

Upgrading of the Ashburton Wastewater Treatment and Disposal Systems

The Ashburton District Council's entry for the 2004 New Zealand Post Management Excellence Awards in the Community Relationships Award category.

Executive Summary

Many Councils throughout New Zealand are faced with the need to upgrade wastewater treatment systems. This can be a daunting task for many smaller communities. Wastewater proposals have inherent difficulties in achieving community consensus due to:

- the range of options
- high cost implications
- competing environmental issues
- host areas perceptions of adverse effects

The Ashburton District Council set about resolving these issues by empowering the community in the decision making process. This enabled all issues and options to be considered, then the logical development of the preferred solution based on the agreed values.

This process has resulted in a clear preference for land disposal, a preferred site being identified and voluntarily acquired and the necessary resource consents being lodged, notified and granted.

The granting of resource consents of this type and for a project of this size without a formal pre-hearing or a hearing is unique. The process is one envisaged by the new Local Government legislation and this project is an effective working example.

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Ashburton Wastewater Project Introduction

The existing Ashburton wastewater system services a population of 15,000, collecting and conveying wastewater from 7200 domestic, commercial and industrial premises.

Wastewater receives treatment using oxidation ponds prior to being discharged directly into the Ashburton River. The treatment facility was constructed in 1976 and the existing resource consent to discharge treated effluent into the Ashburton River expired in December 2002. The system is currently operating on "existing rights" provisions to enable the new resource consent, design and construction processes to be carried out.

Much of the reticulation system is susceptible to ground water infiltration. This infiltration can result in very high flows and hydraulic overloading of the oxidation ponds leading to difficulties in compliance with the existing resource consent conditions. During periods when groundwater levels are high the average flow to the oxidation ponds can be up to three times that normally generated by a town the size of Ashburton. The inadequacies of the current treatment system have been apparent for some time and resulted in the need to implement a comprehensive upgrade strategy.

Moving Toward Change

In 1993 the Ashburton District Council engaged consultants to identify options for the upgrading of the Ashburton wastewater system. Concerns that the solution developed at that time was too narrowly focused and did not adequately address strategic growth goals meant further investigations were required by Council, and the current project was formally initiated in 1998.

Council considered it essential that the upgrade must:

- meet customer expectations with an acceptable community outcome
- comply with foreseeable changes in resource consent requirements
- minimise and/or mitigate any negative environmental impacts
- be modular in design and be able to accommodate future growth

The key drivers for the upgrade project were:

- the need for new resource consents for the existing system
- the inability of the existing systems to meet existing and foreseeable changes in standards
- the inability of the existing system to accommodate increased demand through growth
- the community concerns about any discharges to the river

Creating Community Consensus

The upgrading of the Ashburton wastewater system is the largest single project undertaken by the Ashburton District Council. Given the scale and cost implications, Council recognised that total community buy-in and participation was essential to the success of the project.

Council from the outset made a conscious decision to include a high level of community input and decision making throughout the project. The process outlined below shows how this has been carried out from project initiation to the granting of resource consents.

1. Project initiation meeting.
2. Formation of the working group.
3. Identification of issues and options.
4. Appointment of an engineering consultant.
5. Analysis of issues and options.
6. Public consultation.
7. Evaluation of the potential solutions by the working party.
8. Identification of suitable sites for land disposal.
9. Obtaining access to the preferred site.
10. Resource consent applications.

1. Project Initiation Meeting

To seek community involvement in the project the Council formed a community working group comprising representatives from the identified stakeholder groups including urban community, rural community, recreation, environmental and social organisations.

Identified stakeholder groups and individuals were invited to a project initiation meeting facilitated by Council. Attendees were identified and invited who:

- represented community/commercial/industrial sectors that could be affected by the project
- would provide Council with feedback from the groups they represent
- were members of community networks that could facilitate two way communication as the project progressed to the wider community

The objectives of the project initiation meeting were to:

- provide stakeholders and potential project working group members with background information regarding the project
- obtain early commitment and input from interested individuals/groups
- identify any concerns of stakeholders and discuss issues related to the treatment and disposal of Ashburton's wastewater
- invite attendees to join the project working group

The meeting was attended by 30 community representatives from a variety of stakeholder groups.

