## Appendix E: Extracts from Proposed Wastewater Treatment Plant ECan Application AEE

## 3.7 Ownership and Operation and Maintenance

The communal scheme is likely only required for short to medium term, as a District sewerage scheme for Darfield will likely occur at some time in the next 15 – 20 years. Ownership is intended to remain with the consent holder at this stage and not be vested to SDC.

Community treatment options for this development, could be made redundant when a District Scheme is available, however, there is likely to be salvage value for it to be reused elsewhere. Portable systems, such as containerised or skid mounted systems can therefore be considered favourably, or systems easily removed from within the ground.

Discussions are being held with SDC regarding community infrastructure design standards and ownership. The commentary below is to show that should the developers decide not to vest to Council, or SDC do not wish to take over the asset, then there are other satisfactory outcomes.

A number of Regional Councils have established model conditions to provide certainty that the systems are going to be managed and maintained with future home ownership, as has been the case at Jacks Point in Otago.

The model conditions require:

- The consent holder to transfer the consent to a body corporate entity which will own and be responsible for the infrastructure maintenance and operation;
- The constitution of the body corporate requires all lot owners to be equal shareholders and to transfer the shares to purchasers when they sell;
- Lot owners must pay any money levied on them by the body corporate and grant a covenant on their property title in favour of the Council; those encumbrances are:

*"...recording the obligations of each lot owner in respect of the operation and maintenance of the Wastewater System in accordance with the conditions of this consent, and charging the owner's land with an annual rent charge to ensure performance of the covenants relating to the Wastewater System, such Encumbrance to be enforceable by the Body Corporate/Company against the Lot owner in case of default."*

At the Jacks Point, near Queenstown, water supply and wastewater remain in private ownership and is managed by the Body Corporate who since installation have engaged the system designers and builders (Innoflow Technologies) to operate the wastewater system. The Jacks Point discharge consents do not require covenants on titles related to management-related failure, but there are two conditions relating to risk:

- The requirement of an Operations and Management (O&M) Manual, outlining a schedule of maintenance, timing, monitoring procedures, contingency plans, dealing with malfunctions and reporting; and

- The consent holder is required to enter into a maintenance service contract with a suitably qualified person, who is required to operate and service in accordance with the O&M Manual.

However, the Jacks Point subdivision consents from QLDC require a consent notice to be lodged against all titles relating to the wastewater system. This requires all owners to install the on-site (STEP) components of the decentralised system when seeking building consent, as per below.

*"The consent holder shall provide evidence to the Council of a responsible body (management group) which will undertake responsibility for the maintenance of the infrastructure including the*

*private roads, water reservoir and associated network, stormwater reticulation, sewage reticulation (including primary sewage treatment tanks located on individual lots) and discharge fields (including regular monitoring and maintenance in accordance with the recommendations of the system designer of the individually owned primary treatment tanks) and open space. The management group shall also be responsible for the ongoing monitoring of the water supply to ensure that it continues to comply with the Drinking Water Standard for New Zealand 2005. Details of maintenance and operation of all infrastructure shall also be provided by the consent holder."*

Discussions with SDC will address these options and their preference. In summary, there are a number of mechanisms available to Council to ensure the wastewater infrastructure, if it remains in private ownership, is managed accordingly.

## 6.6 Effects on Air Quality

Each lot is likely to have a small pumping system, either a STEP system to provide an Effluent Sewer reticulation, or a Grinder Sump system to provide a pressure sewer reticulation. These systems are both small diameter pipes under pressure. It is common to install air relief valves in pressure systems in high points to allow any air build-up to be released to ensure air locks do not occur. The relief valves on a flat site such as at Darfield will be few and far between and seldom used. They are located below ground in a toby box.

The proposed WWTP is likely to be installed below ground to ensure temperature stays within the optimal range for treatment. The likely system utilises low pressure spray onto textiles that are enclosed within fibreglass pods. Odour potential is extremely low, with any venting to air via carbon filters to ensure minimal odour.

