

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

**#14  
1808.6  
Article 1  
07-12-11  
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## **FOUNDATION REQUIREMENTS ON EXPANSIVE SOIL**

### ***ISSUE:***

### **One- and Two-Story Dwellings of Group R-3, R3.1 and R-4 Occupancies and Accessory Buildings of Group U Occupancy**

Foundation systems on expansive soils shall be designed and constructed in a manner that will minimize damage to the building from the movement of the soil. Slab-on-grade and mat-type footings for buildings located on expansive soils shall be designed in accordance with Building Code Section 1808.6 or such other engineering design based on geotechnical report(s) as approved by the Building Official. When such approved design and methods of construction are not provided, the prescriptive requirements listed below may be used (see attached diagram).

### ***POLICY:***

- 1 All exterior wall foundations and interior bearing wall foundations shall extend not less than 24 inches and 18 inches, respectively, below undisturbed ground surface or finish grade (certified fill)
- 2 Exterior walls and interior bearing walls shall be supported on continuous foundations.
- 3 Foundations shall be reinforced with a minimum of four continuous horizontal reinforcing bars. At least two ½ inch diameter (# 4-bar) deformed reinforcing bars shall be placed within four inches of the top of the footing and at least two ½ inch diameter (# 4-bar) deformed reinforcing bars shall be placed between 3 inches and 4 inches of the bottom of the footing.
- 4 Foundations for exterior walls and interior bearing walls shall be tied to the floor slabs by reinforcing bars (dowels) having a diameter of not less than ½ inch (# 4-bar) and spaced at intervals not exceeding 16 inches on center. The reinforcing bars shall extend at least 40 bar diameters into the footings and the slab
- 5 Concrete floor slabs-on-grade shall be cast over two layers of 2-inch sand fill with a minimum 6-mil moisture barrier membrane sandwiched between the two 2-inch layers. The slab shall be at least 4 inches thick and shall be reinforced with #4-bar at 16 inches on center each way
- 6 The soil below an interior concrete slab shall be saturated with clean water to a depth of 18 inches prior to pouring the concrete

Note. Construction sites located within designated liquefaction zones shall comply with the more restrictive foundation detailing requirements of BCM 1802.2.7, Article 1

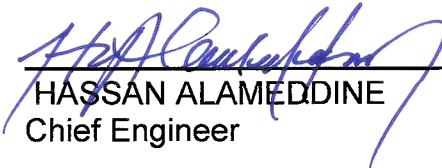
Supersedes BCM 1805 8 Article 1 dated 05-13-09


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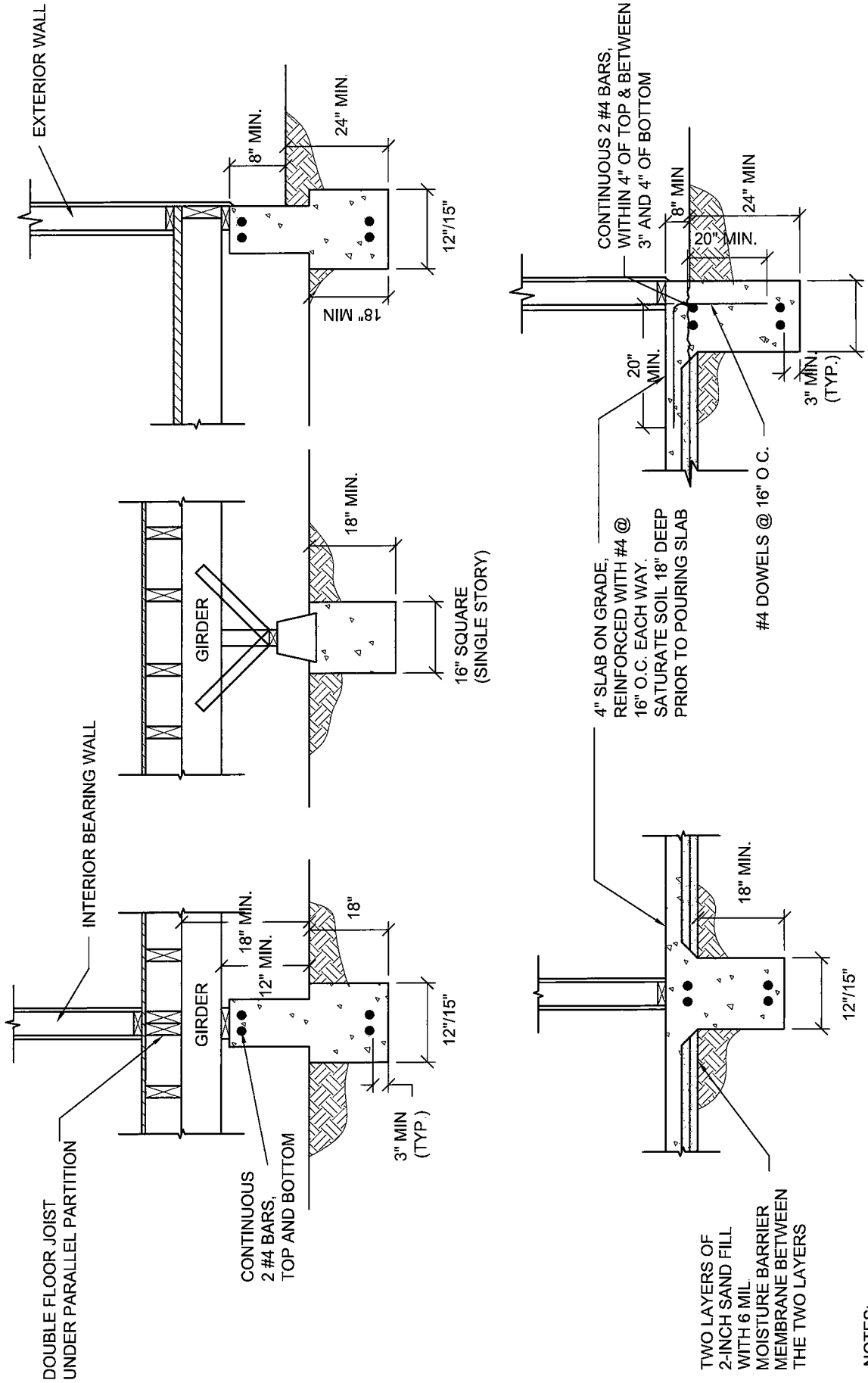
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# FOUNDATION SYSTEM ON EXPANSIVE SOIL FOR 1 OR 2 STORY R-3/ ACCESSORY U OCCUPANCIES



- NOTES:
1. SOLID BLOCKED CRIPPLE WALLS (IF USED), SHALL NOT EXCEED 14" IN HEIGHT WITHOUT ENGINEERING ANALYSIS.
  2. PERIMETER WALLS, INTERIOR BEARING WALLS AND POSTS SUPPORTED ON CONTINUOUS FOUNDATIONS.
  3. 12"/15" - MIN FOOTING FOR SUPPORTING ONE AND TWO FLOORS RESPECTIVELY
  4. SHEAR TRANSFER DETAILS AND OTHER REQUIREMENTS NOT SHOWN FOR CLARITY