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Beaufort Recycled Water Feasibility Study

What to consider when planning for a recycled water reuse scheme

Pyrenees Shire Council, Beaufort, Victoria

Key Messages

- Inter-organisational partnerships play a significant role in the success of integrated water planning projects.
- Establishing community values and needs early assists in weighing up project costs and benefits.
- Conducting feasibility studies into alternative water supply schemes helps to drive optimal solutions.
- Understanding all associated costs and benefits enables well informed and evidence based decision making.

Project Overview

Water security is a critical issue for Beaufort's community sporting clubs and schools. Maintaining facilities is a challenge due to insufficient alternative water supplies and the cost of using drinking water supplies. Existing dams are prone to drying out and local groundwater quality can be detrimental to grass health. Water extraction from Beaufort Lake by local clubs is not favored by some community members due to the lake's recreational values and local stormwater harvesting schemes are unable to meet full water demands.

Pyrenees Shire Council and Central Highlands Water have partnered to assess the feasibility of piping recycled water approximately 3km from the local wastewater treatment plant (WWTP) to irrigate Beaufort's sporting clubs and schools.

Supplying Beaufort's sporting clubs and schools with recycled water will improve water supply security and climate resilience whilst benefiting the community and the environment by:

- protecting and enhancing green spaces for recreational uses
- conserving water reserves in Beaufort Lake
- reducing potable water consumption and supply costs
- providing stakeholders with a sustainable, fit-for-purpose and affordable water supply

Feasibility Study Process

A specialist communications consultant was engaged to explore stakeholder values, needs and their willingness to pay. Early establishment of these views is an important input to weigh up project costs and benefits. Additional stakeholder consultation will occur following the completion of the feasibility study. An engineering consultant was also engaged to undertake the recycled water reuse feasibility study. This included undertaking assessments to derive optimal solutions for infrastructure requirements, operational considerations, energy usage and environmental considerations.

The following were key considerations in understanding the feasibility of providing recycled water to Beaufort's sporting clubs and schools.

Community Benefit

- Liveability outcomes generated by greening of public spaces.
- Protecting recreational values in Lake Beaufort.
- Reduced chemical fertiliser application due to nutrient rich recycled water.
- Reduced volumetric cost of water in comparison to drinking water.

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Recycled Water Supply Availability

- Quantifying recycled water demands by consulting stakeholders.
- Assessing waste water treatment plant volumes and storage requirements.

Cost considerations

- Testing willingness to pay.
- Considering both costs and benefits.

Infrastructure Optimisation

- Establishing the most suitable pipeline alignment.
- Developing different supply configuration options (i.e. pumping stations, decentralised vs. centralised storage).
- Assessing options for energy usage.
- Understanding environmental impacts, including cultural heritage.
- Determining which options derive the best value to the community.

Beaufort Lake is an important asset to the community. Use of recycled water for irrigation presents a sustainable alternative to extracting water from the lake.

Risk associated with using recycled water in public areas

- Considering human exposure risks (i.e. holding periods for overnight watering regimes or subsurface irrigation).
- Quantifying evaporation losses.
- Understanding water quality requirements (fit-for-purpose) and examining historical water quality results.
- Balancing additional treatment costs with nutrient concentration and willingness to pay considerations.

Lessons Learnt

- The project occurred due to collaboration between Central Highlands Water and Pyrenees Shire Council.
- Early stakeholder consultation is important to understand local context, challenges and requirements.
- Understanding all associated costs and benefits enables well informed and evidence based decision making.
- Comprehensive assessments are required to determine feasibility of recycled water schemes.

More Information

For more information visit the resource library on the Clearwater website https://www.clearwater.asn.au

Contact

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