

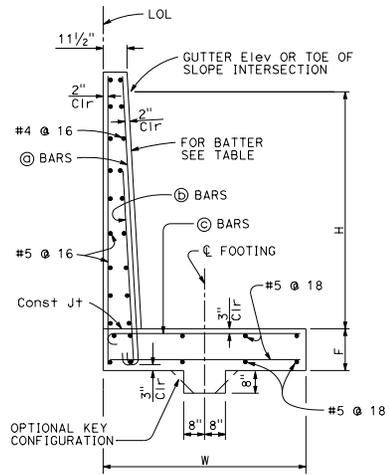
DIS#	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

*Gary Wong*  
REGISTERED CIVIL ENGINEER

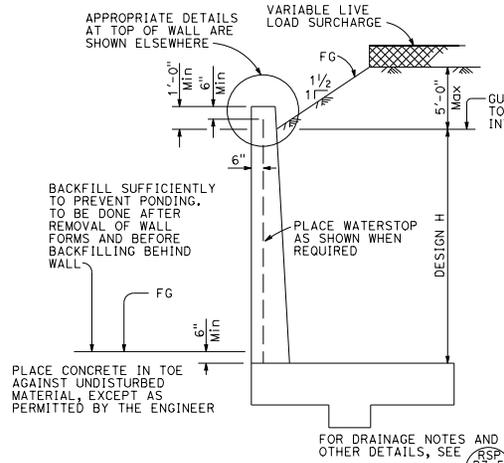
April 20, 2012  
PLANS APPROVAL DATE

Gary Wong  
No. C58238  
Exp. 6-30-12  
CIVIL  
STATE OF CALIFORNIA

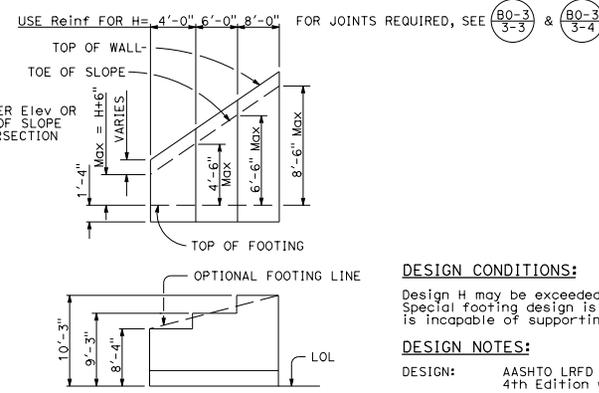
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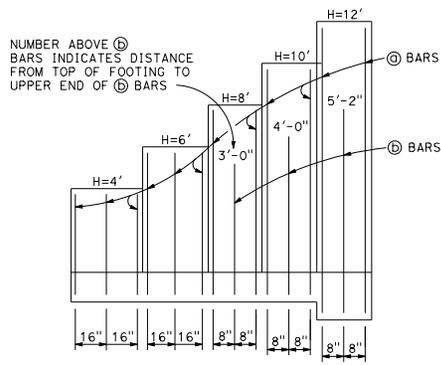
**SPREAD FOOTING SECTION**



**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<sub>o</sub> - net bearing stress (ksf), OG assumed to be FG at toe
- q<sub>o</sub> - gross uniform bearing stress (ksf)

DESIGN H	4'	6'	8'	10'	12'
W	8'-4"	9'-3"	10'-3"	11'-0"	12'-4"
F SPREAD FOOTING	1'-4"	1'-4"	1'-4"	1'-4"	1'-7"
BATTER	NONE	NONE	NONE	100 : 3	100 : 5
⊕ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
⊖ BARS	NONE	NONE	#5 @ 16	#5 @ 16	#5 @ 16
⊙ BARS	#6 @ 8	#7 @ 8	#8 @ 8	#9 @ 8	#9 @ 8
Ser: B', q <sub>o</sub>	5.6, 1.4	6.4, 1.8	7.4, 2.2	7.8, 2.6	8.9, 3.0
Str: B', q <sub>o</sub>	3.6, 2.4	4.2, 3.0	5.0, 3.4	5.3, 4.0	6.4, 4.2
Ext: B', q <sub>o</sub>	4.4, 2.1	4.2, 3.0	4.2, 4.0	3.9, 5.5	4.2, 6.7

**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<sub>h</sub> = 0.2  
K<sub>v</sub> = 0.0
- SOIL: φ = 34°  
γ = 120 pcf
- REINFORCED CONCRETE: f'c = 3,600 psi  
f<sub>y</sub> = 60,000 psi

**LOAD COMBINATIONS AND LIMIT STATES:**

- Service I Q = 1.00DC+1.00EV+1.00EH+1.00LS
- Strength I Q = qDC+pEV+nEH+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
- p: 1.35 or 1.00, Whichever Controls Design
- n: 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 ⊕ and ⊖ bars:  
H ≤ 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 3)**  
NO SCALE  
RSP B3-4C DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.  
**REVISED STANDARD PLAN RSP B3-4C**

2010 REVISED STANDARD PLAN RSP B3-4C