

Central Plains Water

Resource Consent Hearing

MALVERN HILLS & PLAINS' ASSESSMENT

Further statement to the evidence of Di Lucas

June 2008

1. My full name is Diane Jean Lucas. I am a landscape planner. I hold a Master of Landscape Architecture (planning, Lincoln University), a Bachelor of Science (Otago), am a Fellow of the New Zealand Institute of Landscape Architects (1987), and a Registered NZILA Landscape Architect. Details of my expertise and experience were provided previously.
2. I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses (Environment Court Consolidated Practice Note 2006). This evidence is within my area of expertise, except where I state that I am relying on facts or information provided by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.
3. This statement responds to the applicant's response to the Panel's requests for further evidence, in particular, seeking further visualisation of the proposal. I thus primarily respond to the additional evidence of landscape architect Chris Glasson.
4. Mr Glasson provided, in digital form, 20 sheets of photographic images from 15 photopoints (ppt). Photopoints 1, 4, 7 and 10 each involve several sheets, being parts of panoramas. The files, sheets and text provide no directions as to the size and distance at which the images should be viewed. My request to borrow a set of sheets was declined and I was provided with only a low resolution CD.
5. On 22 May Mr Glasson provided me with a list of 6 simulation sites and asked for comment. I responded with suggestions of refining and expanding the list (see Appendix G). Photopoint 3, of the lower Waimakariri intake, is an additional view that I requested (Appendix G, no. 1).

GORGE BRIDGE OFFTAKE

6. Mr Glasson stated in his primary evidence (para. 112) that there are two alternative sites for the Lower Waimakariri intake, both upstream of the

bridge, leading to a tunnel running parallel to the stock water race tunnel. He showed one intake location in his Graphic Supplement sheet 11.0 Waimakariri River Intake and Canal, view “11.9 Aerial photograph of the lower Waimakariri intake looking south”. The ‘Intake Gate’ is drawn in and labelled. The gate location complies with that in the URS plans and is located within the designation. This is the offtake site I described, assessed and showed on attachment 22 of my Rivers Assessment (underlies my Appendix H). As I noted in my primary evidence para. 180, whilst Mr Glasson referred to 2 sites, only one was located in the information provided and thus I was only able to assess one location.

7. In para. 114 he noted that site is of “*reasonably high visual effect due to the gorge bridge and public viewpoints both at bridge level and in the riverbed. It is a popular spot for launching jetboats or kayaks, for fishermen and the congregation of many competitors and support crews for the Coast-to-Coast race in March each year.*” In my primary evidence I agreed (para. 181) that the effects of the structures and earthworks in this special Gorge Bridge area would have significant adverse effects. In para. 206 I described the natural character and in para. 207 the locals’ intention to remove the wilding pines along this gorge.
8. In his primary report for Selwyn District Council, Mr Craig, of Peter Rough Landscape Architects, appears to have accepted Mr Glasson’s assessment (para. 4.13) that the offtake would not be seen from any “key public vantage points and (para. 4.59) out of sight of major highways and the railway. Mr Craig made no comment on alternative proposals for the Gorge Bridge offtake.
9. In his Further Rebuttal Mr Glasson’s simulation for Viewpoint 3 appears to propose an alternative offtake site that is significantly closer to the bridge, not relate to the plans or other previous graphic material, nor within the designation. I had not assessed this alternative offtake location in the field. The alternative site now proposed is likely to be highly visible from public vantage points on and near the bridge, as well as from the riverbed.

10. Craig revisited the upper Waimakariri in July before the supplementary Glasson simulations were made available and appears to not have assessed the alternative site now shown in the simulation PPT 3 for the Gorge Bridge Offtake.
11. The relocated offtake would be highly visible from the Gorge Bridge, and when viewing the heritage bridge and gorge from the viewing area on the knoll just downstream of the abutment on the true left.
12. Whilst the site is a short gorge, a pinch point in the river, it is at flood times that the full throat of the gorge is occupied. At typical flows, and at the flows when takes are proposed, the river regularly does not occupy the full width of the bed as it passes the proposed offtake site (Appendix H). My attachment 11 showed some river channel patterns and locations between 1941 and 2007, and indicates that the channel location varies considerably through this gorge.
13. Mr Glasson's ppt 3, and my Appendix J and I with around 85 cumecs, all show the channel close against the offtake site. However Appendix H shows a flow of around 95 cumecs largely by-passing the revised intake site. Sometimes the main natural channel is even further north. For the proposed offtake to capture 40 cumecs, ongoing river training works would be expected to be variously required within this gorge.
14. With the simulation photo taken whilst there was a flow past the new site, no in-stream works are shown, but nor are they described or assessed by Mr Glasson. Mr Craig in his Supplementary Landscape Report notes (para. 2.1.9) that only a low elevation view is provided of this intake. Also, the simulation is provided for only one flow regime.
15. Mr Craig describes the Gorge Bridge offtake site at para. 2.2.7 and at para. 2.2.8 is critical of the offtake design. As with the assessment by Dr Taylor for CPW, Mr Craig assumes the offtake would not be visible from the bridge or land-based viewpoints. The revised location will however be clearly visible from the bridge and some land-based views, as well as the varying riverbed

areas not submerged. Mr Craig makes no mention of the need for river training works and has not assessed their cumulative effects on this gorge landscape.

