

IN THE MATTER OF

the Resource Management Act
1991

AND

IN THE MATTER OF

applications by Central Plains Water
Trust to:

Canterbury Regional Council for
resource consents to take and use
water from the Waimakariri and
Rakaia Rivers and for all associated
consents required for the
construction and operation of the
Central Plains Water Enhancement
Scheme

Selwyn District Council for resource
consents to construct and operate
the Central Plains Water
Enhancement Scheme

AND

IN THE MATTER OF

a notice of requirement by Central
Plains Water Limited to:

Selwyn District Council for the
designation of land for works
associated with the construction and
operation of the Central Plains
Water Enhancement Scheme

**SUPPLEMENTARY BRIEF OF EVIDENCE OF TERRY HEILER
RESPONSE TO COMMISSIONERS' REQUESTS
APRIL 2008**

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Qualifications and experience

My full name is Terence David Heiler. I have set out my qualifications and experience, and the basis on which I have prepared my evidence, in my first brief of evidence for this hearing

Scope of Evidence

1. In the direction of Commissioners dated 28 March 2008, they noted: *“Phase 3 of the Canterbury Strategic Water Study [CSWS] has been completed, and the report of this phase is publicly available. As this study presents a wider context for the CPWES applications, it would be useful to hear further comment from the applicant (beyond that already provided by Dr Bright) on the place of its proposal in the context of alternatives being discussed in the Strategic Water Study.”*
2. I shall provide further comment on the CSWS as sought by the direction of the Commissioners, based on my professional experience and understandings of the issues involved. Specifically I will respond to this request under the following headings:
 - Compatibility of CPWE proposals
 - Technical Issues
 - Consenting Issues
 - Implementation Issues
 - Conclusions
3. The CSWS Phase 2 gives an adequate basis for the assessments of hydrological feasibility of a number of storage options; and Phase 3 gives general comment from the stakeholder reference group on the merits of four short-listed storage and irrigation supply options: Lees Valley, Waianiwaniwa, Lake Coleridge and Stour dam sites.
4. **Compatibility of CPWE Proposals..** I note that the Waianiwaniwa storage site option is one of the four stand-alone preferred options in the CSWS Phase 3 report. No assessment has been undertaken in the CSWS as to what options for complementary developments are indicated if the CPWE proposals proceed, but these clearly exist.

5. To fully appreciate the CPWES proposals in the context of the CSWS would require analysis of the options open for additional augmentation, assuming the CPWES proceeds as planned
6. **Technical Issues.** The Phase 2 comments on merits of the Lees Valley, Coleridge or Stour storage options have not been informed by engineering feasibility issues in regard to geologic and geotechnical site suitability; flood and seismic hazard assessments; constructability; long term performance in terms of sedimentation and effects on stream morphology. The CSWS Phase 2 is based on hydrologic analyses of supplying resources, estimates of water demand, and topographic factors that influence water transfers. Phase 3 then introduced the results of Phase 2 to a selected group of representative stakeholders who developed subjective responses to the merits and demerits of short-listed options based on their personal knowledge and Phase 2 material—without the technical information as describes above .
7. To appreciate the CPWES applications, within the context of the CSWS findings, would require the engineering feasibility issues associated with each option to be assessed to a level that allowed fatal flaws and cost implications to be better understood. In the absence of this information, I am of the opinion that the relative technical merits of alternatives to CPWE proposals cannot be assessed.
8. **Consenting Issues.** I am of the opinion that any of the options identified in the CSWS Phase 2 report will bring to the surface all of the land use effects that have been identified thus far with the CPWES proposals, and for the options involving a larger irrigated area, the consenting issues are likely to be more substantial.
9. In regard to the Lees Valley option, in-stream environmental issues are likely to be significant, given the dramatic impact on Ashley River flow regimes.
10. Across all of the CSWS options, excluding the Waianiwaniwa Dam option as proposed by CPWES, a fundamental issue is the necessity for large existing resource consents to be changed. For example, the resource consents for source of water now supplying schemes would need to be changed – the RDR schemes would be served by water from water resources from the Waimakariri and Rakaia rivers, rather than from the Rangitata. In my opinion, any changes to existing resource consents for the large schemes using surface water would be resisted strongly.

11. If the CSWS options were to proceed, it would be necessary to convince all of the existing consent holders within affected schemes that the value of existing consents would be preserved. Based on my assessment of current attitudes this would be very difficult to achieve. A requirement for implementation may have to be central government intervention and associated legislative changes. This seems to be a remote possibility.
12. Further, there would need to be substantial alterations to existing statutory plans, if the Lees Valley or Coleridge sites were to be built. The Lees Valley site depends on a change to the Waimakariri River Regional Management Plan – primarily access to flows in the Esk River, and the Coleridge site depends on a change to the Rakaia National Water Conservation Order, because it would alter the way in which Coleridge was operated, and changes to the Order were strongly opposed by the environmental interest groups on the Phase 3 reference panel.
13. Based on the foregoing review of consenting issues, I conclude that the other CSWS options are unlikely to proceed in the foreseeable future, and that assessment of the CPWES applications should recognise this likelihood.
14. **Implementation Issues.** I am familiar with the difficulty in getting buy-in from farmers for large scale water enhancement proposals. CPWES has managed to achieve this, and has reached the stage where its proposals are before the current hearing – and it has taken 8 years and involved high costs to the CPWES members.
15. The options identified in the CSWS involve a much larger community of farmers and affected communities, many of whom do not share a common geographic identity. In my opinion, the challenges in getting engagement and agreement with these larger communities will be formidable, if not unachievable, without direction from central government.
16. Many promising water enhancement proposals either faltered or had difficulties because of the problem of financing infrastructure. Each of the CSWS options will require larger capital investments than the headworks of the CPWES proposals, but no investigations have been done on the other schemes as to how the financial requirements are to be addressed. By contrast, the CPWES proposals have investigated financing options in some detail, and hence the implementation issues and options are well understood, if not finalised.

17. **Conclusions.** Based on the foregoing assessment of technical, consenting and implementation issues associated with the CSWS preferred options, I conclude that:

- a) The key technical issues involved in implementation of the Lees Valley, Coleridge or Stour storage options would need to be better understood to allow an informed assessment of the CPWES proposals in the context of the CSWS options.
- b) The other CSWS options will face considerable consenting issues, the most significant of which is the need for existing resource consents held by schemes to be changed if the options are to proceed – this would probably require central government intervention;
- c) The other CSWS options involve communities that do not necessarily have the same sense of identity for historic and geographic reasons – therefore reaching agreement on key issues will be difficult – whereas CPWES already has a supportive stakeholder base;
- d) The other CSWS options will have to address the difficult problem of financing infrastructure with substantial capital expenditure early on, and long gestation periods before revenue flows reach debt servicing levels – the CPWES proposals have addressed scheme-specific financing options in some detail; and based on the above:

In short, in light of the above considerations, it is my opinion that of the four alternatives presented and assessed in the CSWS, the CPWES proposals represent the most realistic way forward to address water resource security and enhancement issues for Central Canterbury, in the foreseeable future.

T D Heiler