Water Re-Use Technology

Culligan: World Leader in Water Treatment

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Water Re-Use technology is becoming an ever increasingly important tool in reducing waste and controlling cost. Fresh water resources are valuable and the cost of waste water continues to rise. Pollution taxes for sewerage and waste water are become more commonplace. With an increasing population, the need to use and re-use water efficiently is becoming increasingly important.

Source: ofwat

Recycling process and other types of water can be both cost effective and simple to deploy. Relatively low set up costs and competitive payback periods make the process attractive, whilst demonstrating a clear commitment to recycling and the environment.

Water Re-use is an excellent way to save money and resources within a business and helps to significantly reduce a companies impact on the environment. By getting the most from an existing water supply, by processing waste water and using it again, even for a different purpose, a business can reduce the amount of water they use. The environmental benefits come from less water being put to drain and less source water been used in the first place. If the quality of water put to drain is higher a business can also reduce the impact of expensive waste water screening and pollution taxes.

Main Applications

- Waste Water
- Process Water
- Rainwater Harvesting, including Grey and Black water
- Cooling and Blow Down Water
- Laundry Recovery Water
- Sewage Treatment

The Technology

Culligan are committed to providing the right solutions at the right time and place. However large or small your potential re-use project, we endeavour to provide a bespoke solution designed, manufactured and installed to meet your requirements now and in the future.
Re-Use projects use a variety of techniques and processes to achieve the required water quality results. These may vary depending on a number of factors:

- Quality of source water
- Quality of water to be re-used
- Quality of water required for application after re-use
- Volumes of water to be treated
- Availability of water
- Existing treatment plant

All of these factors will have an effect on the system we design and build for your business; any components and processes used, capital outlay required and payback periods.

Treating Water for Re-Use

Waste water from civilian and industrial discharges undergoes two basic treatments: primary and secondary.

Primary treatment: this is a system of screens designed to remove large foreign bodies from the water, such as leaves and small dead animals.
Secondary treatment: water undergoes biological purification in this stage. It is enriched with activated sludge and oxygen, so that organic substances are broken down. In successive settlements water is separated from suspended solids to bring it to a suitable quality to return to the environment.

For the purposes of re-use water can be treated further to suit an application

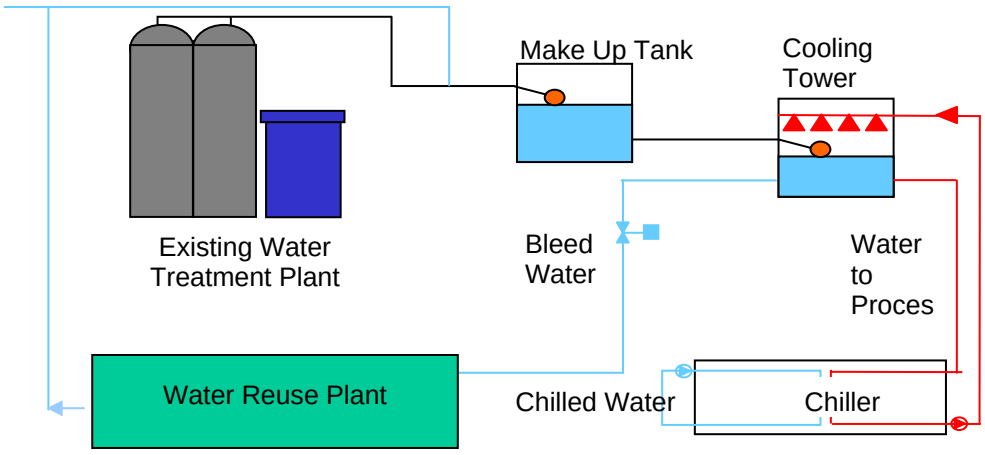
Tertiary treatment: This involves filtering the water further, so it becomes suitable for numerous uses including irrigation or general industrial applications. At this stage reusing water becomes profitable. A wide range of companies add tertiary treatment capabilities to their plants to help reduce their environmental impact and reduce costs.

Quaternary treatment: Further treatment and other processes, such as ultra-filtration or reverse osmosis, now mean it is possible to treat waste water further and return to a level of quality for a variety of further industrial uses.

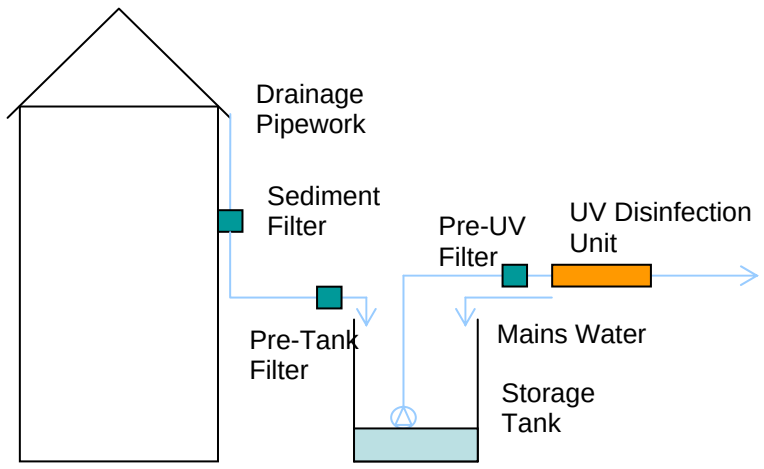
Cooling Tower Schematic

This schematic demonstrates how we could re-use blow-down water from a cooling system. In this example we are re-using the water for the same application. This helps to reduce the volumes of source water required in cooling water make up tanks and the overall efficiency of the system.

Equipment that could be used in a re-use system similar to this may include reverse osmosis plant, water softening, pre and post treatment filters and pumping equipment.



Rainwater Harvesting Schematic



Rainwater harvesting systems are becoming more common in various commercial and industrial situations. They are generally used for non-potable water systems, such as water for flushing toilets and irrigation. Water can be collected and distributed in several different ways to suit your particular application.

Equipment that could be used within the plant will include collection and storage tanks, pre and post treatment filters, UV disinfection and pumping equipment.

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Argentina	Cyprus	Guatemala	Jordan	New Zealand	Romania	Switzerland	of Northern
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Quality Systems certified according to UNI ISO:9001

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