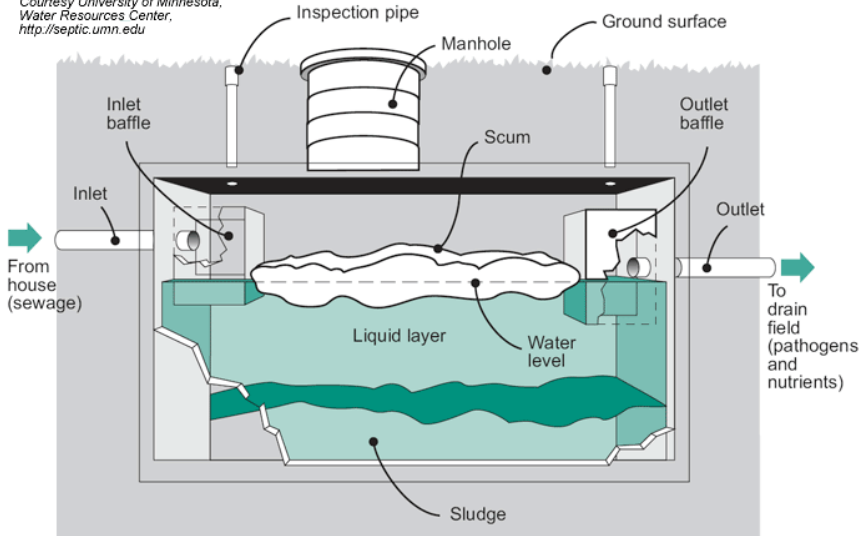


# HYDROLOGIX®

*innovative biological systems for  
wastewater remediation*

## BIO-WASTEWATER TREATMENT SYSTEM FOR MUNICIPAL SEWAGE

Courtesy University of Minnesota,  
Water Resources Center,  
<http://septic.umn.edu>



**THE PROBLEM:** Cesspools, the underground holes used throughout Hawaii for the disposal of human waste, discharge raw, untreated sewage directly into the ground, where it can contaminate oceans, streams and ground water by releasing disease-causing pathogens and nitrates. Since 2000, the EPA has prohibited the construction of new large capacity cesspools nationwide. Installation of a septic system is now mandatory in the state of Hawaii to handle municipal waste.

However, failure of a septic system's plumbing, tank or soil treatment areas, can be a serious health risk, since overflows of potentially pathogenic wastewater may come in contact with people or enter the natural environment - watersheds, beaches, etc. Hence regular maintenance is crucial: the solids that accumulate in the septic tank must be removed by regular pumping every one to three years, or more often depending on volume of waste liquid output, the size of the tank, and the waste liquid contents. Heavy rains may also cause the tank to overflow, and necessitate emergency pumping. Pumping trucks while emptying a tank, are unsightly, foul smelling and noisy, and must still dispose of the waste which ends up as sludge in a landfill, either via detour through a wastewater treatment plant or directly. This is simply moving the problem of toxic waste to another location. The EPA, via the Clean Water Act, prohibits moving an environmental problem and mandates a proper resolution.

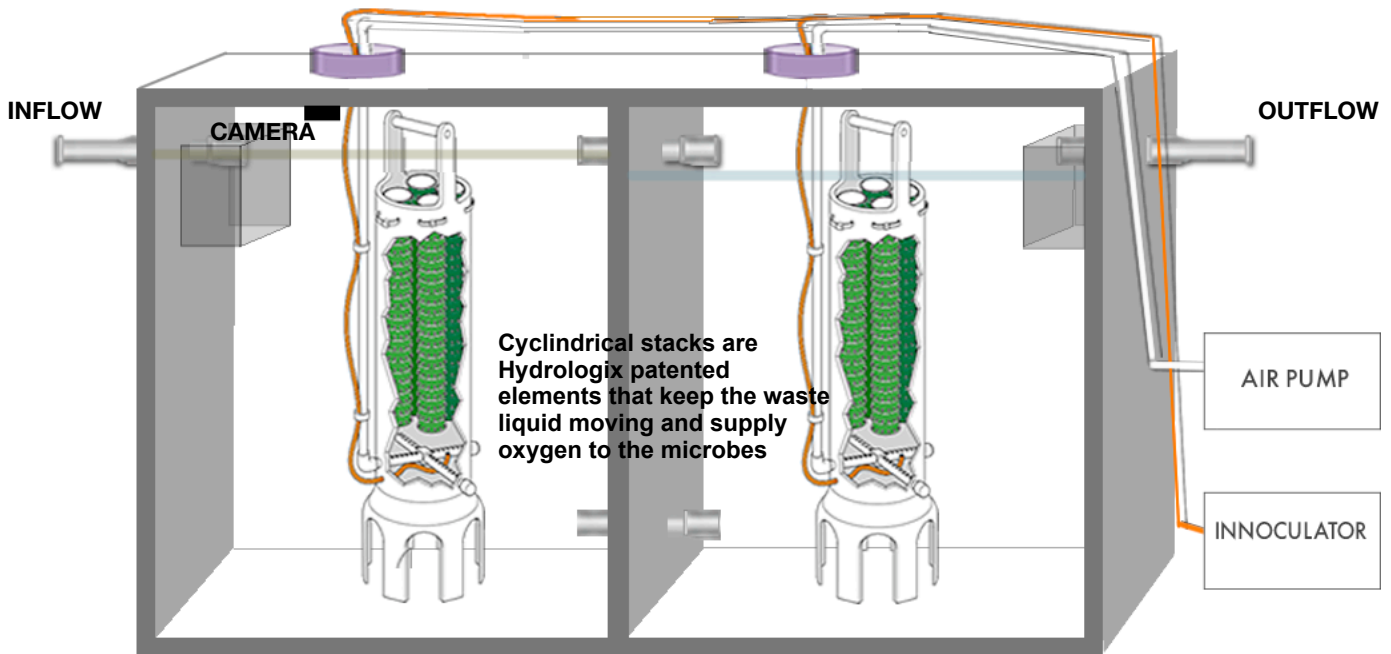
**OUR SOLUTION:** The Hydrologix fully biological in-situ bio-wastewater treatment "BWT" system, essentially a mini wastewater treatment system, is an economical way to reduce or even eliminate, the need to pump septic tanks. It offers an efficient, environmentally sensitive and cost competitive solution to bioremediation of sewage at the source - in the tank, while also presenting a more aesthetically pleasing process that is noiseless, odorless, and alleviates burdening Hawaii's with toxic waste disposal problems. An optimal mix of non pathogenic bacteria/microbes, digest the waste almost immediately, reducing the liquids to water and CO<sub>2</sub> at a steady rate. This R1-R2 grey water can be used for irrigation. Completely computer controlled, the system requires minimal maintenance by the property owner/manager. For a significantly lower cost compared to septic systems, and with 24 x7 remote monitoring by the service company, risk of spills or leaching are reduced and often eliminated. Multiple dwellings can be easily handled by one BWT system, making it the perfect choice for both residential and commercial communities.

