Foundation Requirements for Residential Projects and Accessory Structures

EFFECTIVE DATE: April 1, 2025

BACKGROUND:

1. Section R401.4 of 2022 California Residential Code (CRC) requires a soils test to determine the soil's characteristics if expansive soils are likely to be present.

2. Section 1803.5.11 of 2022 California Building Code (CBC) requires a "geotechnical investigation" for any structure determined to be in Seismic Design Category C, D, E or F in accordance with Section 1613.

3. Exception to Section 1803.2 states. "The building official shall be permitted to waive the requirement for a geotechnical investigation where satisfactory data from adjacent areas is available that demonstrates an investigation is not necessary for any of the conditions in Section 1803.5.1 through 1803.5.6 and Sections 1803.5.10 and 1803.5.11."

POLICY:

Since majority of the City of Brea is located in Seismic Design Category D and due to the presence of expansive soil in some areas, we have developed the following policy to comply with the 2022 CRC and CBC.

Geotechnical investigation report is required for all projects except as prescribed below.

Exception:

1. One story room addition(s) to a single family dwelling up to 1,200 square feet of individual areas if it is NOT located in liquefaction area.

2. One story room addition(s) to a single family dwelling up to 500 square feet of individual areas if it IS located in liquefaction area.

3. (a) Room addition(s) to single family dwelling larger than 500 square feet of individual areas not more than 1,200 square feet located in liquefaction area shall require 4'-0" of overexcavation.

   (b) Detached accessory structure or single family dwelling large than 500 square feet but not more than 1,200 square feet located in liquefaction area shall require 4'-0" of overexcavation.

4. One story detached accessory structure up to 1,200 square feet located in non-liquefaction area. One story detached accessory structure up to 500 square feet located in liquefaction area.

5. Second story addition above existing first floor within the footprint of existing dwelling

Excepted projects as described in item 5 above shall provide a letter from a California Licensed Geotechnical Engineer or Civil Engineer practicing soil engineering stating the condition of existing foundation and supporting subgrade soils and providing foundation recommendations due to the added vertical and lateral loads from the proposed second story addition. Excepted projects as described above item 1 through 4 shall follow the alternate method as outlined below in lieu of geotechnical investigation report provided minimum foundation clearance from slope is maintained based on Section 1808.7 or R403.1.7.

A. For slab on grade construction

- Scarify top 12" or recompact 4'-0" overexcavation prior to trenching for the utility and/or foundation. 90% compaction report is required at the time of foundation inspection. Damp proofing, base course and pre-saturation are required.

- Provide 5" slab on grade reinforced with #4 at 18" on centers each way over 4" base of ½" or larger clean aggregate with 10 mil vapor retarder in direct contact with concrete. Slab shall be tied-in to continuous 12" wide x 24" (minimum embedment into firm soil) foundation.

- Continuous foundation must be reinforced with 2 #5 top and bottom.

See attached slab on grade foundation **detail 'A'** for additional information.

B. For raised foundation construction:

- Provide continuous foundation with 12" wide x 24" (minimum embedment unto firm soil) around the perimeter of the addition.

- Continuous foundation must be reinforced with 2 #5 top and bottom.

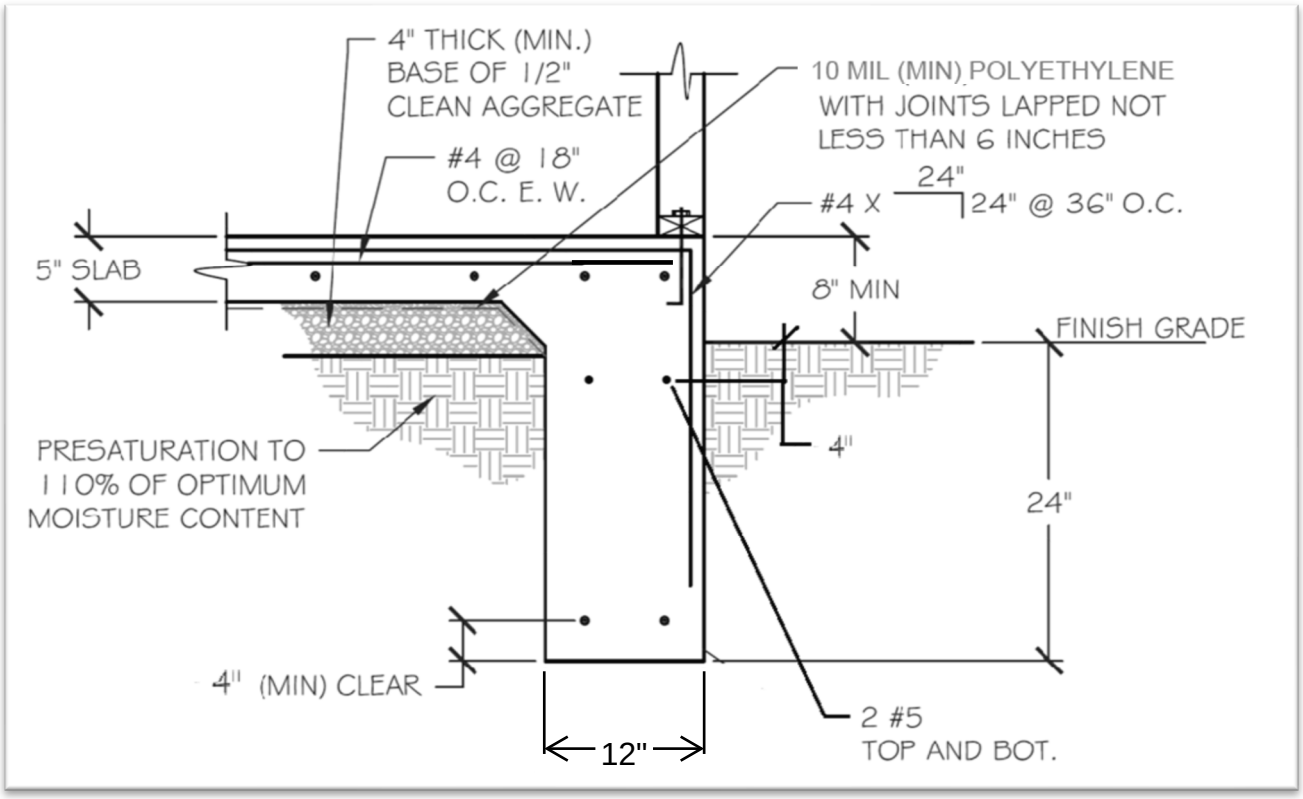
- Provide 18" (minimum embedment) for all interior pier footing.

See attached raised floor foundation **detail 'B'** for additional information.

Note: All concrete shall be fc'=4,500 psi (minimum) with type V cement maximum water cement ratio of 0.45. No special inspection required if concrete truck mix ticket is provided.

SLAB ON GRADE FOUNDATION

DETAIL A



RAISED FLOOR FOUNDATION

DETAIL B