Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

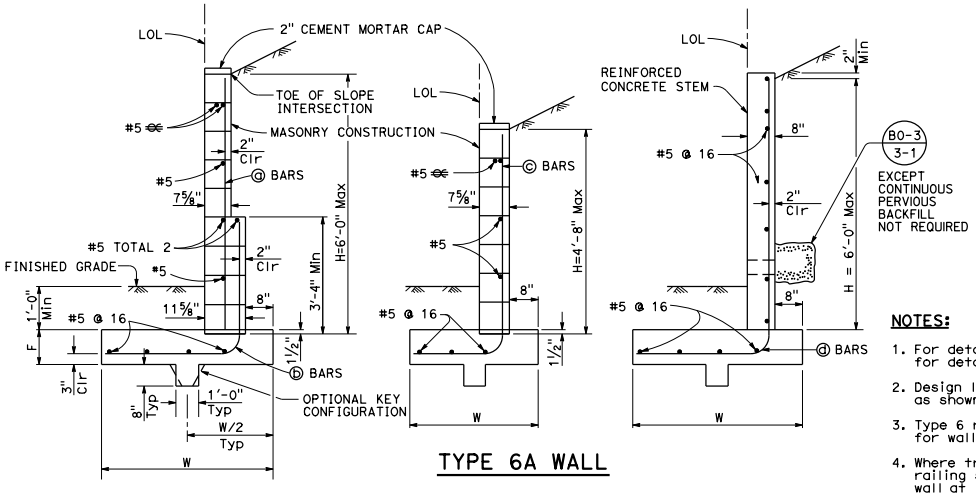
REGISTERED CIVIL ENGINEER

October 30, 2015

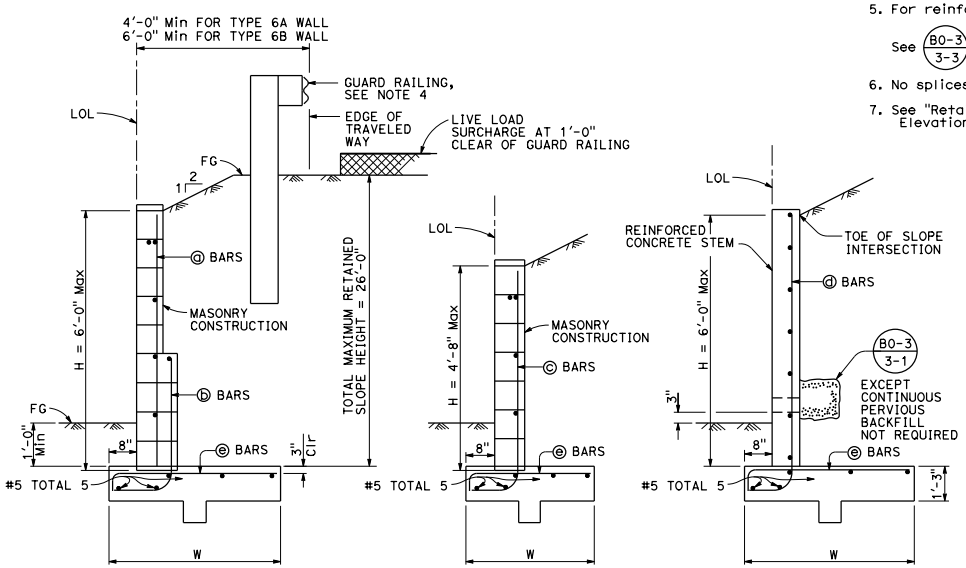
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Gary Wang No. C58298 Exp. 6-30-16 CIVIL STATE OF CALIFORNIA

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.



TYPE 6A WALL



TYPE 6B WALL

SYMBOLS:

Ser - service limit state 1
Str - strength limit state 1
Ext - extreme event limit state I
B′ - effective footing width (ft)
q_o' - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

NOTES:

1. For details not shown at "6B", see "6A", similarly, for details not shown at "6A", see "6B".
2. Design loading for both Type "6A" and "6B" is as shown at "6B".
3. Type 6 retaining wall shall be limited to use for walls of Design H of 6′-0″ or less.
4. 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.
5. For reinforced concrete wall stem joint details, See BO-3 3-3 and BO-3 3-4
6. No splices are allowed on ⓐ, ⓑ, ⓒ and ⓓ bars.
7. See "Retaining Wall Type 6 Details" sheet for Elevation View and Footing Step Details.

DESIGN NOTES:

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: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: $f'c = 3{,}600$ psi, $fy = 60{,}000$ psi

REINFORCED MASONRY: $fm' = 1{,}500$ psi, $fy = 60{,}000$ psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I: $Q = 1.00DC+1.00EV+1.00EH+1.00LS$
Strength I: $Q = \alpha DC+\phi EV+\eta EH+1.75LS$
Extreme I: $Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$

Where:

Q: Force Effects
α: 1.25 or 0.90, Whichever Controls Design
ø: 1.35 or 1.00, Whichever Controls Design
η: 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 - 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″
ⓐ BARS	NONE	NONE	NONE	#5 @ 16″	#5 @ 16″
ⓑ BARS	NONE	NONE	NONE	#5 @ 16″	#5 @ 16″
ⓒ BARS	#5 @ 16	#5 @ 16	#5 @ 16	NONE	NONE
ⓓ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#6 @ 16
Ser: B′, q_o'	3.4, 0.3	3.8, 0.3	4.3, 0.3	4.9, 0.4	6.0, 0.4
Str: B′, q_o	3.3, 0.7	3.6, 0.7	4.1, 0.8	4.7, 0.8	5.7, 0.9
Ext: B′, q_o	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″
ⓐ BARS	NONE	NONE	NONE	#5 @ 16″	#5 @ 16″
ⓑ BARS	NONE	NONE	NONE	#5 @ 16″	#5 @ 16″
ⓒ BARS	#5 @ 16	#5 @ 16	#5 @ 16	NONE	NONE
ⓓ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#6 @ 16
ⓔ BARS	#5 @ 16	#5 @ 16	#6 @ 16	#6 @ 16	#7 @ 16
Ser: B′, q_o'	3.3, 0.6	3.7, 0.8	4.0, 0.9	4.5, 1.0	4.1, 1.4
Str: B′, q_o	1.9, 1.4	2.3, 1.6	2.5, 1.8	2.8, 1.9	1.8, 3.6
Ext: B′, q_o	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

B3-7B

2015 STANDARD PLAN B3-7B

9-22-15