



In the matter of The Resource Management
Act 1991

and

In the matter of Applications CRC091579,
CRC091580, CRC091608,
CRC091578 and
RMA92011255 by the
Christchurch City Council
for a proposed wastewater
treatment plant at Wainui.

**Decision of hearing commissioners
David William Collins and Michael Conrad Freeman**

Date and location of hearing

18, 19 & 20 May 2009 at Environment Canterbury, 58 Kilmore Street, Christchurch.

Appearances

Applicant

- Aidan Prebble, Solicitor for the Christchurch City Council (CCC)
- Mike Sheffield, Project Manager, Wainui Wastewater Scheme, CCC
- Simon Collin, Civil Engineer, Network Planning Team Leader, CCC
- Mike Bourke, Civil Engineer, Operations and Maintenance Manager, CCC
- Tracey Freeman, Chemical Engineer, Beca Infrastructure Ltd.
- Mark Yetton, Engineering Geologist, Geotech Consulting Ltd.
- Andrew Brough, Environmental Engineer, Pattle Delamore Partners Ltd.
- Hamish Peacock, Senior Environmental Planner, MWH

Submitters

- Mr John Rutherford
- Ms Liz Maaka
- Ms Lyn Barnes
- Mr Andrew Dakers

- Mr Harold Surtees
- Mr Malcolm Frost
- Mr Michael de Hamel
- Mr Murray Williamson
- Ms Kate Dougherty
- Mr Murray Thomas

Reporting Officers

- Environment Canterbury - Ivan Holland, Environmental Consultant, Golder Associates (NZ) Ltd.
- Christchurch City Council - Jeremy Phillips, Senior Planner, Viastrada Ltd.

1. Background

- 1.1 We have been jointly appointed and empowered by both consent authorities to determine all the land use consent, water permit and discharge permit applications associated with the proposed Wainui sewage treatment system.
- 1.2 The following is a brief description and background to the proposal. The details are contained in the application and in the evidence presented at the hearing. We will not repeat those details here.
- 1.3 The Christchurch City Council (CCC) proposes to replace the current methods of treating and disposing of domestic wastewater in the Wainui area. Currently the YMCA camp has a land based system that services the camp, the Rural Management subdivision has a marine discharge that services approximately 37 sections and the balance of the Wainui area uses septic tanks. There are approximately 160 properties within the proposed reticulation area.
- 1.4 The CCC would like to rationalise the current systems into one system that is more consistent with other community sewerage systems in Banks Peninsula. The CCC is concerned about the use of septic tank systems on small coastal sections with limited capacity for on-site treatment and disposal, particularly when the volume of sewage can change significantly during holiday periods when property occupancy can increase significantly. There is evidence of some septic tank systems failing with associated health risks. The Rural Management subdivision discharge permit, now held by the CCC, expires in October 2009. The CCC has concerns that they may not be able to obtain a replacement consent with equivalent conditions.
- 1.5 The CCC's planning studies have indicated that "Wainui is one of the least constrained communities within the harbour basin with respect to potential for future development."

- 1.6 The CCC has not specified the detailed type of reticulation or treatment system and is instead going through a registration of interest process to determine a preferred system within certain constraints.
- 1.7 We undertook an unaccompanied site visit on the afternoon of 19 May 2009.

2. Notification and submissions

- 2.1 In early October 2008 a suite of resource consent applications were received by the CCC and the Canterbury Regional Council (ECan). The ECan applications were publicly notified in October 2008 and the CCC application was notified in December 2008.
- 2.2 There were between eight to ten submissions in support and between five and 12 submissions in opposition to the ECan resource consent applications (Some submitters did not refer to all of the applications.).
- 2.3 Seven submissions were made on the CCC resource consent application; two supporting, four opposing and one neutral.

3. Summary of the evidence heard and the hearing

The applicant's representatives

- 3.1 **Mr Prebble** summarised the specific resource consents sought, as follows:
 - CRC091578 - a land use consent application to excavate land and to install structures under and over streams;
 - CRC091579 - a water permit application to temporarily dam and divert Wainui Stream;
 - CRC091580 - a discharge permit application to discharge treated wastewater to land;
 - CRC091608 - a discharge permit application to discharge contaminants to air from the wastewater treatment plant; and
 - RMA92011255 - a land use consent application under the CCC District Plan for bunding around the wastewater treatment plant.
- 3.2 **Mr Prebble** also clarified that the applicant has proceeded on the basis that the ECan consent applications are discretionary activities and the CCC consent application is a restricted discretionary activity. He summarised the technical evidence on effects and outlined the planning framework for the applications. He also detailed why the applicant is seeking a 35 year duration for the discharge permit applications.
- 3.3 **Mr Sheffield** provided a detailed background to the proposal including the current methods used to treat and discharge wastewater in the Wainui settlement and the processes followed by the CCC to arrive at the current

proposal. He also explained that the capital cost of a conventional reticulation scheme led to the CCC adopting a process that would enable alternative reticulation systems to be proposed by contractors.

3.4 **Mr Collin** provided a detailed review of current wastewater treatment systems in the Wainui settlement. He highlighted the following:

- concerns by the CCC that the Rural Management subdivision marine discharge would not be able to be ‘renewed’,
- the age of the YMCA wastewater treatment system,
- limitations on development in Wainui because of the lack of a reticulated wastewater system and
- anecdotal evidence of many individual septic tank system failures and associated potential public health risks, including a 1996 report from John Porter (Project Engineer for the former Banks Peninsula District Council) that highlighted the problems with failing septic tanks systems.

3.5 Mr Collin noted that a CCC study has identified the Wainui area as having potential for additional development. However, Mr Collin emphasised that the CCC did not have an agenda to promote Wainui for development but was a factor that should be borne in mind during the formulation of the proposed system. Mr Collin also detailed the extensive consultation process that the CCC as the applicant has undertaken with the local community.

3.6 **Mr Bourke** presented evidence that had been prepared jointly by himself and Mr Jim McMahon, Senior Engineer, Sinclair Knight Mertz Ltd. This evidence addressed the key technical aspects of wastewater quality and expected flows over the design timeframe of 35 years for the scheme, to 2046. This included clarification of the CCC preference for one of two treatment technologies: Packed Bed Reactor (PBR) or Submerged Aerated Filter (SAF). The key driver for these options appears to be the reputation of these systems to treat fluctuating loads with simple operational management.

3.7 Mr Bourke identified a range of measures that are proposed to be included in the system to ensure that it can effectively carry, treat and dispose wastewater for the current and projected demands over the 35 year planning horizon. He also detailed the process used to identify the preferred treatment plant location and effluent application area. A number of examples of PBR and SAF treatment plants in locations close to residential developments were identified.

3.8 **Ms Freeman** (no relation to Commissioner Freeman) provided a summary of the ‘FIDOL’ factors that have been widely used in New Zealand and Australia over the past 15 years. Briefly, they are frequency, intensity, duration offensiveness and location. In the context of these factors, Ms Freeman described the nature of odour emissions from the proposed wastewater treatment plant, the sensitivity of the surrounding area and the influence of local meteorology and topography. She concluded that adverse odour effects at adjacent properties would be less than minor.

- 3.9 **Dr Yetton** provided evidence on the geotechnical stability of the Wainui area and in particular the proposed wastewater disposal area. He concluded that there is a low risk of wastewater application triggering soil instability which can be adequately managed.
- 3.10 **Mr Brough** presented evidence on the investigations into the proposed wastewater application area including rainfall, and topography factors. He concluded that with an appropriate forest/tree management regime, together with appropriate buffer distances there would be no more than a minor adverse effect on water resources from the proposed application of wastewater onto land in the forest area.
- 3.11 **Mr Peacock** provided a detailed analysis of the planning framework for the resource consent applications and an assessment of the environmental effects in that context. He considered that the proposal and associated consent applications are consistent with the objectives and policies of the relevant proposed and operative regional plans and the Canterbury Regional Policy Statement (CRPS).
- 3.12 There was some discussion about what provisions of the Partially Operative Banks Peninsula District Plan (now part of the City Plan) give rise to a need for consent. Some plan provisions have changed since the application was lodged, and it is clear that the Environment Court's decision on some City Plan references means that underground utilities within the Coastal Natural Character Area no longer require consent. The earthworks associated with the proposed bund adjacent to the treatment plant still do require resource consent, because of the volume of material involved.
- 3.13 Rule 4, Chapter 36, of the District Plan indicates that the status of such earthworks is restricted discretionary. Mr Peacock's evidence suggested that as the status of the discharges and land use under the regional plans is fully discretionary, the "*overall status*" of the proposal is fully discretionary. Our understanding is that the status of each application is to be determined separately, but in this case that is of no practical significance because all the applications to ECan have discretionary activity status and the application to the CCC has restricted discretionary activity status but with no real narrowing of the discretion. Clause 6 in Chapter 36 of the City Plan states that restricted discretionary applications "*...will be assessed against the relevant objectives and policies for Utilities and the relevant zone...*" effectively opening consideration to a wide range of effects. Mr Peacock concluded that he considered that all consent applications should be granted, subject to a range of conditions.

The submitters

- 3.14 **Mr John Rutherford** explained the concerns of Rural Management Ltd. The company built the sewerage reticulation and treatment plant that currently serves 33 properties at the northern end of Wainui and Mr Rutherford advocates upgrading this system to serve 80 houses. He described ways of doing this, and estimated costs. Rural Management's submission highlights

the issue of whether the system proposed would represent efficient use of resources (section 7(b) of the Resource Management Act (RMA)), which is discussed later in this decision.

