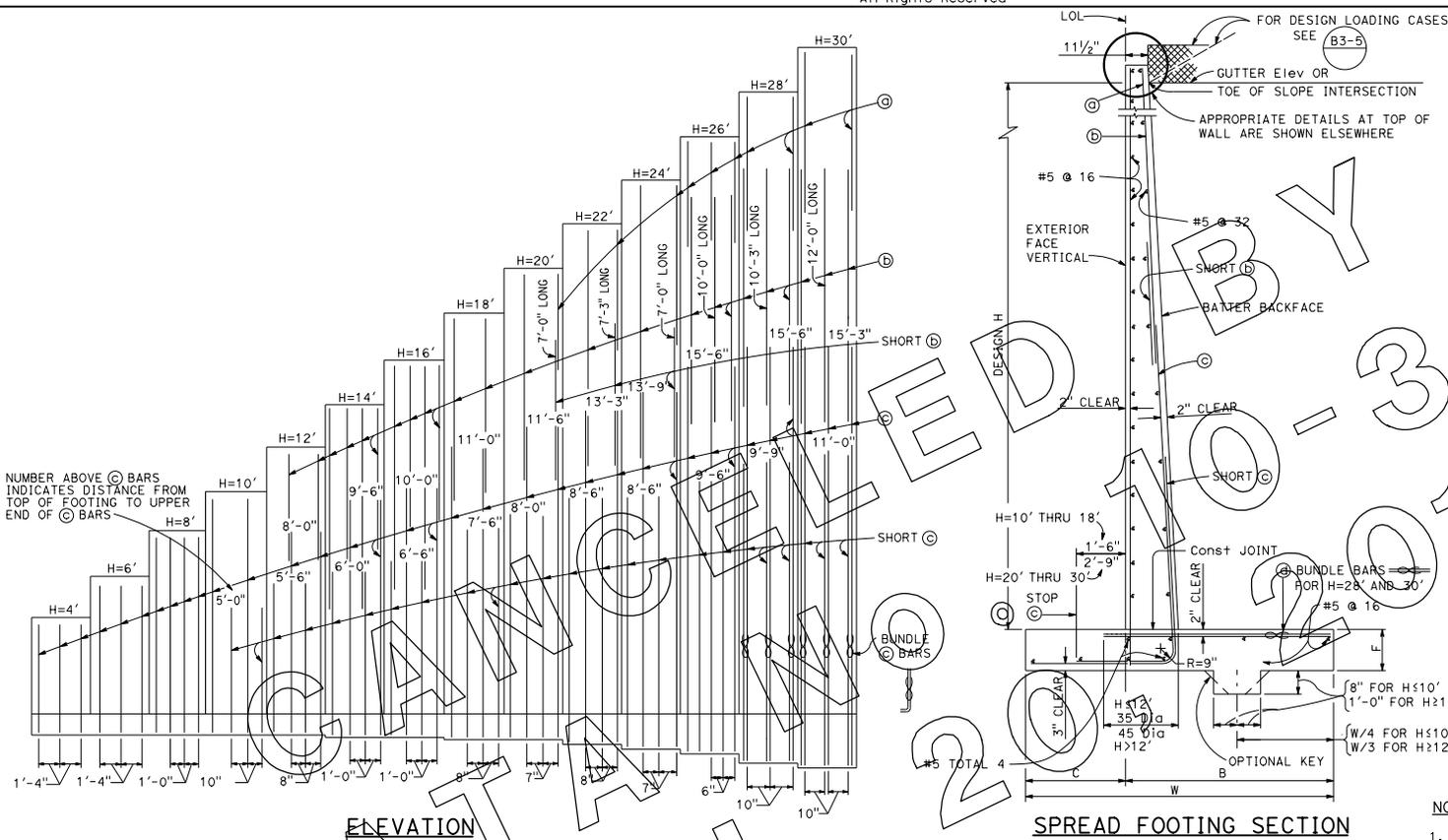


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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Gary Wong
 REGISTERED CIVIL ENGINEER
 No. C58298
 Exp. 6-30-12
 CIVIL

May 20, 2011
 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.

DESIGN CONDITIONS:
 Design H may be exceeded by 6' before going to the next size. Special footing design is required where foundation materials incapable of supporting bearing stresses listed in table.

DESIGN NOTES:
 DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments
 LIVE LOAD: Surcharge on level ground surface
 SOIL: $\phi = 34^\circ$
 $\gamma = 120$ pcf
 REINFORCED CONCRETE: $f_y = 60,000$ psi
 $f'_c = 3,600$ psi
 $n = 8$

- NOTES:**
- For details not shown and drainage notes see (B3-5)
 - For wall stem joint details see (B0-3/3-3) and (B0-3/3-4)
 - At (C) and Short (C) 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.

TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
W	4'-9"	5'-6"	6'-3"	7'-0"	7'-6"	8'-3"	9'-0"	9'-6"	10'-3"	11'-0"	11'-6"	12'-3"	13'-0"	13'-6"
B'	3'-4"	4'-0"	4'-6"	5'-3"	6'-0"	6'-6"	7'-3"	8'-0"	8'-6"	9'-3"	10'-0"	10'-6"	11'-3"	12'-0"
F	1'-8"	1'-4"	1'-4"	1'-4"	1'-4"	1'-4"	1'-4"	1'-4"	1'-4"	1'-4"	1'-4"	1'-4"	1'-4"	1'-4"
BATTER	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12
(C) BARS	#5 @ 16	#5 @ 16	#5 @ 12	#6 @ 10	#6 @ 8	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
(D) BARS	#5 @ 16	#5 @ 16	#5 @ 12	#6 @ 10	#6 @ 8	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
(E) BARS	#5 @ 16	#5 @ 16	#5 @ 12	#6 @ 10	#6 @ 8	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
LOADING Ser: B', q _o	4.4, 0.7	5.1, 0.9	5.4, 1.2	6.2, 1.4	8.5, 1.4	11.8, 1.6	12.8, 1.7	13.8, 1.8	13.9, 2.0	14.6, 2.3	15.2, 2.5	15.9, 2.8	16.5, 3.1	17.2, 3.3
CASE I Str: B', q _o	4.3, 1.5	4.9, 1.9	5.1, 2.2	5.8, 2.5	8.2, 2.6	11.5, 2.6	12.4, 3.0	13.3, 3.1	13.4, 3.4	14.0, 3.8	14.5, 4.2	15.1, 4.6	15.7, 5.1	16.3, 5.5
LOADING Ser: B', q _o	4.8, 0.5	5.7, 0.7	6.2, 1.0	6.9, 1.3	9.1, 1.5	12.3, 1.8	13.1, 2.1	14.0, 2.3	14.2, 2.6	14.0, 3.0	15.4, 3.3	16.0, 3.7	16.6, 4.1	17.3, 4.4
CASE II Str: B', q _o	4.7, 1.1	5.6, 1.4	6.0, 1.8	6.7, 2.3	8.8, 2.6	12.0, 3.1	12.8, 3.4	13.6, 3.7	13.7, 4.2	14.3, 4.7	14.8, 5.3	15.4, 5.9	15.9, 6.5	16.5, 7.0
LOADING Ser: B', q _o	4.3, 0.7	4.5, 1.0	4.7, 1.4	5.1, 1.7	6.8, 1.8	8.7, 2.3	9.6, 2.4	10.5, 2.6	10.5, 2.9	11.2, 3.2	11.7, 3.5	12.4, 3.9	13.1, 4.2	13.7, 4.4
CASE III Str: B', q _o	4.1, 1.4	4.5, 1.8	4.5, 2.4	4.7, 3.0	6.3, 3.2	8.0, 4.0	9.0, 4.2	9.9, 4.4	9.7, 4.9	10.5, 5.4	10.9, 5.9	11.6, 6.4	12.2, 6.9	12.7, 7.4

