

In the matter of      The Resource Management  
   Act 1991

and

In the matter of      Application CRC093539, by  
   Stanwood Holdings Limited  
   for a water permit for  
   community water supply  
   purposes at Darfield.

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**Decision of hearing commissioner  
Michael Conrad Freeman**

**Date and location of hearing**

17 November 2009 at Environment Canterbury, 58 Kilmore Street, Christchurch.

**Appearances**

**Applicant**

- Mr Jim Brooker, Applicant representative
- Mr Andrew Brooker, Applicant representative
- Ms Erin Blair, Environmental Consultant, Bowden Environmental
- Mr Hugh Blake-Manson, Asset Manager Utilities, Selwyn District Council

**Submitter**

- Mr Trevor Chapman, neighbour (and Mr Ron Stewart, support)

**Reporting Officers**

- Ms Denise Bester, Consents Investigating Officer, Environment Canterbury
- Ms Priya Nair-Mudaliar, Consents Investigating Officer, Environment Canterbury

**1. Background**

- 1.1 I have been appointed and empowered by the Canterbury Regional Council (ECan) to hear and determine this water permit application.
- 1.2 The following is a very brief background and description to the proposal. The details are contained in the application and in the evidence presented at the hearing. It is not necessary to repeat those details here.

- 1.3 I heard evidence that developments in Darfield are currently constrained because of limited community water supplies. Stanwood Holdings Limited (SHL) has development interests in Darfield and has an agreement with the Selwyn District Council (SDC) that involves the transfer of any granted water permit to the SDC.
- 1.4 The application is for the abstraction of up to 83 litres per day and 4,600 cubic metres per day from bore L35/0980 (400mm diameter and 245 m deep) for public community water supply.

## 2. Notification and submissions

- 2.1 The application was received by Environment Canterbury on 1 April 2009 and publicly notified on 22 July 2009. The application, as notified, is:

“To take and use groundwater from bore L35/0980 at a maximum rate of 83 litres per second with a volume not exceeding 4600 cubic metres per day and a volume not exceeding 1,679,000 cubic metres per year. Water will be used for potable supply for community drinking water purposes to meet current and future requirements for Darfield.”

- 2.2 There were four initial submissions made in opposition. However, three were withdrawn. The remaining submission from Mr Chapman opposes the application. Mr Chapman’s submission stated “...I fear it will restrict the way I can farm my land now and in the future. It could have repercussions on future subdivision e.g. septic tanks.” Mr Chapman requested that any decision “...place no restriction on my land, now or in the future.”

## 3. Summary of the evidence heard and the hearing

### The applicant’s representatives

- 3.1 Ms Erin Blair provided a statement of evidence in addition to the assessment of environmental effects provided with the application highlighted the following points:
  - The potential well interference effects were considered by Ms Blair to be minor. The reporting officer, Ms Bester, and the expert advisor Mr Lloyd agreed with this conclusion.
  - Potential effects relating to: surface water flows, aquifer stability, water quality, saltwater intrusion, pumping noise and tangata whenua values were all considered by Ms Blair to be minor. Ms Bester agreed with those conclusions.
  - The Selwyn District Council (SDC) considered that a prescriptive condition relating to preventing backflow of water from the reticulation system to groundwater was not needed because appropriate systems would be used.
  - In response to concerns raised by Ms Bester about the reasonableness and efficiency of the water supply, specifically the annual volume applied for, Ms Blair had reassessed the annual volume using peak summer and peak winter water use values. This revised amount came to 1,278,347.5 cubic metres per year.
  - Ms Blair considered potential adverse effects on the wider groundwater resources as unlikely to be more than minor. In addition, in response to a suggestion by Ms Bester that a restriction condition would be appropriate to

reduce the abstraction during times of low groundwater levels, Ms Blair did not consider that such a restriction was appropriate. Instead Ms Blair stated that a demand management plan prepared in consultation with ECan, in conjunction with ECan's ability to review the conditions of a consent would be preferable to a specific groundwater level control mechanism. Ms Blair considered that there are too many practical difficulties with identifying and implementing such a system. In addition, Ms Blair considered that the demand management plan would be implemented regardless of the state of groundwater resources and therefore considered that a "...specific condition to restrict abstraction based on a "trigger level" is considered unnecessary."

- Ms Blair noted that Mr Chapman's concerns about the potential land development limitations arising from the location of a public community water supply bore immediately adjacent to his property are still outstanding.
- The applicant and SDC did not agree with Ms Bester that consents for the existing Darfield water supply (a gallery system close to the Waimakariri River) should be surrendered. Ms Blair stated that the SDC intends to apply for a second groundwater bore for the Darfield supply and if such a supply is secured the SDC would consider surrendering consents for the existing gallery system. Mr Blake-Manson explained that the SDC wants to use the groundwater supply as its primary water source and would need to keep the gallery system as a back-up for some time in case of any technical problems with the bore supply.
- The high nitrate nitrogen result (6.1 mg N/l) from a sample of groundwater from the bore was considered by the applicant to be potentially the result of contamination during the sampling because the sample was taken from a holding tank rather than directly from the bore.
- A revised suite of proposed resource consent conditions were presented.

## The submitters

### 3.2 Mr Chapman highlighted his concerns about the following matters:

- Potential effects in the short to medium future of a groundwater protection zone on his property that in his view could mean additional regulatory requirements such as a requirement for resource consent from ECan for new irrigation because of concerns about potential adverse effects on a community water supply.
- Mr Chapman also noted longer term concerns about possible limitations on effluent or stormwater disposal on his property if Darfield expansion meant that residential development on his land was appropriate. He made it clear that he had no short-term intention of such development and that his primary concern was any possible limitation on his short to medium term plans for irrigation on the area of land immediately adjacent to the water supply bore.

## The reporting officers

### 3.3 Ms Bester highlighted the following points:

- Ms Bester did not consider that the proposed annual volume would be a reasonable and efficient use of water. Specifically, Ms Bester noted that in her experience annual volumes for community supplies have been based on average rather than peak use. She also noted that the reported peak winter use was actually based on November water usage rather than winter use.

- Ms Bester highlighted the potential adverse effects on the groundwater resource in a groundwater zone that is estimated by ECan as being 132% over-allocated. Ms Bester noted that the Canterbury Regional Policy Statement (CRPS) and the Proposed Natural Resources Regional Plan (PNRRP) give a priority to community water supply systems but also noted that that priority is for the essential domestic component and does not include for example, water use for irrigating lawns.
- Ms Bester considered that there should be a trigger system that requires a reduction in the abstraction during times when the overall groundwater levels are low.
- Ms Bester agreed that a demand management plan would be an effective way of controlling use during periods of low groundwater provided that such a plan would be developed before any grant of consent and that it included an effective trigger to initiate implementation.
- Technical advice from ECan staff was that they considered the high nitrate nitrogen result was likely to be an anomaly and that re-sampling should be undertaken.
- Ms Bester considered that without some form of limitation condition the proposal would result in over-allocation of water to the Darfield supply.
- Ms Bester considered that the depth of the bore would provide adequate protection from any possible contaminants from irrigation development of Mr Chapman's land.

