

# GREYWATER TREATMENT/REUSE

sometimes the simplest solutions are the most powerful

**W**hether you seek to lower your water bills, attract residents and tenants, achieve a green building standard, lessen your reliance and impact on public water infrastructure, or create an on-site demonstration of a strong environmental ethic, a powerful, but uncomplicated greywater treatment/reuse system designed by Biohabitats can help you achieve your goals.

Biohabitats' water experts will work with you to design a low-energy system that treats greywater from your property and then returns it for safe reuse indoors or out. You will have a custom-designed system that provides quality, redundancy, and reliability while optimizing water usage, space restrictions, and operations and maintenance requirements.

## HOW IT WORKS

Biohabitats' approach to treating greywater harnesses both biological and mechanical filtration processes that ensure a consistently high level of water quality while also minimizing maintenance concerns. Whether your site has standard plumbing or composting toilets, a Biohabitats-designed greywater treatment/reuse system will seamlessly complement your water strategy.

- » Harvested greywater from your property's showers, tubs, and non-kitchen sinks flows to a greywater pre-filter to remove particles and debris.
- » A biological filter, selected according to your specific site, local regulations, and water quality goals, provides robust treatment of organics, nutrients and surfactants. The filter is carefully sited to minimize footprint and integrate with your project's other infrastructure. The filter can be indoors or out, above or below ground, depending upon the type selected.
- » The water then goes through tertiary filtration and disinfection before being discharged or stored for reuse.
- » Greywater regulations vary by jurisdiction, but typically greywater can be reused:
  - › inside, for toilet flushing and clothes washing,
  - › outside, for landscape irrigation and water features, and
  - › to recharge local groundwater.



## HOW IT WORKS

### GREYWATER SOURCES



### TREATMENT TECHNOLOGIES

- » Recirculating filters: textile, sand, gravel, plastic
- » Single pass filters: textile, sand, coconut fiber
- » Constructed wetlands
- » Aerated bioreactors

### FILTRATION + DISINFECTION



### GREYWATER REUSE



FOR GREYWATER TREATMENT/REUSE

Contact Biohabitats

800.220.0919

[www.biohabitats.com](http://www.biohabitats.com)

## APPLICATIONS—NEW CONSTRUCTION & RETROFITS

- » Residential housing complexes
- » Dormitory, camp, or campus-style housing
- » Commercial and mixed use developments
- » Airports or other similar high-intensity facilities
- » Water handling for projects that employ composting toilets
- » Living Building Challenge™, Net Zero Water and LEED™ projects



The greywater system blends into the landscaping adjacent to the parking area.  
Cedar Springs Apartments, La Verne, CA



Greywater Reuse equipment fits into a mechanical closet at each restroom building.  
The Summit, Fayette County, WV

## WHY IT WORKS

Greywater provides a source of food for microorganisms that grow on the filter media; passing the water over or through these biologically active surfaces provides ample opportunity for treatment and removal of contaminants. Unlike complicated mechanical systems that have been known to prematurely fail, and can be costly to repair, these living biological filters can adapt to the waste stream at hand.

## A TRUSTED GUIDE ON THE PATH TO WATER RESILIENCY

Biohabitats has been designing greywater treatment/reuse systems for more than a decade. Design teams turn to Biohabitats because they know we can ensure that the systems are seamlessly incorporated into the project's design documents and process, from concept through construction observation and commissioning.

But even the best designs are useless if they cannot be permitted locally. As the first firm to obtain commercial approval for greywater systems in Arizona and West Virginia and residential greywater reuse permits from both Los Angeles County and the City of Los Angeles, Biohabitats knows what it takes to navigate the regulatory process and meet even the most stringent permitting requirements.

We have installed systems to clean and recycle greywater for residential housing communities, university dormitories, retail/shopping areas, seasonal camps, and visitor/educational centers. Many of our projects have achieved LEED™ certification or the Living Building Challenge™, and have been employed in concert with composting toilets, non-potable reuse, and other water-efficiency measures.

## GOOD FOR THE PLANET. GOOD FOR YOUR PROPERTY.

By having a greywater reuse system, you are not only reducing your water demands and lessening the burden on public water infrastructure; you are providing your community with a real-life demonstration of the future of sustainable water management. By using water more than once and/or returning it to the ground, you are also helping the broader ecological community by withdrawing less water from the regional watershed. But there are even more benefits:

- » Toilet flushing can account for up to 63% of a building's water usage (CIRIA).  
Imagine the impact of using recycled greywater to flush toilets rather than potable water.
- » Biohabitats' greywater system designs are smart and straightforward. This simplicity translates to easier operations and maintenance, which means a savings of time and headaches for operators and owners.
- » Depending on your project specifics, you may be eligible for funding to offset the cost of your greywater system through available grants, rebates, or other incentives.
- » A recent Nielsen global survey found that 55% of people surveyed would pay extra for products and services dedicated to making positive social and environmental impacts.
- » A 2010 study found that lease rates for green buildings typically range from average to 20% above average .

*"We value our partnership with Biohabitats. They helped us evaluate onsite water reuse feasibility, compare treatment options, and complete a permitted design that integrated smoothly into the new development."*

—Dora Leong Gallo, CEO, A Community of Friends



**Biohabitats**

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*Restore the Earth & Inspire Ecological Stewardship*