16. The simulation does not appear to show the proposed crane. Signage and other fixtures are also anticipated and will be very evident to river users. The structures have been shown as simple dark forms slotted onto the natural bluff. Various inundated and weathering flood passage of logs and boulders, the evident structures will be highly visible and unavoidably utilitarian in character.
17. In his primary report Mr Craig recommended (7.0 1.) detailed landscape restoration plans for the affected river corridor. In my opinion the proposed offtake location is such that restoration is unlikely to be realistic. This exposed face will display all works on it. Whilst excavated bluff areas will eventually weather somewhat, design and/or management for a recessive and naturalistic aesthetic is unlikely to be achievable.
18. The pinnacles landform features, displaying aeons of weathering by the rivers passage and with prostrate kowhai in their niches, have an evident important relationship with the rise and fall of the natural waters below. This gorge area is an important and widely known and valued node on the river.
19. The Gorge Bridge is a heritage feature which has a dramatic relationship with the natural river corridor. The bridge location across the gorge, the natural pinch point where the river is walled in by the rock bluffs, forms a highly legible landscape feature significant for the full length of the Lower Waimakariri River. The rock bluffs read as the permanent framework to this place. The riverbed and channel waters read as constantly in flux. The bridge is staunchly embedded into the containing bluffs and pinions into the riverbed with substantial round columns pinioned into the bed to withstand the regular onslaught of flood waters.
20. With braids scattered more than a kilometre wide above and below, the gorge walls draft and confine the braids through this throat. The channels come

together for just this short length. The full flow of the river is experienced from and around the Gorge Bridge. This experience is highly valued. The bridge utilises and respects this throat.

21. Visible diversion of a substantial quantity of water out of the natural river corridor and through the solid gorge wall will confuse the landscape legibility of this place. For the experience so enjoyed around the bridge area, it would be inappropriate to open a gate and exit a substantial flow right at this juncture. It would be experienced as cheating the river and cheating those on the river, to have the flow disappear invisibly or via a diversion channel out of the river corridor through this crucial gorge wall location.
22. In my opinion with either the former or the revised locations for the Gorge Bridge offtake, the structures would both result in significant adverse effects on the natural character of the river, and on the natural landscape values and amenity values.

UPPER WAIMAKARIRI OFFTAKE

23. Mr Glasson provided simulation for ppt 2 of the Upper Waimakariri offtake, in front of Taeges'. The panoramic simulation shows a diversion channel along inshore for the full length. A tidy gravel bank is shown separating the natural river from the channel. Whilst the channel is diverting perhaps 40 cumecs from the river, no reduction in river flow is shown downstream. The image is not at all realistic.
24. The variability of the flows is such that regular in-stream works would be required. The river is regularly flowing across to the north bank (attachment 11) and the channel would need to extend and capture this flow. The flow levels change so quickly and diversely that machinery would be continually working to achieve and maintain the diversion. The presence of machinery, stock piles and of bed disturbance would significantly adversely affect the natural character, natural landscape and amenity values.

25. The location is just below the Gorge and closely associated with important natural values on the enclosing banks. It is close below the transition area from the gorge.
26. If rock groynes were to be utilised to enable a more permanent channel to be achieved, these would adversely affect the natural character of the river. Whilst from the Gorge the river is variously contained by rock walls, the riverbed is of greywacke gravels and small boulders long fluviially shaped to their distinctive rounding. The rounded pebbles and small boulders are of the upper plains river. To introduce other types or forms of rock within the expanse of the upper plains riverbed would introduce a foreign element to this natural system.
27. Mr Glasson has not considered the general users of the river. The construction of these structures in the riverbed, and the diversion, would have significant adverse effects on the natural character experienced within the river corridor.
28. The image suggests a tidy permanent channelling and is quite unrealistic. Even if achievable and sustainable, the presence of the artificial channel diverting a substantial flow from the natural river would have significant adverse effects on the river corridor. In my opinion the proposal is inappropriate.

UPPER WAIMAKARIRI CANAL

29. The ppt 1 panorama from the riverbed is not accompanied by an aerial view, as I had suggested (Appendix G, no. 1). Aerial oblique views would assist understanding of what is proposed. There is no image showing the Kowai tunnel nor of the terrace canal or its arrival on the plains. This is also a problem with the Lower Waimakariri terrace canal (with only ppt. 5) and that proposed for Rakaia.