## The hearing

- 3.4 I asked a number of questions of clarification at the hearing, including seeking clarification from Mr Chapman and from Mr Blake-Manson regarding the options that had been discussed to see if Mr Chapman's concerns could be addressed via a mechanism other than the option suggested by Mr Chapman of moving the bore. Mr Blake-Manson said that the SDC would have a discussion with Mr Chapman to see if a specific side agreement could be developed that could provide Mr Chapman with certainty that provided a development proposal was strictly limited to for example, irrigation, the SDC would consider agreeing to not objecting to such development.
- 3.5 I asked a range of questions in a memorandum issued on 18 November 2009 (see Appendix 1) relating to issues highlighted by Ms Blair, Mr Chapman and/or Ms Bester. Each key issue is highlighted in the attached memorandum that outlines specific further information requested. The information requested together with the response from the applicant's representative and subsequent comments from the ECan reporting officer are summarised below:

Original issue	Applicant response	Reporting officer comment
1. The need to prevent or minimise the potential for water treatment chemicals to enter groundwater.	An amended proposed condition to address the need for a barrier system - with a certification process.	Recommended an alternative condition - two technical options.

Original issue	Applicant response	Reporting officer comment
2. A potential anomaly in the presented water usage information.	A presentation and explanation of the water use information.	Considers the revised water use information to be reasonable.
3. The lack of certainty in the proposed water meter specifications.	An additional water meter condition.	Recommended two changes to improve certainty and data file information format.
4. The need to ensure that water abstracted would not be abstracted from an aquifer shallower than that proposed.	An amended condition with screen depth specification.	Agrees with the proposed change.
5. The need for the applicant to comment on whether or not they agree with Ms Bester's view that the water take is a non-complying activity under the PNRRP.	A conclusion that the proposed water take would be a non-complying activity.	No further comments.
6. The need for the applicant to clarify the proposed limitation on the water use.	Confirmation that the applicant proposes to continue with the use of the term "community drinking water supply purposes".	No further comment.
7. The need to demonstrate that appropriate restrictions would be placed on non-essential water use during groundwater limitation periods.	A proposed condition that includes a demand management plan.	Proposed condition considered appropriate.
8. The need to ensure that water would not be over-allocated by having concurrent consents that at least in the short-term could each provide enough water for Darfield.	An amendment to the relevant proposed condition that would link the proposed abstraction with the existing SDC Darfield water supply abstractions.	Notes that the proposed wording is not limited to emergency use and does not limit the exercise of the existing consents.
9. The need to recalculate an annual volume limit that is demonstrably reasonable and efficient.	An amended calculation and proposed condition for the maximum annual abstraction volume.	Considered that the revised volume is justified.
10. Clarification of the status of the possible side agreement with Mr Chapman.	Clarification that the SDC will not enter into a side agreement with Mr Chapman	No further comment.

3.6 The hearing was adjourned on 17 November 2009, pending receipt of the requested further information.

- 3.7 I received the further information from the applicant on 14 December 2009, a response from Mr Chapman on 24 December 2009, and a response from ECan's reporting officer, Ms Priya Nair Mudaliar (who replaced Ms Bester, who left ECan sometime after the hearing), on 15 January 2010.
- 3.8 I issued a second memorandum on 19 January in which I requested more specific information from the applicant on the proposed demand management plan (see Appendix 2). A response to that request from the applicant was received on 1 February 2010 and comments from Ms Mudaliar on that response were received on 5 February 2010.
- 3.9 I made a request for clarification on some matters relating to the proposed monitoring bore L35/0171 on 12 February. A response to that request was provided by the applicant on 16 February 2010 and comments on that response from the reporting officer were received on 17 February 2010.
- 3.10 To ensure that no unreasonable delay occurred (section 21 of the Resource Management Act (RMA)), I issued a direction on 23 February 2010 that the Right of Reply be provided by 26 February 2010.
- 3.11 A right of reply from the applicant, including various additional technical information provided in response to matters raised by Ms Mudaliar and Mr Chapman, was received on 26 February 2010. Subsequent to receipt of the right of reply, I requested the provision of a plan showing the intended service area together with an explanation for the deletion of the condition proposed by the applicant that previously had included a reference to such a plan. A plan and explanation that the applicant no longer considers that an areal limitations is appropriate was provided later on 26 February.
- 3.12 I closed the hearing on 1 March 2010.

## **4. The principal issues, evaluation and main findings**

- 4.1 In summarising and evaluating the principal issues I have considered the original application and the associated assessment of environmental effects, the further information provided (September 2009) in response to the section 92 request, the submission made in response to the application, the section 42A reports and all the information provided at and subsequent to the hearing.
- 4.2 The principal resource management issues and actual or potential adverse effects have been discussed in some detail in the section 42A reports and in the evidence provided by the applicant and the submitter. Some of those issues such as the status of the application have been resolved as a consequence of the exchange of information after the adjournment of the hearing. A number of lower level issues relating to proposed conditions are addressed in section 6. The remaining principal issues can be summarised as follows:
- The potential adverse effects of the abstraction on existing groundwater users and spring flows in the Selwyn-Waimakariri groundwater zone. This issue is highlighted by the significant over-allocation of water in this zone compared to the proposed groundwater allocation limits established by ECan. These proposed allocation limits have been developed to provide a specific level of protection for existing users and to maintain spring-fed streams.

- The high instantaneous abstraction rate of 1,900 litres per person per day used in determining the requested maximum annual allocation of 1,679,000 cubic metres per year. These figures are particularly important in the light of the CRPS and PNRRP policies regarding efficient water use and the implications for the wider groundwater resource.
- The need to coordinate the proposed abstraction with the existing Darfield water supplies to avoid any actual or theoretical over-allocation of water.
- The demand management measures that would be applied during periods of general limited groundwater availability.
- The proposed water meter conditions.
- The potential adverse effects on Mr Chapman’s land use opportunities.
- The implications of the apparently relatively high concentration of nitrate nitrogen reported for a groundwater sample from the bore.

### The potential adverse effects of the abstraction on existing groundwater users and spring-fed streams

- 4.3 The critical reference point is the ECan estimate of the sustainable allocation limit of the Selwyn Waimakariri groundwater zone of 121.3 million cubic metres of water per year. The effective allocation as at 9 October 2009 is estimated by ECan to be 159 million cubic metres per year. There are also three water permit applications that at the time of the hearing were waiting to proceed to a hearing. If those applications are granted, the zone was estimated by Ms Bester to be 132% over-allocated.
- 4.4 It is accepted that the allocation limit of 121.3 million cubic metres per year, incorporated into the PNRRP via Variation 4 (notified June 2007) has a number of conservative assumptions. However, the technical information presented to me and my own personal knowledge strongly indicates that that limit is the best current estimate of an appropriate long-term sustainable limit.
- 4.5 It is acknowledged that neither the PNRRP nor Variation 4 have completed the hearing process and there could be significant changes to the relevant provisions. However, the underlying issues of over-allocation and the related actual or potential adverse effects will remain.
- 4.6 I have reservation about most of the arguments put forward by Ms Blair to address these issues. I will endeavour to summarise Ms Blair’s arguments and my concerns about those arguments in the table below:

Summary of Ms Blair’s position	My concerns
1. CRPS Policy 7 provides for priority for the taking of water for reasonable domestic requirements.	The policy does not mean that all public water supply water permit applications would automatically be granted regardless of the adverse effects. The policy makes it clear that it is limited to the basic minimum water requirements i.e., “...that required for drinking and cooking, and for hygiene purposes.”
2. The purpose of the RMA is to provide	This general purpose would not override

Summary of Ms Blair’s position	My concerns
for the wellbeing of people and communities.	significant specific actual or potential adverse effects.
3. Localised reliability of supply would not be adversely affected.	This is not the fundamental issue that is addressed by an allocation limit.
4. Lack of evidence to demonstrate any adverse effects resulting from over-allocation.	Significant evidence is available on reductions in spring-fed stream reductions that have most likely been caused in some part by abstractions in excess of a long-term sustainable allocation limit. However, this is a wider issue and not appropriate to be the key issue for this hearing.
5. Current river gallery water supply requires expensive treatment.	This is not a compelling reason to potentially exacerbate significant groundwater over-allocation.
6. This single abstraction from a deep aquifer would be unlikely to have a significant adverse effect on wider groundwater availability.	Adverse effects include cumulative adverse effects. No compelling evidence was provided of an areally extensive confining layer that would separate out deep groundwater from overlying groundwater.