The discharge to land is via subsurface drip irrigation. Odour potential from this is negligible. Aerosols will not be produced from the wastewater treatment plant or the subsurface irrigation.

Effects on air will be very infrequent, if at all, and are considered to be less than minor.

## 6.7 Effects on Amenity Values

The LTA will be sited at the rear of the site on Kimberley Road. Both the WWTP and LTA will be buried and constructed to blend in with the surrounding environment to reduce visual effects. Any above ground building, e.g. control shed, will be similar to any garden shed and as such will not stand out as different to other buildings around Darfield.

Therefore, the effects on visual amenity values will be less than minor.

## 6.8 Effects on Public and the Community

It should be noted that currently there is no Darfield community wastewater treatment scheme. Each individual property owner is responsible for the treatment and disposal of their household wastewater. As a result, the effluent treatment and discharge is not always to a high standard from all properties and maintenance is sometimes deficient. With the use of the communal system, a high level of treatment and maintenance and operation can be achieved. Therefore, the proposed treatment scheme is a vast improvement over the existing individual practices occurring in the area.

It is considered that there will be minimal effects on the people in the wider community because the proposed LTA and treatment plant will be located on private property. People will be kept out of the LTA by signage and the private property nature of the site. The high-quality treatment of the wastewater will ensure that there will be no health effects arising from *E. coli* as a result of the application to land.

Aerosols will not be produced from the wastewater treatment discharge as the application to land will be via subsurface irrigation. Vents from the WWTP have carbon filters incorporated into them.

The treatment system will not be odorous when working correctly. The Operations and Maintenance plan will outline the frequency of monitoring and the steps that will be taken if a complaint is received. Furthermore, Environment Canterbury will be notified if any system fails or it performs poorly. For these reasons, adverse effects resulting from the wastewater land application systems are considered to be will be no more than minor.

## 6.9 Effects on Tangata Whenua Values/ Cultural Effects

Ngai Tahu is the iwi or tangata whenua with traditional association in the Canterbury region. Te Runanga o Ngai Tahu is the tribal body which represents the 18 Runanga within the Ngai Tahu tribal area of the South Island. Each Runanga has its own tikawa (area), determined by natural boundaries, such as the mountain ranges and rivers, and defined by the Te Runanga o Ngai Tahu Act 1996. By this Act, the Crown recognises the legal personality of Te Runanga o Ngai Tahu, the governing body of the Te Runanga o Ngai Tahu tribe.

For Maori, water is a living entity, the source of life for all things (waiora). The Maori view of water is that all water begins as a sacred gift from the Atua (deities) to sustain life and that all water have their own mauri or life force. The discharge of wastewater into clean water

(groundwater and surface water) is considered to be of unnatural mixing of mauri. This degrades the water quality and thus pollutes the mauri of water.

Iwi prefer wastewater to be treated (preferably land-based) before discharging into natural waterways or groundwater. Therefore, treatment to a high quality and application to land of treated effluent is an approach consistent with Maori resource management. It is designed based on ecological and energy efficient principles and aims to manage the environment in a sustainable way. Treating wastewater and applying it to land at a sustainable rate minimises the impact of pollutants on soils and receiving groundwater.

A significant cause of concern for Ngai Tahu is the degradation of freshwater sources due to wastewater discharges. The proposed wastewater treatment methodology and discharge to land is considered to be an acceptable method of disposal of wastewater and it has less than minor effect on cultural values.

Of concern to Ngai Tahu is the protection of sites of cultural significance such as Nohoanga sites (traditional camping sites associated with mahinga kai – food gathering), sites of Wahi, Taonga and Tapu (sacred and treasured sites) and "silent files" which are unidentified areas of cultural and spiritual significance. There have been no sites identified as having cultural significance within the vicinity of the proposed wastewater treatment and discharge location.

The proposed wastewater treatment and discharge have been selected on the basis of their ability to minimise effects on the environment while mitigating concerns of Tangata Whenua.

Mahaanui Kurataiao (MKT) have been approached (October and November) regarding a review of the AEE and application and were sent the Wastewater Options Report in support of the Plan Change, but a formal response is yet to be received.