered any long-term monitoring would be complicated to analyse. He also highlighted the large number of significant takes in the area for irrigation and noted many of these would have very large self-induced drawdowns. He considered any effect of the application bore was likely to be insignificant relative to this existing environment.

Applicant's Right of Reply

28. Mr Carranceja provided a written right of reply on behalf of the Applicant and rebuttal statements of evidence from Mr Steffens and Mr Roxburgh on 5 June 2018. The right of reply addressed well interference, the community drinking -water protection zone, property values and consent conditions.
29. Mr Steffens provided an additional statement of evidence responding to Mr Talbot's view that there is a long-term decline in water levels in the area and that the Schedule 12 assessment indicates that the Gleneyre Farms/Lees Valley Station bores will be adversely affected. He highlighted that no evidence was provided to support either of these views. He re-iterated the results of the additional aquifer testing undertaken and the evidence presented indicating there is no long-term decline in groundwater in the area and that submitter's bore will not be adversely affected.
30. **Mr Colin Roxburgh**, Water Asset Manager for WDC, provided a written statement of evidence responding to Mr Talbot's suggestion that there is a need to restrict water use in periods of low water. He outlined that water use will be restricted by the conditions limiting the rate and volume of take, and requiring implementation of the WDC's Water Conservation Strategy (June 2010). In addition, he noted that each property would have a restrictor connection, restricting their individual take to their allocation.

ASSESSMENT

31. In assessing the application, I have considered the application documentation and assessment of environmental effects (**AEE**), the s42A Report and technical reviews, all submissions received and the all evidence provided during and after the hearing adjournment. I have summarised this evidence above. I record I have considered all the issues raised in making my determination.

Status of the Application

32. The starting point for my assessment of the applications is to determine the status of the proposed activity.
33. There was agreement that the application should be considered pursuant to Rule 5.115 of the LWRP as a restricted discretionary activity. I agree.

Statutory Considerations

34. In terms of my responsibility for giving consideration to the application, I am required to have regard to the matters listed in sections 104 and 104C of the Act.
35. In terms of section 104(1), and subject to Part 2 of the Act, which contains the Act's purpose and principles, I must have regard to-
- (a) *Any actual and potential effects on the environment of allowing the activity;*
 - (ab) *Any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment offset or compensate for any adverse effects on the environment that will or may result from allowing the activity;*
 - (b) *Any relevant provisions of a national environmental standard, other regulations, a national policy statement, a New Zealand coastal policy statement, a regional policy statement or a proposed regional policy statement, a plan or proposed plan; and*
 - (c) *Any other matters the consent authority considers relevant and reasonably necessary to determine the application.*
36. Section 104(2) states that when forming an opinion for the purposes of section 104(1)(a), I may disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect. This is referred to as consideration of the 'permitted baseline'.
37. In terms of section 104C for a restricted discretionary activity, I must only consider those matters over which a discretion is restricted in national standards or other regulations, and it has restricted the exercise of its discretion in a plan or proposed plan. I may grant or refuse the application, and if granted, I may impose conditions under section 108. Conditions imposed must relate to those matters over which discretion is restricted, as set out in Rule 5.115 of the LWRP.

Actual and potential effects on the environment

38. In making my assessment, I am required to consider the actual and potential effects of the activities on the existing environment. The existing environment is that which exists at the time this determination is made and includes lawful existing activities, permitted activities and activities authorised by existing resource consents.
39. Mr McGillan noted section 14(3) of the Act provided for water take and use for an individual's reasonable domestic needs and the reasonable needs of a person's animals for drinking water. He considered this formed part of the permitted baseline and that it should be taken into account in considering any actual or potential effects on the environment of allowing the activity.
40. I note that consideration of any permitted baseline under section 104(2) is at my discretion. In this case, I consider the application of a permitted baseline is not particularly helpful given I have no information of the intensity or scale of any permitted water takes. However, I consider the planning provisions acknowledge section 14(3) and recognise the importance

of access to water for drinking water and stockwater supply purposes as a basic right and a first order priority.

41. I have considered the issues raised in submissions and those assessed in the s42A Report. Overall, I agree with and adopt the conclusions reached by the Reporting Officer in relation to potential and actual effects of the application on surface water bodies, salt water intrusion, tangata whenua values and the overall groundwater resource.
42. I accept the evidence of Mr Steffen and Dr Burbery that there is no evidence of any significant decline in groundwater levels in the area, as a result of current groundwater abstraction. I note the view of Dr Burbery that long-term monitoring wells indicate that there is no obvious 'mining of the groundwater resource' and that the take is likely to be sustainable.
43. I note that Policy 4.49 of the LWRP enables the taking of water for a community water supply when the allocation limit is exceeded. This recognises the importance of drinking water supplies as a first order priority. Overall, I accept the opinions of Mr Steffen, Dr Burbery and Ms Duke that the application will not have an adverse effect on the overall groundwater resource.
44. I accept the evidence of Ms Bruce on behalf of the CDHB that the application is of significant benefit to the community both in terms of health and wellbeing, and economic benefits. I am mindful of the significant social and economic impacts the current Boil Water Notice is having on the local Oxford community. I accept that to further investigate alternatives would significantly increase the economic cost to members of the Oxford No.1 Scheme.
45. Ms Creswell raised concern that the application, and particularly the creation of the protection zone, would adversely affect property value, although no evidence was provided.
46. Mr Carranceja submitted that effects on property values are not a relevant consideration in determining whether a resource consent should be granted. He said that if adverse effects were taken into account directly, they should not also be taken into account indirectly through any effect on property values.
47. I acknowledge caselaw indicates that any adverse effects on property value are not strictly relevant resource management matters that can be taken into account. However, I acknowledge that adverse effects of the application on existing water takes and any existing use of the land could be reflected in changes to property value, and that these are matters relevant to my consideration of the application. I agree with Mr Carranceja that to consider effects on property values, in addition to these direct potential environmental effects, would result in a double counting of adverse effects. I have therefore not considered any adverse effect on property values in addition to interference effects and effects on existing land use.
48. In making my assessment, I have had regard to the assessment matters set out in Rule 5.111. Overall, I agree with Ms Duke's assessment of these matters.