- 4.7 In summarising my concerns with the arguments put forward, I am not signalling that I have fundamental reservations about granting a consent. Rather, I consider the basis for the grant of the application must be on more compelling grounds than those put forward by Ms Blair. This should be done in the context of the strong evidence that the Selwyn Waimakariri groundwater zone is over-allocated, and that authorising further abstractions without appropriately certain controls is highly likely to have some consequential actual or potential adverse effects on existing users and spring-fed stream water flows. Therefore every effort should be made to minimise the potential adverse effects of the proposed new abstraction. Instead of taking this approach, the applicant appeared, at least prior to and at the hearing, to take the approach that either there is not an issue or if there is, it is not relevant to a public water supply.
- 4.8 Ms Blair’s background information provided in the assessment of environmental effects and her feedback at the hearing underline that the proposed abstraction is primarily a response to development proposals that are restricted by the current limited water supplies, and by the minimum river flow restrictions that apply to the existing Waimakariri River gallery supply during potentially peak demand periods.
- 4.9 I consider that the over-allocation issue can be resolved, but only in the context of recognising the reality of the issue and that its resolution is likely to take many years given the limited framework of the RMA, the water development pressures, the implications for existing groundwater users and concerns about flows in spring-fed rivers. In the meantime, I accept that the CRPS and the PNRRP do place ‘basic domestic water needs’ at a higher priority level than other uses. However, clearly those provisions do not place other broader uses of a community water supply above other uses and values of the same water resource. It is particularly important to demonstrate that those other uses of community supplies are not

placed above the controls or limits placed on water users that access the same or connected water resources.

- 4.10 Consideration of the key PNRRP policy (WQN14(9)(f)) and the potential adverse effects, highlight the need to be satisfied that the proposed abstraction would “not compromise the reliability of supply of existing water permits that are taking from the allocation block”. There appears to be some definition issues related to some of the terms used in this policy, for example, the term “reliability of supply” is not defined. Notwithstanding these concerns, which will hopefully be resolved through the PNRRP hearing process, I can only see the intent of the policy being achieved if there are appropriate controls on the water supply, particularly during periods of limited groundwater availability that would limit cumulative adverse effects to an extremely low level.
- 4.11 Given the clear intention of both the CRPS and the PNRRP to give community domestic water supplies a priority, I assume that at some stage, e.g., when an allocation regime becomes operative, ECan would (as indicated in Policy WQN9(11)) provide a ‘water reserve’ for community supplies and review appropriate water permits in the zone and in doing that provide a clearer priority for the drinking water/hygiene component of community water supplies.
- 4.12 After giving this issue considerable thought and taking account of the all the relevant factors outlined above, I am satisfied that with the changes outlined in this section and in section 6, the adverse effects of the proposed abstraction on existing authorised abstractions and spring-fed streams would be less than minor and would not compromise the reliability of supply for existing water permit holders in the Selwyn Waimakariri groundwater zone.

### **The estimated high instantaneous abstraction rate and the requested annual volume**

- 4.13 Ms Bester expressed concerns about the relatively high estimated peak daily water use and the consequential effect of that in calculating a proposed annual volume of water. In response to this issue, as highlighted in my first further information request, Ms Blair recalculated the peak per capita water use as 1,142 litres per person per day, and provided a revised method for estimating an annual volume, outlined as follows:

$$\text{Annual volume} = 365 \times (519 \text{ litres per person per day} \times \text{population}) + 20\%$$

- 4.14 Ms Mudaliar has stated that she considers that this revised approach is justified. I agree with that conclusion. I am satisfied with the rationale for the formula and consider that it is much more appropriate to link the annual volume with the population served rather than have a long-term consent that provides for an allocation of water greater than the actual current needs just to cater for a future population increase. This approach would result in a greater level of complexity but it would avoid over-allocation of water.
- 4.15 The revised methodology has demonstrated that the amount of water sought is reasonable. However, I have some concerns about how the serviced population would be estimated. Refer to section 6 for clarification of this issue.

## **The need to coordinate existing and proposed Darfield water supplies to avoid over-allocation of water**

- 4.16 It is critical, in the context of a move from one water supply system to another, to ensure that the proposed additional water supply for the development of Darfield does not result in a theoretical or actual over-allocation of water. It is not appropriate to authorise a total water use with quantities of water that potentially far exceed a reasonable use test.
- 4.17 In response to a request for a proposed condition that would address this issue, Ms Blair proposed the following condition:
- “The taking of water in conjunction with the operation of consents CRC991423 and CRC960148 shall not exceed the rates and volumes identified in conditions 1 and 2.”
- 4.18 It would be useful at this point to summarise my understanding of SDC’s stated intentions for the medium to long-term as outlined at the hearing and in the application details. The SDC’s stated long-term preference is to move to a total groundwater sourced water supply for Darfield, via two deep bores and to eventually retire the Waimakariri River gallery supply system. In the short to medium term if this consent is granted there could be times (e.g., problems with supply, breakdowns, etc.) when both the gallery and single bore system may need to be operated together.
- 4.19 I will not consider the water allocation issues of a possible second water supply bore. My responsibilities are limited to consideration of the issues associated with this application.
- 4.20 The proposed condition ideally needs to ensure that the consent does not provide for a total combined daily abstraction from the bore and the galleries to exceed the maximum amount proposed for this abstraction. The difficulty with the proposed wording is that the term “in conjunction with” is not sufficiently certain. In addition, there are potential legal limitations to imposing a restriction on an existing consent via a subsequently granted consent. Therefore to ensure that there is a clear, legally valid, limitation on a newly granted consent it would need to specify a restriction that would apply only to the amount of water abstracted via that consent. Therefore a preferable, more certain approach would be to use wording such as “The combined total daily amount of water abstracted for the Darfield water supply via resource consent CRC991423 or CRC960148 and resource consent CRC093539 shall not exceed 7344 cubic metres per day.” This wording would not prevent the exercise of the existing river gallery water permits that authorise the abstraction of up to 7344 cubic metres per day but would prevent the combined total via all water permits exceeding this amount. This approach would not fully address the issue but at this stage taking account of the limited powers available to me to address the issue, and the stage of the SDC plans for Darfield’s water supply, I consider that this would be acceptable. If the SDC apply for a resource consent for a second bore then the issue may be able to be more fully addressed by the SDC proposing to phase out or significantly reduce the river gallery supplies.
- 4.21 In the right of reply Ms Blair suggested that an advisory note be added to any consent granted that would outline the intended use of the existing water permits

as a secondary back-up system. I am not convinced that the suggested advisory note would be of much assistance. My preference is to minimise the use of advisory notes and instead, as far as possible, have meaningful resource consent conditions that are certain and require no further explanation.

4.22 I am satisfied that with the change to the relevant condition as outlined above, the adverse effects associated with this issue would be less than minor.