- 3.15 **Ms Liz Maaka** spoke on behalf of the Wairewa Runanga and the Onuku Runanga. Both runanga support the proposal on the grounds that the disposal of effluent to the harbour is culturally offensive to tangata whenua.
- 3.16 **Ms Lyn Baynes**, one of the owners of The Gables property adjoining the effluent treatment plant site, spoke to her submission by way of a video presentation, as she was overseas at the time of the hearing. She highlighted her concerns about both the visual and potential odour effects on The Gables. She considered that even a barely discernable sewage odour could seriously affect The Gables business because of the nature of the food and boutique accommodation activities carried out on the property.
- 3.17 **Mr Andrew Dakers**, a wastewater engineer, presented evidence on behalf of Ms Baynes and Mr Broome (co-owner of The Gables). In Mr Dakers' opinion the seasonal loading of the treatment plant and the need for periodic de-sludging give rise to the possibility of the production of adverse odours. He described the information he had collected about what he described as "*complex airflow patterns*" in this locality from an anemometer set up between the proposed treatment plant site and The Gables. Mr Dakers predicted a significant frequency of low velocity winds towards The Gables, contrary to Ms Freeman's assessment of wind directions.
- 3.18 **Mr Harold Surtees** explained his concerns about the potential adverse effects of the treatment plant on The Gables. Mr Surtees is a former senior City Council engineer and was critical of the site selection process. He noted that there would be only 116 metres between the plant and the main house, less separation than this to the commercial kitchen in an outbuilding, and much less to the garden.
- 3.19 **Mr Malcolm Frost** spoke in support of his submission in opposition and one from Caerleon Publishing Ltd. He questioned the cost-effectiveness of the scheme, noting that \$11.5 million to serve 160 households equates to \$72,000 per household. Mr Frost suggested that even if there was no odour, a sewage treatment plant would not be a good thing to have next door to The Gables. Mr Frost expressed his concerns that the proposed treatment system would enable large scale development of the area.
- 3.20 **Mr Michael de Hamel** further explained his submission in opposition. He suggested that there is no evidence for example, from dye tests to show that present individual sewage disposal systems or the existing two treatment plants are failing. He questioned the long term suitability of the treatment plant site.
- 3.21 **Mr Murray Williamson**, a solicitor with experience in major engineering projects, presented the submission in opposition from the owners of the 49 hectare property adjacent to and below the treatment plant site. They have

a concern that runoff from the disposal area would end up in streams passing through their property, at times when the disposal area becomes saturated. Mr Williams described the Council's scheme as "*Rolls Royce*" and suggested that there are cheaper solutions.

3.22 **Ms Kate Dougherty** appeared as counsel for the Executors of the Florence Hope Williamson Estate. The Executors oppose the applications. Ms Dougherty highlighted concerns about the potential for wastewater to run-off onto adjacent properties or into streams. Ms Dougherty noted that the guidelines for this sort of treatment system for the State of Georgia require replacement of the pine trees on a rotation of 20-25 years.

3.23 **Mr Murray Thomas**, owner of the proposed discharge area, spoke in favour of the scheme. He noted that the Tikau Bay treatment plant is only 100 metres from his house and he experiences no adverse odour from it.

The reporting officers

3.24 **Mr Phillips** provided an assessment of the relevant provisions of the Partially Operative Banks Peninsula District Plan (now part of the City Plan), noting that the plan provides for very little control over utilities. Since the Environment Court decision on some references relating to rural areas, consent is required only under Chapter 36, Rule 2.1(c) relating to earthworks, as the 1,350m³ required for the bund around the treatment plant would exceed the 100m³ limit for a permitted activity. Although this rule gives rise to restricted discretionary status, Clause 6 in Chapter 36 indicates that "...applications will be assessed against the relevant objectives and policies for Utilities and the relevant zone", opening consideration to a range of matters and in particular the visual impact of the bund. We note that the bund itself does not appear to be of concern to any of the submitters.

3.25 **Mr Holland** provided a detailed section 42A report on the ECan resource consent applications. He disagreed with the applicant on the status of a number of the applications. The key issues identified in that report were as follows:

- Uncertainties regarding the quality of the wastewater.
- Concerns regarding the ability of the site to accept the proposed hydraulic loading rate.
- Potential odour effects from the sewage treatment plant.
- Concerns regarding the lack of specific proposed wastewater quality limits.
- Concerns regarding potential adverse ecological and flooding effects of works in and adjacent to Wainui Stream.

3.26 **Mr Holland** provided a number of suggested additional mitigation measures to address these and other related issues.

3.27 Mr Holland also provided comments in a letter dated 8 July 2009 on draft conditions provided by the applicant after the adjournment of the hearing. These comments raised a number of technical concerns and suggestions on how the proposed conditions could be changed to improve certainty. Key outstanding concerns raised in this letter were the following:

- Separation distances between waterways and the sewage treatment plant and pumping stations.
- The visual effects of the sewage treatment plant.
- The appropriate maximum hydraulic loading rate of the wastewater.

The hearing

3.28 The hearing was adjourned on 20 May 2009, pending receipt of a revised set of proposed resource consent conditions. We suggested that the communication between the applicant and the reporting officers continue and that any differences of view on appropriate conditions should be highlighted in the revised suite of proposed conditions.

3.29 After the hearing was adjourned and in accordance with our instructions, the CCC provided Mr Holland, with an opportunity to comment on some revised conditions prior to a final copy being sent to him and to the submitters who were heard at the hearing.

3.30 Comments on the CCC proposed conditions were provided by Mr Holland in a letter dated 8 July 2009. We also received comments from submitters on those proposed conditions on 3 and 4 August from Mr Andrew Dakers, consultant for Ms Lyn Baynes and Mr Chris Broome, Mr John Rutherford on behalf of Rural Management Limited, and Mr Murray Williamson.

3.31 On 5 August 2009 we issued a memorandum (see Appendix 1) to the applicant that identified our concerns about aspects of the proposal and requested further information from the applicant on a range of matters including alternative locations for the sewage treatment plant, landscaping options, odour effect conditions, wastewater quality conditions, and an analysis of the proposal in the context of section 7b of the RMA.

3.32 On 23 September 2009 we received a detailed right of reply and response to our memorandum which included the following additional information:

- Right of Reply - Aidan Prebble
- Wainui rainfall runoff analysis report - Andrew Brough
- Supplementary Statement of Evidence of Tracey Freeman
- Correspondence between Jeremy Phillips, and Jim McMahon, and
- Proposed suite of consent conditions.

3.33 We closed the hearing on 29 September 2009.

4. The principal issues, evaluation and findings of fact

- 4.1 In summarising and evaluating the principal issues we have considered the original application and the associated assessment of environmental effects, the further information provided in response to section 92 requests, all submissions made in response to the applications, the section 42A reports and all the information provided at and subsequent to the hearing.
- 4.2 The principal issues or 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 submitters, and can be summarised as:
- The need for, and cost of, the sewage treatment system
 - Odour effects
 - Landscape effects
 - Wastewater management issues
 - Aquatic ecosystem and flooding effects
 - Tangata whenua values

The need for, and cost of, the sewage treatment system

- 4.3 A significant number of submitters raised concerns about the overall cost of the proposed sewage treatment system and whether the CCC had identified a need for the proposed sewerage system at that level of expenditure. It is not our role to undertake some form of cost benefit analysis of the proposal. However, in the context of the concerns raised by submitters we think that the issue warrants some comment. We were convinced by Mr Collin's succinct and compelling evidence (including the 1996 report by Mr John Porter) and by both of our own experiences of issues relating to septic tank effluent discharges in the Banks Peninsula area, that it is highly probable that there are at times public health risks that arise directly and indirectly from discharges from failing septic tank effluent systems. We agree with Mr Collin, that even though the actual evidence on public health risks is largely anecdotal, it appears that there is a need for some form of reticulated sewerage system in Wainui.
- 4.4 We note that the submission from the Community and Public Health division of the Canterbury District Health Board supported the applications. That submission concluded that "Compared to the existing systems this will potentially have a positive impact on water quality and therefore the health of the public using the harbour for recreational activities."
- 4.5 Whether the proposed system is the most cost effective solution is not an issue for a consent authority to determine. It is certainly not our role to try and find the most appropriate sewerage solution for Wainui. We are satisfied that the CCC has considered alternatives and our role is fundamentally to consider the application in front of us. However, because of the repeated concerns raised by submitters about the high cost of the proposed scheme we

have considered one dimension of this issue later in this decision when we have particular regard to the efficient use and development of natural and physical resources.

Odour effects

- 4.6 The potential adverse odour effects from the treatment plant on the residents of, and visitors to, the adjoining Gables property is a critical issue for this proposal.
- 4.7 Given the limited amount of meteorological information, the uncertainties about weather conditions and the fact that the type of treatment system has not yet been determined, the current proposed conditions do not provide us with an appropriate level of assurance that the adverse odour effects would be limited to less than minor.
- 4.8 In our memorandum dated 5 August (see Appendix 1) we indicated that odour management issues warranted further investigation. Specifically, in terms of consideration of the location of the sewage treatment plant and the appropriate odour performance standards that should apply.
- 4.9 In particular, we were concerned that the suggested approach to odour management was a limit of offensive and objectionable at the property boundary. We made it clear in our memorandum that we have considerable reservations about allowing a level of effect that was offensive or objectionable up to the property boundary. We do not accept Ms Freeman's contention (in her supplementary evidence) that any more protective condition is "...beyond the scope of section 17 of the RMA ...". We do not consider section 17 of the RMA to be an appropriate reference point for our consideration. We are not aware of any case law that supports Ms Freeman's proposition and note that Mr Prebble did not identify any such case law that elevates section 17 to have such a status.
- 4.10 On the one hand, the CCC argument appears to be that the proposed measures to contain and treat odours will provide a very high level of protection but on the other hand the argument is put forward that any environmental performance standard more protective than offensive or objectionable is either unlawful and/or unreasonable. We appreciate that it is a challenge to develop an enforceable certain odour condition that is more protective than offensive or objectionable. However, we are confident that there are a number of ways to address this challenge.
- 4.11 The implications of the CCC position that no environmental effects standard other than offensive or objectionable is possible is that effects that are just below the level of offensiveness/objectionable would be authorised. We could envisage many situations both for the residential nature of the adjoining property and for its accommodation business, where sewage odours could have significant adverse effects as a consequence of odours that are significantly less than 'offensive or objectionable'. We understand the FIDOL approach and the case law behind 'offensive or objectionable'. Our position is

that allowed effects should be considerably less than this threshold rather than just below it. For example, daily brief experiences of sewage odours may not be significant or frequent enough to qualify as 'offensive or objectionable'. However, we do not consider that such a level of adverse effect would be acceptable for an existing sensitive land use and would not appear to be in accord with the technical measures proposed by the CCC.