49. On the basis of the evidence presented, I have focussed my assessment on well interference effects, the need for and extent of the proposed protection zone, and effects on any user of the land located within the proposed protection zone. These matters are assessed below.

Well Interference Effects

50. A key concern of the three submissions in opposition to the application relate to the potential for well interference effects on surrounding bores from the proposed abstraction.
51. Trinity Holdings Ltd submitted that even a small drawdown could significantly impact income from their farm and the three families it currently sustains. The submission requested consideration of a lower volume take to reduce impacts and the ability to find alternative supply if existing bore owners are affected. They are concerned the application will adversely impact two bores (L35/1075 and L35/0875).
52. Kiri Kiri Farm Ltd submitted they did not want to see their bores (BW22/0089 and BW22/0071) affected any more than they have been able to affect any neighbouring bores. The submission noted they had seen static water levels of 62m bgl through December and February and are concerned this may be exacerbated by the application. They requested the rate of abstraction is adjusted to a level within the current effects rules.
53. Gleneyre Farm/Lees Valley Station raised concern that their two bores (L35/0825 and BW22/0051) will be adversely affected by the proposed abstraction.
54. On behalf of Gleneyre Farm/Lees Valley Station, Mr Talbot considered there was uncertainty with the aquifer testing and extrapolation the results from a 28 hour period over a whole year. He noted the graphs show some effect and although this is only small, he highlighted the pumping test only occurred for a short period.
55. Ms Mawhinney clarified that pump in bore L35/0825 had been lowered from 54m to 70m (just above the leader above the top of the bottom screen) in 2017 because of pump cut-outs from low water levels. She noted that adjusting the model to reflect the actual level of the pump still shows the bore will be adversely affected.
56. Ms Mawhinney agreed with Mr Steffens that over the period of the three day pump test in May 2018, a slight increasing trend in water level was evident in bore L35/0825. However, she remained concerned that the long-term effect impacts effects of pumping would adversely affect bore L35/0825 and BW22/051 and that the long-term effect may not be known for some time.
57. On behalf of the Applicant, Mr Steffens stated that the proposed bore had been chosen to maximise the distance to neighbouring bores. He noted the bore was located approximately 900m from the nearest neighbouring bore (L35/0861) and that there were very limited options with similarly large separation distances from neighbouring bores. Appended to his evidence was a map showing groundwater takes in the surrounding area.

58. Mr Steffens considered there was no evidence that groundwater levels in the area are experiencing a significant decline as a result of abstractive pressures.
59. Mr Steffens noted that the long-term pumping rates take into account the predicted demand for water over 35 years, therefore the Q150 (i.e. taken over a 150 day period) pumping rate over-predicts the demand that will be abstracted from the bore in the short-term. He also considered there would be some leakage from the overlying strata into the pumped aquifer and that this will effectively reduce the drawdown predictions under long-term pumping conditions, as the assessment assumes no pumping induced leakage. He acknowledged there was uncertainty in terms of the leakage value, but that the assessments will '*considerably over predict cumulative drawdowns on neighbouring bores*'. He considered the additional pump tests undertaken in April and May 2018 confirmed this and provided for a more accurate assessment.
60. Mr Steffens considered Schedule 12 of the LWRP was a screening tool for an AEE and indicated the need for further assessment of drawdown effects on neighbouring bores. He said it was important to consider the effect on the operation and yield of the potentially affected bores and it must be demonstrated there will be no more than 'minimal' adverse effects on the yield of existing adequately penetrating bores. He noted that Table 2 of his evidence can be used to determine whether there will be more than minimal adverse effects on the yield of each potentially affected bore.
61. Mr Steffens addressed the potential drawdown effect on L35/0825 and BW22/0051, owned by Gleneyre Farm/Lees Valley Station. He highlighted that bore L35/0825 is screened in two aquifers to maximise yield. He noted this is not normally allowed and results in the upper well screen being protected by Schedule 12 methodology and calculation of a very small available drawdown. This bore results in very limited available drawdown and the requirement to consider effects on a bore with a shallow screen due to the construction method of the bore. He noted that if L35/0825 had only a shallow screen, the WDC would not need to consider potential drawdown effects. To deal with the situation, he suggested it should be assumed the lower screen is protected, but the upper screen is not present. He considered this was consistent with Schedule 12, which requires that bores should adequately penetrate the aquifer. He noted that If this methodology is applied, then even the overly conservative assessment indicates there will still be around 16m of water above the well screen.
62. Mr Steffens stated the depth to groundwater measured in L35/0825 prior to the 4 May 2018 step drawdown test was 25.92m below ground level (**bgl**), which is below the Calc80Min water level calculated by CRC. He noted this is very similar to the measured water level in L35/0051 on 3 May 2018, which is also double screened at similar depths to L35/0825. On the basis of this, he calculated a potentially more accurate Calc80Min water level for L35/0825 based on the level exceeded in L35/00051 an 80th of the time, which is 29.18m bgl.
63. Mr Steffens highlighted there was no observable response in L35/0825 over the three days of pumping in the application bore in the April 2018, when the updated Schedule 12 assessment predicted 2.4m of drawdown should have been observed.

