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Water and Sanitation in the News

The benefits of reusing wastewater

Water is a resource that has been taken for granted for decades but is now a critical focal point for many companies, communities and governments as the earth faces a water crisis. As corporate citizens, businesses must look at their impact on the environment and assess how their operations affect the communities they operate in and serve. By reducing their source water requirements, through water reuse mechanisms, companies of any size can do their part to reduce environmental impact, while reinforcing their corporate social responsibility. Many companies also realize substantial cost savings from water-related investments. Other benefits of water reuse include: *Enhancing sustainability practices; ensuring the appropriate water quality standards for food and beverage processes; and mitigating business risk by lessening dependency on external water sources.*

These reasons help explain why water reuse is growing around the world. There are a wide variety of technologies commercially available for wastewater treatment in reuse applications. Those technologies can be classified as *conventional treatment processes* and *advanced methods:*

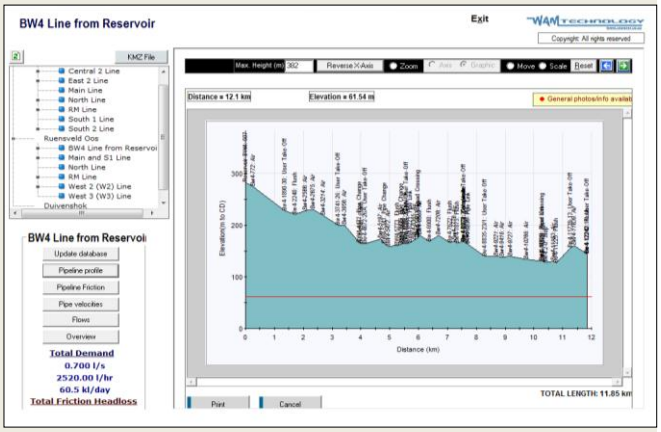
A conventional treatment process: removes solid waste found in water. The technologies in this category provide minimal disinfection and include the use of screens, dissolved air flotation and primary clarifiers, filters, biological treatment via conventionally-activated sludge, chlorination and pH adjustment, reducing solids and Biochemical Oxygen Demand (BOD). For some reuse applications, such as turf irrigation, conventional treatment may be all that is needed.

Advanced treatment process: When a conventional treatment process isn't adequate for meeting the required treatment standards, advanced treatment technologies can be implemented. These technologies go further to remove contaminants that conventional treatment processes can't. They are arranged for specific needs, including: Removal of solids and bacteria via microfiltration or ultrafiltration membranes; Biological nutrient removal with sequencing batch reactors (SBR) or membrane bio reactors (MBR); Removal of dissolved organics or salts with reverse osmosis; Removal of trace contaminants and pathogens via oxidation and disinfection; and Removal of dissolved organics and contaminants via an adsorption process or ozone-enhanced biological active filtration.

Treating water is only the first step to ensuring wastewater is recycled and reused efficiently and effectively within a plant. It is important for organisations to also consider the transportation and storage of water reuse. Treatment and pumping systems are primary energy consumers within a water or wastewater loop. Sizing the system and pipelines and selecting the right equipment to meet specific reuse requirements are critical to maximizing energy savings over the life of the equipment.

Source: Water Online, 16 Jan. 2015

An important component of the **Municipal Assistant™** system is its **Water Pipeline Profiler**. The data captured during a pipeline survey is utilized for the management of the pipeline distribution networks. WAMTechnology pipeline surveys involve collecting the following information: *Location; Name of the asset; Asset type; Pipe material; Pipe diameter; Pipe type (roughness); Coordinates; Length; Height (MSL); and Demand (l/s).*



The provision of **basic hydraulic calculations** are provided to monitor the performance of the pipeline and ensure the delivery of bulk water pipelines The input and output functions are relevant to daily operational activities. As part of the Municipal Assistant™ training a module specific to basic hydraulic concepts is included.

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WAMTech are specialists in implementing technology systems for improved governance, focussing on Water and Public Health Information Systems

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