- 4.12 We accept that the measures being proposed by the CCC should, if designed, installed and operated properly, minimise the risk of sewage odours affecting the neighbouring property owners to an acceptable level. However, we also consider that specific technical measures have to be complemented by commensurate environmental performance consent conditions that are the ultimate test of the effectiveness of such measures.
- 4.13 We think that it is quite possible and appropriate to develop robust 'trigger response' conditions that provide a clear indication that a higher level of environmental performance than just 'offensive or objectionable' is appropriate. We consider that the key components of such an approach would be to build the key FIDOL components into 'investigation and response' conditions that are triggered if a specified frequency of odour events occurs. Environment Canterbury has experience with assessing odours e.g. by using people with an average sense of smell as determined by olfactometry testing and would be able to use appropriate enforcement officers or other more locally based independent persons to undertake odour assessments if required.
- 4.14 We have identified a suite of conditions that incorporates two trigger responses. Firstly, an investigation and response threshold that would be activated if sewage odours are detected more frequently than once per week. In combination with a 'all practicable measures condition' this would effectively require the identification and implementation of those practicable measures needed to minimise adverse odour effects. Secondly, if after that investigation and response, odours are still detected at that frequency then another investigation and response plan must be developed by an independent person with no prior involvement in the Wainui sewerage scheme proposal. As in the first response, all practicable measures to minimise odours would have to be identified and implemented. We have also included some specific limitations on when sludge removal can occur to minimise the potential for adverse odour effects. Finally, a specific review provision is included to highlight that the investigation reports may indicate the need for a formal review of the conditions of the consent.
- 4.15 In the context of the total package of proposed conditions and the additional conditions outlined above relating to odour we conclude that the adverse odour effects would be less than minor.

Landscape effects

- 4.16 We appreciate that resource consent is not required for the wastewater treatment plant buildings but that the CCC has proposed (in the final right of

reply) a condition as part of the land use consent application for the bunding to address the adverse landscape effects associated with the buildings. We are satisfied that the intent of the proposed condition is appropriate and would satisfactorily address the issue. We have some concerns that the proposed wording provides for certification by the consent authority without clarification of the basis for that certification. This issue is addressed in section 6. We were also concerned about the level of certainty specified in the proposed landscape effect conditions. We have therefore made a number of changes to the proposed conditions to improve the certainty to the benefit of all parties.

- 4.17 We note the comments made in Mr Prebble's right of reply that the separation distance and height limit conditions originally proposed on the CRC land use consent (for wastewater storage) that he considered this to be an issue more properly addressed in the CCC land use consent. We are surprised by Mr Prebble's suggestion because the landscape effects arising from pumping stations do not relate to the CCC land use consent for bunding. However, we appreciate that the conditions have been proposed and as far as we are aware are not opposed by any submitter. As a consequence, we are satisfied that the condition should be retained within the CCC land use consent.
- 4.18 We are satisfied that with the mitigation proposed and the changes to the proposed conditions, the landscape effects of the wastewater treatment plant would be less than minor.

Wastewater management issues

- 4.19 Two important wastewater management issues are the proposed loading rates and the original proposal that there should not be any wastewater quality standards. We expressed concerns about these matters in our memorandum (see Appendix 1).
- 4.20 We will firstly consider the issue of wastewater loading rates. The information provided by the CCC in response to our request for further information on loading rates included an analysis by Andrew Brough of PDP of the potential for rainfall to result in runoff from the proposed wastewater irrigation area. We are satisfied that the CCC has investigated this issue and has a good understanding of the risks. We accept Mr Holland's concerns that any significant departure from the recommendations of AS/NZS 1547:2000 entails some potential risks of overland wastewater flows. However, we are also satisfied that the proposed conditions include sufficient environmental performance conditions, such as those that specify the area of land that can receive wastewater, boundary restrictions, slope application restrictions and the requirement to ensure that wastewater does not flow off the site. These conditions clearly establish important environmental standards. We also will include some additional requirements to maintain tree cover to reduce the risk of wastewater run-off. In this situation, with the suite of conditions that we consider appropriate we are satisfied that there is an appropriate balance between environmental performance and operational control conditions.

Therefore we do not consider that it is necessary for us to impose more rigid operational wastewater application rate conditions.

- 4.21 Another key wastewater management issue is the measures that would be taken particularly at the pumping stations to reduce the risk of spillages to an acceptable level. The CCC has proposed that these measures together with a more general operational plan for the wastewater irrigation be submitted within three months of the commissioning of the treatment plant. We are not satisfied that that the proposed approach provides adequate certainty that appropriate measures will be incorporated into the system. We consider that it is essential that we have a high level of confidence that appropriate measures will be incorporated. We accept that the CCC needs to retain a high level of flexibility to ensure that there is provision for a range of possible systems. However, we are satisfied that some specific environmental precautions can and should be specified without compromising the CCC's flexibility to determine the final systems.
- 4.22 Therefore given the sensitivity of the potential receiving environment, we consider that it is appropriate to impose conditions that require the following basic precautions at each pumping station: a telemetred high level alarm and a minimum of four hours storage at average dry weather wastewater flow. The application made it clear that the pumping stations would be designed with considerably more storage capacity than the four hours dry weather flow.
- 4.23 The final wastewater management issue is the specification of wastewater quality. We note that Mr Prebble considers that the Wainui sewage treatment system would be different from a private sewage treatment system. However, Mr Prebble does not make it clear why he considers a council sewage treatment system different from a private system. In terms of the consent process and consent conditions we do not see any reasons why there would be differences. We do not accept the implicit suggestion that lesser environmental standards should be applied to a sewage treatment system because it is owned and operated by a territorial authority.
- 4.24 We do not accept that standards for wastewater variables such as biochemical oxygen demand and total suspended solids are not required or have no relation to environmental effects. We accept that there are operational treatment system issues that may apply before a significant adverse effect occurs. However, our experience and understanding is that for example, high concentrations of total suspended solids and biochemical oxygen demand can result in significant adverse effects such as overland flow as a result of soil pugging and adverse odour effects from high strength wastewater decomposing on the soil surface. As noted earlier, we consider that this type of sewage treatment and disposal system requires a balance of operational controls and environmental performance conditions to provide a satisfactory level of assurance about the adverse effects on the environment.

- 4.25 We are quite satisfied that wastewater quality standards are essential; the more pertinent issue is what those standards should be and specifically what kind of standards they should be.
- 4.26 Notwithstanding Mr Prebble's arguments against wastewater quality standards, the final conditions proposed by the applicant include two suites of conditions for both median and 90 percentiles. We were surprised to see such a large discrepancy between the conditions proposed by the applicant and the expected effluent quality as detailed by Mr Bourke in his evidence. For example, Mr Bourke states that the CCC expects the total suspended solids (TSS) to have a median of 10 mg/l and a 95 percentile of 20 mg/l. However, the proposed conditions that would trigger a requirement to report to ECan are a median of 20 mg/l and a 90 percentile of 60 mg/l. On the basis of our experience and understanding of such wastewater quality and the ability of loess based soils to treat wastewater, the proposed 90 percentile trigger value for TSS would provide for TSS concentrations that at times would result in significant clogging of the soil system. This would effectively provide for wastewater of such poor quality that it would be highly likely at times to result in overland flows of effluent and the generation of adverse odours.
- 4.27 We could find no effects-based explanation in Mr Prebble's right of reply that explained why the high trigger concentrations were proposed. Mr Holland referred to the Australian/New Zealand Standard (1547:2000) that recommends that the TSS 90 percentile should be 30 mg/l and should not exceed 45 mg/l. The same standard recommends that the five day biochemical oxygen demand (BOD) 90 percentile should be 20 mg/l and the maximum should be 30 mg/l. We appreciate that these recommended standards are based on both long-term operational performance as well as environmental considerations. We are concerned that the CCC has proposed conditions that are clearly in conflict with recommended Australasian operational and environmental best practice.
- 4.28 Notwithstanding our concerns about the proposed 90 percentile standards, we are not in a position to impose a replacement suite and more importantly we are not convinced that there is a clear environmental performance need for 90 percentile triggers for a land-based wastewater discharge. We are prepared to rely on median triggers and other complementary environmental performance conditions. We do consider that the proposed condition needs to provide for more than just a reporting response. We consider that the proposed 'trigger and report' approach needs to be complemented by a clause that requires the CCC to use its best endeavours to not exceed the trigger values.
- 4.29 Based on the evidence we have received, particularly that from Mr Bourke, Mr Holland's report and the recommendations (Mr Holland provided in his report) in the Australia/New Zealand Standard (1547:2000), we consider that the following median reporting trigger limits are a prudent balance point at which exceedence would indicate a need to report to ECan and for action (best endeavours) to minimise the risk of any significant adverse environmental effects.

Wastewater variable	Median exceedence report
Total suspended solids (g/m ³)	20
Biochemical oxygen demand (g/m ³)	20
Total nitrogen (g/m ³)	30
Faecal coliforms (cfu/100ml)	10,000

4.30 We therefore conclude that with the changes that we consider are appropriate, the adverse effects related to wastewater quality and quantity would be less than minor.