### **The demand management measures that would be applied during periods of general groundwater restriction**

- 4.23 Ms Blair proposed a modified condition in response to my first memorandum that would involve the consent holder preparing a management plan that would be submitted to ECan. The proposed content of the plan does identify the key issues. However, the proposed condition did not provide any assurance that the issues would be addressed. The proposed condition did not require any specific measures to be undertaken, did not specify when or how the plan would actually be implemented and is therefore unsatisfactory, particularly in the light of my concerns that the over-allocation issues require a commitment to implement restrictions during times of reduced groundwater availability.
- 4.24 While I do not doubt the commitment by the current applicant and the SDC to implement some form of water demand management system, the issue requires certainty that specific measures will be implemented. This is particularly the case given the requested consent duration of 35 years.
- 4.25 As a consequence of my concerns I issued my second memorandum requesting a more certain form of the proposed condition that would clarify exactly what circumstances would trigger a demand management programme and exactly what the specific measures would be.
- 4.26 The applicant responded to my request with a proposal to have a groundwater trigger level that would apply in August each year. Specifically, if the groundwater level was higher than 47 metres below ground level then no use restrictions would apply. Conversely if the groundwater level was below the trigger level then the demand management plan would be implemented.
- 4.27 In Ms Mudaliar's response she indicated general agreement with the proposal but questioned the rationale for choosing August as the time to determine whether the demand management plan would apply and expressed concerns that the data indicate that groundwater levels could decrease significantly over the summer period.
- 4.28 I have studied the information provided, including the information provided on groundwater levels and the issues related to the monitoring bore, and carefully considered how such a proposed trigger system would operate. I am satisfied that the 47 m trigger is appropriate. However, I have very similar concerns to Ms Mudaliar. It would not be appropriate to allow a situation to occur when restrictions should be in place but because groundwater levels were above the trigger level in August they were not initiated. Similarly, restrictions should not be imposed when none are needed (e.g., if groundwater levels recover from a low level in August).

- 4.29 A more 'adaptive' system is appropriate with a better matching of restrictions with the state of the groundwater resource and the restrictions that may apply elsewhere in the groundwater zone. I appreciate that Ms Mudaliar directed me to the ECan report on adaptive management in the adjacent Rakaia Selwyn groundwater zone. I have read that report and understand the need to appreciate the importance of recharge to a groundwater system. That report highlights the need to recognise the dynamic nature of groundwater resources.
- 4.30 I do not consider, at this stage, that a complex adaptive management regime would be appropriate for this proposed public water supply, but I do consider that a trigger-based demand management system could be developed. Ms Mudaliar has suggested that the applicant's proposed trigger should apply for the months of December to May. While I agree that the period when the trigger should apply should be extended to avoid the issues outlined above, I am not convinced that the suggested period recognises the critical period in the context of the dynamic nature of the groundwater resource.
- 4.31 Ms Blair, in the right of reply, has similarly suggested that the trigger period for the water demand management plan would be the period December to May.
- 4.32 I accept the concept eventually suggested by Ms Blair that a groundwater trigger level at the start of a high demand period can be used as a recharge potential surrogate and I accept Ms Mudaliar's concerns that the application of the trigger needs to extend over a longer duration. However, applying the trigger in May prior to winter may result in unnecessary restrictions being applied i.e., when there is no significant immediate subsequent demand on groundwater supplies. After having considered this issue carefully and studying the information available to me, I consider that the application of the trigger should be for the period September until March inclusive. This would provide a reasonably clear linkage between the groundwater level, recharge and the subsequent demand period.
- 4.33 I appreciate the dynamic nature of groundwater and the potential need for a sustained water demand management period, particularly if winter recharge does not restore groundwater levels. However, neither the applicant nor the reporting officer are suggesting a year round application of a trigger control. My main concern is to ensure that the trigger period is most appropriately aligned with the period of highest demand and the period when effects on stream flows would be most acute.
- 4.34 It would also be essential to provide a mechanism that allows for the demand management initiatives to be halted if the groundwater levels rise above the trigger. This would need the integration of monitoring and trigger provisions.
- 4.35 I consider a management plan approach as outlined above would be satisfactory. Ideally, in the longer term this could be replaced by a system that is more closely aligned to an adaptive management system clearly based on aquifer recharge.
- 4.36 Ms Blair has noted in the right of reply that the applicant considers that restrictions on the use of water for car washing should be "...considered further during the development of the management plan." It would not be appropriate or responsible to leave significant issues to be resolved at some future date through a process that is not certain and would not provide any assurance about exactly what would occur.

- 4.37 Ms Blair did not provide any reasons why car washing should be excluded from restrictions that would apply to other non-essential public water supply uses when there are significant groundwater availability limitations. It would be inequitable and inappropriate for there to be significant restrictions on irrigation and a range of other water uses but not have similar restrictions applying to car washing.
- 4.38 If a demand management plan is going to provide a high level of assurance about its effectiveness during times of significant groundwater limitations, then the measures need to be equitable and certain. The measures proposed do not specify exactly what must be done but I am satisfied that the intent is clear and that with some minor changes would provide a sufficiently clear directive. I am satisfied that if necessary the conditions could be sufficiently clear that they could be enforced. Clarity is needed to provide an assurance that the water demand management plan would appropriate and would be implemented.
- 4.39 I am satisfied that with the proposed changes outlined above and in section 6 that the adverse effects of the proposed abstraction would be less than minor.

### **Proposed water meter conditions**

- 4.40 Ms Blair proposed a modified water meter condition in response to my first further information request. Ms Mudaliar correctly identified that the reference to a “suitably qualified person” is uncertain and suggested that certification be undertaken by a Chartered Professional Engineer (CPEng). Ms Blair in the right of reply agrees with Ms Mudaliar’s suggestion. However, I am not convinced that a CPEng qualification is the only applicable qualification for water meter certification. I think it is inappropriate to limit the certification to one professional group if there are others who could equally undertake the task, particularly in the context of the 35 years requested consent duration. However, New Zealand does not yet have a specific relevant qualification that could be referred to. There are almost certainly many other highly qualified persons who could certify a water meter.
- 4.41 My strong preference in these situations is to specify the exact qualifications needed to be able to undertake certification. However, I accept that currently this is not possible. An acceptable approach would be to provide a more definitive variation of “suitably qualified”. This would need to be complemented by a provision that requires the consent holder to provide that person’s qualifications and experience to ECan.
- 4.42 There was some debate about the level of specificity required for water metering and data logging. I consider that there needs to be a minimum suite of requirements that would apply to an abstraction of this scale in a groundwater zone that is acknowledged as significantly over-allocated. I have carefully examined the water meter conditions proposed by the applicant and the reporting officer. I have also carefully read all of the report by Mr Blake-Manson on water meters provided at the hearing.
- 4.43 I have also carefully assessed the water meter conditions provided by Ms Bester and Ms Mudaliar. I appreciate that these conditions are standard ECan conditions. However, there were a few aspects of those conditions that I have significant reservations about. For example, the proposal that ECan can at some later date

determine the form and standard of water meter data that must be provided is uncertain and probably *ultra vires*. Therefore it is not appropriate to include such wording in a condition.

4.44 I am concerned that there still appears to be significant technical and philosophical debate about the conditions required for water metering of different water uses. I have endeavoured to carefully consider and address all the relevant issues. However, there does appear to be scope for ECan and/or the Ministry for the Environment<sup>1</sup> to develop in consultation with various parties and then publish thorough documentation of different water meter/data logger condition suites together with explanations for each component. I have reservations about some of the wording proposed by both the applicant and that proposed by the reporting officer. I consider that some minor changes are needed to remove ambiguities and to provide certainty for all parties.

### **The potential adverse effects on Mr Chapman's land use**

4.45 Mr Chapman reiterated his concerns about how the proposed water supply could affect his farming operations in an email dated 23 December 2009 in response to the further information provided by the applicant.

4.46 Ms Blair explained in her response received on 14 December 2009 that notwithstanding the indication at the hearing that a side agreement may be possible between the applicant/SDC and Mr Chapman, the SDC has now determined that there would not be any side agreement made with Mr Chapman.