2. Formation of the Community Working Group

Following the project initiation meeting a number of community representatives expressed an interest in joining the working group. As the project progressed the number of community representatives on the working group grew, eventually reaching 20 in total.

The role of the working group was to:

- provide Council with a range of views and inputs that are considered representative of the wider community.
- promote two way communication relevant to the project with their respective networks.
- assist Council in selecting a suitable consultant to progress the project.
- identify issues which members of the group believed to be important that could impact on the selection of treatment and disposal options.
- assist in the identification of options which best addressed the issues identified.
- recommend preferred treatment and disposal solutions that were considered worthy of more detailed investigation and final consenting.

3. Identification of Issues and Options

One of the first challenges was the need to increase the working groups understanding of the issues impacting on the project and the search for potential solutions. This was done by facilitated “brain storming” workshops aimed at identifying skills available within the working group, identifying all options, then developing a shortlist for more detailed consideration and investigations.

The working group expressed an early desire that, where possible, water conservation, effluent reuse and innovative technology be features of the project.

4. Appointment of an Engineering Consultant

The working group was required to identify an engineering consultant to assist them through the project. The working group considered that addressing all of the identified issues and implementing a sustainable solution to be paramount and considered the engineering consultants skill and other attributes to be ahead of costs.

The working group sought registrations of interest from suitably qualified consultants for all phases of the contract, from investigations through to commissioning.

The engagement process included:

- the preparation of a registration of interest document specifying the desired outcomes of the project
- evaluation of registrations of interest by Council officers using a weighted attribute method
- the preparation of a shortlist of five consultants to make a presentation to a subcommittee of the working group

At the end of the presentation process two consultants were short listed to provide detailed pricing for all phases of the project, ensuring competition in the pricing process.

Following detailed consideration the working group recommended to Council the successful tenderer.

5. Analysis of Issues and Options

The working group and consultant confirmed the key issues for the project.

Strategic Issues – growth, risk management, reliability, community and iwi acceptance, protection of the environment as a whole and the Ashburton River in particular.

Wastewater Effluent Disposal Issues– legislation, affects on amenity values and recreation, buffer zones, land use and sustainability, effects on ground water, surface water quality, existing reticulation condition, upgrading flexibility, waste water/effluent reuse and income generation, effects on property values.

Wastewater Treatment Issues – use of existing infrastructure, effluent quality and wastewater treatability, effects of existing reticulation, buffer zones, visual effects, location of treatment facilities, health and safety, treatment technology reliability, disposal of treatment by products, flexibility and ability to upgrade, effects on property values.

Affordability and cost issues – overall cost and effect on rates.

Potential solutions included:

- flow loading reduction strategies – composting toilets, grey water reuse, water conservation, promotion of reduced use of waste disposal units and waste minimisation
- treatment options – preliminary treatment, primary treatment, secondary treatment (low tech and high tech) tertiary treatment (low tech and high tech)
- disposal options – disposal into the Ashburton River, into the ocean (outfall) into or onto land, land disposal and discharge into the river during wet periods, land disposal with discharge to ocean during wet periods

Following the consideration of all options, the less desirable options were discounted. The remaining options to be considered further were classified into three categories by the working group:

- options to reduce the flow of waste water generated
- options to treat wastewater to an appropriate level for the disposal options
- options to dispose of wastewater

The working group identified seven generic solutions:

1. Discharge to river with high tech treatment
2. Discharge to ocean with low tech treatment
3. Discharge to ocean with high tech treatment
4. Discharge to land with low tech treatment
5. Discharge to land with high tech treatment
6. Discharge to land with backup discharge to river
7. Discharge to land with backup discharge to ocean

Each of the seven generic solutions was evaluated against the issues and a consultation document was prepared for distribution to the wider public.