Aquatic ecosystem and flooding effects

4.31 Mr Holland raised a number of concerns about the lack of specific measures to address potential adverse effects on the existing aquatic ecosystem and flooding effects that could occur during the construction process.

4.32 We think that these issues can be readily addressed by incorporating the suggested changes by Mr Holland to the proposed consent conditions. In addition, we consider that a number of proposed measures need further clarification to ensure complete certainty for all those involved. For example, proposed conditions that solely refer to best practicable measures and guideline documents that do not contain mandatory provisions are in our view not ideal for addressing significant issues. We have made a number of relatively minor changes to a number of proposed conditions to provide greater certainty about the measures required to address aquatic ecosystem and flooding effects.

4.33 We therefore conclude that with the incorporation of the above measures adverse effects related to flooding and maintenance of aquatic ecosystems that could arise during construction periods would be less than minor.

Tangata whenua values

4.34 After considering the overall proposal, the submissions made by the runanga representative, the changes that are outlined in this section including the specific conditions and our specific conclusions that individual adverse effects would be less than minor, we 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 appear to agree on the status of the applications, with some minor interpretation differences about whether some activities for which consent has been sought are permitted activities. There does not appear to be any disagreement that there are no non-complying activities. We 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.

5.2 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.”*

5.3 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-*
 - (a) may grant or refuse the application, and*
 - (b) if it grants the application, may impose conditions under section 108.*

5.4 Section 105(1) of the RMA states that:

- “If an application is for a discharge permit or coastal permit to do something that would contravene section 15 or section 15B, the consent authority must, in addition to the matters in section 104(1), have regard to—*
 - (a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
 - (b) the applicant's reasons for the proposed choice; and*
 - (c) any possible alternative methods of discharge, including discharge into any other receiving environment.”*

5.5 Section 107 of the RMA states that:

- “(1) Except as provided in subsection (2), a consent authority shall not grant a discharge permit [or a coastal permit to do something that would*

otherwise contravene section 15 or section 15A allowing—

- (a) The discharge of a contaminant or water into water; or*
- [(b) A discharge of a contaminant onto or into land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water; or*
- (ba) The dumping in the coastal marine area from any ship, aircraft, or offshore installation of any waste or other matter that is a contaminant,—*

if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:

- (c) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;*
- (d) Any conspicuous change in the colour or visual clarity;*
- (e) Any emission of objectionable odour;*
- (f) The rendering of fresh water unsuitable for consumption by farm animals;*
- (g) Any significant adverse effects on aquatic life.*

(2) A consent authority may grant a discharge permit or a coastal permit to do something that would otherwise contravene section 15 or section 15A that may allow any of the effects described in subsection (1) if it is satisfied—

- (a) That exceptional circumstances justify the granting of the permit; or*
- (b) That the discharge is of a temporary nature; or*
- (c) That the discharge is associated with necessary maintenance work—*

and that it is consistent with the purpose of this Act to do so.”

5.6 We have had regard to the matters specified in sections 104(1), 104B, 105(1) and 107 and are satisfied that the proposal with amended conditions, is in accordance with best practice for a land based domestic wastewater discharge for this specific site and with full compliance with the specific resource consent conditions would not result in any significant adverse effects. We are quite satisfied that granting the application would not result in any of the adverse effects specified in section 107(1)(c-g).

Regional Policy Statement and operative and proposed regional plans

5.7 Detailed analyses of the relevant objectives of the Canterbury Regional Policy Statement (CRPS), the Proposed Natural Resources Regional Plan (PNRRP) and the CCC District Plan have been provided in the section 42A reports and in the evidence of Mr Peacock. It is not necessary for us to repeat all the provisions of the CRPS and the regional/district plans here.

- 5.8 Both the reporting officers and the applicants' legal and planning representatives agree that the proposed development is generally consistent with the relevant objectives and policies in the CRPS, the PNRRP and the CCC District Plan. Mr Holland noted some concerns about whether the CCC had demonstrated that the proposal is consistent with objectives AQL1 and AQL5 of Chapter 3 Air Quality of the NRRP. We are satisfied that the proposal would be consistent with those objectives. After having had regard to those provisions and considering the detailed revised proposal and conditions that we consider appropriate, we are satisfied that the proposal is consistent with all the relevant plan objectives and policies.
- 5.9 We conclude, as detailed in section 4 of this report and in the context of consideration of the objectives and policies of the RPS, the PNRRP and the CCC District Plan, that provided that there is full compliance with all the proposed conditions (with changes outlined in sections 4 and 6), the adverse effects of the proposed activity on the environment will be insignificant.

6. Proposed conditions and consent administration

- 6.1 With the exceptions outlined in section 4, we were generally satisfied with the final suite of proposed consent conditions. However, there were some conditions that we had reservations about. These are outlined in the next few paragraphs.
- 6.2 We have made minor changes to a number of proposed conditions to improve the level of certainty for all parties.
- 6.3 We were concerned about aspects of the proposed 'accidental discovery' condition and have changed aspects of it to improve its certainty and to ensure that it does not incorporate any secondary approvals. Instead, we have included two alternative certification processes to ensure that appropriate measures are taken. We think there would be benefit in ECan working with representatives of Te Rūnanga o Ngāi Tahu, Papatipu Rūnanga and Canterbury territorial authorities to develop a mutually acceptable lawful condition to address this important issue consistently across the region.
- 6.4 We have removed the secondary approval clause from the proposed landscape condition because such clauses are unlawful, and replaced it with a clause that requires the landscape plan to be certified by a person who is a Registered member of the New Zealand Institute of Landscape Architects.
- 6.5 We have deleted the provision that provided for a 20% decrease in clarity in streams during construction works. We found this provision to potentially be in conflict with the prior requirement to take all practicable measures to prevent the discharge of sediment. We expect that for example, a 1% annual exceedence probability storm could overwhelm such measures but we would not expect clarity measurements to be taken in such circumstances. With the information available to us we consider that a simple and clear requirement to take all practicable measures to prevent discharges of sediment provides the clearest signal to the consent holder for this situation where there are

short-term works. We would generally prefer a list of specific measures but we are satisfied that for the scale of the works proposed, the clear understanding of the issues and clear commitment by the CCC to undertake best practice measures modified conditions are appropriate in these circumstances.

- 6.6 We have removed the condition from CRC091579 that required that works under the bed of the river to be limited to periods where no rain is forecast because the consent does not authorise works under the bed of the river. Consent CRC091578 authorises that activity and already has that condition.
- 6.7 We have added some specific requirements to provide greater certainty such as specifying the general methodology for stream flow and level measurements and the qualifications of the persons that must supervise that work.
- 6.8 We have removed the requirement for disinfection of the wastewater by UV irradiation, to provide flexibility in case other equally effective disinfection methods become available.
- 6.9 We have made some changes to the conditions relating to the maintenance of trees in the wastewater irrigation area. The original wording that required trees to be maintained in a healthy state did not appear to us to be consistent with any harvesting of trees. In addition because of the critical importance of maintaining a significant tree canopy (as outlined in Mr Brough's final report) to avoiding the risk of run-off of wastewater, we have incorporated a condition to ensure that at any one time there is always a significant majority of the area planted in trees.
- 6.10 We have incorporated Mr Peacock's suggestion that a condition be used to require that the CCC only de-sludge the wastewater treatment plant when weather conditions would minimise the effects of any odour emissions. We have also included some specific times, i.e., public holidays and weekends, when sludge removal shall not occur.
- 6.11 We have made a number of minor changes to the wording of some proposed conditions to improve the effectiveness and/or certainty of those conditions. We have also corrected various minor errors and deleted some conditions that were clearly not relevant to the specific activity for which consent is sought.
- 6.12 Lastly we note that at some point in the process resource consent application CRC091578 was split into CRC091578(A) and CRC091578(B) to distinguish between the wastewater storage and physical works in the vicinity of the three streams. We understand that this format is not compatible with the ECan consent database and a new consent number has been assigned to CRC091578(A) - CRC100904.

7. Decision and reasons

Part 2 Matters

7.1 In considering these applications, we 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. We consider that the application is consistent with the definition in the RMA, noting particularly that the provision of a reticulated sewerage system in Wainui:

- (a) will allow Wainui 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 discharge 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. We consider that the following matters have some bearing on this proposal:

- “(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:
...
(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.”

7.4 We heard evidence from both the applicant and submitters that failed septic tank systems can have actual and potential adverse effects on amenity values and public health and we consider that these adverse effects would be avoided by the provision of a reticulated sewerage system. Therefore we consider that granting the resource consent applications for this proposal would be entirely consistent with the requirements of section 6 of the RMA.

Section 7

7.5 Section 7 of the RMA lists matters that we must have particular regard to. The matter of particular relevance to the present applications appears to be the following:

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

(c) The maintenance and enhancement of amenity values:

...

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

- 7.6 Section 7(b) raises the interesting question of whether we should consider the cost of the Council's scheme, relative to the benefits. Mr Prebble submitted that the best use of public money is not an RMA concern, while several submitters questioned whether the scheme would represent efficient use of resources. The financial cost referred to in media reports provided by a number of submitters has recently been estimated to be approximately \$11.5 million - is of course a measure of the real resources required: land, materials, machinery, etc. with alternative uses.
- 7.7 We accept that generally the RMA is not concerned about political choices, but there must be a point at which section 7(b) becomes a consideration. Certainly section 7(b) is often raised when a public project, such a stormwater detention basin to serve many properties, is clearly an economically efficient solution to an environmental problem. In the case of the project under consideration, the cost per household (currently estimated in the application at approximately 160 homes) that would be connected appears particularly high and several submitters questioned whether this is efficient use of the resources required for the scheme. We note that the design for the scheme provides for a population increase from an estimated 846 to 1125 by the year 2046. That would improve the 'cost effectiveness' of the proposal. However, we understand the district/city cost sharing approach that the CCC undertakes and recognise the advantages of such an approach that can make affordable what would otherwise be unaffordable if costs had to be borne solely by the direct beneficiaries. We consider these matters to ensure that we have particular regard for the matters specified in section 7(b) of the RMA.
- 7.8 The Council's reasons for wanting to build a totally new scheme were not as detailed as we expected, but we do accept that it appears highly likely that there is, at times, a public health risk associated with the current individual on-site systems. We accept that it is desirable to replace septic tanks that anecdotal evidence indicates are at times failing and we appreciate the concerns that the tangata whenua have about discharges of sewage to coastal waters.
- 7.9 The proposed system would be relatively expensive compared to a comparable system on the Canterbury Plains. We understand that one of the reasons that the CCC wants to maintain flexibility in the detailed design of the system is to see if the market can provide a lower cost reticulation and treatment system that would still comply with specific performance standards.
- 7.10 We are satisfied that the adverse effects of granting the consent application on the terms and conditions listed in this decision would be significantly less than minor and compared to the potential adverse effects that can arise from

failed septic tanks systems, the overall outcome would be enhancement of the quality of the environment, particularly surface water quality.

