

**SYMBOLS:**

Ser - service limit state 1  
Str - strength limit state 1  
Ext - extreme event limit state I  
B' - effective footing width (ft)  
q<sub>0</sub> - net bearing stress (ksf), OG assumed to be FG at toe  
q<sub>o</sub> - gross uniform bearing stress (ksf)

EXCEPT CONTINUOUS PERVIOUS BACKFILL NOT REQUIRED

**NOTES:**

- For details not shown at "6B", see "6A", similarly, for details not shown at "6A", see "6B".
- Design loading for both Type "6A" and "6B" is as shown at "6B".
- Type 6 retaining wall shall be limited to use for walls of Design H of 6'-0" or less.
- Where traffic is adjacent to the top of wall, guard railing should be set back from the top front face of wall at least 4'-0" or 6'-0", dependent on wall type.
- For reinforced concrete wall stem joint details, see (B0-3/3-3) and (B0-3/3-4).
- No splices are allowed on @, (D), (C), and (B) bars.
- See "Retaining Wall Type 6 Details" sheet for Elevation View and Footing Step Details.

**DESIGN NOTES:**

TO ACCOMPANY PLANS DATED \_\_\_\_\_

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments  
Building Code Requirements for Masonry Structures (TMS 402-08/ACI 530-08/ASCE 5-08)

LS: 240 psf surcharge on level ground surface as limited by Guard Railing location

SEISMIC:  $k_h = 0.2$   
 $k_v = 0.0$

SOIL:  $\phi = 34^\circ$   
 $\gamma = 120$  pcf

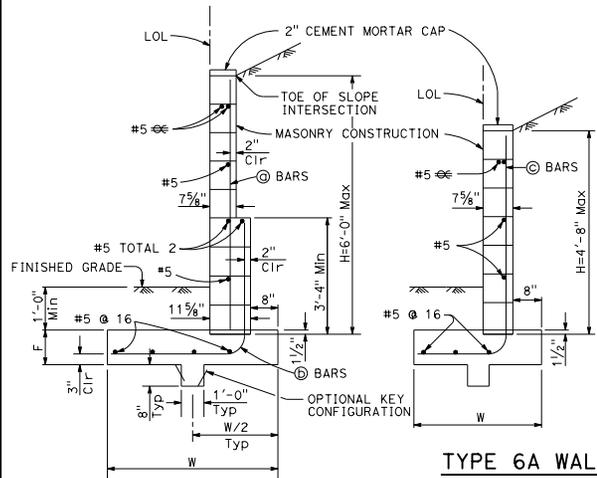
REINFORCED CONCRETE:  $f'_c = 3,600$  psi  
 $f_y = 60,000$  psi

REINFORCED MASONRY:  $f_m' = 1,500$  psi  
 $f_y = 60,000$  psi

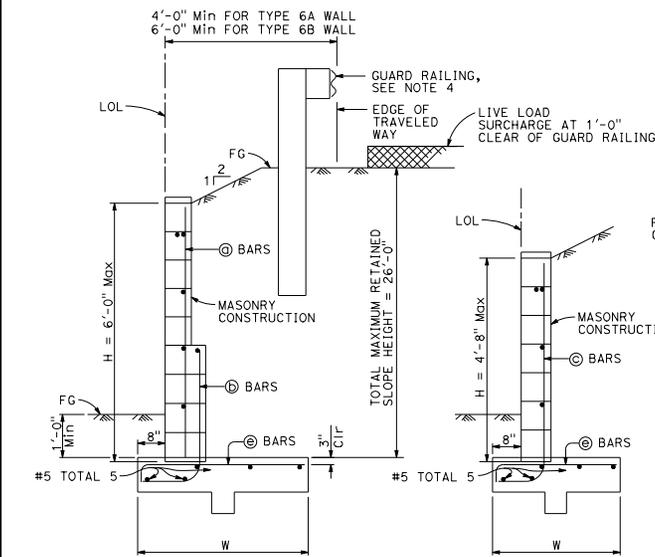
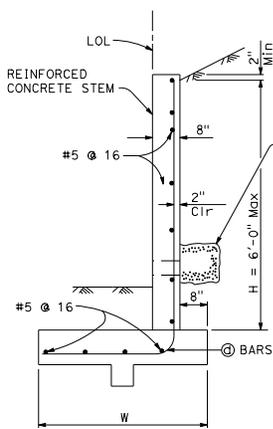
LOAD COMBINATIONS AND LIMIT STATES:  
Service I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS$   
Strength I  $Q = aDC + \rho EV + \eta EH + 1.75LS$   
Extreme I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$