4.47 Ms Blair's response provided an extensive outline of many of the relevant provisions of Chapter 4 of the PNRRP. Some rules were not included in Ms Blair's list (e.g., WQL16) but their omission is not critical. It is not necessary for me to repeat the listing of proposed rules that place controls on either discharges or land use in the vicinity of a public water supply bore. I accept that there are number of PNRRP rules that could now, or in their final form, place a restriction on a small part of Mr Chapman's property (a semi-circle with a radius of 100 metres on the southern boundary).

4.48 Mr Chapman is concerned that one or more of these rules, or some eventual variant of them that may eventually result from the PNRRP process, could adversely limit his farming operations and/or future development opportunities.

4.49 I understand Mr Chapman's concerns. It is unfortunate that the bore was not located in a more 'neutral' location. I have no knowledge of exactly what factors were considered when determining the bore location. The issue could have been largely avoided if a slightly different bore location had been chosen.

4.50 I have read Ms Blair's and Dr Anthony Daveron's comments in the right of reply and generally agree with the majority of their conclusions.

4.51 I have examined the specific issues of concern to Mr Chapman. Looking at the potential implications for constraining subdivision development potential. I am not

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<sup>1</sup> The Ministry for the Environment published a Proposed National Environmental Standard for Water Measuring Devices in April 2007.

familiar with the district plan requirements but I do have a reasonable understanding of the PNRRP and the Transitional Regional Plan rules that relate to water quality. The most likely issues would relate to restrictions on effluent or stormwater discharges, or to the storage of hazardous substances. In my experience, because the area of land affected is small, it would be relatively straightforward for any residential or similar development to be planned to avoid discharges into the ground or hazardous substances storage in the potentially affected area.

- 4.52 Similarly, the PNRRP rules relating to agricultural land uses that may be relevant are those that relate to discharges of contaminants such as agrichemical washdown water, or animal effluent. Again, given the relatively small area of land involved I do not consider that the need to avoid such discharges or high risk land uses in that area would involve any significant imposition on normal farming operations.
- 4.53 At the hearing Mr Chapman raised specific concerns about whether the location of the bore would restrict his ability to irrigate that area of land. The current rules that relate to the use of land that may result in the discharge of nitrate into groundwater (e.g., WQL18) do not have specific provisions that apply to groundwater supply protection zones. So in terms of these rules as currently written, the proposed use of the bore for public water supply would not result in any additional restrictions applying to the land.
- 4.54 Mr Chapman requested that any decision on this consent application place no restriction on his land. However, I do not have the power to consider that specific request. That is a matter for the PNRRP hearing process.
- 4.55 In conclusion, I understand Mr Chapman's apprehension. However, I am satisfied that the potential adverse effects on his future development opportunities would be insignificant.

### **The implications of the apparently relatively high concentration of nitrate nitrogen reported for such deep groundwater**

- 4.56 Some potentially contradictory information was provided on the age and quality of the groundwater sampled from bore L35/0980. A water sample from the bore was provided by the applicant to the Institute of Geological and Nuclear Sciences for age testing and the results indicated an age of approximately 100 years. However, a sample of water apparently taken at the same time was also tested by Hill Laboratories who reported the nitrate nitrogen concentration to be 6.1 grams of nitrate nitrogen per cubic metre.
- 4.57 These two results appear contradictory. The nitrate nitrogen concentration of groundwater that is approximately 100 years old and taken from a bore approximately 200 metres deep (screened between 191 and 245 metres depth) would not normally have such a relatively high nitrate nitrogen concentration. From my personal knowledge I would expect the nitrate nitrogen concentration in such deep groundwater to be less than 2.0 grams per cubic metre. I am aware of some deep (between 50 and 150 metres deep) Canterbury groundwater nitrate nitrogen concentrations between 2 and 5 grams per cubic metre. However, I not aware of the ages of those samples.

- 4.58 This result has implications both for SDC as the proposed eventual water supply authority and for ECan as the agency responsible for water quality management. While a nitrate nitrogen concentration of 6.1 grams per cubic metre is significantly less than the NZ Drinking-Water Standard of 11.3 grams of nitrate nitrogen per cubic metre, there is a small possibility that it could indicate that the supply is not as ‘future-proof’ as would normally be expected for such a deep bore supply.
- 4.59 When I raised this matter at the hearing, Mr Brooker stated that because a large sample was placed into a container prior to taking samples for dating and water quality, some contamination could have occurred in this vessel.
- 4.60 I strongly suggest that ECan and the SDC jointly investigate the matter of the nitrate nitrogen concentration of this deep groundwater to obtain a clearer understanding of the quality of deep groundwater in this area. Further sampling would clarify whether or not the high result was a consequence of sample contamination or an indication of a more potentially significant groundwater management issue.

### **Tangata whenua values**

- 4.61 After considering the overall proposal, the fact that there was no submission from tangata whenua, the changes that are outlined in this section including the specific conditions and my specific conclusions that individual adverse effects would be less than minor, I consider that there would be no significant adverse effects on tangata whenua values.

## **5. Statutory provisions**

### **Status of the applications and key sections of the Resource Management Act**

- 5.1 The applicant and reporting officer eventually agreed that the application is a non-complying activity. I agree with that conclusion.
- 5.2 I note that section 160 of the Resource Management Simplifying and Streamlining Amendment Act 2009 provides for consent applications made prior to that amendment to be processed as if the amendment had not been made.
- 5.3 Section 104(1) of the RMA requires that the consent authority must, subject to Part 2, have regard to:
- “a) any actual and potential effects on the environment of allowing the activity;*
  - and*
  - b) any relevant provisions of -*
    - (i) a national policy statement;*
    - (ii) a New Zealand Coastal Policy Statement;*
    - (iii) a regional policy statement or proposed regional policy statement;*
    - (iv) a plan or proposed plan; and*
  - c) any other matter the consent authority considers relevant or reasonably necessary to determine the application.”*
- 5.4 Section 104B of the RMA states that:

*“After considering an application for a resource consent for a discretionary activity or non-complying activity, a consent authority-*  
*(b) may grant or refuse the application, and*  
*(c) if it grants the application, may impose conditions under section 108.*

5.5 I have given regard to the matters specified in sections 104(1), and 104B, and I am satisfied that the proposed abstraction with amended conditions, would not result in significant adverse effects.

5.6 Section 104D of the RMA states that:

*“104D. Particular restrictions for non-complying activities*

*(1) Despite any decision made for the purpose of section 93 in relation to minor effects, a consent authority may grant a resource consent for a non-complying activity only if it is satisfied that either -*

*(a) the adverse effects of the activity on the environment (other than any effect to which section 104(3)(b) applies) will be minor; or*

*(b) the application is for an activity that will not be contrary to the objectives and policies of -*

*(i) the relevant plan, if there is a plan but no proposed plan in respect of the activity; or*

*(ii) the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or*

*(iii) both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.*

*(2) To avoid doubt, section 104(2) applies to the determination of an application for a noncomplying activity.”*

5.7 Detailed analyses of the relevant objectives of the CRPS, and the PNRRP have been provided in the section 42A report. It is not necessary for me to repeat all the relevant provisions of the CRPS and the PNRRP here.

5.8 Both the reporting officers and the applicants appear to have eventually agreed that, subject to addressing the issues associated with effects on other groundwater users and spring flows, efficiency and demand management, the proposed abstraction is generally consistent with the relevant objectives and policies in the CRPS, and the PNRRP. After having given regard to those provisions and considering the detailed revised conditions that I consider appropriate, I am satisfied that the proposal is consistent with all the relevant plan objectives and policies.