Section 8

7.11 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).”

7.12 The information provided to us, particularly the joint submission in support by the Onuku Runanga and the Wairewa Runanga, indicates that granting the applications would not be inconsistent with the Principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

Decisions

7.13 For the reasons detailed in this report (sections 4, 5, 6 and 7) and under sections 104, 104B, 105, 107 and 108 of the Resource Management Act 1991, we grant resource consent applications CRC100904, CRC091578, CRC091579, CRC091580 and CRC091608 subject to the following specific conditions:

CRC100904 Land use consent for the storage of wastewater

- (1) The storage of wastewater shall be limited to that associated with the operation of the Wainui Wastewater Treatment Scheme.
- (2) (a) The storage of greater than 100 cubic metres of wastewater shall occur only at the following locations, as illustrated on Plan CRC100904:
 - (i) The wastewater treatment plant at map reference NZMS N36: 0199-1104
 - (ii) Pump station 1 at map reference NZMS N36: 0227-0933
 - (iii) Pump station 2 at map reference NZMS N36: 0228-1024
 - (iv) Pump station 3 at map reference NZMS N36: 0217-1056(b) There shall be at least 15 metres distance between the storage structures and any waterway.
- (3) The above ground structures within the wastewater treatment plant shall be set back 7.5 metres from adjacent property boundaries and shall be no more than 3.5 metres in height above ground level that existed prior to the placement, erection or construction of the structure.
- (4) A Chartered Professional Engineer (CPEng) with a current annual practising certificate shall certify that the wastewater storage and treatment structures have been designed, installed and constructed to be watertight. The certification shall be in the form of a signed certificate submitted, within three months of commissioning of the wastewater treatment plant, to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager.
- (5) All practicable measures shall be used to prevent or minimise spills, leaks and overflows from the wastewater treatment plant and pump stations. Those measures shall include the following provisions at each pump station:
 - (a) A telemetred high wastewater level alarm.
 - (b) A minimum of four hours wastewater storage at the average dry weather flow.
- (6) (a) Within one month of commissioning of the wastewater treatment plant, a Wastewater Management Plan shall be prepared and provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager. This plan shall detail how the wastewater treatment plant and associated pump stations and pipes will be operated and maintained and the contingency measures that will be used to ensure compliance with Condition (5). The management plan shall include but not be limited to measures that will be taken the event of power outages, breakdowns, peak wastewater inflow and saturated ground conditions within the irrigation area.
 - (b) The consent holder may, at any time, submit to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, an amended Wastewater Management Plan provided it is for the purpose of avoiding or mitigating an adverse environmental effect, or maintaining or

improving the overall effectiveness of the original Wastewater Management Plan.

- (c) The wastewater treatment plant and pump stations shall be operated and maintained in accordance with the current version of the Wastewater Management Plan.
- (7) The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:
 - (a) Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
 - (b) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.
- (8) The lapsing date for the purposes of section 125 of the Resource Management Act shall be 10 years after the date of resource consent commencement.
- (9) This consent shall expire 35 years after the date of resource consent commencement.

CRC091578 Land Use consent for the installation, operation and maintenance of pipes over, under and adjacent to the bed of Jubilee Stream, Edwards Streams and Wainui Stream.

- (1) The works carried out shall be limited to the installation, operation and maintenance of the wastewater pipes.
- (2) The wastewater pipes shall be located only as follows, as illustrated on Plan CRC091578:
 - (a) Over Jubilee Stream at map reference NZMS N36: 0221-0949
 - (b) Over Edwards Stream at map reference NZMS N36: 0148-1061; and
 - (c) Under or over the bed of Wainui Stream, upstream of the Wainui Main Road bridge, at map reference NZMS N36: 0227-1021.
- (3) Works shall not cause erosion to the banks or bed of Jubilee, Edwards or Wainui streams.
- (4) The consent holder shall only commence the works under the bed of Wainui Stream if no rain is forecast for Banks Peninsula by MetService in the following four days. The consent holder shall keep a record of the MetService weather forecast at the time of commencing works and provide a copy to the Canterbury Regional Council on request.
- (5) The pipe installation under Wainui Stream shall not occur in flowing water.
- (6) The works to install a pipe under or over Wainui Stream shall occur over a maximum of five days.
- (7) The bed and stream banks shall be reinstated, including vegetation of the banks of Wainui Stream, as soon as practicable following the installation of the pipeline.
- (8) The best practicable erosion and sediment control measures shall be established and maintained to minimise generation of sediment and to prevent the discharge of sediment-contaminated runoff arising from the works into the streams or onto adjacent land.
- (9) The pipelines over Jubilee Stream and Edwards Stream shall not be attached to the road bridges. Pipelines over the streams shall not be installed any lower than the bridge soffits. The pipeline over Edwards Stream shall not be installed any lower than the timber beams.
- (10) Vehicles and machinery shall not enter flowing water.
- (11) There shall be no storage of fuel or refuelling of vehicles and machinery within 20 metres of the bed of a river.
- (12) Trenches within ten metres of the streams shall not remain open for more than one day.

- (13) Prior to commencing the works, a copy of this resource consent shall be provided to all persons undertaking activities authorised by this consent.
- (14) Cut vegetation, debris, or other excavated material shall not be placed in Wainui Stream, Edwards Stream or Jubilee Stream, or in a position such that it may enter any of those streams.
- (15) (a) In the event of any disturbance of Koiwi Tangata (human bones) or taonga (treasured artefacts), the consent holder shall immediately:
- (i) cease earthmoving operations in the affected area; and
 - (ii) mark off the affected area until earthmoving operations recommence; and
 - (iii) advise the Canterbury Regional Council (phone 0800324636) of the disturbance; and
 - (iv) advise the Upoko Runanga of Onuku and the Upoko Runanga of Waiwera, or their representative (contact information can be obtained from the Canterbury Regional Council (phone 0800324636), and the New Zealand Historic Places Trust (phone (03) 3652897), of the disturbance.
- (b) Earthmoving operations shall not recommence until:
- (i) the consent holder provides a certificate in writing to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, signed by Upoko Runanga of Onuku and the Upoko Runanga of Waiwera, or their representative(s) stating that appropriate action has been undertaken in relation to the discovered culturally sensitive material; or
 - (ii) after five working days after advising both Upoko, a certificate signed by an archaeologist (i.e., a person with a post graduate degree in archaeology, and who is a member of the New Zealand Archaeological Association) is provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, that states that in the archaeologist's professional opinion, appropriate action has been undertaken in relation to the discovered culturally sensitive material. That certificate shall detail the action that has been undertaken by the consent holder. A copy of the archaeologist's qualifications shall also be provided with any such certificate.

Note: This condition is in addition to any agreements that are in place between the consent holder and the Upoko Runanga (Cultural Site Accidental Discovery Protocol) or the New Zealand Historic Places Trust. This condition does not replace other legal responsibilities, such as those under the Historic Places Act.

- (16) (a) The consent holder shall submit to the Canterbury Regional Council,

Attention: RMA Compliance and Enforcement Manager, at least one month prior to the commencement of works, a Construction Management Plan outlining the measures that will be taken to ensure compliance with conditions (3, 7, 8, and 14) of this consent. The plan shall include, but not necessarily be limited to:

- (i) The extent of the works.
 - (ii) Management of plant debris and disturbed soil including stockpile locations.
 - (iii) The construction methods.
 - (iv) A construction programme including timing and duration of works.
 - (v) Erosion and sediment control measures to be undertaken.
 - (vi) Post construction procedures for stabilisation and reinstatement of the bed and banks of the streams.
 - (vii) Contact details for the person in charge of the site works, including 24 hour contact phone numbers.
- (b) This consent shall be exercised in accordance with the current version of the Construction Management Plan.
- (17) The consent holder may, at any time, submit to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, an amended Construction Management Plan provided it is for the purpose of avoiding or mitigating an adverse environmental effect, or maintaining or improving the overall effectiveness of the original Construction Management Plan.
- (18) All spoil and other waste material from the works shall be removed on completion of works.
- (19) The consent holder shall notify the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager in writing, at least 48 hours prior to the commencement of works to install or maintain the wastewater pipes across Edwards, Jubilee or Wainui streams.
- (20) The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:
- (a) Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
 - (b) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.
- (21) The lapsing date for the purposes of section 125 of the Resource Management Act shall be 10 years after the date of resource consent commencement.
- (22) This consent shall expire 35 years after the date of resource consent commencement.