SYMBOLS:

Ser - service limit state 1
 Str - strength limit state 1
 B' - effective footing width (ft)
 q_o - net bearing stress (ksf)
 q_o - gross uniform bearing stress (ksf)
 γ - Denotes a bundle of 2 bars

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**RETAINING WALL
 TYPE 1
 H=4' THROUGH 30'**

NO SCALE

B3-1

2010 STANDARD PLAN B3-1

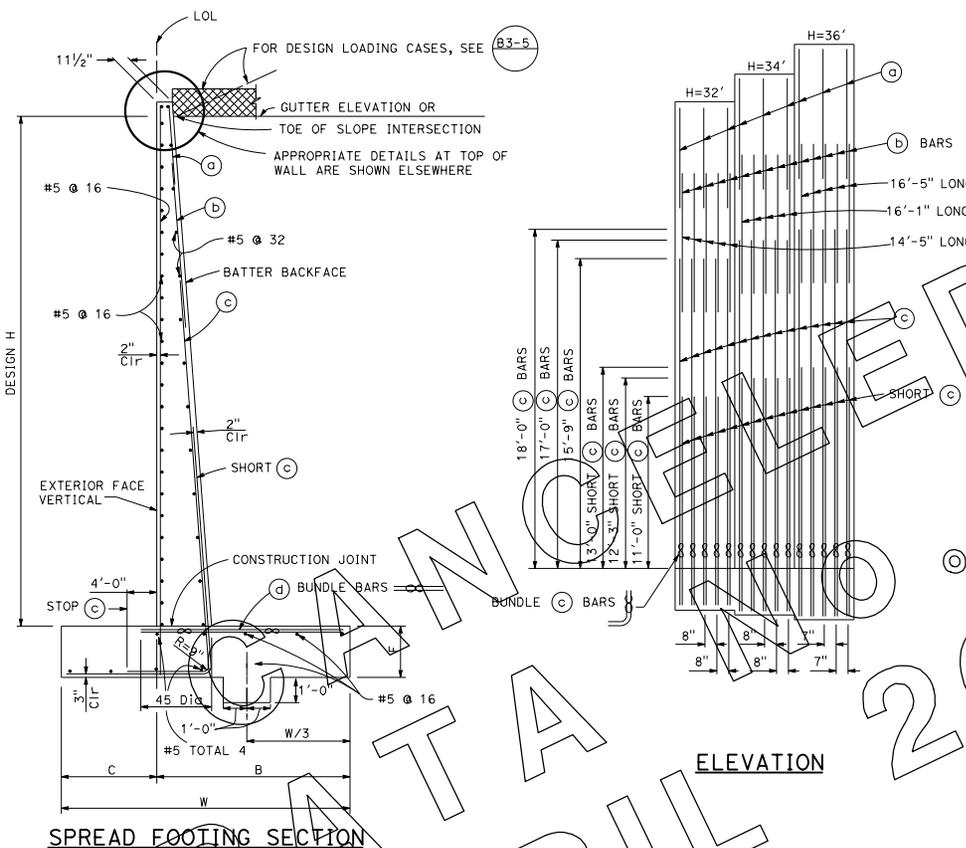
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

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

May 20, 2011
 PLANS APPROVAL DATE
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DESIGN H	32'	34'	36'
W	21'-0"	23'-0"	25'-0"
C	7'-0"	7'-4"	8'-0"
B	14'-0"	15'-8"	17'-0"
F SPREAD FOOTING	3'-3"	3'-6"	3'-9"
BATTER	1:12	1:12	1:12
Ⓐ BARS	#6 @ 16	#5 @ 16	#6 @ 14
Ⓑ BARS	#9 @ 8	#9 @ 8	#9 @ 7
Ⓒ BARS	#7 @ 8	#11 @ 8	#11 @ 7
Ⓓ BARS	#9 @ 8	#9 @ 8	#9 @ 7
LOAD CASE I	Ser: B, q _o 18.0, 3.4 Str: B', q _o 17.0, 5.6	29.2, 3.6 19.6, 5.9	22.4, 3.6 21.4, 6.0
LOAD CASE II	Ser: B', q _o 18.2, 4.5 Str: B', q _o 17.3, 7.2	20.2, 4.8 19.3, 7.7	22.4, 4.9 21.4, 7.9
LOAD CASE III	Ser: B', q _o 14.4, 4.5 Str: B', q _o 13.2, 7.6	16.8, 4.6 15.8, 7.5	19.2, 4.5 18.2, 7.5

SYMBOLS:
 Ser - service limit state 1
 Str - strength limit state 1
 B' - effective footing width (ft)
 q_o - net bearing stress (ksf)
 q_o - gross uniform bearing stress (ksf)
 ⌘ - Denotes a bundle of 2 bars



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 table.

DESIGN NOTES:

- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments
- LIVE LOAD: Surcharge on level ground surface
- SOIL: $\phi = 34^\circ$
 $\gamma = 120$ pcf
- REINFORCED CONCRETE: $f_y = 60,000$ psi
 $f_c' = 3,600$ psi
 $n = 8$

NOTES:

- For details not shown and drainage notes see B3-5
- For wall stem joint details see B0-3/3-3 and B0-3/3-4
- At Ⓒ and Short Ⓒ 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 1
H=32' THROUGH 36'
 NO SCALE

B3-2

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2010 STANDARD PLAN B3-2

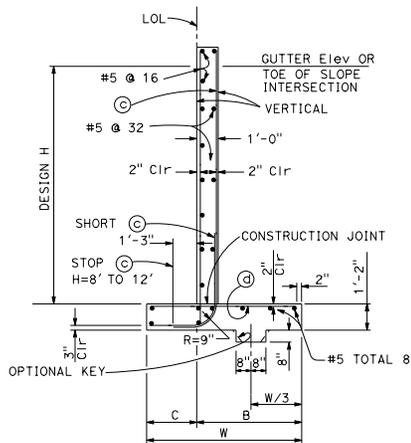
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Gary Wong
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

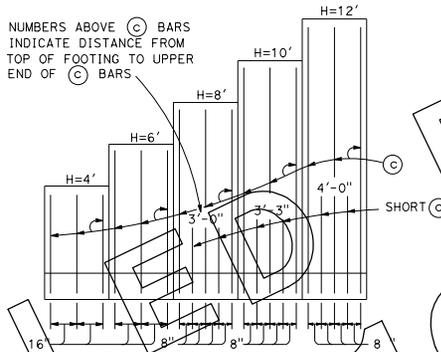
Gary Wong
No. C58238
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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SPREAD FOOTING SECTION

Place concrete in toe, against undisturbed material, except as permitted by the Engineer.



