

D16+	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

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 Exp. 6-30-12  
 CIVIL  
 STATE OF CALIFORNIA

April 20, 2012  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

**DESIGN CONDITIONS:**

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

**DESIGN NOTES:**

- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
- LS: Varied surcharge on level ground surface
- DC: Stem Architectural Treatment of thickness up to 6' of concrete (75 psf) considered
- 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

**LOAD COMBINATIONS AND LIMIT STATES:**

- Service I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS$   
 Strength I  $Q = aDC + \phi EV + \eta EH + 1.76LS$   
 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  
 $\phi$ : 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

**NOTES:**

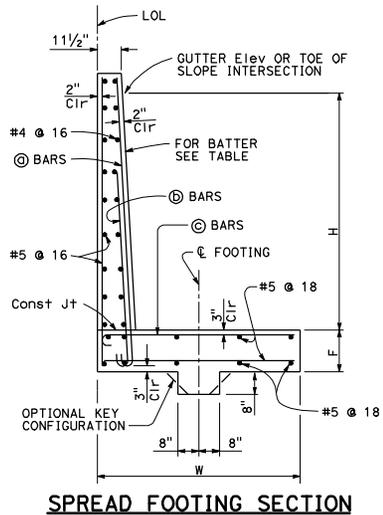
1. At  $\odot$  and  $\oplus$  bars:  
 H  $\leq$  6', no splices are allowed within 1'-8" above the top of footing.  
 H > 6', no splices are allowed within H/4 above the top of footing.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**RETAINING WALL TYPE 5 (CASE 2)**  
 NO SCALE

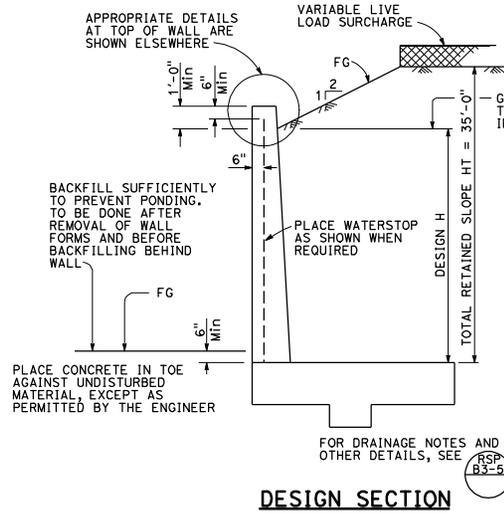
RSP B3-4B DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP B3-4B**

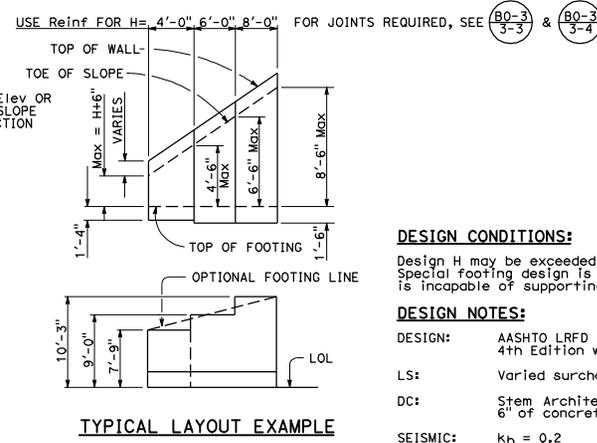
2010 REVISED STANDARD PLAN RSP B3-4B



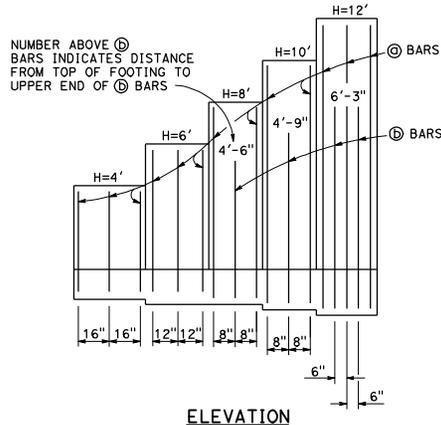
**SPREAD FOOTING SECTION**



**DESIGN SECTION**



**TYPICAL LAYOUT EXAMPLE**



**ELEVATION**

**SYMBOLS:**

- Ser - service limit state I  
 Str - strength limit state I  
 Ext - extreme event limit state I  
 B' - effective footing width (ft)  
 $q_0$  - net bearing stress (ksf),  $q_0$  assumed to be FG at toe  
 $q_0$  - gross uniform bearing stress (ksf)

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA					
DESIGN H	4'	6'	8'	10'	12'
W	7'-9"	9'-0"	10'-3"	11'-6"	13'-3"
F SPREAD FOOTING	1'-4"	1'-6"	1'-6"	1'-6"	1'-10"
BATTER	NONE	NONE	NONE	100 : 3	100 : 5
$\odot$ BARS	#5 @ 16	#5 @ 12	#5 @ 16	#6 @ 16	#5 @ 12
$\oplus$ BARS	NONE	NONE	#6 @ 16	#6 @ 16	#6 @ 12
$\odot$ BARS	#7 @ 8	#7 @ 12	#8 @ 8	#9 @ 8	#10 @ 6
Ser: B', $q_0$	5.2, 1.3	6.0, 1.8	9.1, 1.8	10.0, 2.3	11.4, 2.7
Str: B', $q_0$	3.6, 2.2	4.1, 2.8	4.8, 3.4	5.5, 3.9	6.7, 4.3
Ext: B', $q_0$	3.7, 2.9	3.6, 4.5	3.7, 5.9	3.9, 7.2	4.4, 8.4