

Water Conservation Through Residential Greywater Reuse

Building a secure water future for Colorado

By Michael Vail, Co-Founder and Chief Operating Officer, Water Legacy



We are all in agreement that water is a precious and limited natural resource. Colorado being a headwater State has special concerns that other states don't have. We all know that population growth; Climate change and drought are all causing enormous stress on Colorado's water system. What we don't know is How much, How bad and How soon these things will get worse. What we do know is that it is happening and we should be doing everything we can to help remediate the problem today.

Water reuse on a municipal scale is in full swing in arid regions across the globe. Water managers strapped for fresh water resources are turning toward the reliable supply of waste water for meeting numerous non potable needs. An often overlooked aspect in waste water management is the residential on site treatment and reuse of greywater I am here to talk about a home grown solution to reduce the stress on our water supplies and not take public funds to cause water conservation. I am specifically referring to stopping the use of fresh water to flush toilets. We need to make it possible for the public to have the ability to make the decision to stop using freshwater to flush toilets on their own.

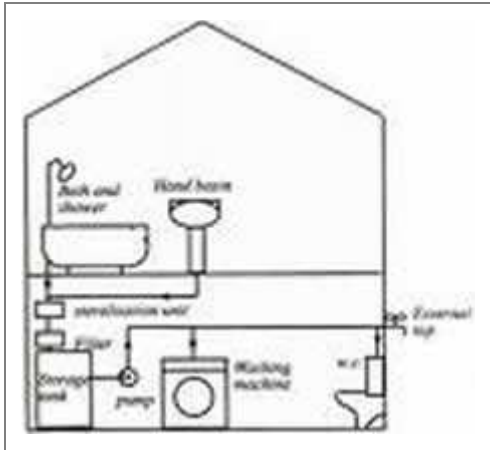
Homes take in fresh water and use it to drink, bath, wash clothes and irrigate its landscaping. That used water becomes two distinct types of waste water. The bathing and laundry water is called greywater and the kitchen sink and toilet water, which is full of organic waste materials, is called black water. Homes are currently constructed to treat these two types of water as one, when, current technologies allow for the greywater to be safely separated and reused for other uses such as flushing a toilet. Plumbing products are currently available to seamlessly integrate in a non consumptive manner, into a new homes plumbing system, to take greywater filter it, disinfect it and safely store it to provide the water it takes to flush the toilet. Greywater reuse is another way of personally involving the public in the recycling of water.



A simple look at some numbers reveal the impact greywater reuse can have on conserving our fresh water resources. In home water usage studies show that these greywater reuse systems can save 12,000 – 20,000 gallons of fresh water use in a typical 4 person household per year. If only one thousand homes utilized a greywater reuse system it would save 12- 20 millions gallons of fresh water per year. If Colorado was having a normal building

construction year and it was required that all 10,000 new homes had a greywater reuse system it would save 120 – 200 million gallons of fresh water per year. Giving the Colorado public the ability to choose to use one of these systems will save water, save money and help the State Government reduce stress on the water system with no cost to the State.

So, Why isn't everyone doing this. It all sounds so simple but it isn't. Colorado as we all know has very complicated water laws and the misperception and vague language in some regulations makes acceptance of these systems a long a tedious process the public is not interested in taking on. Local Governments and Building Departments also are confused and not inclined to approve use for builders.



The State Engineers Office, The State Health and the State of Colorado Chief Legal Counsel are all in agreement that the type of greywater reuse proposed does not violate any existing laws. These same State Authorities also agree that the decision for use approval is in the hands of each and every city and county in the State. This requires every city and county to make a legal decision they are not inclined to make due to the vague language in laws. They want to put it back to the State for a formal decision. Old rules need to be brought up to date to take into consideration new building science and support the general publics call to become more sustainable. A rare opportunity exists right now to give choice. Give choice to the residents of

Colorado to save water by developing a bill to address to need to give Cities, Counties and home owners the choice to conserve water to the best of their ability through onsite greywater reuse.

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Public interest in sustainability of our natural resources is growing. Water conservation in the State of Colorado is vital to our future. Over the past four years I have met with home owners, developers, builders, design engineers, water boards, city, state, regional government officials, and health departments. All of these meetings have created a central theme that needs to be dealt with: "How do we embrace residential greywater reuse for flushing toilets?".

I ask you as leaders in our State's water future to develop policy to give the citizens of Colorado the choice to conserve water through residential greywater reuse for flushing toilets. The public is aware of their personal responsibility to conserve for the future, but they can't without the choice.

Together we can help build a secure water future for Colorado by intelligently and safely reusing on site residential greywater.