ELEVATION

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 table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments

LIVE LOAD: Surcharge on level ground surface

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

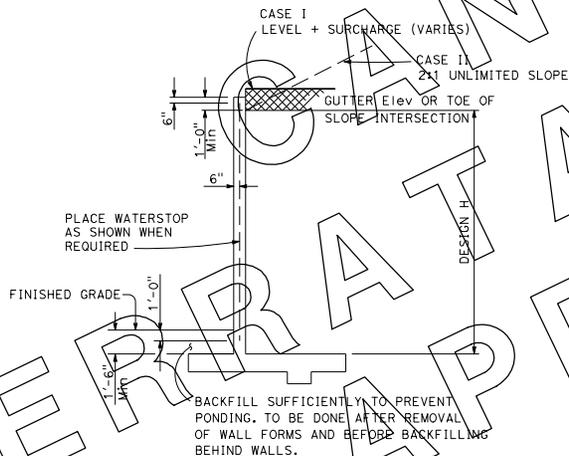
REINFORCED CONCRETE: $f_y = 60,000 \text{ psi}$
 $f_c' = 3,600 \text{ psi}$
 $n = 8$

NOTES:

- For details not shown and drainage notes see (B3-5)
- For wall stem joint details see (B0-3/3-3) and (B0-3/3-4)
- At © and Short © 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.

SYMBOLS:

Ser - service limit state 1
Str - strength limit state 1
B' - effective footing width (ft)
q₀ - net bearing stress (ksf)
q_o - gross uniform bearing stress (ksf)



DESIGN SECTION

DESIGN H	4'	6'	8'	10'	12'	
W	4'-9"	5'-9"	6'-6"	7'-6"	8'-6"	
C	1'-5"	2'-0"	2'-0"	2'-4"	2'-6"	
B	3'-4"	3'-9"	4'-6"	5'-2"	6'-0"	
© BARS	#5 @ 16	#5 @ 16	#5 @ 8	#6 @ 8	#8 @ 8	
© BARS	#5 @ 16	#5 @ 16	#6 @ 16	#5 @ 8	#6 @ 8	
LOAD CASE I	Ser: B', q ₀	4.4, 0.7	5.2, 0.9	5.5, 1.2	6.2, 1.4	7.0, 1.6
	Str: B', q ₀	4.4, 1.5	5.0, 1.7	5.2, 2.1	5.9, 2.4	6.6, 2.7
LOAD CASE II	Ser: B', q ₀	4.8, 0.5	5.8, 0.7	6.2, 1.0	7.0, 1.3	7.7, 1.7
	Str: B', q ₀	4.7, 1.0	5.7, 1.3	6.1, 1.8	6.8, 2.2	7.5, 2.7

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**RETAINING WALL
TYPE 1A**

NO SCALE

B3-3

2010 STANDARD PLAN B3-3

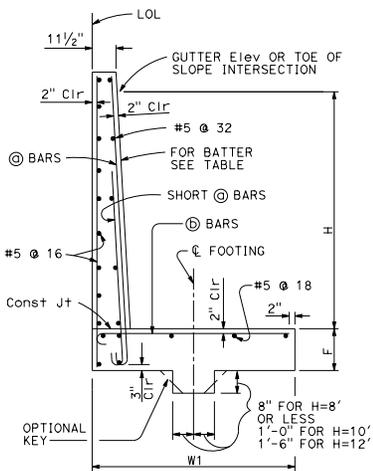
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Gary Wong
REGISTERED CIVIL ENGINEER

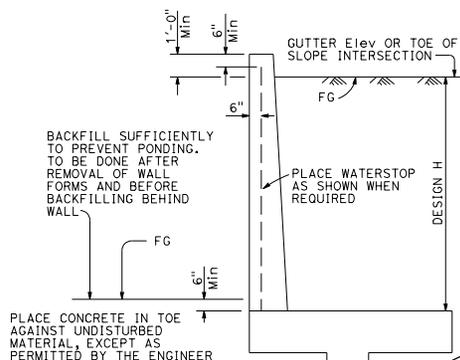
May 20, 2011
PLANS APPROVAL DATE

Exp. 6-30-12
CIVIL

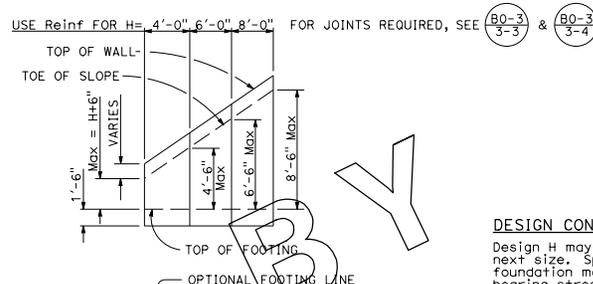
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SPREAD FOOTING SECTION



DESIGN SECTION



TYPICAL LAYOUT EXAMPLE

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 table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments

LIVE LOAD: Surcharge on level ground surface

SOIL: $\phi = 34^\circ$
 $\gamma = 120$ pcf
REINFORCED CONCRETE: $f_y = 60,000$ psi
 $f_c = 3,600$ psi
 $\mu = 8$

NOTES:

- For details not shown and drainage notes see B3-5
- For wall stem joint details see B0-3/3-3 and B0-3/3-4
- At @ and Short @ 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.

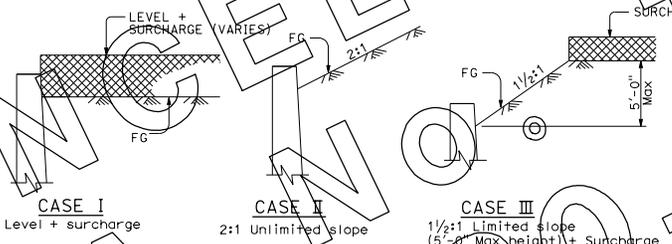
SYMBOLS:

- Ser - service limit state 1
- Str - strength limit state 1
- B' - effective footing width (ft)
- q_0 - net bearing stress (ksf)
- q_0 - gross uniform bearing stress (ksf)

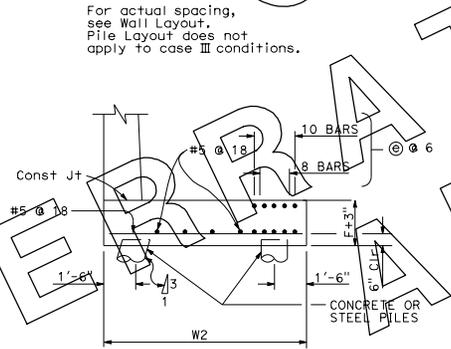
Max PILE SPACING FOR 90 KIP PILES

DESIGN FRONT ROW H	FRONT ROW 1:3 BATTER VERTICAL	BACK ROW
4'	15'-0"	18'-0"
6'	10'-0"	16'-0"
8'	6'-0"	14'-0"
10'	5'-0"	12'-0"
12'	4'-0"	8'-0"

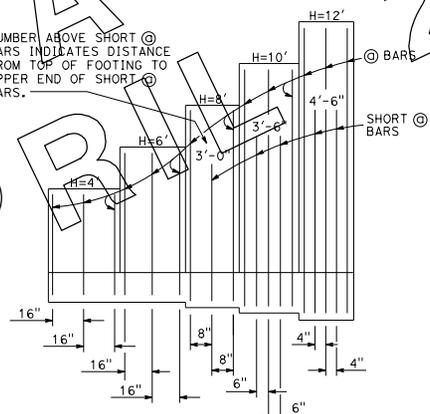
For actual spacing, see Wall Layout. Pile Layout does not apply to case III conditions.