5.9 I conclude, as detailed in section 4 of this report, that provided that there is full compliance with all the proposed conditions (with the changes outlined in sections 4 and 6), the overall adverse effects of the proposed abstraction on the environment will be less than minor. I am therefore satisfied that the requirement of section 104D(1)(a) is met.

5.10 I conclude, as detailed in section 4 of this report and in the context of consideration of the objectives and policies of the PNRRP, particularly policy WQN14(9)(f), that provided that there is full compliance with all the proposed conditions (with the changes outlined in sections 4 and 6), the proposed abstraction would not be contrary to those objectives and policies. I am therefore satisfied that the requirement of section 104D(1)(b) is met.

## 6. Proposed conditions and consent administration

- 6.1 I have decided that this water permit application can be granted, subject to carefully formulated conditions. With the key changes outlined in section 4, I am generally satisfied that consent conditions can ensure that all adverse effects and policy provisions can be satisfactorily addressed. There are some 'second tier' issues that I have reservations about. These are outlined in the next few paragraphs together with how I consider those issues should be resolved.
- 6.2 It is essential that resource consent conditions fully address each specific resource management issue and are as certain as possible. I have modified some conditions to address specific technical issues and/or to improve the certainty and applicability of proposed conditions. The key changes are outlined in the following paragraphs.

### Annual volume

- 6.3 The proposed condition to specify an annual volume does not actually specify a limit. Instead, it simply provides a calculation to determine an annual volume. There is no specific proposed wording that would require the annual amount abstracted to not exceed the calculated amount. As a consequence, I have included an additional provision to address this issue.
- 6.4 I have also included an additional provision to clarify how the population estimate would be made to provide certainty for all parties. The proposed wording did not include a specific methodology and given the importance of the condition was unacceptably uncertain. It simply stated that the calculation would use "independent population projections". An appropriate method would be to require an annual estimate of the population of Darfield that would be serviced by the water supply. That estimate would have to take certain specific matters into account such as the Department of Statistics Census information (including household size information), the number of dwellings, the number of building permits, etc. That estimate would have to be certified by the consent holder's chief executive or level two manager responsible for water supply as the most reliable and accurate population estimate available. I am satisfied that with the specific information that must be provided to demonstrate that the estimate has been done appropriately, a 'self-certification' rather than an 'external certification' would be acceptable.

### Backflow prevention

- 6.5 There was some discussion at the hearing about what the most appropriate wording should be for a condition that would clarify the requirements to prevent water treatment chemicals entering groundwater. In response to my first request for further information Ms Blair has proposed a narrative condition with a performance based certification provision. Ms Mudaliar responded to this proposal and recommended a much more detailed prescriptive condition that provides two specific options. I am not completely satisfied with either proposed approach.
- 6.6 I have reservations about Ms Mudaliar's proposed suite of conditions that while appearing to provide certainty for all parties, actually refers to guidelines that are neither formulated as a legally binding requirement nor sufficiently detailed to address all the technical issues relevant to this situation. The proposed references

to qualifications (IQP and ABT) in the guidelines are similarly not adequately defined. In addition, I have some reservations about the certainty and applicability of aspects of the proposed conditions.

- 6.7 A distinction needs to be made between this water supply situation and the situation that the ECan Fertigation guidelines address. There are some important differences between the use of bore water in fertigation and the use of bore water for a community drinking water supply.
- 6.8 Environment Canterbury technical and consents staff may want to consider these matters before further general use of what appears to be a standard condition.
- 6.9 My primary reservation about the narrative wording proposed by Ms Blair is that the wording is not sufficiently specific, i.e., the issue is not a risk of water discharging into the bore, rather it is any contaminant either by itself or in water that is of concern. However, with some relatively small changes to clarify the purpose and the certification process, I consider that at this stage and for this specific consent application this certification approach is preferable.

#### **Demand management plan application**

- 6.10 I have modified the wording of the proposed demand management condition and deleted the reference to “other services that rely on water”. The proposed wording could be interpreted as excluding a significant range of water uses from restrictions, even including irrigation. The water demand management controls should apply to irrigation sourced from a public water supply system. The same concerns apply to other non-essential water uses that should also be restricted, for example, truck washing, ornamental ponds, etc.
- 6.11 I have made a number of other changes to the proposed water use demand management plan condition to improve certainty for all parties and to clarify the outcomes that should be achieved by that plan.
- 6.12 I have considered the information provided by Ms Blair and Ms Mudaliar related to the ownership of bore L35/0171 and the issues relating to needing assurance about the long-term provision of groundwater level information from this bore. I am satisfied that a condition can clarify that groundwater level monitoring must be undertaken. If Environment Canterbury continues to include this bore in its monitoring programme then additional monitoring would obviously not be needed. However, more importantly if for some reason access to the bore was not provided or the bore failed, then there must be a provision that provides for a new trigger system to be developed. A specific review provision would be the most effective way to provide for this.

#### **All practicable or reasonable measures**

- 6.13 I have read and carefully considered the report provided at the hearing written by Mr Hugh Blake-Manson on matters related to water meter conditions. While the report was prepared for another hearing it is clearly also relevant to this process. I generally accept the arguments put forward by Mr Blake-Manson. The only matter that I do not fully accept is the proposed wording to implement the water demand management plan and to avoid leakage from pipes and structures.

6.14 I accept his argument that “all practicable measures” could be onerous where the consequences of some water leakage are not as significant as for example, a spillage of hazardous chemicals into groundwater (where the term would be entirely appropriate). However, I consider that the proposed term “reasonably practical” is problematic from a number of perspectives. Firstly, the word practical is not the appropriate word. It does not have the same meaning as practicable<sup>2</sup>. Secondly, the combination of the two words may cause confusion. I consider that the term “all reasonable measures” is clearer; is commonly used in similar situations and has significant case law history.

#### **Area supplied with water**

6.15 The applicant clarified after receipt of the right of reply that they no longer want the water supply to be limited to a specific area. I am relatively relaxed about this proposal. The applicant has indicated that they do not want to be limited to a specific area in case there are changes in the future. On balance, I agree with this concern. I do not think it would be appropriate to have to apply for a change of conditions for some minor change of the supply area.

6.16 I am satisfied that with the changes outlined above and in section 4 that other conditions adequately address all resource management issues and therefore an area limitation is not needed. The change does indicate that care needs to be taken in the narrative description of Darfield used in the condition that specifies the maximum annual volume of water. This description needs to ensure that the full area serviced by the water supply is included in the calculation. Therefore to avoid the risk that the use or the word Darfield in this condition could be inappropriately narrowly defined, I have changed the wording of the condition to refer to the population provided with the water supply.

#### **General**

6.17 I need to consider all the potential developments that could occur over the requested consent duration of 35 years. As a general rule it is not appropriate to ‘tailor’ conditions to a specific consent holder. Consent condition requirements should not be based on any perception or assumption about the nature of the initial or subsequent consent holder. Over a period of 35 years it is quite possible that there could be a number of transfers. I have therefore strived to ensure that consent conditions do not make any assumptions about the likely nature or performance of the consent holder.

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<sup>2</sup> Practical = shown in practice, useful in practice, not theoretical, etc. (Concise Oxford Dictionary)  
Practicable = can be done, feasible, can be used, etc. (Concise Oxford Dictionary)

## 7. Decision and reasons

### Part 2 Matters

7.1 In considering these applications, I have considered the relevant principles outlined in sections 6, 7 and 8 of the RMA as well as the overall the purpose of the RMA as specified in section 5.