64. In relation to BW22/0051, Mr Steffens noted the well was screened between 107.5m and 119.5m bgl, which is considerably deeper than the screen interval on the application bore and other deep bores in the area. He highlighted no observable response was seen during the May 2018 constant rate pumping test, even though a 0.6m drawdown was predicted after 1.2 days of pumping at 40 L/s. On the basis this and the results of the step drawdown test on bore BW22/0051, he considered the actual drawdown from the application bore and other bores pumping in the area will be significantly less than that calculated by the Schedule 12 assessment. Based on the performance characteristics of bore BW22/0051, he expected that any yield issues were likely to be related to naturally poor yielding strata, rather than interference effects. Overall, Mr Steffens considered the results of the recent constant rate pumping tests confirmed there will be no more than minimal adverse effects on the yield in BW22/0051 as a result of abstraction from the application bore.
65. In relation to bores BW22/089 and BW22/0071, owned by Kiri Kiri Farm, Mr Steffens concluded that even based on the overly conservative Schedule 12 assessment, there is still more than enough drawdown remaining in the bores for them to achieve their yield. He noted predicted drawdown effects in bore BW22/089 will be more accurate than for other bores because the water level response seen in the constant rate pumping test matches the aquifer parameters derived from the test. He highlighted that bore BW22/089 was the only bore monitored where a direct hydraulic connection to the application bore is evident. Overall, he concluded that that the will be no more than minimal adverse effects on the yield of both the Kiri Kiri Farm bores.
66. In relation to bore L35/1074, owned by Trinity Holdings Ltd, Mr Steffens noted there was no observable drawdown effects during the constant rate pumping test, which he noted contrasted with the Schedule 12 assessment prediction of a 0.6m drawdown. As with the other bores assessed, he considered this indicated a lack of a direct hydraulic connection. He highlighted that the difference in the Calc80Min water level for this bore and the static water level measured during the constant rate pumping test indicates that the very low Calc80Min water level given in the CRC database may not be accurate. Based on the lack of direct hydraulic connection between L35/1074 and the application bore, he considered there will be no more than minimal adverse effects on the yield in bore L35/1074, as a result of abstraction from the application bore.
67. In relation to bore L35/0875, owned by Trinity Holdings Ltd, Mr Steffens again noted the lack of observable drawdown effects during the constant rate pumping test, which contrasts with the over 0.5m drawdown predicted. He concluded that given the overly conservative assessment, together with the pumping test results and the relatively low yield required from this bore, there will be minimal any adverse effects on the yield in bore L35/0875 as a result of abstraction from the application bore.
68. In the joint statement of evidence, signed by Mr Steffens and Dr Burbery, the experts focussed on the pump testing carried out in April and May 2018. They acknowledged that there is always a degree of uncertainty in the assessment of groundwater effects. They set out their agreement in relation to the following issues:

- (a) The three constant rate pumping tests have been carried out on the application bore. The initial test in July 2017 indicated a direct hydraulic connection between the application bore and Kiri Kiri Farm's bore BW22/0089 and no apparent connection with the shallow bore L35/0046.
- (b) The additional two tests carried out in 2018 indicate that the application bore is not directly hydraulically connected to bores L35/0825 and BW22/0051 (Gleneyre Farm/Lees Valley Station), and bores L35/1074 and L350875 (Trinity Holdings Ltd).
- (c) The pump tests carried out in 2018 have demonstrated that the aquifer parameters derived from the initial July 2017 constant rate test are not appropriate for predicting drawdown effects of all bores within 2km of the application bore. This is because the parameters predict large drawdown effects in all the neighbouring bores (even for short pumping duration in the application bore), when in reality no response was seen during the pumping tests in four of the five monitoring wells with deep screens.
- (d) At best the aquifer parameters derived from the July 2017 constant rate test are solely appropriate for estimating direct drawdown effects in BW22/0089 as a result of pumping from the application bore.
- (e) The combined pumping test results indicate that there is significant heterogeneity associated with the groundwater system in the area. This is expected to result in situations where abstraction from a single bore may cause drawdown interference effects in some neighbouring bores but small or potentially not noticeable effects in others.
- (f) The available hydrogeological information (supported by the July 2017 constant rate pumping test) indicated that there is very limited hydraulic connection between shallow bores in the area and bores at depths of over 45m bgl. Therefore the proposed abstraction from the application bore is not expected to compromise the operation or yield of neighbouring shallow bores.
- (g) The results of the pump testing confirm the Schedule 12 assessments carried out to date to assess the effects on neighbouring deep bores provide very poor estimates of the scale of effects and result in considerable over-estimation of the cumulative drawdown interference effects. In addition, these assessments also provide a poor indication of the direct effects from the application bore with the exception of bore BW22/089.
- (h) Rather than use Schedule 12, it is more appropriate to consider the combined pumping test results and apply experienced judgement with regard to potential effects.
- (i) The direct effects in BW22/0089 from pumping in the application bore are relatively large. However, based on ECan's Calc80Min water level for BW22/0089, the depth to the top of the screen and a high specific capacity (13.4 L/s/m), the operation and yield from BW22/089 is not expected to be affected by pumping from the application bore.
- (j) The pumping tests indicate that any short-term drawdown effects from the proposed abstraction will be of a scale that will not affect the operation or yield in all neighbouring bores.
- (k) There is some uncertainty with regard to the long-term drawdown interference in deep bores from the operation of the application bore. Based on the results of the short-term pumping test however, expectations are any long-term effects will likely be of a small scale, relative to pre-existing effects.
- (l) Based on the results of the combined pump testing carried out by WDC it is considered that pumping from the application bore will result in relatively small drawdown effects

in neighbouring bores and therefore effects on the operation and yield in neighbouring bores are not expected.

