

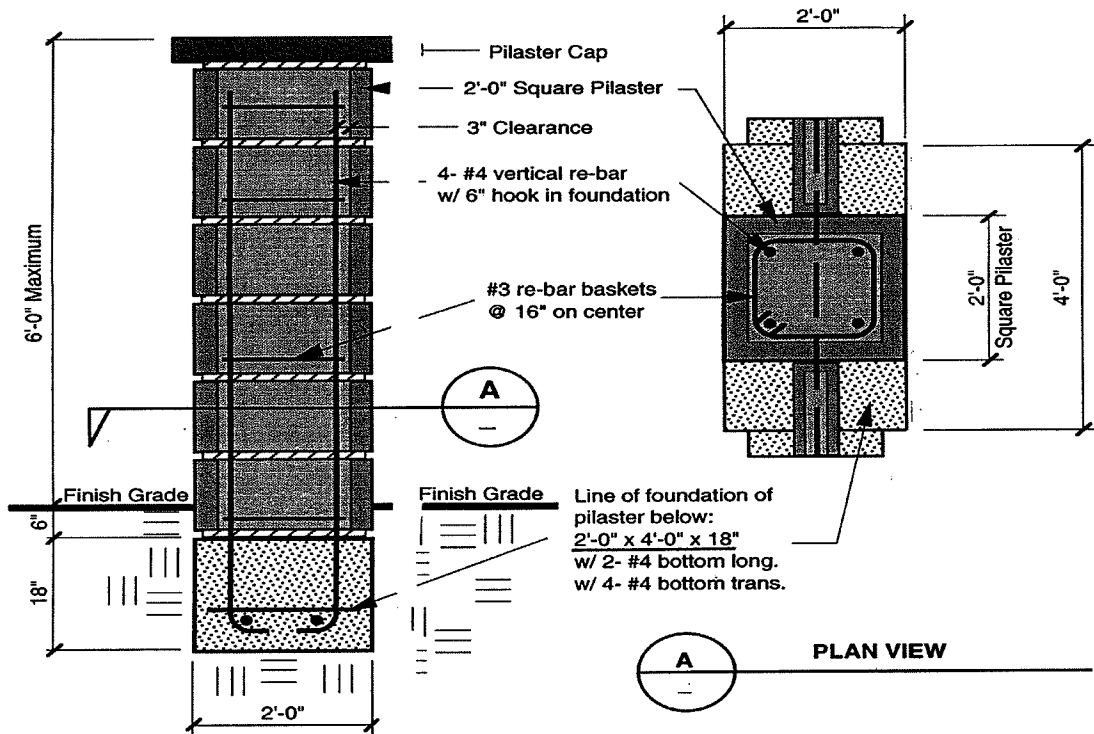


# Masonry Pilaster Detail

# BI-9

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\*Building Permit is required for all masonry pilasters more than 42" high above finish grade.  
(San Clemente, Municipal Code Section 15.80.020)



- Notes:**
1. All cells shall be filled solid with grout. (See concrete masonry specifications on reverse side).
  2. No special inspection is required.
  3. All construction must comply with the specifications shown on the reverse side of this handout

- REINFORCED CONCRETE**
1. Cement shall conform to ASTM C-150, Type V.
  2. Aggregates shall conform to ASTM C-33 for structural normal weight concrete (1" maximum size) and ASTM C-330 for structural lightweight concrete.
  3. Ready mix concrete shall be mixed and delivered in accordance with ASTM C-95.
  4. Concrete design mixes shall be in accordance with Section 1904 of the California Building Code.



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5. All concrete shall satisfy both a minimum strength requirement and a minimum cement content. The minimum ultimate compressive strength ( $f_c$ ) at 28 days shall be 4,500 psi. The minimum cement content shall be 5-1/2 sacks per cubic yard of concrete.
6. The maximum concrete slump shall be 4" + 1".
7. Admixtures may be used with the approval of a licensed *Civil* or Structural Engineer. Admixtures used to increase the workability of the concrete shall not be considered to reduce the specified minimum cement content.
8. All reinforcing steel, anchor bolts, dowels, and other inserts shall be secured in position and inspected by the City of San Clemente building inspector prior to pouring of any concrete.

## CONCRETE MASONRY

1. Concrete masonry units shall be grade "N" normal weight split face in accordance with ASTM C-90 ( $F'M = 1500$  psi for masonry units).
2. Mortar shall be type "M" conforming to the Uniform Building Code ( $f_c = 2500$  psi at 28 days) and ASTM C-144.
3. Grout shall be composed of the following ratio by volume:
  - a. 1 part portland cement
  - b. 3 parts sand
  - c. 2 parts pea gravel and sufficient water for pouring without segregation of grout constituents (minimum compressive strength,  $f_c = 2000$  psi at 28 days).
4. All cells in walls below grade shall be filled with grout.
5. When grouting is stopped for one hour or longer, horizontal construction joints shall be formed by stopping the grout pour 1-1/2" below the top of the uppermost unit.
6. All bond beam block shall be "deep cut" units.
7. Provide inspection and cleanout holes at base of vertical cell grout lifts in excess of 4'-0" of height.
8. All isolated bolts embedded in masonry shall be solidly in place with not less than 2" of grout surrounding the bolt.

## REINFORCING STEEL

1. Bar reinforcement shall conform to ASTM A615, Grade 60.
2. Reinforcing detailing, bending and placing shall be in accordance with Concrete Reinforcing Steel Institute "Manual of Standard Practice" Latest Edition.
3. Laps at bar splices shall be:
  - a. 36 bar diameter or 12" minimum for concrete.
  - b. 40 bar diameter or 18" minimum for masonry unless noted otherwise.
4. Vertical bars in walls shall be accurately positioned at the center of wall. Unless otherwise noted on details, and shall be tied in position at top and bottom and at intervals not exceeding 192 bar diameter.
5. Reinforcing steel shall be *provided* with the following amounts of concrete cover, unless otherwise noted: a. Footings (*concrete deposited against earth*) = 3".
6. Unless otherwise noted in details, furnish 3 spacer ties at approximately 2'-6" on center in all beams and footings to secure reinforcing steel in place.