CRC091579 Water permit to dam and divert water in Wainui Stream

- (1) The damming and diversion of water shall be only of water within the Wainui Stream.
- (2) The damming and diversion of water shall be only for the installation of a wastewater pipeline.
- (3) The damming shall be limited to:
 - (a) a dam located on the current weir, at map reference NZMS N36 0226-1021 as shown on Plan CRC091579 attached to and part of this consent; and
 - (b) a dam located under or immediately adjacent to the road bridge, at map reference NZMS 260 N36: 0228-1021 as shown on Plan CRC091579 attached to and part of this consent.
- (4) The diversion may include but shall be limited to:
 - (a) the diversion of Wainui Stream via the drain shown on Plan CRC091579 and with a diversion point at map reference NZMS 260 N36:0226-1020; and
 - (b) the diversion of Wainui Stream within the banks.
- (5) The damming and diversion of Wainui Stream shall occur only:
 - (a) between the months of December to February inclusive; and
 - (b) when flow in Wainui Stream is less than 30 litres per second.
- (6) For the purposes of Condition 5(b), flow in the stream at the weir specified in Condition 3(a) shall be measured no more than 48 hours prior to the commencement of the damming and diversion. The flow measurement method shall be a generally accepted method for streams of this type/size and shall be supervised by a person with a science degree or by a Chartered Professional Engineer (CPEng) with a current annual practising certificate.
- (7) The damming and diversion shall occur for a maximum of five days.
- (8) The maximum volume of water impounded by the dam shall be 100 cubic metres.
- (9) The dammed and diverted water shall not flood land or property adjacent to the stream.
- (10) In the event, that water from Wainui Stream is diverted via the drain as provided for in condition 4(a), the consent holder shall measure the water level in the drain, using a generally accepted method and supervised by a person who has at least a tertiary science or engineering qualification that required the equivalent of at least one year of full-time study, as follows:
 - (a) At the monitoring point in the diversion drain identified on Plan CRC091579 at map reference NZMS N36: 0220-1015; and
 - (b) at least twice daily with each measurement being at least six hours apart; and

- (c) from 48 hours before commencement of the diversion until the diversion ceases.
- (11) The dams shall be constructed of sand bags, concrete blocks or similar material. The consent holder shall provide details of the design, materials and the construction methodology of the dams to Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, at least ten working days prior to construction.
- (12) The consent holder shall provide results of flow measurements in Wainui Stream and water level measurements in the diversion drain to the Canterbury Regional Council on request.
- (13) The damming and diversion of water shall not cause erosion of the banks or bed of Wainui Stream or the drain.
- (14) The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:
 - (a) Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
 - (b) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.
- (15) The lapsing date for the purposes of section 125 of the Resource Management Act shall be 10 years after the date of resource consent commencement.
- (16) This consent shall expire 35 years after the date of resource consent commencement.

CRC091580 Discharge consent to discharge treated domestic wastewater onto land from the Wainui Wastewater Treatment Plant

- (1) The discharge shall be only treated domestic wastewater from Wainui.
- (2) Wastewater shall be discharged only onto land within the irrigation areas marked as IA1, IA2, IA3 and IA4, within Pt Lot DP 7501 as shown on the attached Plan CRC091580, centred on map reference NZMS 260 N36:0184-1125.
- (3) The volume of wastewater discharged shall not exceed 125 cubic metres per day as an annual average. The volume of wastewater discharged shall not exceed 214 cubic metres per day as a weekly average. The volume of wastewater discharged shall not exceed 250 cubic metres per day at any time.
- (4) The consent holder shall measure and record the daily discharge flow from the wastewater treatment system to the irrigation areas in cubic metres using a flow meter that shall record flows to an accuracy of +/- 10%.
- (5) Prior to discharge, the wastewater shall be treated via the following treatment system:
 - (a) Screening of inflow; and then
 - (b) Biological secondary treatment; and then
 - (c) Disinfection by ultra violet light or another method that provides an equivalent level of treatment.
- (6) Prior to commissioning the wastewater treatment plant, the consent holder shall submit to Environment Canterbury, Attention: RMA Compliance and Enforcement Manager, details of the inlet screening system, the biological treatment method, the disinfection method, and the location of sampling points.
- (7) After exiting the wastewater treatment system, the wastewater shall be discharged via a land application system as follows:
 - (a) The land application system shall comprise drip irrigation tubing. The length of tubing installed shall be sufficient to ensure compliance with the hydraulic application rates specified in Condition 8.
 - (b) Lines of drip irrigation tubing shall be spaced at intervals not more than one metre apart.
 - (c) The drippers on the drip irrigation tubing shall be spaced at intervals not more than one metre apart.
 - (d) The wastewater shall be evenly dosed in fixed quantities over the land application system.
 - (e) The drip irrigation tubing shall be located on the ground surface or buried up to 150 millimetres below the ground surface.
- (8) The wastewater shall be discharged at an annual average hydraulic application rate not exceeding 3.3 millimetres per day. The maximum weekly average hydraulic application rate shall be 7.2 millimetres per day. The maximum daily hydraulic application rate shall be 12 millimetres per day.
- (9)
 - (a) The land treatment areas shall be vegetated with trees and/or native vegetation.
 - (b) At least 75% of the area receiving wastewater shall be vegetated with trees that

are at least five years old.

(c) All trees shall be maintained in a healthy state until they reach an age where harvesting is appropriate.

(10) The wastewater shall not be discharged onto land closer than 20 metres from any surface water body, including ephemeral waterways, and shall not be discharged onto land closer than 10 metres from the irrigation area property boundary.

(11) Wastewater shall be sampled in a representative manner after treatment and prior to discharge onto land at least once every month. The sampling frequency may be reduced to at least once every three months provided:

(a) At least ten years have elapsed since commissioning of the wastewater treatment system; and

(b) None of the contaminant triggers values specified in condition (14) have been exceeded during the previous ten years.

For the purposes of this condition “a representative manner” means a composite sample made from at least three grab samples collected with at least 5 minutes, but no more than 30 minutes, between each grab sample.

(12) Samples of treated wastewater taken in compliance with condition (11) shall be analysed for the following contaminants:

(a) total suspended solids

(b) five day biochemical oxygen demand

(c) total nitrogen

(d) faecal coliforms

(13) Detailed records shall be kept of the specific irrigation areas used for wastewater irrigation.

(14) The median concentration of contaminants shall be compared to the following trigger values:

(a) total suspended solids 20 grams per cubic metre

(b) five day biochemical oxygen demand 20 grams per cubic metre

(c) total nitrogen 30 grams per cubic metres

(d) faecal coliforms 10,000 cfu/100 millilitres

For the purposes of this condition, the median shall be calculated from the results of any five consecutive treated wastewater samples analysed.

(15) (a) The consent holder shall notify the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, within 20 working days of the identification of any exceedence of any trigger value specified in Condition (14). The notification shall detail what measures the consent holder has implemented or will implement to mitigate any adverse environmental effects and to prevent a reoccurrence of a trigger value exceedence. Such measures may include:

(i) Additional sampling and analysis of the treated wastewater.

(ii) Investigation of whether the exceedence has adversely affected soil quality or water quality in waterways adjacent to the irrigation areas.

(iii) Further treatment of the wastewater discharge.

(b) The consent holder shall use their best endeavours to ensure that the trigger

values specified in Condition (14) are not exceeded.

- (16) The discharge shall not result in any wastewater flowing off the irrigation areas IA1, IA2, IA3 and IA4 shown on Plan CRC091580.
- (17) Wastewater shall not be discharged onto land with an average slope greater than 20 degrees.
- (18)
 - (a) All samples required to be taken under this consent shall be taken by a person who has at least a tertiary science or engineering qualification that required the equivalent of at least one year of full-time study.
 - (b) All samples required to be taken under this consent shall be stored and transferred in accordance with AS/NZS 5667.1:1998 (Water quality - Sampling - Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples), and details of all that methodology shall be maintained and made available on request by the Canterbury Regional Council.
 - (c) All samples required to be taken under this consent shall be analysed using generally accepted methods and analysed by a laboratory that is accredited for each method of analysis by International Accreditation New Zealand or an equivalent accreditation body.
- (19) The discharge onto land shall not exceed a rate of 200 kilograms of nitrogen per hectare per year.
- (20) Fencing shall be established and maintained around the wastewater treatment system and irrigation areas to prevent livestock access and to deter public entry.
- (21) The consent holder shall erect warning notices at the entrance gates to the wastewater treatment plant and irrigation areas. The notices shall be readable at a distance of five metres and shall state "Treated wastewater is irrigated onto land in this area. Public access is prohibited. For contact details, phone Christchurch City Council on 03-941-8999".
- (22) The wastewater treatment and land application systems shall be supervised by a person who holds a National Certificate in Wastewater Treatment (Site Operator); Level 3, or an equivalent qualification.
- (23)
 - (a) Within one month of commissioning of the wastewater treatment and land irrigation systems, a Wastewater Management Plan that includes the detailed inspection, maintenance and contingency programmes to be undertaken to ensure compliance with conditions of this consent including conditions (3), (7d), (8), (9), (14), (16) and (19), shall be prepared and provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager.
 - (b) The consent holder may, at any time, submit to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, an amended Wastewater Management Plan provided it is for the purpose of avoiding or mitigating an adverse environmental effect, or maintaining or improving the overall effectiveness of the original Wastewater Management Plan.

- (c) This consent shall be exercised in accordance with the current version of the Wastewater Management Plan.
- (24) The consent holder shall keep written records of all inspections, maintenance and upgrades of the wastewater treatment and land application systems. For upgrades and non-routine maintenance the records shall include the reason for the work, a description of the work, the expected outcome of the work and the date the work was completed. The consent holder shall forward a copy of the records to the Canterbury Regional Council upon request.
- (25) An annual report on the performance of the wastewater treatment and land application systems shall be submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, by 30 August each year. The report shall include as a minimum:
- (a) Daily discharge flow records.
 - (b) Wastewater sampling results.
 - (c) Median and 90 percentile wastewater quality concentrations.
 - (d) Records of the irrigation areas used.
 - (e) Daily wastewater application rates.
 - (f) Estimated annual areal nitrogen load applied to each of the irrigation areas. This shall be estimated using flow records and sample results.
 - (g) Summary details of inspections, maintenance and upgrades of the wastewater treatment and land application systems since the previous annual report.
- (26) The Canterbury Regional Council may, on any of the last five working days of May or November each year, serve notice of its intention to review the conditions of this consent for the purposes of:
- (a) dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage;
 - (b) requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment; or
 - (c) requiring the consent holder to conduct monitoring instead of, or in addition to, that required by the consent.
- (27) The lapsing date for the purposes of section 125 of the Resource Management Act shall be 10 years after the date of resource consent commencement.
- (28) This consent shall expire 35 years after the date of resource consent commencement.

