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Corporate Plan Output: Liquid Waste	

The purpose of this report is to seek confirmation from the Council that certain discharge options are no longer in consideration, and to inform the Council that favoured options will be reported as soon as scientific investigations are completed.

#### **BACKGROUND**

The Council has been investigating options for the discharge of treated wastewater from the main Christchurch treatment plant since August 1996. In August 1998, the Council resolved to favourably consider an ocean outfall, subject to a number of conditions, including thorough investigation of current movements in the Avon-Heathcote Estuary and Pegasus Bay. The full text of the Council's resolutions is attached.

By implication, the options seen as feasible were to continue to discharge to the present site on the western edge of the estuary, or to discharge direct to sea (with improvements to the quality of treatment, whichever of these sites was finally chosen). The other possible solutions that had been considered up to that time were not to be investigated further. (These are noted below, plus the more feasible alternative ideas that have emerged over the last year.)

This report asks the Council to formalise the implied previous Council resolution to shortlist only the estuary and direct ocean outfall sites. This will help clarify the decision making process when an application is eventually lodged with the Canterbury Regional Council.

#### **OPTIONS CONSIDERED FEASIBLE IN AUGUST 1998**

The Council resolutions of August 1998 were based on two years of investigations. A wide range of issues and options had been considered, including both study by technical experts and extensive input from the public. At that time information was presented to the Council at seminars and in written reports covering in some detail options for land disposal, continuing with an estuary edge site, and discharging direct to the ocean with a long pipeline. Other possible solutions had been investigated to a lesser degree and were also reported.

The estuary and direct ocean options were favoured because they were the only ones that would meet all the following conditions. They would:

- be able to meet present expectations for water quality
- allow progressive upgrades in the future as and when environmental expectations rise
- be robust solutions using proven technologies
- be able to include new technologies that might prove feasible in the future
- be affordable
- allow concurrent development of waste minimisation and other potential long term strategies.

Both the estuary and direct ocean options could have a number of variations depending on the desired water quality outcomes and cost differentials. These variations will be reported to the Council in a few months, prior to seeking public feedback.

#### **PROGRESS SINCE AUGUST 1998**

Since the Council decision last August the consent has had a lot of public exposure and this has brought up a number of new ideas, all of which have been reviewed, and has subjected all previous information and opinions to careful scrutiny.

In addition several teams of consultants have been doing detailed assessments of possible environmental effects of both the estuary and direct ocean options, including investigating a range of treatment standards. A team of expert peer reviewers has been over-viewing this work independently. Information on these studies will be reported to the Council before further public consultation takes place.

All of this input has confirmed the views of a year ago that the implied shortlisted options of discharging to the western edge of the estuary or a long ocean pipeline should be the only options to be taken further.

#### **OPTIONS NOT SHORTLISTED**

More details of each of these options are presented in the attachment.

##### ***Recirculation of treated wastewater into the city's mains as drinking water.***

This option:

- would be expensive, costing a few hundred million dollars
- is offensive to most members of the public and would not attract people to the city
- would have serious health consequences if there was a breakdown in treatment quality
- is unnecessary as cheaper options are available if or when the city needs to augment its water supply.

##### ***On-site treatment of household wastes or recirculation of greywater.***

This option

- would increase health risks as present technologies require a level of maintenance that is unlikely to be sustained throughout the community
- is presently not permitted by the Local Government Act if access to a public sewer is readily available
- would be expensive, costing a few thousand dollars per household
- could feasibly take place on a small scale in future years, alongside more traditional wastewater management methods
- would not eliminate the need to obtain a consent to discharge from the main treatment plant for the foreseeable future

### ***Satellite communal treatment plants***

This option:

- raises a new set of potentially difficult environmental concerns
- is not needed until at least 2026, as the present treatment plant upgrade will have the capacity to handle all likely growth in the city's wastewater until then
- is unattractive economically with present technologies (at least double the cost per resident)
- would not eliminate the need to obtain a consent to discharge from the main treatment plant for the foreseeable future.

### ***Land disposal or reuse***

This option, while philosophically attractive, and of wide public appeal in principle:

- would be nearly impossible to implement on a large scale as it would require the purchase or long term lease of large areas of land that are not likely to be available
- would have serious health consequences through contamination of drinking water aquifers if there was a breakdown in treatment quality
- is very expensive, with all options costing over \$250 million
- would lead to only small financial returns that would be far outweighed by the costs of running the system
- would not eliminate the need to obtain a consent to discharge from the main treatment plant
- is best seen as an option where small scale initiatives could be developed over the long-term future as demands and opportunities arise.

### ***Estuary mouth discharge***

This option would benefit the estuary but:

- would bring little improvement, if any, to water quality on the ocean beaches
- would be difficult to engineer, unsightly, and possibly an obstruction to boats and those who increasingly use Moncks Bay for bathing and picnicking
- would cost \$25 million for probably no net environmental gain.

### ***Aquaculture (i.e. growing fish in the ponds)***

This option, while it might have a place in the future:

- would have an unknown impact on water quality
- would produce fish that might not be widely accepted
- would not eliminate the need to obtain a consent to discharge from the main treatment plant.

### ***Minimisation Options***

Minimisation options are not recommended as solutions in themselves. Reduction of household wastewater quantities, or reduction or on-site treatment of industrial wastes, or education, are all important actions and should be encouraged. However these options:

- would not eliminate the need to obtain a consent to discharge from the main treatment plant for the foreseeable future
- are likely to take place in parallel with, rather than instead of, continuing discharge from the main plant for the foreseeable future.

## SUMMARY

This report summarises briefly the alternative options for application for a new discharge consent. It is now recommended that the Council formalises its implied previous resolution of August 1998 (refer attachment), namely that there are two options for wastewater discharge, i.e. continuing an estuary edge discharge in an improved form or discharging to the sea through a long pipeline. These options including their sub options will be presented in detail to the Council later this year for further consideration. Public consultation will then follow on consideration of a single option for Resource Consent Application and to meet inter community needs and expectations.

- Recommendation:**
1. That the Council confirm that there are two shortlisted options for wastewater discharge, i.e., continuing with an estuary edge option, or discharging direct to sea through a long ocean pipeline.
  2. That the Council note that information on the costs and environmental effects of the estuary edge and direct ocean pipeline options will be presented to the Council, including information on a range of possible treatment standards and technologies to achieve them, before the shortlist is taken to wider public for consultation.

**Chairman's**

**Recommendation:** That the above recommendation be adopted.