DETAIL OF DESIGN LOADING CASES



90 KIP PILE FOOTING SECTION



ELEVATION

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'	
W1	5'-9"	6'-9"	10'-3"	11'-0"	12'-6"	
W2	6'-0"	6'-9"	8'-0"	8'-6"	9'-6"	
F SPREAD FOOTING	1'-6"	1'-6"	1'-6"	1'-6"	1'-10"	
BATTER	NONE	NONE	100:2	100:3	100:6	
@ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 12	#5 @ 8	
SHORT @ BARS	None	None	#5 @ 16	#5 @ 12	#5 @ 8	
⊕ BARS	#5 @ 16	#5 @ 8	#6 @ 8	#6 @ 6	#6 @ 4	
TOTAL @ BARS	8 - #8	8 - #8	10 - #8	10 - #7	8 - #6	
LOAD CASE I	Ser: B', q_0	5.0, 1.2	5.5, 1.5	9.0, 1.6	9.4, 1.9	10.5, 2.2
	Str: B', q_0	5.0, 2.2	5.4, 2.6	8.9, 2.7	9.2, 3.1	10.4, 3.5
LOAD CASE II	Ser: B', q_0	5.3, 0.9	5.9, 1.3	9.5, 1.6	9.9, 2.0	11.0, 2.5
	Str: B', q_0	5.3, 1.5	5.9, 2.1	9.5, 2.5	9.8, 3.1	10.9, 3.8
LOAD CASE III	Ser: B', q_0	5.2, 1.0	5.4, 1.5	9.0, 1.7	7.4, 2.4	8.7, 2.7
	Str: B', q_0	4.1, 1.9	4.4, 2.6	7.1, 3.2	7.5, 3.8	8.8, 4.3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**RETAINING WALL
TYPE 5**

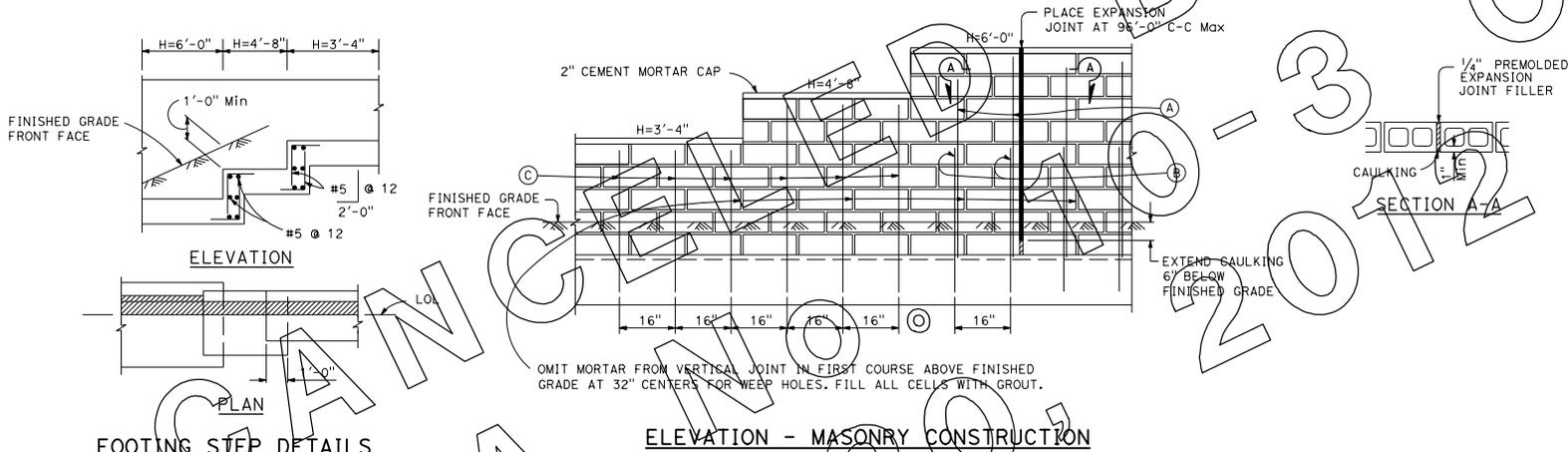
NO SCALE

B3-4

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2010 STANDARD PLAN B3-4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
<i>Gary Wong</i> REGISTERED CIVIL ENGINEER					
May 20, 2011 PLANS APPROVAL DATE					
Gary Wong No. C58238 Exp. 6-30-12 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.					



DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments
Building Code Requirements for Masonry Structures (TMS 402-98/ACI 530-08/ASCE 5-08)

LIVE LOAD: Surcharge on level ground surface

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

REINFORCED CONCRETE: $f_y = 60,000$ psi
 $f_c' = 3,600$ psi
 $n = 8$

REINFORCED MASONRY: $f_y = 60,000$ psi
 $f_m' = 1,500$ psi
 $n = 21$

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**RETAINING WALL
TYPE 6 DETAILS No. 1
6'-0" MAXIMUM**

NO SCALE

B3-7

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2010 STANDARD PLAN B3-7

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

Gary Wong
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

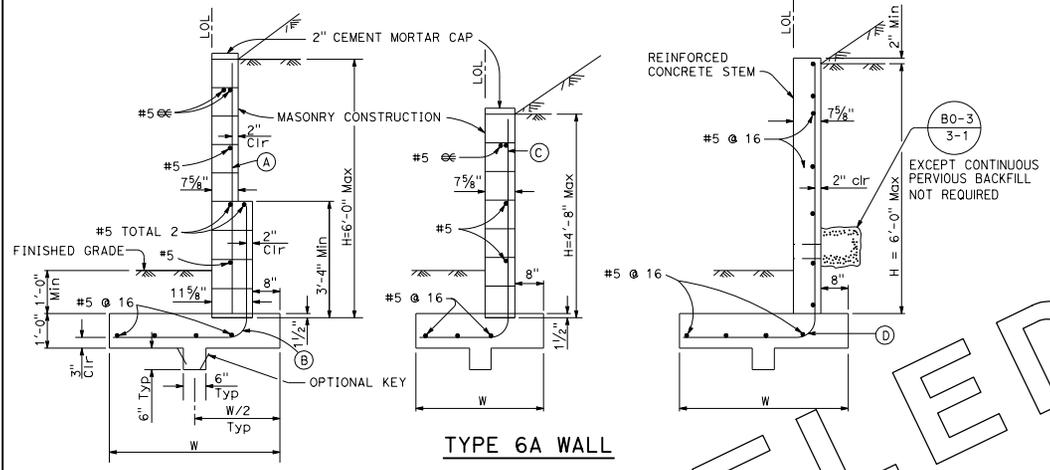
Gary Wong
No. C58238
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER

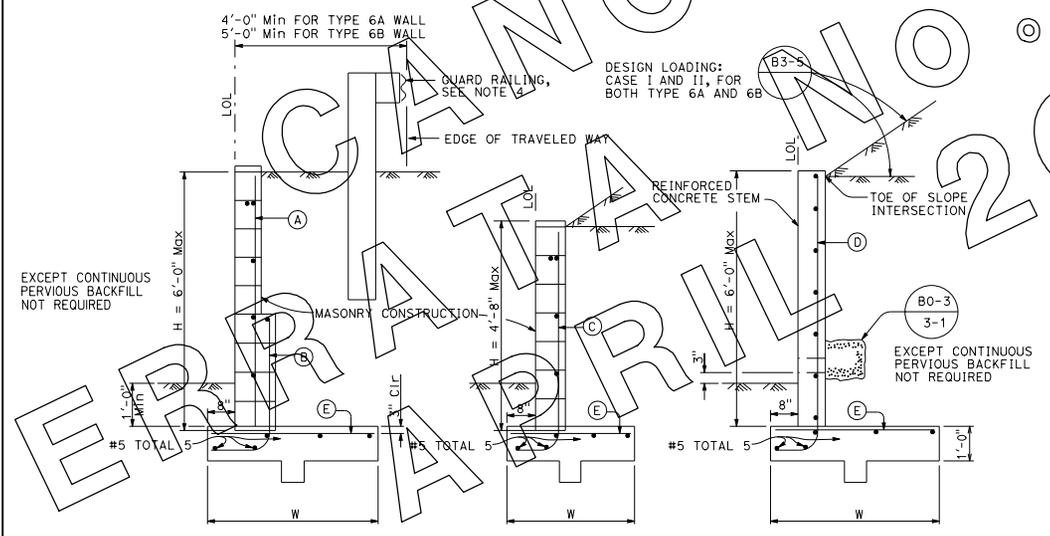
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NOTES:

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 5'-0", dependent on wall type.
5. For reinforced concrete wall stem joint details, see BO-3 and BO-3 3-3 3-4
6. No splices are allowed on (A), (B) and (C) bars.
7. For "Design Notes", see "B3-7".



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'-3"	3'-9"	4'-3"	4'-9"	5'-3"
(A)				#5 @ 16	#5 @ 16
(B)				#5 @ 16	#5 @ 16
(C)	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
(D)	#5 @ 15	#5 @ 15	#5 @ 15	#5 @ 15	#5 @ 12
Load Ser: B', q _o	2.6, 0.3	3.0, 0.4	3.4, 0.4	3.7, 0.4	4.0, 0.4
Case I Str: B', q _o	2.3, 0.9	2.6, 1.3	2.9, 0.9	3.2, 0.9	3.5, 1.0
Load Ser: B', q _o	3.3, 0.2	5.0, 0.3	4.5, 0.3	5.0, 0.3	5.2, 0.4
Case II Str: B', q _o	3.3, 0.7	4.9, 1.1	4.4, 0.8	4.9, 0.8	5.1, 0.8

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

Design H	3'-4"	4'-0"	4'-8"	5'-4"	6'-0"
W	3'-3"	3'-9"	4'-0"	4'-6"	4'-9"
(A)				#5 @ 16	#5 @ 16
(B)				#5 @ 16	#5 @ 16
(C)	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
(D)	#5 @ 15	#5 @ 15	#5 @ 15	#5 @ 15	#5 @ 12
(E)	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 12
Load Ser: B', q _o	2.7, 0.6	3.1, 0.7	4.6, 0.3	3.6, 0.9	3.7, 1.0
Case I Str: B', q _o	2.6, 1.2	3.0, 1.3	4.4, 1.6	3.5, 1.7	3.5, 1.9
Load Ser: B', q _o	3.0, 0.5	3.4, 0.6	3.5, 0.7	3.9, 0.9	4.0, 1.0
Case II Str: B', q _o	2.9, 1.0	3.3, 1.1	3.4, 1.4	3.8, 1.6	3.9, 1.8

SYMBOLS:

- Ser - service limit state 1
- Str - strength limit state 1
- B' - effective footing width (ft)
- q_o - net bearing stress (ksf)
- q_o - gross uniform bearing stress (ksf)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**RETAINING WALL
TYPE 6 DETAILS No. 2
6'-0" MAXIMUM**

NO SCALE

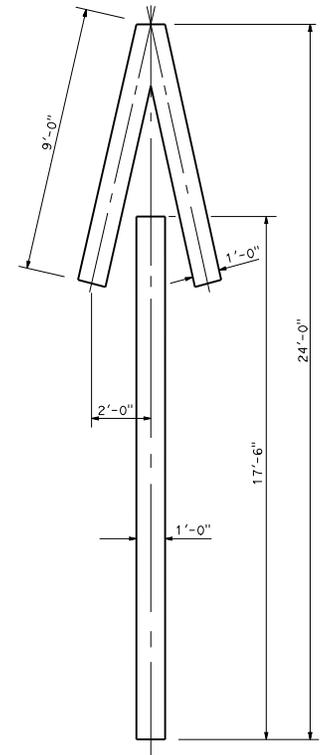
B3-8

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

Robert L. McLaughlin
 REGISTERED CIVIL ENGINEER
 No. C40375
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA

April 20, 2012
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED _____

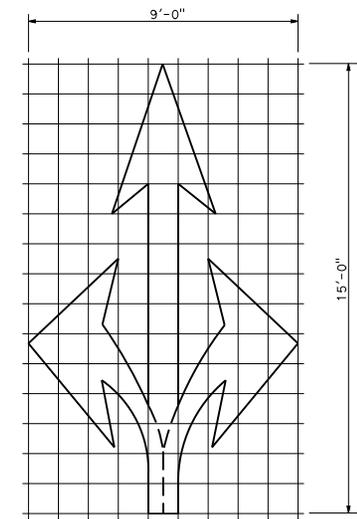


TYPE V ARROW

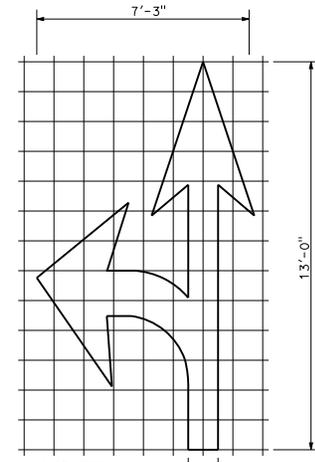
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
ARROWS**
NO SCALE

RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A
DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24A

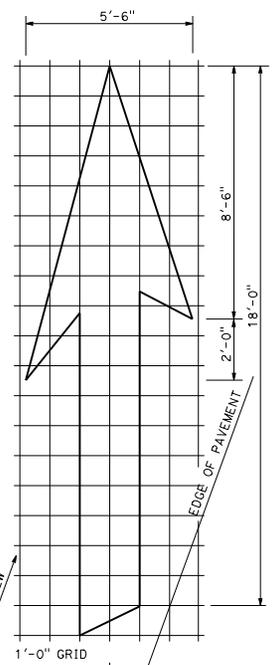


TYPE VIII ARROW



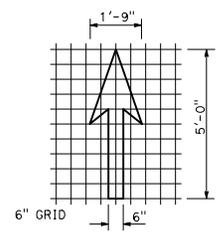
TYPE VII (L) ARROW

(For Type VII (R) arrow,
use mirror image)

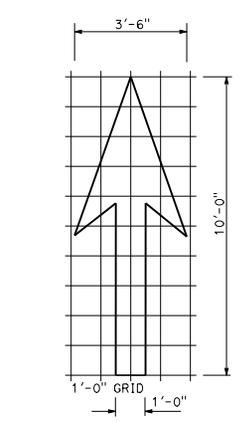


TYPE VI ARROW

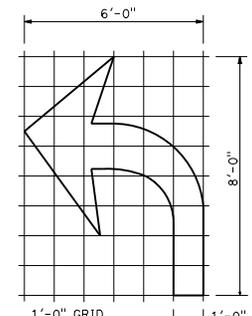
Right lane drop arrow
(For left lane,
use mirror image)