69. In light of the fact that Ms Mawhinney declined to sign the joint statement from the expert conferencing, I tested each issue with her during the hearing. Of the issues that were relevant to Gleneyre Farm/Lees Valley (see (b), (c), (e), (f), (g), (h), (j), (k), and (l) above), Ms Mawhinney agreed with issues (c), (e), (g), (j) and (k) and explained why she disagreed with the other issues. In relation to (b), she disagreed due to the length of the test and the uncertainty in relation to long-term effects. In relation to issue (e), she was unsure due the use of two screens in bore L35/085. In relation to issue (h), she disagreed and considered Schedule 12 should be used. In relation to issue (l), she considered this was only indicative of short-term abstraction.
70. In response to questions, Ms Mawhinney agreed that the screening in L35/085 could explain the variable yields throughout the season as groundwater levels lower in the shallow aquifer.
71. Dr Burbery highlighted that the whole area is fault ridden and highly variable in terms of the hydrogeology. He considered the uncertainty in terms of interference effects was low given the additional aquifer testing undertaken. He noted that the last couple of years had been exceptional in terms of water levels and he suggested this may explain problems with pumping in bore L35/0825. He noted that the self-induced drawdown in some of the wells is very large and that any additive effect of the application is insignificant relative to the existing environment.
72. In the Applicant's right of reply, Mr Carranceja submitted that exceedance of the Schedule 12 criteria is not proof of unacceptable interference effects, but rather a threshold indicating further assessment is needed. He said Policy 4.59 anticipates that other testing can demonstrate that a proposed take could have acceptable effects on the yield of neighbouring bores, notwithstanding exceedance of the Schedule 12 criteria.
73. In relation to uncertainty, Mr Carranceja noted that the RMA is not a 'no-risk' statute. He submitted that a degree of uncertainty is common and independent experts make informed judgments on matters of uncertainty regarding future effects based on observations, testing, assumptions, research, analysis and experience. In this case, he said the evidence demonstrate there is *'...a low probability of a low potential impact on the yield and performance of neighbouring wells.'* He noted there was no evidence to the contrary, only the evidence of Ms Mawhinney pointing out uncertainties.
74. Mr Carranceja referred to Mr Talbot's statement that the *'testing does not show nil effects with any certainty'* and submitted there was no policy directive requiring nil drawdown effects.

Findings

75. I agree with Mr Steffens and Dr Burbery that the results of the recent aquifer testing indicate significant variation between bores and that not all deep bores are hydraulically

connected. This is demonstrated by the varying yields from deep bores and the common occurrence of low yields in the area. This is also further highlighted by the Applicant's two failed attempts to achieve sufficient yields. I agree with Mr Steffens that the key issue in the area is poor yield from local strata and that some bores in the area may not be capable of supplying their consented volume over the long-term, irrespective of any drawdown interference effects.

76. I accept the additional pumping tests indicate the Schedule 12 assessment methodology is likely to result in considerable over-prediction of drawdown effects. It is significant that no observable drawdown effect occurred in four of the five observation bores during the constant rate pumping test.
77. I agree with Mr Steffens that the Schedule 12 assessment assumes the aquifer parameters from the July 2017 constant rate test in BW22/0088 are valid for the entire groundwater system, when in reality it appears they are suitable for defining the hydraulic connection between bore BW22/0089 and the application bore. The additional testing in the application bore in April and May 2018 and the monitoring of water levels in four additional bores indicates that the Schedule 12 assessment method using the parameters from the July 2017 test significantly over-predicts drawdown effects in neighbouring bores.
78. Mr Steffens, Dr Burberry and Ms Duke agree that the Schedule 12 methodology is not appropriate in this case and that experienced judgment based on the results of the combine pump tests is the most applicable means to assess the effects of the abstraction. They also agree that no long-term adverse effects are expected with regard to the operation and yield in neighbouring bores. Overall, I agree with Mr Steffen and Dr Burberry that the Applicant has sufficiently demonstrated there will be no more than minimal adverse effects on the operation and yield of surrounding bores as a result of abstraction from the application bore.
79. I agree that the Schedule 12 assessment methodology is a 'screening tool' for indicating the need for additional investigations and that the threshold does not necessarily mean the adverse effects will be significant. I am satisfied that the Applicant has undertaken additional aquifer testing in response to the Schedule 12 assessment results.
80. I consider existing problems identified with the performance and yield in some surrounding bores is likely to be as a result of poor bore construction, highly variable hydrogeology and over-allocation. However, consider this forms part of the existing environment, and I accept the evidence of Dr Burberry that this application is unlikely to add to these problems given the large number of significant irrigation takes in the surrounding area.
81. In relation to uncertainty regarding long-term effects, I agree with Mr Carranceja that there is a low potential risk of low potential impacts on the yield and performance of neighbouring bores. I accept that the further aquifer testing has reduced this risk, but that there will always be an element of uncertainty.