#### Section 5

7.2 This section of the RMA defines sustainable management. I consider that the application is consistent with the definition in the RMA, noting particularly that the provision of an enhanced community water supply in Darfield:

- (a) will allow Darfield residents and visitors to provide for their social needs and their health and safety,
- (b) will not compromise the reasonable needs of future generations, nor will it result in adverse effects on the life supporting capacity of water or ecosystems, and
- (c) the adverse effects of the abstraction can be avoided or mitigated through appropriate conditions.

#### Section 6

7.3 Section 6 of the RMA lists seven matters of national importance that must be recognised and provided for in this decision. I do not consider that any of those matters are particularly relevant to this proposal.

#### Section 7

7.4 Section 7 of the RMA lists matters that I must have particular regard to. The matter of particular relevance to the present application appears to be the following:

“(b) The efficient use and development of natural and physical resources:

...

(f) Maintenance and enhancement of the quality of the environment:”

7.5 I am satisfied that the adverse effects of granting the consent application subject to the conditions listed in this decision would be less than minor.

#### Section 8

7.6 Section 8 of the RMA states that “...all persons exercising functions and powers ... shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).”

7.7 The information provided to me, indicates that granting the applications would not be inconsistent with the Principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

## Duration

- 7.8 The applicant has requested a resource consent duration of 35 years. The reporting officer has indicated that if I consider that cumulative effects are acceptable then a consent duration of 35 years would be appropriate. I am satisfied that with the changes detailed in sections 4 and 6, the cumulative adverse effects would be significantly less than minor.
- 7.9 I have considered the matters specified in section 1.3.5 of Chapter 1 of the PNRRP, and consider that given my conclusions that the adverse effects of the development proposal will be less than minor, and given the long-term nature of the proposed infrastructure, a duration of 35 years is appropriate for this resource consent.

## Decision

- 7.10 For the reasons detailed in this report (sections 4, 5, 6 and 7) and under sections 104, 104B, 104D and 108 of the Resource Management Act 1991, I grant resource consent application CRC093539 by Stanwood Holdings Limited to take and use water for community drinking water purposes, for a duration of 35 years, subject to the following specific attached conditions which form part of the consent:

## **CRC093539 conditions**

- (1) Water may be taken only from bore L35/0980, 400 millimetres diameter, 246.5 metres deep, and screened between 191.5 and 245.5 meters below ground level, at or about map reference NZMS 260 L35:3592747315.
- (2)
  - (a) Water may be taken at a rate not exceeding 83 litres per second, with a volume not exceeding 4,600 cubic metres per day and not exceeding the maximum annual volume calculated in accordance with Condition (2)(b).
  - (b) The maximum annual volume for the 12 month period from 1 July to the following 30 June, shall be determined annually in June prior to the 12 month period, using the following formula:  
  

Maximum annual volume = estimate of the population to be provided with the water supply for the 12 month period x 227.3 cubic metres

(Note: 227.3 = (365 days x 0.519 cubic metres per person)+20%)
  - (c) The estimate of the population to be provided with the water supply for the 12 month period shall be calculated by applying the most recent and relevant Statistics New Zealand data, including the Statistics New Zealand average household size estimate for the district, number of serviced properties, building permit information and other relevant information.
  - (d) The Darfield population estimate shall be an objective best estimate of the population that will be provided with water from the Darfield public water supply.
  - (e) The Darfield population estimate shall be certified by the consent holder's directors, chief executive or most senior person responsible for water supply, as being an objective best estimate that has been undertaken in accordance with Condition (2)(c) of this consent using all relevant information.
  - (f) The calculated maximum annual volume, including all the information used to undertake that calculation, and the certification shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, before 1 July each year.
- (3) Water shall only be used for community drinking water supply purposes.
- (4) The combined total daily amount of water abstracted for the Darfield water supply via resource consent CRC991423 or CRC960148 and this resource consent CRC093539 shall not exceed 7344 cubic metres per day.
- (5)
  - (a) The consent holder shall prepare a water use reduction management plan for implementation during low groundwater level periods to prevent or minimise the use of water for irrigation and other non-essential uses, but not including essential uses for drinking or hygiene purposes for people or their animals including commercial uses for the processing of food or beverages.
  - (b) Groundwater levels in bore L35/0171 shall be monitored at least monthly from 1 September to 31 March inclusive each year by a person with at least a tertiary science or engineering qualification that required the equivalent of at least one year of full-time study, a National Certificate in Water Treatment (Site Operator), a National Diploma in Drinking Water - Water Treatment (Site Technician) or an equivalent qualification.

(Note: monthly groundwater level monitoring data from this bore undertaken by the Canterbury Regional Council would constitute compliance with this condition. If the Canterbury Regional Council ceases monitoring of this bore, the consent holder would have to undertake this monitoring.)

- (c) If the monitoring of the groundwater level in bore L35/0171 during the period 1 September to 31 March shows that the water level has dropped below 47 metres below ground level, the water use reduction management plan shall be implemented as soon as possible after the consent holder is aware of that event, and continue until groundwater rises up to less than 47 metres below ground level or until 31 March, whichever occurs first.
  - (d) The water use reduction management plan shall include, but not be limited to, the implementation of significant restrictions on: irrigation of reserve areas, the use of water for filling or topping up swimming pools; washing of vehicles; and the use of water in garden and lawn areas.
  - (e) The consent holder shall use their best endeavours to implement the water use reduction management plan and take all reasonable measures to ensure that there is compliance with the plan by water users.
  - (f) The implementation of the water use reduction management plan shall incorporate all reasonable legal powers available to the consent holder, including, if available to the consent holder, bylaws under the Local Government Act.
  - (g) The water use reduction management plan shall be prepared in consultation with the Selwyn District Council and submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within three months of the commencement of this consent.
  - (h) Every year that the water use reduction management plan is implemented an annual report shall be provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, by 30 April following each implementation. That report shall include: the groundwater level data from bore L35/0171 during the monitoring period, water usage data during that period and the actions taken to implement the water use reduction management plan.
  - (i) If the Canterbury Regional Council ceases to undertake monthly monitoring of bore L35/0171, the consent holder shall provide all groundwater level data to the Canterbury Regional Council on request and shall provide a report annually on or about 30 April each year that details the results of groundwater level monitoring undertaken in the preceding seven months, the qualifications and experience of the person who undertook the monitoring and the measures taken to ensure the accuracy and representativeness of the reported groundwater levels.
- (6) (a) Within 12 months of the commencement of this consent:
- (i) A water meter shall be installed that has an international accreditation or equivalent New Zealand calibration endorsement and has an output that is suitable for use with an electronic recording device, which will measure the rate and volume of water taken within an accuracy of at least plus or minus five percent, as part of the pump outlet plumbing, or within the mainline distribution system, at a location that will ensure the total take of water is measured.
  - (ii) The water meter shall be accessible to the Canterbury Regional Council at all times for inspection.