BIKE LANE ARROW

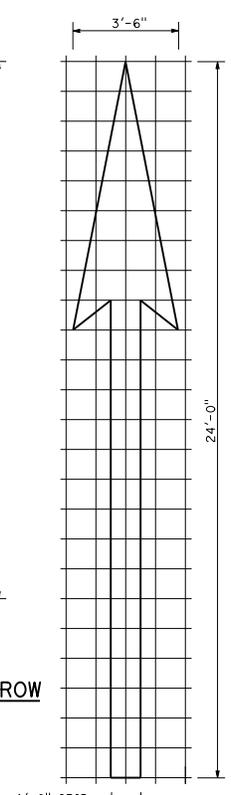


TYPE I 10'-0" ARROW

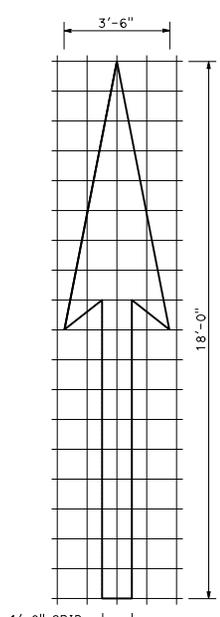


TYPE IV (L) ARROW

(For Type IV (R) arrow,
use mirror image)



TYPE I 24'-0" ARROW



TYPE I 18'-0" ARROW

NOTE:
Minor variations in dimensions
may be accepted by the Engineer.

2010 REVISED STANDARD PLAN RSP A24A

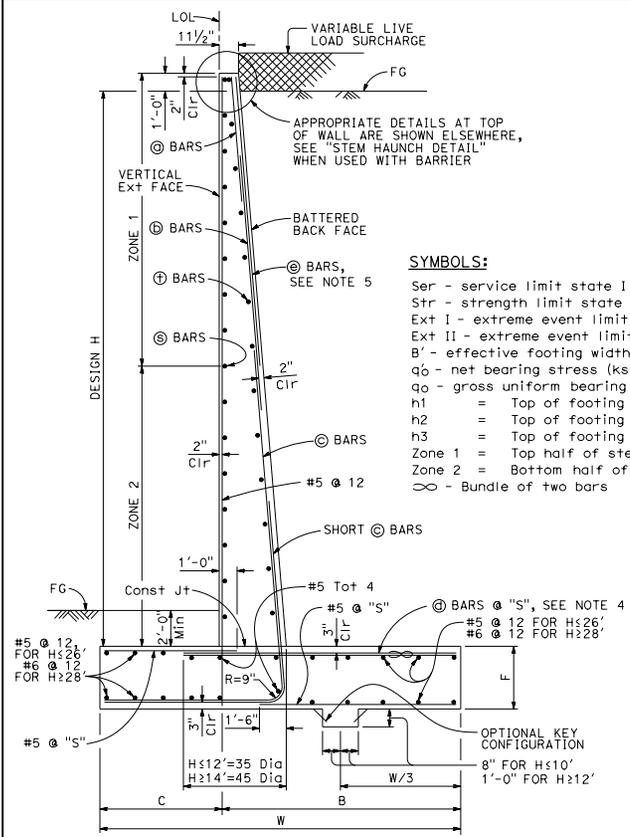
Dist#	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

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:
TO ACCOMPANY PLANS DATED _____
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
CT: 54 kip transverse force applied at $H_e = 32'$, distributed over 10 feet at the top of wall and 1:1 distribution down and outward. Distribution below footing taken no less than 40'.
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: $Q = aDC+PE+VE+EH+1.75LS$
Extreme I: $Q = 1.00DC+1.00EV+1.00EH+1.00EOD+1.00EQE$
Extreme II: $Q = 1.00DC+1.00EV+1.00EH+1.00CT$
Where:
Q: Force Effects
 ϕ : 1.25 or 0.90, Whichever Controls Design
 ρ : 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
EOD: Soil and Structural and Nonstructural Components Inertia
CT: Vehicular Collision Force

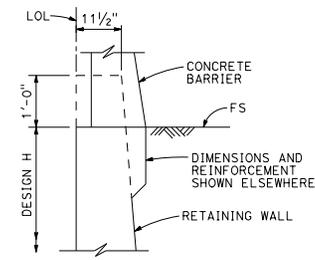
April 20, 2012
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

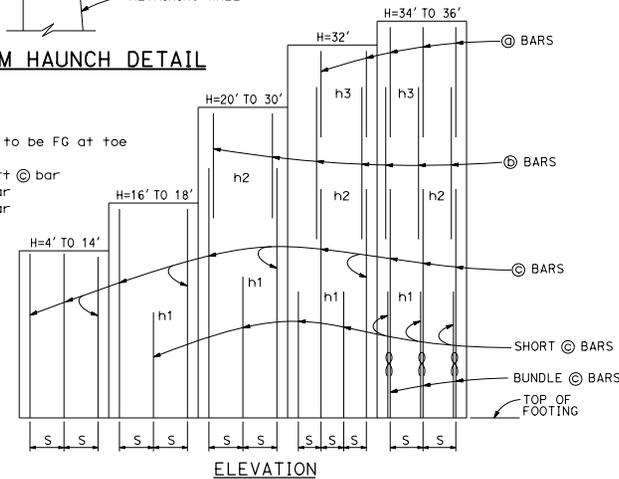


TYPICAL SECTION

- NOTES:**
- For details not shown and drainage notes see **RSP B3-5**
 - For wall stem joint details see **B0-3 3-3** and **B0-3 3-4**
 - At \odot 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.
 - Bundle \odot bars for $H = 34'$ & $36'$.
 - Provide #6 @ $10' \times 15'-0"$ @ bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations. For $H \leq 14'$, hook \odot bar into footing and reduce bar length as needed to maintain Min Clr cover.