**Where:**

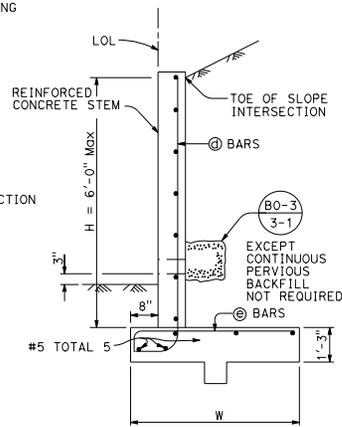
Q: Force Effects  
a: 1.25 or 0.90, Whichever Controls Design  
 $\rho$ : 1.35 or 1.00, Whichever Controls Design  
 $\eta$ : 1.50 or 0.90, Whichever Controls Design  
DC: Dead Load of Structure Components  
EH: Horizontal Earth Fill Pressure  
EV: Vertical Earth Pressure from Earth Fill Weight  
LS: Live Load Surcharge  
EQE: Seismic Earth Pressure  
EQD: Soil and Structural and Nonstructural Components Inertia



**TYPE 6A WALL**



**TYPE 6B WALL**



**TYPE 6A WALL - TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA**

| DESIGN H                | 3'-4"    | 4'-0"    | 4'-8"    | 5'-4"    | 6'-0"    |
|-------------------------|----------|----------|----------|----------|----------|
| W                       | 3'-8"    | 4'-1"    | 4'-8"    | 5'-3"    | 6'-9"    |
| F                       | 1'-0"    | 1'-0"    | 1'-2"    | 1'-3"    | 1'-4"    |
| (B) BARS                | NONE     | NONE     | NONE     | #5 @ 16" | #5 @ 16" |
| (D) BARS                | NONE     | NONE     | NONE     | #5 @ 16" | #5 @ 16" |
| (C) BARS                | #5 @ 16  | #5 @ 16  | #5 @ 16  | NONE     | NONE     |
| (A) BARS                | #5 @ 16  | #5 @ 16  | #5 @ 16  | #5 @ 16  | #6 @ 16  |
| Ser: B', q <sub>0</sub> | 3.4, 0.3 | 3.8, 0.3 | 4.3, 0.3 | 4.9, 0.4 | 6.0, 0.4 |
| Str: B', q <sub>0</sub> | 3.3, 0.7 | 3.6, 0.7 | 4.1, 0.8 | 4.7, 0.8 | 5.7, 0.9 |
| Ext: B', q <sub>0</sub> | 1.3, 1.9 | 1.4, 2.0 | 1.7, 2.1 | 1.9, 2.2 | 3.9, 1.4 |

**TYPE 6B WALL - TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA**

| DESIGN H                | 3'-4"    | 4'-0"    | 4'-8"    | 5'-4"    | 6'-0"    |
|-------------------------|----------|----------|----------|----------|----------|
| W                       | 4'-6"    | 5'-1"    | 5'-7"    | 6'-2"    | 6'-9"    |
| (B) BARS                | NONE     | NONE     | NONE     | #5 @ 16" | #5 @ 16" |
| (D) BARS                | NONE     | NONE     | NONE     | #5 @ 16" | #5 @ 16" |
| (C) BARS                | #5 @ 16  | #5 @ 16  | #5 @ 16  | NONE     | NONE     |
| (A) BARS                | #5 @ 16  | #5 @ 16  | #5 @ 16  | #5 @ 16  | #6 @ 16  |
| (B) BARS                | #5 @ 16  | #5 @ 16  | #6 @ 16  | #6 @ 16  | #7 @ 16  |
| Ser: B', q <sub>0</sub> | 3.3, 0.6 | 3.7, 0.8 | 4.0, 0.9 | 4.5, 1.0 | 4.1, 1.4 |
| Str: B', q <sub>0</sub> | 1.9, 1.4 | 2.3, 1.6 | 2.5, 1.8 | 2.8, 1.9 | 1.8, 3.6 |
| Ext: B', q <sub>0</sub> | 1.5, 2.8 | 1.8, 3.1 | 1.9, 3.6 | 2.1, 3.8 | 2.4, 3.9 |

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**RETAINING WALL TYPE 6 (CASE 2)**  
NO SCALE

RSP B3-7B DATED APRIL 20, 2012 SUPPLEMENTS THE  
STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP B3-7B**

2010 REVISED STANDARD PLAN RSP B3-7B

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
|      |        |       |                          |           |              |

*Gary Wong*  
REGISTERED CIVIL ENGINEER

April 20, 2012  
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
No. C58238  
Exp. 6-30-12  
CIVIL  
STATE OF CALIFORNIA