RAKAIA OFFTAKE

30. Ppt 7 and 8 show the Rakaia diversion and offtake. At this location well below the Gorge, the proposed diversion is necessarily from within the active braided riverbed. However the simulation does not realistically portray what would be experienced by river users to achieve a substantial diversion from within a wide active gravel riverbed.
31. As with the Upper Waimakariri offtake, a diversion channel would require regular machining to achieve diversion. As shown on my attachment 26, the flows may not necessarily be naturally across at the north bank. A channel across the wide bed would then be required. Active river training works would be expected to be continually required.
32. The simulations do not show the proposed change from a regularly varied braided character to the intended extraction of a substantial flow within a formalised channel. Nor do they show the water extracted from the natural braids and the potential reduced braiding resulting. The proposed channel form and character is very different from the natural character of a braided channel.
33. The simulations do little to assist in depicting the likely experience of the offtake for Rakaia River users.
34. Ppt 10 is of little assistance. I am unsure of the effects on existing natural values, and I understand there is no intent/commitment from CPW to undertake and manage the extensive revegetation shown.
35. My suggested (appendix G, no. 2) terrace canal image across Steeles Road has not been provided.

COALGATE

36. The simulations ppt 11 to 14 and indicate what we had envisaged and depicted in approximate montages. The adverse effects are as previously described.
37. With ppt 11 these effects would be exacerbated with the addition of the ancillary structures not depicted, associated with the dam outlet, and possible hydro. As originally shown in Mr Glasson's 13.4, the trees he proposes at the dam base would extend above the hedges, but provide only limited visual mitigation of the dam.
38. No simulation has been provided to show the proposed headrace canal wrapping around Coalgate (Appendix G, no. 8).
39. Mr Glasson provides a critique of my graphic attachments (para. 9). As I had stated, I did not provide simulations, but approximate montages only. I consider the criticism inappropriate and that the montages I provided are of assistance. It is unfortunate no simulation has been provided by Mr Glasson from Homebush Road, at the Kirkstyle farm entrance, as per my attachment 105.

SELWYN SIPHON

40. The simulation ppt 15 is difficult to understand with respect to the proposed pond.
41. The Selwyn River entering is delineated in its entry lengths to the upper plains landscape by the treed corridor which you enter into to find the shaded waters variously pooled, trickling and flowing. The river waters are highly appreciated for their natural and amenity value before they disappear below ground down-country.

42. The artificial headrace canal structure is proposed to contain a substantial body of water. A large body of water, moving as one, is proposed to be perched 3 m high, out in the open, toward and above the precious natural and enclosed waterway. This contrast is expected will appear quite incongruous.

HARPER HILLS

43. Whilst I suggested simulations of the headrace canal associated with the toe of the Harper Hills (Appendix G, no. 4) and zig-zagging across the lower slope of the Harper Hills (no. 7), neither of these have been produced. The landscape and visual effects across the Harper Hills are expected to be significant.

CONCLUSION

44. In as much as they do provide any further information, Mr Glasson's simulations confirm my previous assessment of adverse effects.

OFFICERS SUPPLEMENT

45. The braided rivers have very high natural character values, natural landscape and amenity values. Mr Craig in his Supplementary Report recognises (para. 3.2.3) they are likely to be considered outstanding natural features, and I agree. It is also my opinion that the proposal would detract from the natural character of the braided river landscape experience for both rivers. I endorse Mr Craig's concern (para. 3.2.3).

46. Mr Craig assumes the upper and lower Waimakariri offtakes are either/or options. I understand both options are still sought. Mr Craig now identifies (para. 2.2.12) that the upper Waimakariri intake proposal "is not a good one" and I agree. Mr Craig assesses the lower Waimakariri intake would have significant adverse effects (para. 2.2.13) and I agree.

47. Mr Craig has further assessed the reservoir proposal and similarly finds (Para 3) the varying water levels result in inappropriate effects.
48. Mr Craig has reviewed my landscape evidence and agrees (para. 3.2.1 -2) there are important heritage landscape values and that they would be affected by the proposal. Without adequate research he assumes the plains demonstrate equivalent heritage landscape values. Our research has shown this to be incorrect. Whilst there are heritage landscape pockets at Racecourse Hill, Bangor, Terrace Downs and Waireka, the Malvern Hills heritage landscape we have identified is quite different from the rest of the Waimakariri – Rakaia lands.
49. The Malvern Hills heritage landscape, based on the Homebush Run core at Homebush Ridge and Waianiwaniwa Valley, alone demonstrates continuity from the first rural settlement beyond Christchurch through to the present day. I do not accept Mr Craig's assumption of a broader plains heritage landscape of equivalent integrity and value.
50. The simulations provided do not alleviate my concerns for the very significant adverse effects assessed would result from the CPW scheme constructed in the Malvern Hills landscape.