- (iii) The water meter shall be installed, maintained and operated throughout the duration of the consent in accordance with the manufacturer's instructions.
    - (iv) All reasonable measures shall be taken to ensure that the water meter is fully functional at all times.
  - (b) Within 12 months of the commencement of this consent a tamper-proof electronic recording device such as a data logger shall be installed in conjunction with the water meter specified in Condition 6(a) that shall:
    - (i) be set to wrap the data from the measuring device(s) such that the oldest data will be automatically overwritten by the newest data (i.e. cyclic recording); and
    - (ii) store the data in each 12 month period from 1 July to 30 June in the following year, which the consent holder shall then download and store in a commonly used format (such as csv) and provide to the Canterbury Regional Council upon request; or
    - (iii) 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 (such as csv) at all times to the Canterbury Regional Council and the consent holder. No data in the recording device shall be deliberately changed or deleted.
  - (c) The recording device shall be accessible to the Canterbury Regional Council at all times for inspection and/or data retrieval.
  - (d) The recording device shall be installed and maintained throughout the duration of the consent in accordance with the manufacturer's instructions.
  - (e) All reasonable measures shall be taken to ensure that the recording device is fully functional at all times.
- (7)
  - (a) The accuracy of the recording device installed in accordance with Condition (6) of this consent shall be certified by a Chartered Professional Engineer (CPEng) or by a person who has documented relevant experience and/or a relevant qualification, that demonstrates that they have an appropriate level of knowledge about the calibration of water meters, within three months of installation, and at five-yearly intervals afterwards.
  - (b) This certification and the certifier's qualifications and experience shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager within two months of the certification inspection being undertaken.
- (8)
  - (a) The consent holder shall submit a copy of its Standard Operating Procedures (SOP) relating to the management of the water supply system to the Canterbury Regional Council within 12 months of the commencement of this consent. This shall be reviewed by the consent holder on a five yearly basis afterwards and the Canterbury Regional Council shall be provided with a copy of any updated SOP as soon as reasonably possible.
  - (b) The SOP shall include, but not be limited to, information that demonstrates compliance with Condition (7) of this consent.

- (c) The installation and maintenance of the recording device installed in accordance with Condition (7) of this consent shall be carried out in accordance with the Standard Operating Procedures.
- (9) The Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, shall be informed in writing within five working days of the first exercise of this consent.
- (10) The consent holder shall take all reasonable measures to:
- (a) avoid leakage from pipes and structures forming part of the reticulation system associated with the abstraction; and
  - (b) avoid the application of water onto impermeable surfaces.
- (11)
- (a) Within three months of the first exercise of this consent, a backflow prevention system that prevents contaminants entering bore L35/0980 shall be installed and maintained.
  - (b) Within one month of the installation of the backflow prevention system, a certificate signed by a Chartered professional engineer (CPEng) that certifies that a backflow prevention system has been installed in compliance with Condition (11)(a) of this consent shall be provided to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager.
  - (c) An annual inspection shall be carried out of the backflow prevention system to ensure that it is operating correctly and a certificate, signed by a Chartered professional engineer (CPEng) within one month of the inspection that certifies that the backflow prevention system is operating in compliance with Condition (11)(a) of this consent, shall be provided on request to the Canterbury Regional Council Attention: RMA Compliance and Enforcement Manager.
- (12) The Canterbury Regional Council may, once per year, on any of the last five working day of May or November, serve notice of its intention to review the conditions of this consent for the purpose of
- (a) dealing with any adverse effect on the environment which may arise from the exercise of the consent and which is appropriate to deal with at a later stage, or
  - (b) changing the water use reduction management plan requirements, including the trigger control requirements, if Condition (5) becomes ineffective.
- (13) The lapsing date for the purpose of section 125 shall be 31 December 2015.

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**Signed:**



**M. C. Freeman**

**5 March 2010**

## Appendix 1



### Resource Management Act 1991

#### Stanwood Holdings Limited

### Resource consent application CRC093539, water permit application for community water supply

#### Memorandum of Commissioner Michael Conrad Freeman

The purpose of this memorandum is to summarise the further information requested from the applicant, Stanwood Holding Limited at the hearing on 17 November and the process subsequent to the receipt of that information.

The further information requested:

1. A proposed resource consent condition that requires an appropriate system to prevent or minimise the potential for any water treatment chemicals to enter groundwater. This can be achieved by either specifying the system or providing for a subsequent certification by a specifically qualified person that an installed system meets a specified standard.
2. A reassessment of the Darfield average daily and peak daily water use to address the potential anomaly in the two presented graphs that indicated for some periods the average daily water use exceeded the peak daily water use.
3. A proposed water meter condition that provides certainty either by including more certain technical specifications similar to the standard Environment Canterbury water meter conditions for community water supplies or via a certification process that provides for a specifically qualified person to certify subsequently that a water meter complies with appropriate water meter specifications.
4. A proposed resource consent condition that specifies that the bore shall only be screened at a depth greater than 190 metres below the ground surface.
5. An analysis of the regional plan status of the proposed water take; specifically to comment whether or not the applicant's consultant agrees with the reporting officer's view that the water take is a non-complying activity under the Proposed Natural Resources Regional Plan.
6. Whether the applicant wishes to proceed with the proposed limitation on the use of the water being for "community drinking water supply purposes", rather than a broader term such as "public community water supply purposes".

7. A proposed resource consent condition that identifies an appropriate restriction regime that would ensure that water uses such as residential irrigation, commercial irrigation, and reserve irrigation are restricted to a level commensurate with any water restrictions that may apply generally in the district to irrigation supplied from sources other than a public community water supply.
8. A proposed resource consent condition (or conditions) to replace condition (4) proposed in Ms Blair's evidence, firstly, to incorporate both consents that Mr Blake-Manson indicated the Selwyn District Council hold for the Waimakariri River gallery system, and secondly, to provide a clear condition that provides a regulatory regime that mirrors the proposed operating regime where the bore supply would be the dominant water supply source with the river supply only used as a back-up system.
9. A revised maximum annual abstraction resource consent condition, based on estimating the reasonable base demand from winter use information.
10. Clarification on whether a side agreement has been achieved with Mr Chapman with respect to the response of the Selwyn District Council to future irrigation development proposals on the portion of Mr Chapman's property that may be subject to irrigation development restrictions because of the presence of the proposed community water supply.

The process after receipt of that further information:

1. The submitter and the section 42A reporting officer shall have a maximum of 10 working days from receipt of that information to respond. Responses must be limited to commenting on the further information.
2. A right of reply from the applicant should be provided within 10 working days of receipt of any responses from the submitter and reporting officer. If no responses are received from the submitter or reporting officer, then I would expect a right of reply to be provided soon after the end of the 10 working following the provision of the further information.

**Signed:**



**Mike Freeman**

**18 November 2009**

## Appendix 2



### Resource Management Act 1991

### Stanwood Holdings Limited

### Resource consent application CRC093539, water permit application for community water supply

#### Second Memorandum of Commissioner Michael Conrad Freeman

The purpose of this memorandum is to make a request for further information from the applicant, Stanwood Holding Limited.

#### Background

A critical issue in the consideration of this application is the potential adverse effects that could result from the proposed new abstraction on both existing groundwater users and surface waters recharged by groundwater from the Selwyn Waimakariri groundwater zone.

This groundwater zone is currently (as at 11 January 2010) estimated by Environment Canterbury to be 131% over-allocated.

Both the applicant and the reporting officers have acknowledged that a water demand management plan is appropriate to ensure that at times when groundwater resources in the zone are low, non-essential water uses from such a public water supply would be restricted.

#### The issue

A condition has been proposed (condition 5) to prepare a water demand management plan and to then submit that plan to Environment Canterbury. I am concerned that the proposed condition does not provide any certainty on exactly what measures would be taken, how they would be implemented and what specific trigger(s) would cause their implementation. I therefore have no assurance about the content of the plan or its effectiveness.

Therefore I request the following further information:

1. An amended condition that specifies:
  - a) The specific trigger(s) that would cause the water demand management plan to be implemented e.g., a specific groundwater level.
  - b) The specific restriction measures that would be undertaken, and
  - c) The powers that would be used to ensure that those restrictions would be implemented.
2. The amended condition would also need to have a clause that makes it explicit that the consent holder is obliged to implement the plan.

Signed:

**Mike Freeman**  
19 January 2010