



**RESIDENTIAL CODE MANUAL  
COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
BUILDING AND SAFETY DIVISION  
Based on the 2011 LACRC**

**#1003  
R401.4  
Article 2  
02-13-2012  
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## **POLICY ON SOIL INVESTIGATION IN DESIGNATED LIQUEFACTION ZONES**

### ***ISSUE:***

Liquefaction occurs when loosely compacted granular soils that are saturated with water are subjected to seismic forces, effectively increasing the pore pressure and in turn, decreasing shear strength and vertical bearing capacity. In general, liquefaction is not considered a threat when the water table is deeper than 50 feet from the ground surface.

### ***POLICY:***

Section R401.4 of the 2011 County of Los Angeles Residential Code states that “the Building Official shall determine whether to require a soil test (soil investigation) to determine the soil’s characteristics at a particular location.” Such an investigation could include the assessment of potential consequences of liquefaction and soil strength loss classified as “questionable soil,” among other items. Therefore, Building and Safety Division has made a determination to rely on maps and policies developed by the California Geological Survey which is an entity with vast experience on Statewide geotechnical issues and responsible for creating liquefaction seismic hazard maps. In addition, the California Public Resources Code specifically addresses the geotechnical condition of liquefaction and under Section 2693 exempts “non-project” single family dwellings from geotechnical investigations in these hazard areas (up to two stories when not part of a development of four or more dwellings).

As a result, a construction not defined as “project” by the Seismic Hazard Mapping Act is not subject to the requirement of a soil investigation within a designated liquefaction zone as defined in the California Liquefaction Map. Additionally, the exempted construction does not need to be referred to GMED for liquefaction review. Such “non-project” includes the following:

- 1) A single-family wood-frame or steel-frame dwelling, which includes up to three single-family units (physically attached or detached structures), not exceeding two stories and with a basement when that dwelling is not part of a development of four or more dwellings. When a development is deemed a “project” or such structures does not comply with conditions as stated in this paragraph, this RCM shall not be applicable, and liquefaction policy will be governed by BCM 1803.5.11 Article 1.
- 2) Accessory and incidental structure(s) to a single-family dwelling such as garages, carports, sheds and agricultural buildings not exceeding 3000 square feet in area and two stories in height when located on the same lot. Otherwise, see BCM 1803.5.11 Article 1 for policy on liquefaction.
- 3) Accessory and incidental structure(s) to a single-family dwelling such as fences, swimming pools, and retaining walls when located on the same lot.

This policy is applicable to buildings designed within the scope of the Residential Code as defined as one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures, and meets all conditions as stated in Items 1 to 3 above. Regardless of whether the foundation

design is based on either the Building or Residential Codes, the policy on liquefaction shall be governed by this policy.

For other soil investigation policies, refer to RCM R401.4 Article 1 and 3.

For all “projects” and constructions not listed above, refer to BCM 1803.5.11 Article 1.

This policy is effective January 1, 2011, and shall remain in effect until repealed or replaced by the Building Plan Check Section.

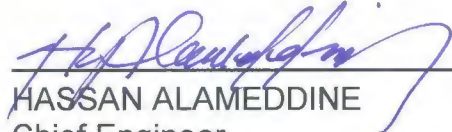
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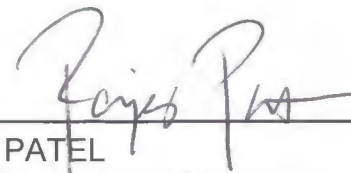
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