CITY *of* CALABASAS

November 14, 2011

OWTS Policy
State Water Resources Control Board
P.O. Box 2231, Sacramento, CA 95812

Dear Sir or Madam,

Please accept the attached comments to the Draft Policy by the City of Calabasas.

Specifically, the City is concerned about the use of an Agricultural soils classification as opposed to the uniformly accepted Unified Soil Classification System (USCS). We request that you switch to this standard to align your policy with the State Building Code, and avoid unnecessary confusion and difficulty to the engineering community who must design and certify systems.

Thank you for the opportunity to comment.

Sincerely,

Maureen Tamuri AIA, AICP
Community Development Director
City of Calabasas

Cc: Robert Yalda, PE, Director of Public Works
Sparky Cohen, Building Official

Enc: (2)

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City of Calabasas Comments regarding Tables 1 and 3:

Table 1: The asterisk on "Percolation Rate" indicates that the local agency can consider an assumed equivalent percolation rate based on soil texture observed in the field. This would suggest that Percolation Test can be skipped based on discrete samples of soil that are taken in the field. Our concern is that there is too much variability across a soil profile to make this kind of broad assumption. The City feels it is in the best interest of protecting water quality, as well as just sound geotechnical practice, to always require testing rather than rely on assumed percolation rates gleaned from soil texture descriptions. Please see comments on Table 3 with respect to soil texture descriptions.

Table 3: There is a major discrepancy between the design soil application rates used by the Water Board and those employed in the California State 2010 Plumbing Code (table K-4). The Water Board rates proposed are highly restrictive in nature. Here is the comparison for the two ends of the soil spectrum:

	Maximum Absorption Capacity (gal/ft^2/day)		Required Trench Area (ft^2/100 gals)	
Soil Type	Table K-4 (Plumbing Code)	Table 3 (State Water Board)	Table K-4 (Plumbing Code)	Table 3 (State Water Board)
Coarse Sand	5.0	0.8	20	120
Clay	0.8	0.2 (or prohibited)	120	500 (or prohibited)

To look at this practically, a trench would need to be sized at 20 ft^2/100 gals for coarse sand using the Plumbing Code and 120 ft^2/100 gals using the State Water Board Table 2 standard a six fold difference. On the other end of the spectrum, sizing trenches for clayey soil profiles would require 120 ft^2/100 gals using the plumbing code and 500 ft^2/100 gals using Table 2 – over a four fold difference. We note that most clay types are actually prohibited under the States proposed Table 2 – with allowances only given to clays with some fraction of sand in the matrix. This is significant for us, as most of the soil profiles encountered in Calabasas will contain a fair amount of fine grained silt and clayey material, which would be suitable for some consideration of use under State Building Code standards. The required size of leach fields to handle the restrictive Table 3 requirement would be challenging on smaller lots and would also become prohibitively expensive. The City requests further explanation for the need of such a significant deviation from California State Plumbing Code Appendix K Table K-4.

Soil Descriptions: There needs to be consideration given to the soil descriptions used and cited in Table 3. It is not common geotechnical practice to use USDA soil types classification; no building department in the state does. For example, loam is a very general and vague soil term. In a very general sense, loam is a fairly even mixture of sand, silt, and clay. The soil structure shapes that are highlighted in the table are not used in general practice when classifying soil in the field. The same holds true the terms used for grade. The terms and clasification may be appropriate for agricultural use, but not in the building and industy

Practicing geotechnical professionals (engineers and geologists) commonly use the Unified Soil Classification System (USCS). This is the accepted method of classifying soils during geotechnical investigations including OWTS feasibility studies. The terms "sand", "silt", and "clay" used in classifying soil are based on a hierarchy of field observations, field tests, and further clarification in the lab. In the end, the soil classification speaks to a well-defined set of characteristics that establish how the soils will likely behave under actual conditions. Descriptive terms used in the field, and verified in the lab, by engineers and geologists using USCS focus on more useful information with respect to percolation. These terms focus on gradation of the soil (percentage of each type in the matrix), degree of saturation, density, and porosity, just to name a few. In contrast, the generic soil texture descriptions (blocky, platy, and massive, prismatic) and the grade terms (structureless, weak, moderate, and strong) highlighted in Table 3 simply give no real correlation to actual soil behavior. It is for these reasons that we believe it is important that the USCS be retained as the source for soil classification for OWTS field investigations.