### KEY FEATURES & BENEFITS:

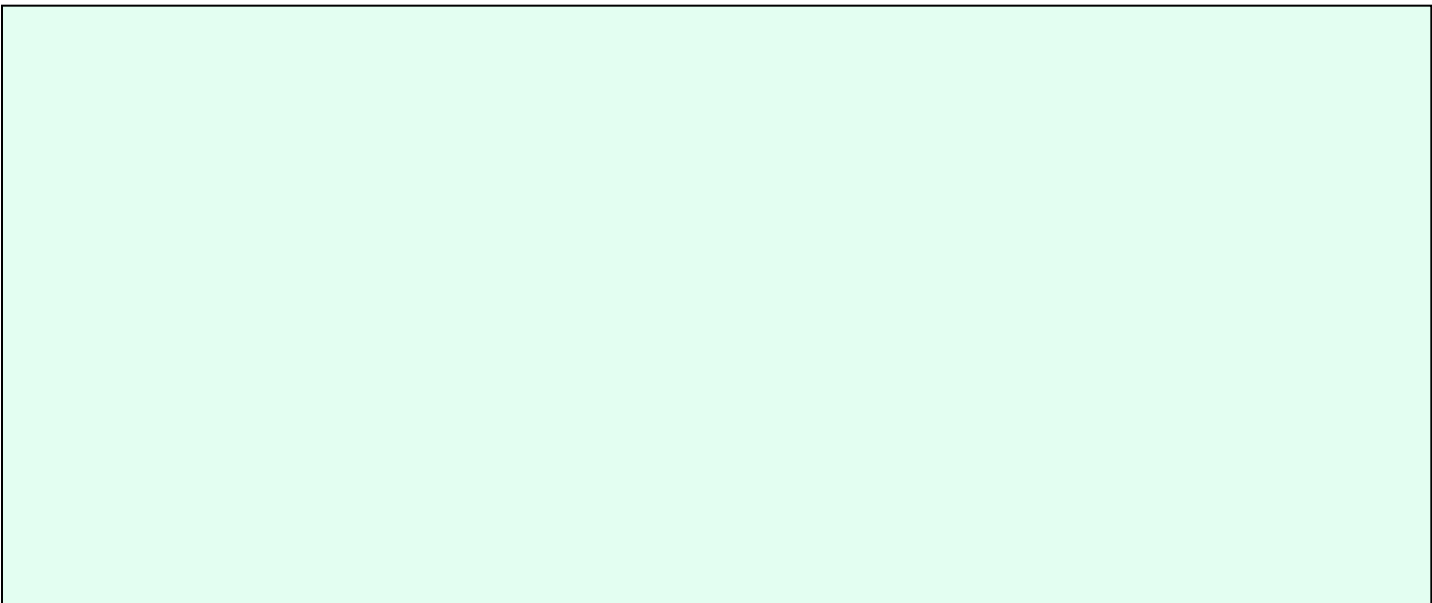
- In-situ (on site) bioremediation, above ground or in-ground
- Uses only a small footprint
- Unpleasant odors are reduced or eliminated year round
- Cost is significantly less than conventional systems
- Remote monitoring, low maintenance
- Reuse the R1-R2 grey water by product and save on water costs
- Qualifies for up to 10 LEED credits in new construction
- Peace of mind knowing that waste liquids are continuously being treated
- One system can handle multiple dwellings, reducing toxicity of spills caused by heavy rains

# BIO-WASTEWATER TREATMENT SYSTEM FOR MUNICIPAL SEWAGE

A typical above ground or in-ground Hydrologix BWT system



**HOW IT WORKS:** A proprietary mix of food-grade microbes (all naturally occurring bacteria) with micronutrients is fed into the septic tank to digest the waste liquids. The air supply provides them with the oxygen needed and they multiply rapidly, digesting the waste even under difficult conditions such as extremely high temperatures and rapid influx of waste liquids. The remediated liquid, now simply water and <0.1% biomass, is released via the outflow pipe on the top right, into the soil or irrigation pipes. Our patented system of a camera and electronic sensors installed in the tank continuously collect data, enabling remote monitoring by maintenance staff and even local water districts if desired. A fresh supply of microbes is easily added periodically by flushing down the toilet(s).



Ask us about our Grease Reduction System for Restaurant/ Resorts Kitchen Wastewater