6. Public Consultation

There was a need to identify community values and priorities. To identify these a consultation strategy was developed that involved the following:

- direct contact with interested or potentially interested organisations
- delivery of four newsletters to all 7200 households receiving the benefit from the upgrade
- newspaper articles
- radio advertising
- public meetings
- analysis of submissions and providing feedback

The consultation documents outlined the full range of identified issues and options and requested the public to indicate which five issues were of most concern to them when considering the upgrading of the wastewater treatment and disposal systems, where they would prefer the wastewater to be discharged, and which of the seven generic solutions is most likely to address the issues of concern to them.

A public meeting was held after the distribution of the newsletter and before the closing of submissions to enable more detailed questioning of the issues and options.

After evaluating the submissions received, the five most important issues identified were:

1. Cost/affordability
2. Impact on the environment
3. Need for long term solution/ability to expand
4. Impact on groundwater
5. Contamination of the Ashburton River

The preferred disposal method identified through this process was disposal to land.

7. Evaluation of the Solutions by the Working Party

At the same time as the public were being asked for their preferences, evaluation of the solutions was also carried out by members of the working group to independently identify their preferred solution. The process involved the scoring and weighting of the various solutions to ensure a desirable and achievable outcome.

The ranking of solutions through this process resulted in the majority of the working group identifying discharge to land with low technology treatment as the preferred option.

8. Identification of Suitable Sites for Land Disposal

Given the preference for land disposal, the working group then set about identifying possible sites. A newsletter was prepared and distributed to all Ashburton residents and potentially affected rural residents providing a project update, including the preferred options and inviting submissions from property owners interested in using treated effluent for irrigation onto their land.

From the submissions received a shortlist identified three potentially suitable sites. These sites were the subject of technical investigation and social assessments. Technical assessments included determination of soil types, groundwater levels, permeability and groundwater modelling.

Social assessments were carried out including meetings with adjacent property owners to identify areas and levels of concern regarding the possible land disposal of treated effluent.

The consultants carrying out the technical investigations and social assessments concluded there was only one technically viable site. This site was owned by the Mayor of the Ashburton District.

9. Obtaining Access to the Preferred Site

The profile of the owners of the preferred site meant an access strategy needed to be prepared which was then audited by Audit New Zealand to ensure the process would withstand rigorous scrutiny.

Ultimately the property was purchased through an open tendering process which meant that the eventual purchase met with little public comment.

10. Resource Consent Applications

Having decided on the treatment process and facility location, the working group then focussed on securing the necessary resource consents.

A conceptual treatment plant and disposal system design and an assessment of environmental effects was prepared and consent applications lodged for,

- the continued operation of the existing treatment and disposal systems while the new system was being designed and constructed
- a land designation change for the effluent disposal site
- the construction and operation of the new treatment and disposal system

All consents were publicly notified.

A total of 30 submitters lodged objections to one or more of the 3 sets of consents applied for. Of these 17 wished to be heard in support of their submissions.

Council, in keeping with its desire to be a good neighbour continued discussions with submitters wishing to be heard, with the aim of addressing as many concerns as possible and eliminating the need for a formal pre-hearing or hearing.

As a result of the additional consultation all submitters withdrew their right to be heard and the resource consent process was completed without the need for a formal pre-hearing and hearing. All resource consents were granted on 8 June 2004.

Conclusion

The new Local Government Act 2002 is designed to enable democratic local decision making by communities. This is not only consultation but about empowerment. The process undertaken by the Ashburton District Council illustrates the success of community empowerment.

In this case, the community were directly involved in decision making through the process, not just talked to by Council. Given clearly identified outcomes, the community has come up with the right solutions and in a very cost effective manner.

This example illustrates the strength of this process and is a workable example for other local authorities.

Appendices