

From: Morrison, Tom
Sent: Wednesday, December 09, 2009 10:13 AM
To: Taylor, Jane
Subject: FW: post hearing modifications regarding 2007 california plumbing code (HCD EF 01/09)

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Thomas L. Morrison, Deputy Executive Director
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, California 95833
(916) 263-0916
(916) 263-0959 FAX
tom.morrison@dgs.ca.gov

From: paul@justwatersaversusa.com [mailto:paul@justwatersaversusa.com]
Sent: Tuesday, December 08, 2009 10:04 PM
To: CBSC (General Mail)
Subject: post hearing modifications regarding 2007 california plumbing code (HCD EF 01/09)

My apologies for this submission just before the deadline, and this comment might not be related to modifications of the text.

I am concerned by the following section

1603A.1.1 (3) "The installation, change alteration or repair of the system does not include a potable water connection or a pump, and does not affect other building, plumbing....." etc etc

If my assumptions are correct, any graywater irrigation system that includes a pump cannot be considered for a clothes Washer System unless a construction permit is obtained?

This would appear to be the case with the explanation of Rationale for change "The intent is to allow a clothes washer system to be installed without a construction permit, while being more restrictive on systems utilizing a separate pump to move graywater"

Our experience in Australia (with over 4,500 graywater installations) is that any clothes washer system that relies on gravity powered irrigation is highly detrimental to the garden area being irrigated:

- Washer machine water has a very high PH level for the first wash, almost always PH 10.5
- Over the three or four rinse cycles, the water tends to achieve an overall PH of 9.0
- Gravity fed leach fields or irrigation systems tend to concentrate the water close to the source, resulting in alkalinity buildup in those regions. This is highly detrimental to certain plants, especially Eucalyptus or Australian Natives, as grown in California. The PH levels occur even in detergents that are phosphate and sodium reduced / free.

At this stage I can not understand the logic for excluding pumped systems (that is not so say I am right). A pumped system provides far greater and even dispersal of the graywater, substantially reducing risk of soil contamination and soil structure breakdown.

In practice, the most common gravity solution used in Australia is as follows:

Cheap hose, corrugated internally and externally, 60' long, is connected to the washer machine outlet, run through the laundry, into the external yard. The water generally pools in one area of the garden, creating concentrated PH levels, as well as mosquito borne risks.

The second most common is a rubber fitting inserted into an external waste pipe elbow, fitted with an inspection opening. This rubber fitting intercepts the water and directs it into the same style of cheap hose.

All I can think of at this stage is authorities reworried about a pump failing, resulting in overflow of the pumping unit. In all cases in Australia these pumping units are located externally, and if overflow were to occur, it is no

worse than gravity feeding to a restricted garden area.

It should be noted that any system relying on gravity to move the water away from the washer machine significantly raises the risk of washer machine pump failure. Even if high quality hoses are used, we only recommend a maximum 12' hose length to a repumping unit.

I hope someone can explain the rationale behind this requirement (no pumps).

Background about Paul James & Just Water Savers USA.

Just Water Savers Pty Ltd (Australia) has been manufacturing selling and installing graywater systems in Australia for over 5 years. For the past 4 years, we have been working closely with Netafim Australia, in the development of anti clog, pressurized drip system for graywater. Just Water Savers USA Inc (part owned by Just Water Savers Australia), has been developing US versions of the system with Netafim USA, set for release mid December 2009. the website www.irrigray.com is 90% complete and provides a wealth of information regarding graywater irrigation systems.

In addition Just Water Savers USA is releasing a series of graywater and rain barrel pumping solutions, set for release mid January 2010.

In addition to providing peer review assistance for US organisations such as IAPMO, Paul James is a featured presenter in Australian Sustainability Exhibitions.

Kind and Best Regards from Australia, and Ohio

Paul James

Direct: 800 513 6414 (ext 5)

Just Water Savers USA Inc.

Toll Free: 800 513 6414

Fax: 513 488 1105