The Need for and Extent of the Proposed Community Drinking-water Protection Zone

82. The extent of the 100m proposed protection zone and the need for a site-specific assessment into the appropriate extent was raised by Mr Talbot, on behalf of Gleneyre Farm/Lees Valley Station. He considered Schedule 1 of the LWRP requires site-specific assessment and that the provisional zones should not be applied at new sites without rigorous assessment.
83. Ms Mawhinney agreed with Mr McGillan and Ms Duke that the size of the proposed protection zone is on line with Schedule 1 of the LWRP. However, she noted CRC scientists were working on how to calculate a site-specific protection zone. She stated that she had been advised by CRC via email *'the zones are fixed until amended by the supplier'* and that the concern was that the 100m radius could be extended further excluding farming activities.
84. Mr Steffens considered the size of the protection zone is appropriate given the provisions of the LWRP and the very limited hydraulic connection between shallow and deep groundwater.
85. Dr Burbery undertook a desk top review of the area and identified potential hazards to the security of the water supply. He noted the 46m thick vadose zone and the mitigation this provided. He highlighted the water would be chlorinated, which would further reduce any risk of a pathogen disease outbreak. He concluded the proposed 100m radius is appropriate and is consistent with the rules of the LWRP.
86. Ms Duke acknowledged the further information supplied by the Applicant (on 7 February 2018) in relation to justification of the size of the protection zone and the expert advice from Dr Burbery. On the basis of this information, she concluded extent of the proposed protection zone was appropriate.

Findings

87. On the basis of the evidence presented, I find that the proposed 100m community drinking-water zone is consistent with Schedule 1 of the LWRP. I accept the expert evidence that this has been assessed within the context of the existing environment.
88. I am satisfied that any change to the extent of the proposed protection zone would require a plan change or a resource consent process, which would require assessment of any adverse effects on users of the land. This is not a matter to be considered in this application.

Effects on Any User of Land Located within the Proposed Protection Zone

89. Submitters have raised concerns that the proposed community drinking-water protection zone will adversely affect the current land use activities occurring within the zone.
90. The submission from Kiri Kiri Farm Ltd raised concern for the protection of their existing discharge consents.

91. On behalf of Gleneyre Farm/Lees Valley Station, Ms Creswell raised concern that the proposed protection zone could have a significant impact on land use activities and require resource consent for future activities. Mr Talbot was of the view the effects of the proposed protection zone were potentially serious and that this had not been adequately assessed, as required by the rule.
92. Mr McGillan concurred with Ms Duke's conclusion that any adverse effects on existing land users would be no more than minor. They both considered the protection zone is of a very small scale, with very limited impacts on a small portion of Gleneyre Farm properties Station. Mr McGillan was of the view that the percentage of the farm covered by the proposed protection zone is a relevant consideration, noting it was 0.62% of the 370ha property.
93. Ms Mawhinney disagreed that the relatively large size of the farm means the scale of the land affected by the proposed protection zone is minimal. She also said *'This means that the existing land use (farming) may be excluded from the protection zone or may require resource consent'* (pg. 2).
94. Mr McGillan noted that the community drinking-water protection zone will not specifically preclude activities, but rather requires a resource consent application and accompanying assessment of effects for identified activities proposed to occur within the protection zone. He provided a list of these activities in Appendix A of this rebuttal statement.
95. In response to questions, Ms Creswell described the current land use of the site and confirmed that none of the activities included in Mr McGillan's Appendix A were currently occurring within the proposed protection zone.
96. Ms Duke noted the proposed 100m protection zone covers four land parcels, in three separate ownerships. She noted that a search of the CRC database showed there were no active discharge consents within the proposed protection zone. She agreed with the Applicant that there are two active water permits for irrigation in the area. She concluded that any effects on existing land users would be no more than minor
97. In her addendum, Ms Duke highlighted her statement in the s42A Report that she had *'considered the extent of the protection zone, the current activities occurring within the area, active consents and the ability of land owners to accommodate future activities within the balance of the land parcel and consider any effects on land owners to be no more than minor'*. She confirmed this conclusion remained unchanged having heard the evidence presented at the hearing.

Findings

98. The proposed 100m protection zone around the bore will affect a small area of two land parcels owned by Gleneyre Farm/Lees Valley Station. I am satisfied on the basis of the evidence presented that current land use, as outlined by Ms Creswell, will not be adversely affected by the creation of the community drinking-water protection zone.

99. On the basis of the evidence of Ms Duke, I consider any existing resource consents to discharge effluent onto land will not be adversely affected by the creation the protection zone.
100. I am satisfied that farming activities that can meet the LWRP nutrient management rules can continue to occur in the protection zone. I accept that intensive types of farming activity that cannot meet the LWRP nutrient management rules will require a resource consent under the provisions of the LWRP, irrespective of whether that activity occurs within or outside of a community drinking-water supply protection zone. I do not accept the statement by Ms Mawhinney that existing land use activities would be excluded or require resource consent.
101. In having regard to Mr McGillan's Appendix A, I have paid particular attention to the activities that would become prohibited, as no future resource consent application could be made for these activities within the proposed protection zone. Of the three activities that are prohibited - one relates to the bed of a lake or river and is therefore irrelevant; and two relate to the discharge of sewage sludge, biosolids, treated sewage effluent and municipal solid waste, which I consider is highly unlikely to occur in this location.
102. I agree with Ms Duke and Mr McGillan that I cannot take into account any potential future increase in the size of the protection zone; and accept such an extension would require a plan change or resource consent process.
103. I also agree with Ms Duke and Mr McGillan that I cannot take into account any potential adverse effect on any future land use activity or development plans, as this would be speculative and does not form part of the existing environment.
104. Overall, I find that the creation of the proposed community drinking-water protection zone will have no more than a minor effect on Gleneyre Farm's ability to the continue current land use activities such as grazing, stock movement, cropping and calving. I accept that any change in land use or intensification would require a resource consent, irrespective of the proposed protection zone.

