

# RECYCLED WATER CARTRIDGE FILTRATION TRIAL



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## ABSTRACT

The proposed Recycled Water Cartridge Filtration Trial is being held to determine whether or not Cartridge Filtration would be viable to produce High quality A+ Recycled water for use with minimum risk. As part of the emergency measures to reduce the city's consumption of potable water, recycled water is made available for commercial use from the Logan Water Pollution Control Centre (LWPCC).

The filter cartridge being used in this trial is a ten micron poly prop element which is coated in a thin film of polymer; this is to help aid in the capture of suspended solids in the recycled water as it enters the cartridge filter. The recycled water passes through the filter, solids being caught and the filtered water discharged. The filter housing is a vertical unit comprising of an inlet valve with a pressure gauge to monitor inlet pressure; the filter housing containing the filter where the recycled water passes through and solids are caught, then through to the discharged outlet pipe. Sample valves on the inlet and on the outlet side allows samples to be taken before and after, so turbidity can be measured for quality assurance, as early results show the NTU was less than 1 for a period of 4 to 5 days and an NTU above 1 but below 2 for the rest of the 14-day trial, as the filter change over is 14 days.

As a result of this trial, the amount of filter recycled water that the Logan Water Pollution Control Centre is aiming to achieve is at 5ML a day, which means that there would be an installation of multiple units to achieve this. This is being considered as well as other filtration systems to help achieve the highest quality A+ grade recycled water. Other trials are to be undertaken as soon as possible. The results of this trial may show that it might be of benefit for a smaller treatment plant, as the costs would be less to operate, depending on the amount of units and the quality of the recycled water being filtered through the filtration system. The need to provide high Grade A+ quality recycled water is a very important factor to help reduce the consumption of potable water and to increase recycled water usage before level 3 restrictions come into force.