CRC091608 Discharge consent to discharge contaminants into air (odour) from the Wainui Wastewater Treatment Plant and Pump Stations

- (1) The discharge shall be only odour and aerosols from the conveyance and treatment of domestic wastewater.
- (2) The discharge shall occur only from:
 - (a) the wastewater treatment system located within the area marked as Wastewater Treatment Plant on Plan CRC091608, within Pt Lot DP 7501; and
 - (b) three pump stations as shown on Plan CRC091608.
- (3) The wastewater treatment plant system shall be located at least 100 metres from the nearest residential dwelling existing on the date of this decision and at least 7.5 metres from the nearest property boundary.
- (4) The pump stations shall be located at least 20 metres from the nearest residential dwelling existing on the date of this decision except pump station 1 which shall be at least 7.5 metres from the nearest residential dwelling.
- (5) The pump stations and the inlet screen and sludge storage at the wastewater treatment system shall be covered and sealed except for vents.
- (6) The discharge to air from the pump stations and the inlet screen and sludge storage at the wastewater treatment system shall use all practicable measures to minimise the discharge of sewage odours to ambient air, these measures shall include but not be limited to venting systems to:
 - (a) biofilters; or
 - (b) activated carbons filters; or
 - (c) similar devices capable of an equivalent or greater amount of odour reduction.
- (7) The covers and filtration devices shall be maintained in an effective operating condition at all times. Records of all inspections and any maintenance undertaken shall be kept by the consent holder. This record shall be provided to the Canterbury Regional Council on request.
- (8) The discharge shall not result in odours or aerosols which are offensive or objectionable beyond the boundary of the properties on which the wastewater treatment system and pump stations are located.
- (9) (a) In addition to Condition (8), if, at any time after four months after the commissioning of the wastewater treatment system, sewage odours are detected on Lot 1 DP 20956 (11 Warnerville Road), by an Environment Canterbury enforcement officer, or by a person nominated by Environment Canterbury, on two or more occasions within a one week period, with at least 24 hours between occasions, then the consent holder shall commission an independent consultant with a relevant science or engineering degree with experience in odour control, to investigate the source of the odours and to recommend all practicable measures to minimise odours. The report shall be completed and a copy provided to the Canterbury Regional Council, Attention

RMA Compliance and Enforcement Manager within two months of notification of the events by the Canterbury Regional Council.

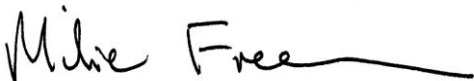
- (b) In addition to Condition (8), if, within three months of completion of a report specified in Condition (9)(a) sewage odours are detected on Lot 1 DP 20956 (11 Warnerville Road), by an Environment Canterbury enforcement officer or by a person nominated by Environment Canterbury, on two or more occasions within a one week period, with at least 24 hours between occasions, then the consent holder shall commission an independent consultant with a relevant science or engineering degree with experience in odour control, who has had no prior involvement with the Wainui sewage treatment system, to investigate the source of the odours and to recommend all practicable measures to minimise odours. The report shall be completed and a copy provided to the Canterbury Regional Council, Attention RMA Compliance and Enforcement Manager within two months of notification of the events by the Canterbury Regional Council.
 - (c) All practicable measures to minimise the discharge of sewage odours to ambient air identified in reports required under conditions (9a) and (9b) shall be implemented as soon as practicable.
 - (d) An enforcement officer or nominated person referred to in Condition (9)(a) or (9)(b) shall be a person who has an average sense of smell as determined by a generally accepted olfactometry method.
- (10) A record of all complaints received by the consent holder relating to odour caused by the discharge shall be maintained, and shall include:
- (a) The location where the odour was detected by the complainant;
 - (b) The date and time when the odour was detected;
 - (c) A description of the wind speed and wind direction when the odour was detected by the complainant;
 - (d) The most likely cause of the odour detected; and
 - (e) Any corrective action undertaken by the consent holder to avoid, remedy or mitigate any adverse effect of the odour detected by the complainant.

The record of complaints shall be provided to the Canterbury Regional Council upon request.

- (11) Within three months of the completion of commissioning of the wastewater treatment system, a Wastewater Operational Management Plan shall be prepared and provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager. This plan shall detail inspection, maintenance and contingency actions that will be conducted to ensure compliance with the conditions of this consent including but not limited to measures to minimise odour in the event of:
- (a) Power outages;
 - (b) Pump failures; and
 - (c) Sludge and screenings removal.
- (12) (a) The consent holder shall provide the owners of Lot 1 DP 20956 (11

- Warnerville Road) with at least 20 working days written notice prior to the removal of sludge from the wastewater treatment plant and shall request the owners of that property to nominate up to five dates when sludge removal should not occur.
- (b) The consent holder shall use their best endeavours to ensure that sludge removal is only undertaken: on dates that are not nominated in Condition (12a) and during weather conditions that minimise the potential effects of any odours released.
 - (c) Sludge removal shall not occur on a public holiday or on a weekend.
- (13) The Canterbury Regional Council may, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:
- (a) Dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or
 - (b) Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment, or
 - (c) Dealing with odours experienced on Lot 1 DP 20956 (11 Warnerville Road).
- (14) The lapsing date for the purposes of section 125 of the Resource Management Act shall be 10 years after the date of resource consent commencement.
- (15) This consent shall expire 35 years after the date of resource consent commencement.

Signed on behalf of David Collins and Mike Freeman:



M. C. Freeman

13 October 2009

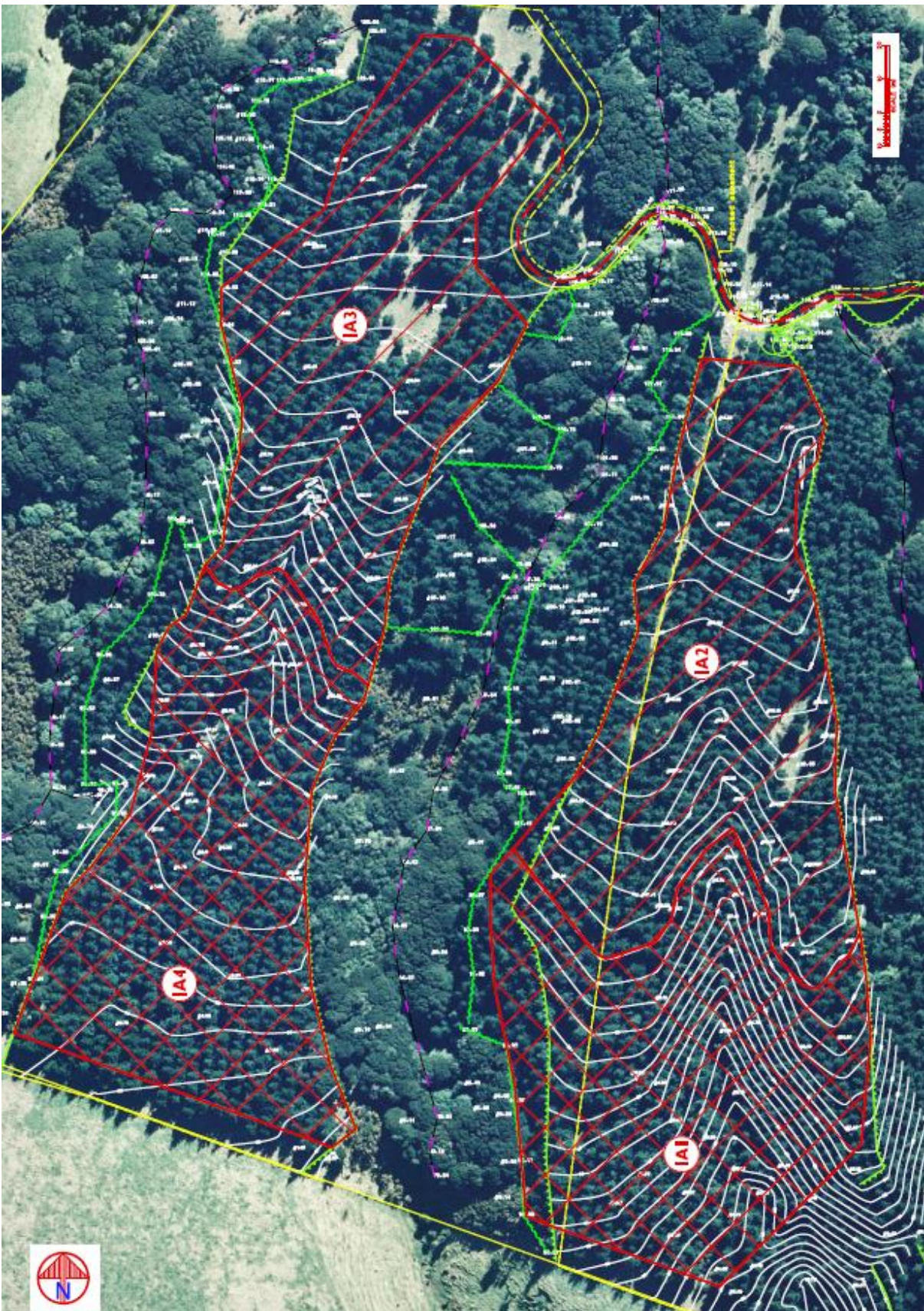
Plan CRC100904/CRC091578/CRC091608



Plan CRC091579



Plan CRC091580



7.14 For the reasons detailed in this report (sections 4, 5, 6 & 7) and under sections 104, 104B, and 108 of the Resource Management Act 1991, we grant resource consent application RMA92011255 subject to the following specific conditions:

RMA92011255 Land use consent for bunding around the wastewater treatment plant.