Relevant Planning Provisions

105. An analysis of the relevant provisions of the National Policy Statement for Freshwater Management (NPS-FM), the Canterbury Regional Policy Statement (RPS), and the Land and Water Regional Plan (LWRP) was provided in the s42A Report and on behalf of the Applicant by Mr McGillan. I note the relevance of Objectives A4, B2 and B5, and Policies A7, B2, B5 and B6 of the NPS-FW; Objective 7.2.1 and Policies 7.3.6, 7.3.8 and 18.3.1 of the RPS; and Objectives 3.1, 3.2, 3.8A, 3.9, 3.10, 3.11 and 3.12, and Policies 4.4, 4.5, 4.7, 4.23, 4.23A, 4.23B, 4.49, 4.50, 4.54, 4.57, 4.59, 4.63, 4.65, 4.67A, 4.73, 4.74, 4.77 and 4.78. I record I have considered all of these provisions in making this determination.
106. Mr McGillan and Ms Duke noted that Policy 4.59 anticipates that the effects of new groundwater takes on existing groundwater takes can exceed the threshold criteria in

Schedule 12 of the LWRP, if it can be demonstrated that there will be no more than minimal adverse effects on the yield of adequately penetrating bores. I agree and accept that the Applicant has demonstrated that there will be no more than minimal adverse effects on the yield of neighbouring bores.

107. I note that Policy 4.49 of the LWRP enables the taking of water for community supply within an over-allocated groundwater allocation zone. I agree with Ms Duke and Mr McGillan that the plan anticipates further allocation of groundwater for community and stockwater supply, even if the groundwater resource is deemed to be over-allocated.
108. I have considered the comments made by Mr Talbot in relation to Policy 4.49 and the requirement to consider restrictions during times of low water levels to address the sustainability of the resource. This was addressed by Mr Carranceja in the Applicant's right of reply and the evidence of Mr Roxburgh.
109. I note the policy refers to '*restrict the use of water*' [my emphasis] during periods of low water levels and not the taking of water. I agree Mr Carranceja that the conditions of consent provide restrictions over rate and volume of the take and the use of water, as well as for restrictions in the event of low water levels by implementation of the WDC's Water Conservation Strategy. I am satisfied these restrictions and measures are appropriate for the use of water for community drinking-water supply.
110. Mr Carranceja noted the agreement between Ms Duke and Mr McGillan that the proposal is consistent with the higher order planning documents, with the exception of Policy 7.3.8 of the RPS. However, on the basis of the additional aquifer testing and the joint statement, Ms Duke later confirmed her agreement with Mr McGillan that the application is consistent with all the relevant objectives and policies of the statutory plans.
111. Mr McGillan highlighted that Section 2.1 of the LWRP states that no single objective should be read in isolation and that they should be read and considered together. I agree.
112. I also agree with Mr McGillan, that when the relevant objectives and policies of the LWRP are viewed as a whole, there is strong support and priority for enabling community water supply. I consider there is clear policy direction that community and stockwater drinking supplies are to be provided for as a first order priority. I agree with Mr Carranceja that this is reinforced by Rule 5.115, which provides for community drinking water supply as a restricted discretionary activity, regardless of whether the take is within an over allocated groundwater zone.
113. Overall, I find that application is consistent with all of the relevant objectives and policies of the NPS-FW, the RPS and the LWRP.

Other Matters

114. In making my determination, I have considered the Canterbury Water Management Strategy (**CWMS**). I consider granting this application is consistent with the with outcomes of the strategy by providing for community drinking-water and stockwater as a first order

priority. I consider the concepts and outcomes sought by the CWMS are incorporated into the objectives and policies of the RPS and the LWRP.

Part 2 of the Act

115. Mr Carranceja submitted the consideration and weight of higher order documents in resource consent applications remains in a state of flux pending the outcome of the appeal of the High Court decision in *Davidson*². He noted the High Court's decision is authority that less weight needs to be given to earlier in time higher order documents where there is no relevant ambiguity, incompleteness or illegality in the LWRP.
116. Ms Carranceja submitted that neither Mr McGillan or Ms Duke had identified ambiguity, incompleteness or illegality in the LWRP, therefore it is not strictly necessary to undertake a Part 2 assessment. However, out of an abundance of caution, he considered Part 2 and submitted the purpose and principles of the Act would be better served by granting consent.
117. Mr McGillan considered there was no ability to consider Part 2 of the Act and take an 'overall broad judgment'. He considered the LWRP gives effect to the RPS and other higher level documents.
118. Ms Duke's s42A Report included an assessment of Part 2 matters. She concluded that the application will achieve the purpose of the Act and is consistent with sections 6, 7 and 8 matters.
119. I acknowledge there is some certainty regarding the ability to undertake an overall broad judgement of the application. However, I consider it is prudent given the pending appeal of the *Davidson* decision to consider the application in the context of Part 2, as well as the relevant statutory plans.
120. All the considerations I have described are subject to Part 2 of the Act. In accordance with Part 2, I consider that subject to the imposition of appropriate consent conditions the proposal is consistent with the achieving purpose of the Act and the principles of the sustainable management of natural and physical resources, as defined in section 5.
121. I have recognised and provided for relevant section 6 matters of national importance, have had particular regard to relevant section 7 matters, and have taken into account section 8 matters in making this decision and in determining appropriate conditions of consent.

Overall Conclusion

122. The existing community water supply presents a significant public health risk. I accept it is of the utmost urgency and importance that an alternative high quality water supply is secured and commissioned. This is recognised by all hearing parties. I accept that the benefits of the application to the community are significant.

