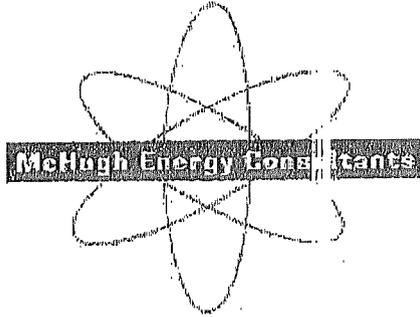


EM-149



efficiency research  
 analysis  
 policy

Friday, October 16, 2009

California Building Standards Commission,  
 2525 Natomas Park Drive, Suite 130  
 Sacramento, California 95833  
 Attention: Dave Walls, Executive Director

**Re: Comments on Permanent Adoption of Emergency Graywater Standards**

To Mr. Dave Walls,

This letter contains my responses to the request for comments concerning the proposal by the Building Standards Commission to make permanent the emergency adoption of graywater building standards filed with the Secretary of State on August 4, 2009. Please docket this letter.

I appreciate the opportunity to provide input at this critical juncture of CBSC's rulemaking process and look forward to working with the various stakeholders to develop improved water conservation standards. I support the permanent adoption of the emergency graywater standards as they remove significant barriers to greater use of graywater systems.

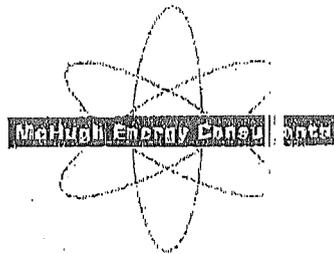
However, as important as the proposed changes are, I expect that the savings from this graywater standard will be small compared to California's need for greater water conservation. I propose that gray water systems or other equivalent water savings measures be required for new homes and new nonresidential buildings when the calculated water usage by landscaping exceed minimum cost-effective thresholds. If the analysis of these cost-effective thresholds has been conducted, I recommend that these requirements for graywater systems be added to the building codes as soon as possible.

If such an analysis has not been conducted, I recommend that the responsible agencies develop a proposal for requiring graywater systems where they are deemed to be cost-effective.

**Value of Water and Energy Standards**

Along with the growing recognition that California can ill afford to waste our precious water resources, a number of reports have identified that by saving water we can also save energy and thus reduce greenhouse gas emissions. Water is delivered via electrically powered pumps.<sup>1</sup>

<sup>1</sup> "According to the Association of California Water Agencies, water agencies account for 7 percent of California's energy consumption and 5 percent of the summer peak demand." p2 Natural Resources Defense Council. Energy Down The Drain The Hidden Costs of California's Water Supply. August 2004. <http://www.nrdc.org/water/conservation/edrain/edrain.pdf>



Water sent down the drain must be treated by electrically powered water reclamation (sewage) plants.<sup>2</sup> Approximately 40% of residential water use is for outdoor use. Almost all of this usage could be met with graywater.<sup>3</sup>

**Conclusions**

I support the proposed changes to the California Plumbing Code that remove barriers to greater use of graywater systems for irrigating ornamental plants. The emergency regulations should be adopted permanently into the California Plumbing Code (California Code of Regulations, Title 24, Part 5).

Though the new graywater regulations are an important first step, to have a significant impact on water consumption, regulations requiring graywater systems are needed as soon as possible. This will save not only water, but also electricity and associated greenhouse gas emissions.

I strongly suggest that the responsible agencies develop a water budget and requirements for cost-effective water conserving measures in the building standards as soon as reasonably achievable. I would expect that basic graywater requirements will be found to be cost-effective for many new homes sold with landscape having irrigation needs above some threshold amount.

Please let me know how I can help. Please contact me if you have any questions about these comments.

Sincerely,

Jon McHugh, PE  
Principal

cc: Martha Brook, CEC; Doug Hensel, HCD

<sup>2</sup> "In 1995, wastewater treatment in California used approximately 1.6 billion kWh of electricity." p. 25, Ibid

<sup>3</sup> p. 71 Table 3-5 "Hardware Improvement Options for the Reduction of Landscape Water Use." in Waste Not, Want Not: The Potential for Urban Water Conservation in California, Pacific Institute, Nov. 2003. ISBN No. 1-893790-09-6.