

# **PURPOSE AND ISSUES FOR CONFERENCING OF EXPERTS ON AKAROA WASTEWATER - IRRIGATION OF TREATED WASTEWATER TO LAND**

**6 December 2016**

## **Context and broad purpose**

The Christchurch City Council is investigating, and consulting with its communities on, options for application of treated wastewater to land. The Council has identified three possibly feasible sites - Pompeys Pillar, Robinsons Bay and Takamātua Valley.

Some residents of Robinsons Bay have approached the Council with a request to discuss the technical information prepared to date as part of the feasibility studies.

In response, the Christchurch City Council has invited technical experts to conference. The technical experts are those engaged by the Council, the Ngāi Tahu parties to the CCC's appeal on discharge of treated wastewater, and the Friends of Banks Peninsula Inc and Robinsons Bay Residents and Ratepayers Association Inc. The expert conferencing will be on the validity and appropriateness of the technical information prepared to date in relation to the feasibility of application of treated wastewater to land at Pompeys Pillar, Robinsons Bay and Takamātua Valley. The technical information to be discussed relates to:

- Design flows and loads;
- Land requirements;
- Geotechnical stability;
- Hydrogeological considerations.

The technical information prepared to date has been for the purpose of determining the feasibility of irrigation to land. If the Council decides to seek resource consents for irrigation to land, further technical investigations will be undertaken as part of the resource consent application.

A series of no more than 5 meetings may be necessary, with the exercise to be completed by 31 January 2017.

This document sets out the agreed protocol, broad issues and agenda to be covered in those meetings.

## **Protocol**

The sole attendees at the conferencing will be Greg Offer (Beca), a geotechnical expert from Beca; Andrew Brough (PDP), Andrew Dakers (EcoEng Ltd) and David Painter (David Painter Consulting Ltd).

Conferencing will be in accordance with the principles of the Environment Court Code of Conduct and Protocol for expert witness conferencing amended as necessary to reflect the fact that conferencing in this case is not occurring in the context of preparation of evidence for Court proceedings.

Counsel for the parties will ensure that the experts attending have read and will be following the parts of the Environment Court Code of Conduct and Protocol for expert witnesses that are relevant to a meeting of the experts at this stage. In particular:

- An expert has an overriding duty to impartially assist the conferencing on matters within the expert's area of expertise.
- An expert is not, and must not behave as, an advocate for the party who engages the expert. The expert must declare any relationship with the parties calling them or any interest they may have in the outcome of the proceeding.
- Expert conferencing is a process in which experts confer and attempt to reach agreement on issues, or at least to clearly identify the issues on which they cannot agree, and the reasons for that disagreement. Such a conference is a structured discussion amongst peers within a field of expertise which can narrow points of difference and save hearing time (and cost). All experts have a duty to ensure that any conference is a genuine dialogue between them with the aim of reaching a common understanding of the relevant facts and issues. An expert conference is a forum in which to seek technical, scientific and other professional agreements amongst people holding relevant qualifications and/or experience. It is not a forum in which compromise or a mediated outcome between the experts is anticipated.
- Issues that are agreed, not agreed or are to be further investigated are to be recorded. The Joint Statement produced from the conference will identify the issues, both agreed and not agreed, accompanied by the experts' reasoning set out as succinctly as the circumstances will allow. The aim is that the parties gain focus in the case and that the overall cost of the exercise to all is reduced.
- Like mediation, conferencing is a private procedure and, apart from any agreed primary data, and the joint statement produced at the conclusion of the conference, what is said or done at the conference cannot be referred to or relied on in any proceeding before the Court. In that sense it is a "without prejudice" discussion, although those participating may report back to the parties engaging them.
- Every expert participating in a conference must agree to comply with the Code of Conduct for expert witnesses, and not act as an advocate for the party who engages the witness. The expert must exercise independent and professional judgement and must not act on the instructions or directions of any person.
- Sound preparation is essential and the parties must allow adequate time for this process to be completed. Counsel are responsible for ensuring that the experts have all necessary documentation to enable proper preparation, and for briefing the experts on the process to be followed and their responsibilities as participants.
- While the experts participating in the conference may agree on matters within their fields of expertise, it should be understood that their agreement will not necessarily bind any party to a particular overall outcome.
- The expert conferencing is to be conducted in accordance with the General Directions for conferencing in Part 7 of the Environment Court Protocol, with the exception that any joint statements produced are at this stage for the parties rather than for the Court.

The parties and the experts acknowledge that several meetings may be needed and that joint statements may be staged ones, depending on the progress of the experts in familiarising themselves with, and discussing, the issues.

### **The broad issues**

Following are the broad issues to be addressed.

#### **1. WATER BALANCE MODEL**

A water balance model has been created to estimate the size of the storage pond and irrigation area. The issues are:

1. The appropriateness of water balance model;
2. The appropriateness of the methodology used in the water balance model;
3. The reasonableness of the outputs from the water balance model;
4. Whether the flow calculations are appropriate.

## **2. EFFECTS OF IRRIGATING TREATED WASTEWATER**

1. Whether the information available in relation to the public health risks from spray and drip irrigation is appropriate for the feasibility stage;
2. Whether the information available in relation to the likely risk to nearby food crops (e.g. walnut orchards, household vegetable gardens) is appropriate for the feasibility stage?
3. The appropriateness of the buffer distances to streams and residential properties?
4. The extent to which stock can be grazed in wastewater irrigation areas and what stand down periods might apply?
5. What, if any, are the runoff effects of irrigation?
6. What, if any, increase will there be in nutrient concentrations in streams or in the harbour?
7. How should flood risk be taken into account in the design of the irrigation scheme?
8. The extent to which the effects of climate change have been considered in the design of the irrigation scheme.

## **3. OPERATION AND MAINTENANCE OF IRRIGATION SYSTEM**

1. Is there a risk of damage to drip irrigation systems and if so what methods are available to ensure adequate protection?
2. What practicalities should be considered for a cut and carry system?
3. What sort of servicing, monitoring and maintenance would be appropriate for an irrigation scheme?
4. The technical pros and cons of irrigation to trees versus cut and carry operations at each of the three possible sites.

## **4. OTHER MATTERS**

1. Suggestions or recommendations for further investigations to assist the evaluation of irrigation to land options

### **Agenda for First Meeting – 30 November 2016**

1. **Brief** Andrew Dakers on the Akaroa wastewater scheme development:
  - Earlier work conducted pre-2014
  - Describe the recent scheme development as outlined in the 2014 application for discharge of wastewater to Akaroa Harbour
  - Stages 1 and 2 investigation of irrigation of wastewater to land

2. **Discuss** the recent technical assessment of application of wastewater to land including: the overall approach; and the technical investigative work done to date to determine the feasibility of potential irrigation sites.
3. **Record agreement** on any of the broad issues set out above, or matters relevant to them, that can be agreed at this stage.
4. **Record an action plan and timetable** for further meetings, information sharing or possibly further work needed in order to develop a joint statement addressing each of the broad issues set out above. Note: the timetable must enable formal Council consultation to start in February.