² *R J Davidson Family Trust v Marlborough District Council* [2017] NZHA 52

123. The WDC have undertaken a robust investigation into alternatives. This is the third attempt at finding an alternative bore location. It is evident that any further alternative locations are likely to have similar or greater potential well interference effects and may not yield sufficient water for community supply. It is accepted that the application bore has been chosen to maximise the distance from neighbouring bores so as to limit drawdown effects.
124. The Applicant has undertaken additional aquifer tests to lessen the uncertainty in relation to potential well interference effects. I accept the evidence demonstrates any adverse effects on surrounding bores is likely to be minimal. However, it remains a fact that there are a significant number of large irrigation takes in the surrounding area and that the groundwater zone is currently over-allocated. This will need to be addressed in the future by reducing abstraction for second order priorities, not first order priorities.
125. Section 2.6 of the LWRP states *'Except for community drinking water supplies and discharges, this Plan will not provide for new activities where a catchment is deemed to be over-allocated.'* I am satisfied that the statutory provisions specifically provide for new takes for community drinking water supplies, provided significant adverse effects are avoided, remedied or mitigated.
126. On the basis of the evidence before me, I am satisfied that the purpose and principles of the RMA can be achieved by granting this application, subject to consent conditions. I accept that the provision of high quality drinking water is of utmost importance to meet the needs of the current and future community. Protection of community supply in terms of both quality and quantity is essential in sustaining community well-being, and health and safety of people.
127. I have recognised the importance and urgency of this application by expediting the release this decision.

Conditions

128. There was a high level of agreement in relation to conditions. The Applicant agreed with the amendments to Conditions (10) and (11) suggested during the hearing by Ms Duke.
129. In the Applicant's right of reply, Mr Carranceja noted an amendment to Condition (11) to address the discussed renewal of pipes identified for replacement. He also suggested a minor amendment to Condition (7)(h).
130. I accept these suggested amendments are improvements and address points raised during the hearing.
131. Overall, I am satisfied that the conditions are for valid resource management purposes, relate to subject matter of the resource consent and are reasonable. I consider the conditions relate to matters over which the Consent Authority has retained discretion under Rule 5.115 or have been volunteered by the Applicant. I am satisfied the conditions are certain, practical and enforceable.

Consent Duration

132. Mr Carranceja submitted that a 35 year consent duration is consistent with recognising the importance of a community water supply, which is to be provided for as a first order priority.
133. Ms Duke highlighted Policy 4.74. She considered the application meets the requirement of 'regionally significant infrastructure' and therefore a consent duration exceeding 15 years can be granted. In response to a question regarding the definition of 'regionally significant infrastructure', Ms Duke noted the LWRP definition states '*Nationally and regionally significant infrastructure – includes, but is not limited to, activities recognised by a National Policy Statement as nationally significant*'. She noted the Applicant had demonstrated the existing requirement and also the growth in requirement for the abstracted water until 2065. For these reasons, she was comfortable with a 35 years consent duration.
134. I am satisfied that the appropriate duration for a community drinking-water supply is 35 years.

Decision

- 135. It is the decision of the Canterbury Regional Council, pursuant to sections 104 and 104C, and subject to Part 2 of the Resource Management Act 1991, to GRANT the Waimakariri District Council Water Permit CRC183143 to take and use water for community drinking water supply for a duration of 35 years, subject to the consent conditions set out in Appendix 1 of this decision.**