- (1) The development shall be undertaken in accordance with the plans and information submitted with the application and plans submitted and entered into Council records as RMA92011255/1-22. For the avoidance of doubt this includes the scheme plans (/1-16), the pump station layout plans (/17-20), and treatment plant landscaping and layout plans (/21-22).
- (2) Above ground buildings within the wastewater treatment plant shall be set back 7.5m from adjacent boundaries and shall be no more than 3.5m in height above existing ground level. For the avoidance of doubt, this condition does not apply to pump stations or reticulation associated with the scheme.
- (3) (a) In the event of any disturbance of Koiwi Tangata (human bones) or taonga (treasured artefacts), the consent holder shall immediately:
 - (i) cease earthmoving operations in the affected area; and
 - (ii) mark off the affected area until earthmoving operations recommence; and
 - (iii) advise the Christchurch City Council (phone 0800800169) of the disturbance; and
 - (iv) advise the Upoko Runanga of Onuku and the Upoko Runanga of Waiwera, or their representative (contact information can be obtained from the Christchurch City Council (phone 0800800169) or the Canterbury Regional Council (phone 0800324636), and the New Zealand Historic Places Trust (phone (03) 3652897), of the disturbance.
- (b) Earthmoving operations shall not recommence until:
 - (i) the consent holder provides a certificate in writing to the Christchurch City Council, Attention: Environmental Policy and Approvals Manager, signed by Upoko Runanga of Onuku and the Upoko Runanga of Waiwera, or their representative(s) stating that appropriate action has been undertaken in relation to the discovered culturally sensitive material; or
 - (ii) after five working days after advising both Upoko, a certificate signed by an archaeologist (i.e., a person with a post graduate degree in archaeology, and who is a member of the New Zealand Archaeological Association) is provided to the Christchurch City Council, Attention: Environmental Policy and Approvals Manager, that states that in the archaeologist's professional opinion, appropriate action has been undertaken in relation to the discovered culturally sensitive material. That certificate shall detail the action that has been undertaken by the consent holder. A copy of the archaeologist's qualifications shall also be provided with any such certificate.

Note: This condition is in addition to any agreements that are in place between the consent holder and the Upoko Runanga (Cultural Site Accidental Discovery Protocol) or the New Zealand Historic Places Trust. This condition does not replace other legal responsibilities, such as those under the Historic Places Act.

- (4) During construction, all practicable measures shall be taken to maintain access to recreation areas, businesses and private properties.
- (5) The Consent Holder shall ensure that noise levels from the authorized activity shall not exceed at any point within the notional boundary of any dwelling: night time 40 dBA(L10) and 70 dBA(Lmax) and at all other times 50 dBA(L10).
- (6)
 - (a) Prior to the commencement of construction works, the consent holder shall prepare and submit to the Christchurch City Council, Attention: Senior Environmental Health Officer, a Noise Management Plan. The purpose of that Plan shall be to specify how noise will be managed throughout the construction project and the measures the consent holder will take to comply with the requirements of Section 16 of the Resource Management Act 1991.
 - (b) The Noise Management Plan may be amended at any time. Any amendments shall be consistent with the purpose of the Noise Management Plan and all other resource consent conditions, and shall be submitted in writing to the Christchurch City Council prior to any amendment being implemented.
 - (c) This consent shall be exercised in accordance with the current version of the Noise Management Plan
- (7)
 - (a) Prior to the commencement of construction works, the consent holder shall prepare and submit to the Christchurch City Council, Attention: Environmental Policy and Approvals Manager, a Traffic Management Plan. The purpose of that Plan shall be to specify how traffic, including car parking, will be managed throughout the construction period to minimise any disruption to normal use of roading use in the area.
 - (b) The Traffic Management Plan may be amended at any time. Any amendments shall be consistent with the purpose of the Traffic Management Plan and all other resource consent conditions, and shall be submitted in writing to the Christchurch City Council prior to any amendment being implemented.
 - (c) This consent shall be exercised in accordance with the current version of the Traffic Management Plan
- (8)
 - (a) Prior to the commencement of construction works, the consent holder shall prepare and submit to the Christchurch City Council, Attention: Environmental Policy and Approvals Manager a *Construction Management Plan*. The purpose of that Plan shall be to ensure that the best practicable construction practices and procedures are adopted to minimise the effects of earthworks required for the landscaped bund. The plan shall include, but not necessarily be limited to:
 - (i) The extent of the earthworks required;
 - (ii) A construction programme;
 - (iii) An erosion and sediment control plan;
 - (iv) The rehabilitation and other mitigation measures to be adopted;
 - (v) Contact details for the person in charge of the earthworks.

- (b) The Construction Management Plan may be amended at any time. Any amendments shall be consistent with the purpose of the Construction Management Plan and all other resource consent conditions, and shall be submitted in writing to the Christchurch City Council prior to any amendment being implemented.
 - (c) This consent shall be exercised in accordance with the current version of the Construction Management Plan.
- (9) Notices shall be provided to all property owners/occupiers immediately adjacent to the wastewater treatment plant advising those property owners/occupiers of the construction works no less than two weeks prior to the commencement of construction works.
- (10) (a) The earth bund(s) adjacent to the wastewater treatment plant shall be planted/landscaped within six months of their formation. The plantings/landscaping shall be in accordance with a Landscape Management Plan certified by a Registered Member of the New Zealand Institute of Landscape Architects, as providing a complete landscape screen between the wastewater treatment plant and Lot 1 DP 20956 (11 Warnerville Road)(the Property) such that within three years of planting, the wastewater treatment plant would not be able to be seen from anywhere within a building existing on the Property at the date of this decision and would not be able to be seen from eye level (1.5 metres above ground level) anywhere within 15 metres of those buildings. A copy of the certified plan shall be provided to the Christchurch City Council, Attention: Environmental Policy and Approvals Manager, prior to the plantings/landscaping being undertaken.
- (b) All plantings and landscaping shall be maintained in accordance with the certified Landscape Management Plan.
- (11) The earth bund(s) adjacent to the wastewater treatment plant shall have slopes no steeper than 1 in 2, and a maximum height of 2 metres above the ground level that existed prior to the construction of the bund(s).
- (12) A construction complaints register shall be kept detailing the date, time and type of any complaint, cause of complaint and action taken by the consent holder in response to the complaint. The register shall be made available to the Christchurch City Council upon request.

Signed on behalf of David Collins and Mike Freeman:



M. C. Freeman

13 October 2009

Appendix 1



Resource Management Act 1991

Canterbury Regional Council & Christchurch City Council

Resource consent applications CRC091579, CRC091580, CRC091608, CRC091578 and RMA92011255 by the Christchurch City Council, associated with a proposed sewage treatment system at Wainui.

Memorandum of Commissioners

Michael Conrad Freeman & David William Collins

The purpose of this memorandum is to signal that we consider that some critical aspects of the current proposal are not in accordance with Resource Management Act requirements and we request the following further information from the applicant:

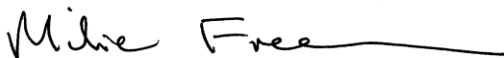
1. An assessment of the options for locating the proposed sewage treatment plant significantly further away from the Gables Country House residence. This should include the estimated costs of alternative locations, clarification of any technical issues and the likely effects on the visual and odour effects on residents of, and visitors to, the Gables Country House property. This should include consideration of other sites closer to the proposed irrigation areas.
2. An assessment of landscaping options to reduce the visual impact of the sewage treatment plant on residents of, and visitors to, the Gables Country House.
3. An assessment of possible alternative odour effect conditions (CRC091608) instead of the currently proposed threshold of "...offensive or objectionable beyond the boundary of the properties...". This should include an assessment of the use of an olfactometry approach that would specify a maximum level of odour units at a property boundary and shall also include an assessment of setting an 'offensive or objectionable' limit a specific distance from the Gables Country House property that would provide residents and visitors to that property with an appropriate level of protection from any adverse odour effects greater than minor.
4. An assessment of the technical feasibility of limiting the annual average maximum wastewater hydraulic loading rate to 3.3 millimetres per day to avoid the risk of wastewater flowing beyond the specified application area. If that assessment demonstrates that that limit is not appropriate, a detailed analysis is requested that

identifies appropriate limits that would reduce the risk of wastewater flowing off the proposed irrigation area to an appropriate minimum.

5. An assessment of the additional wastewater quality trigger values suggested by Mr Ivan Holland in his letter dated 8 July 2009, and an explanation of why the applicant considers that maximum (absolute maximum or percentile) wastewater quality values should not be imposed. Notwithstanding that explanation, we request that the applicant provide a suite of proposed maximum wastewater quality standards, including total suspended solids, total nitrogen, five day biochemical oxygen demand and faecal coliforms, that would be able to be complied with and would ensure that adverse effects on all receiving waters would be minor.
6. In the context of the likely cost of the proposed development, an assessment of the extent to which it is considered to be consistent with “the efficient use and development of natural and physical resources” (Section 7b of the Resource Management Act).
7. Specific proposed separation distances between the proposed sewage treatment plant and sewage pump stations and waterways.
8. Specific and more certain qualification requirements for those persons specified in proposed conditions, e.g., an alternative to “suitably qualified and experienced person” that specifies the necessary qualifications.
9. A specific and more certain alternative to the proposed CRC091578A condition 4 reference to “...appropriate standards and codes...”.

After considering all of the above matters, we also request that the applicant submit a final set of proposed resource consent conditions.

Signed on behalf of both commissioners:



Mike Freeman

5 August 2009