Dated at Christchurch this 15th day of June 2018



Sharon McGarry
Hearings Commissioner

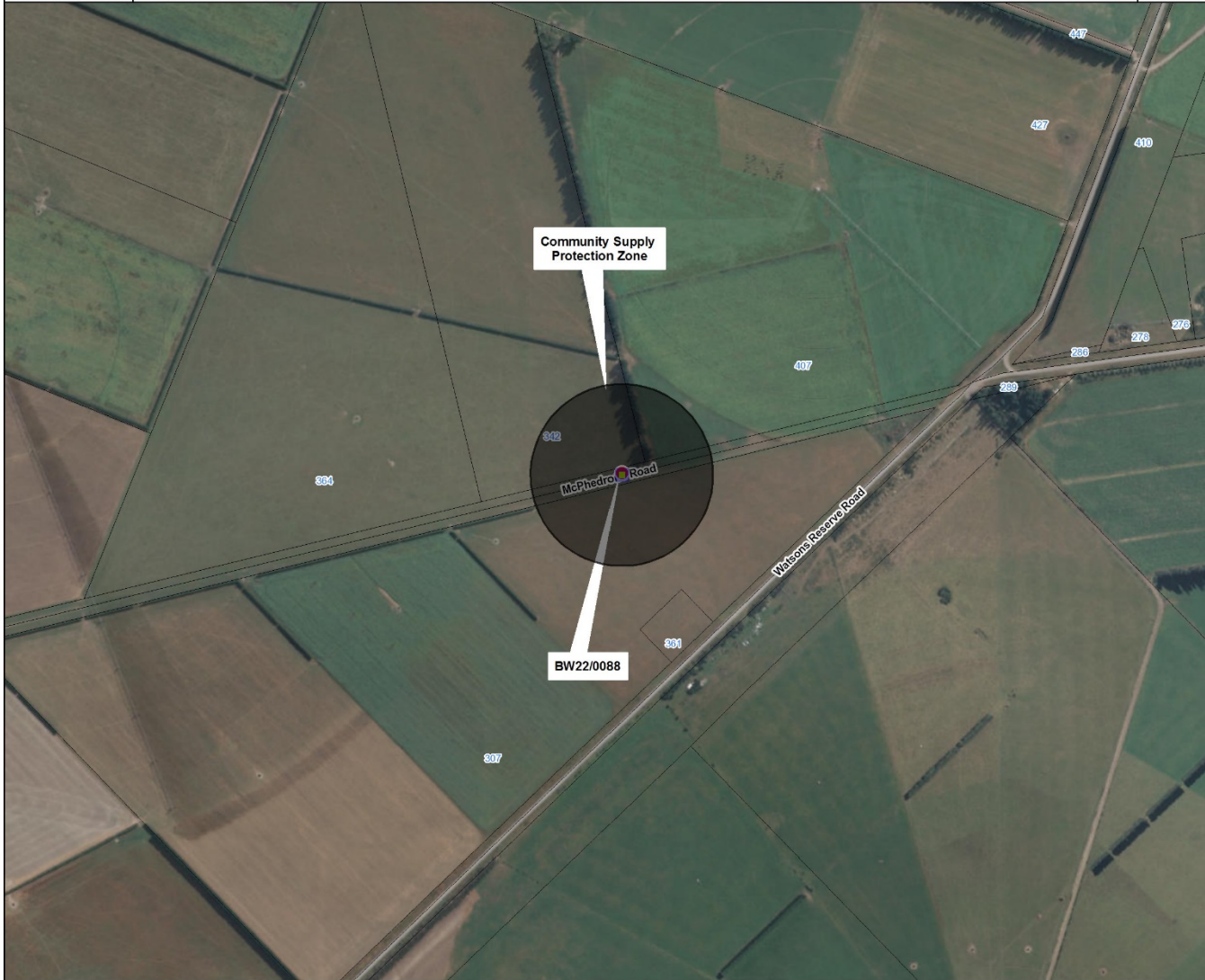
Appendix 1

Water Permit CRC183143 – To take and use water for community drinking water supply

1	Water shall only be taken from bore BW22/0088, 300 millimetres diameter and 107 metres deep, at map reference NZTM 2000 Easting: 1526570 mE 5203166 mN, as shown in Plan CRC183143A, which forms part of this consent.
2	<p>Water may be taken from bore BW22/0088:</p> <ul style="list-style-type: none"> a. at a rate not exceeding 30 litres per second; b. with a volume not exceeding 2,592 cubic metres per day; c. with a volume not exceeding 349,920 cubic metres in any period of 150 consecutive days; and d. with a combined volume with CRC990926.1 and CRC144773, or any replacements thereof, not exceeding 800,000 cubic metres between 1 July and the following 30 June.
3	<p>Water shall only be used for public supply purposes associated with the Oxford Rural No.1 Supply Scheme, as shown in Plan CRC183143B, which forms part of this consent.</p> <p>Advice note: Public supply includes provision for firefighting purposes.</p>
4	The Consent Holder shall, before the first exercise of this consent, install an easily accessible straight pipe(s), 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.
5	<p>The Consent Holder shall before the first exercise of this consent:</p> <ul style="list-style-type: none"> a. <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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

	<p>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</p> <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> 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.
6	<p>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 Regional Leader - Monitoring and Compliance, signed by a suitably qualified person certifying, and demonstrating by means of a clear diagram, that:</p> <ul style="list-style-type: none"> 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 (5).
7	<p>The Consent Holder shall prepare and implement their Water Conservation Strategy which shall include, but not be limited to:</p> <ul style="list-style-type: none"> a. Any proposed water conservation methods and measures to ensure efficient use of water; and b. Measures to minimize water loss from the water reticulation network; and c. Detail on how the measures in (a) and (b) will be implemented; and d. Performance targets to measure the effectiveness of the methods implemented; and e. The timeframe for review and any specified action listed in the implementation plan; and f. A drought management plan that includes: <ul style="list-style-type: none"> i. Methods to reduce consumption during periods of water shortage and particularly consumption by non-essential agricultural, residential, industrial or trade processes; and ii. Methods of communicating water restrictions; and iii. A description of any methods to ensure water conservancy during times of drought, including but not limited to public education programmes and compliance or enforcement measures. g. The Water Conservation Strategy shall be provided to the Canterbury Regional Council, Attn: Regional Leader - Monitoring

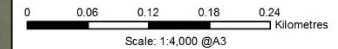
	<p>and Compliance before first exercise of this consent and at any time that it is updated.</p> <p>h. The Consent Holder shall provide a report on performance against the performance targets, as outlined clause (d) to the Canterbury Regional Council upon request.</p>
8	The Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance, shall be informed within five days of first exercise of this consent by the Consent Holder.
9	Access to allow water level measurements to be taken in the bore(s) shall be established, and maintained, via a bung and socket with a minimum diameter of 20 millimetres installed in the bore casing or headworks.
10	<p>If the system is used to distribute added contaminants the Consent Holder shall ensure:</p> <ul style="list-style-type: none"> a. An effective backflow prevention device is installed and operated within the pump outlet plumbing or within the mainline to prevent the backflow of contaminants into the water source; and b. The backflow prevention device is tested at the time of installation and annually thereafter by a suitably qualified or certified person in accordance with Canterbury Regional Council approved test methods for the device used; and c. The test report is provided to the Canterbury Regional Council Attention Regional Leader - Monitoring and Compliance, within two weeks of each inspection.
11	The Consent Holder shall take all practicable steps to minimise leakage from pipes and structures, including through renewing pipes and structures as they reach the end of their useful life.
12	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.
13	If this consent is not exercised before 30 June 2021, it shall lapse in accordance with section 125 of the Resource Management Act.



- Population center and locality labels
- Hydrographic feature labels
- Parks, forests, and reserves labels
- Address point labels
- Road labels
- Regional Boundaries
- · · Territorial Authority Boundaries
- Land Parcels**
- · · Land Parcel
- State highways outside Canterbury
- · · Aerial Imagery Boundaries (Latest Visible)
- · · Aerial Imagery Footprints (Latest)

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Plan CRC183143B

Legend

- Water Supply Facility
- Water Main
- Water Supply Serviced Area
- Water Supply Rated Properties



Activity Management Plan
Oxford Rural No 1 Water Supply Scheme
WATER SUPPLY

Job
14-039
Version
14A

SCALE (A4)
1:130,000
DATE
20/04/2015