STEM HAUNCH DETAIL



ELEVATION

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'
W	6'-10"	7'-0"	7'-3"	7'-7"	8'-4"	9'-7"	10'-9"	12'-0"	13'-3"	14'-6"	15'-9"	17'-1"	18'-5"	19'-10"	21'-2"	22'-7"	24'-0"
C	2'-2"	2'-3"	2'-3"	2'-4"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-5"	6'-0"	6'-6"	7'-2"	7'-8"	8'-2"	9'-0"
B	4'-8"	4'-9"	5'-0"	5'-3"	5'-10"	6'-7"	7'-3"	8'-0"	8'-9"	9'-6"	10'-4"	11'-1"	11'-11"	12'-8"	13'-6"	14'-5"	15'-0"
F	1'-4"	1'-4"	1'-4"	1'-4"	1'-6"	1'-8"	1'-8"	1'-9"	1'-9"	1'-11"	2'-2"	2'-5"	2'-10"	3'-3"	3'-6"	4'-0"	4'-3"
BATTER	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	5/8: 12	5/8: 12	3/4: 12	3/8: 12	1: 12	1: 12	1: 12
SPACING "S"	9'	9'	9'	9'	9'	9'	6'	5'	6'	6'	6'	6'	6'	6'	6'	10'	8'
\odot BARS	-	-	-	-	-	-	-	-	#7	#7	#7	#7	#7	#7	#7	#7	#6
\oplus BARS	-	-	-	-	-	-	-	-	#8	#8	#8	#8	#8	#8	#8	#8	#8
\odot BARS	#6	#6	#6	#6	#6	#6	#7	#7	#8	#9	#9	#10	#10	#10	#11	#11	#11
\oplus BARS	#5	#5	#6	#6	#6	#6	#9	#8	#8	#9	#9	#10	#10	#10	#11	#11	#11
h1	-	-	-	-	-	-	5'-9"	5'-10"	8'-0"	9'-0"	10'-1"	11'-0"	12'-1"	13'-0"	13'-0"	12'-7"	11'-6"
h2	-	-	-	-	-	-	-	-	10'-5"	13'-0"	14'-7"	17'-6"	19'-0"	20'-5"	18'-0"	20'-2"	20'-2"
h3	-	-	-	-	-	-	-	-	-	-	-	-	-	21'-2"	21'-10"	24'-0"	24'-0"
ZONE 1 \odot BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
ZONE 2 \odot BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#7 @ 12
ZONE 1 \oplus BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18
ZONE 2 \oplus BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#5 @ 12	#5 @ 12
Ser: B', q _o	6.8, 0.7	6.5, 1.0	6.2, 1.3	6.0, 1.6	6.3, 2.0	7.5, 2.1	8.6, 2.2	9.8, 2.3	11.0, 2.4	12.1, 2.5	13.2, 2.8	14.4, 2.9	15.5, 3.1	16.8, 3.3	18.0, 3.5	19.2, 3.7	20.6, 3.7
Str: B', q _o	6.6, 1.6	5.0, 1.8	3.6, 2.3	3.0, 3.3	3.2, 4.0	4.3, 3.8	5.3, 3.7	6.4, 3.7	7.4, 3.8	8.2, 4.1	9.0, 4.4	9.9, 4.6	10.7, 4.9	11.7, 5.2	12.6, 5.4	13.6, 5.8	14.6, 5.9
Ext I: B', q _o	5.2, 1.1	4.7, 1.5	3.9, 2.2	3.1, 3.4	2.8, 4.8	3.2, 5.3	3.6, 5.7	4.1, 6.1	4.6, 6.4	5.0, 6.9	5.3, 7.6	5.8, 8.1	6.1, 8.9	6.7, 9.4	7.1, 10.0	7.5, 10.7	8.2, 10.9
Ext II: B', q _o	2.6, 2.2	2.7, 2.6	2.8, 3.1	2.9, 3.6	3.7, 3.6	5.2, 3.3	6.7, 3.1	8.3, 3.0	9.8, 3.0	11.2, 3.1	12.5, 3.2	13.9, 3.4	15.2, 3.6	16.7, 3.8	18.0, 4.0	19.3, 4.2	20.8, 4.3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
RETAINING WALL TYPE 1 (CASE 1)
NO SCALE
RSP B3-1A DATED APRIL 20, 2012 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-1A

2010 REVISED STANDARD PLAN RSP B3-1A

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 $0 = 1.00DC+1.00EV+1.00EH+1.00LS$
Strength I $0 = \alpha DC+\beta EV+\eta EH+1.75LS$
Extreme I $0 = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$

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

SYMBOLS:

- TO ACCOMPANY PLANS DATED _____
- 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), OG assumed to be FG at toe
 q_0 - gross uniform bearing stress (ksf)
h1 = Top of footing to top of short @ bar
h2 = Top of footing to top of @ bar
h3 = Top of footing to top of @ bar
h4 = Top of footing to top of @ bar
Zone 1 = Top half of stem height
Zone 2 = Bottom half of stem height
∞ - Bundle of two bars

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

April 20, 2012
PLANS APPROVAL DATE

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REGISTERED CIVIL ENGINEER
No. C58238
Exp. 6-30-12
CIVIL

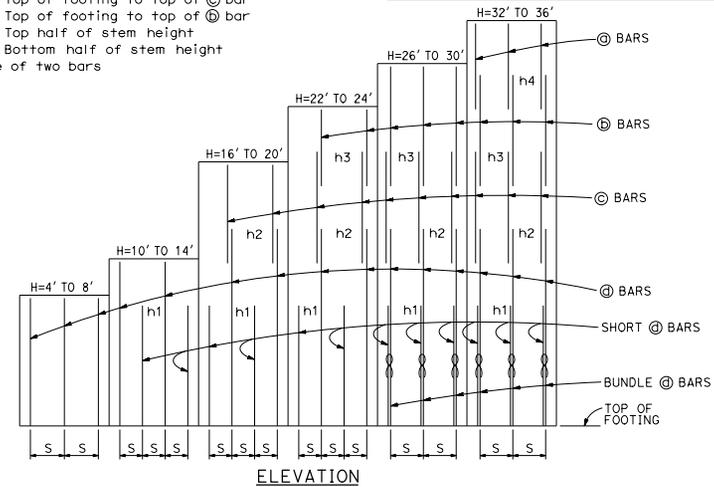
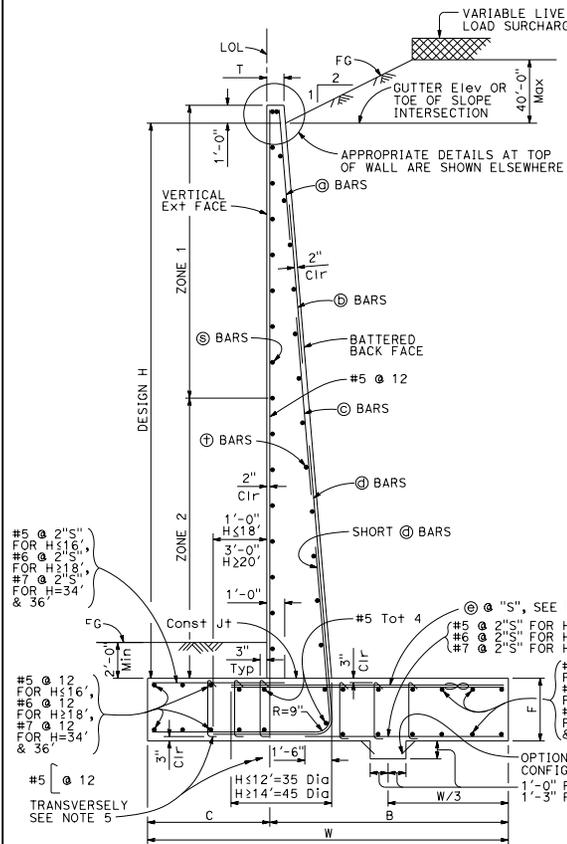


TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'
W	6'-0"	7'-6"	9'-6"	11'-0"	12'-6"	15'-6"	17'-3"	19'-6"	21'-9"	23'-6"	26'-0"	28'-1"	30'-3"	31'-6"	33'-0"	34'-8"	35'-11"
C	2'-0"	2'-6"	3'-3"	3'-6"	4'-3"	5'-0"	5'-3"	5'-9"	6'-9"	7'-3"	8'-3"	8'-9"	9'-0"	9'-6"	10'-0"	10'-10"	11'-3"
B	4'-0"	5'-0"	6'-3"	7'-6"	8'-3"	10'-6"	12'-0"	13'-9"	15'-0"	16'-3"	17'-9"	19'-4"	21'-3"	22'-0"	23'-0"	23'-10"	24'-8"
F	1'-6"	1'-6"	2'-0"	2'-3"	2'-6"	2'-8"	2'-10"	3'-0"	3'-4"	3'-6"	3'-6"	3'-7"	3'-9"	3'-9"	3'-9"	4'-0"	4'-4"
T	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"	11 1/2"
BATTER	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	5/8: 12	5/8: 12	3/4: 12	7/8: 12	1: 12	1 1/8: 12	1 1/8: 12	1 1/8: 12	1 1/8: 12	1 1/8: 12	1 1/8: 12	1 1/8: 12
SPACING "S"	16"	12"	10"	7"	7"	7"	7"	7"	7"	6"	6"	10"	8"	7"	7"	7"	7"
@ BARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#5	#5
⊕ BARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#5	#5
⊙ BARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#5	#5
⊚ BARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#5	#5
⊛ BARS	#5	#5	#6	#6	#7	#8	#9	#10	#10	#10	#11	#11	#11	#11	#11	#11	#11
⊜ BARS	#5	#5	#6	#6	#7	#8	#9	#10	#10	#10	#11	#11	#11	#11	#11	#11	#11
h1	-	-	-	5'-3"	6'-4"	7'-6"	8'-9"	9'-9"	11'-0"	11'-3"	11'-6"	10'-3"	11'-9"	12'-3"	12'-6"	13'-3"	13'-8"
h2	-	-	-	-	-	-	12'-8"	15'-6"	17'-0"	16'-6"	17'-3"	18'-0"	17'-3"	17'-6"	14'-10"	15'-9"	16'-4"
h3	-	-	-	-	-	-	-	-	-	18'-9"	21'-3"	21'-3"	22'-4"	22'-8"	18'-0"	18'-6"	19'-6"
h4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26'-3"	27'-4"	28'-6"
No. of Toe Stirrups	0	0	0	0	0	0	0	0	0	0	0	5	5	6	7	8	9
No. of Heel Stirrups	0	0	0	0	0	0	0	0	4	6	7	8	10	10	11	11	11
ZONE 1 @ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 10
ZONE 2 @ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#7 @ 12	#7 @ 12	#7 @ 12	#7 @ 10	#7 @ 10
ZONE 1 ⊕ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12
ZONE 2 ⊕ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#6 @ 12	#6 @ 12
Ser: B', q ₀	4.0, 0.9	5.5, 1.0	9.3, 1.0	10.9, 1.3	12.3, 1.5	14.8, 1.9	16.6, 2.1	18.7, 2.4	20.6, 2.7	22.3, 3.0	24.2, 3.3	26.1, 3.5	28.2, 3.9	29.6, 4.0	31.1, 4.2	32.7, 4.4	34.1, 4.6
Str: B', q ₀	2.2, 2.2	3.5, 2.2	5.1, 2.3	6.3, 2.6	7.6, 2.7	12.9, 3.1	14.3, 3.6	16.5, 3.9	19.4, 4.5	20.7, 4.8	22.5, 5.2	24.3, 5.6	26.2, 6.0	27.5, 6.3	28.8, 6.6	30.3, 6.9	31.8, 7.2
Ext: B', q ₀	2.3, 3.4	2.7, 4.4	3.6, 5.0	3.8, 6.5	4.5, 7.0	7.0, 6.1	7.6, 6.9	9.3, 7.0	11.0, 7.1	11.8, 7.6	14.1, 7.4	15.6, 7.7	17.1, 8.0	17.2, 8.7	18.1, 9.0	19.0, 9.4	19.4, 10.0

- NOTES:**
1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 3-3 and B0-3 3-4
3. At ⊕ and short ⊕ 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.
4. Bundle ⊕ bars for H ≥ 26'.
5. Hook stirrups around & space with alternating transverse reinforcement at 2 x "S".

RETAINING WALL TYPE 1 (CASE 2)
NO SCALE

REVISED STANDARD PLAN RSP B3-1B

RSP B3-1B DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP B3-1B

TO ACCOMPANY PLANS DATED _____

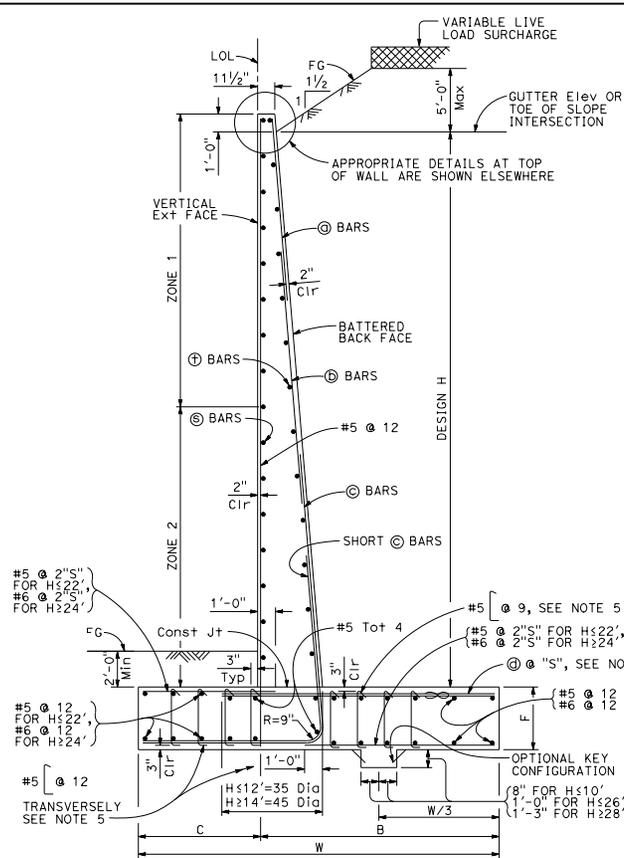
Dist#	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Gary Wong
REGISTERED CIVIL ENGINEER

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.

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



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:

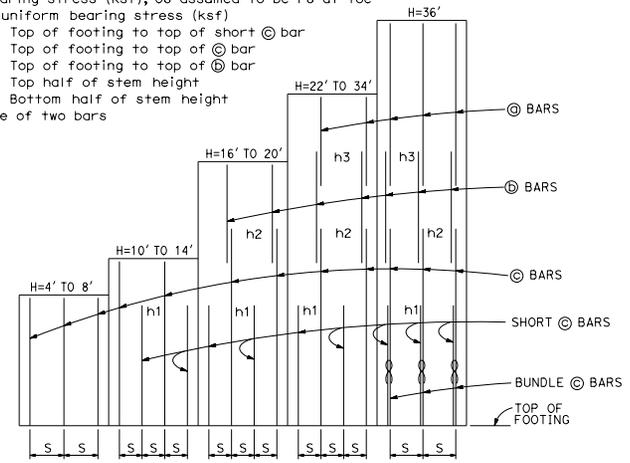
- DESIGN:** AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
- LS:** Varied surcharge on level ground surface
- DC:** Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered
- SEISMIC:** $k_h = 0.2$
 $k_v = 0.0$
- SOIL:** $\phi = 34^\circ$
 $\gamma = 120$ 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 $Q = aDC + \beta EV + \eta EH + 1.75LS$
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
 β : 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

SYMBOLS:

- Ser - service limit state I
Str - strength limit state I
Ext - extreme event limit state I
B' - effective footing width (ft)
q₀ - net bearing stress (ksf), OG assumed to be FG at toe
q₁ - gross uniform bearing stress (ksf)
h₁ = Top of footing to top of short ⊕ bar
h₂ = Top of footing to top of ⊙ bar
h₃ = Top of footing to top of ⊚ bar
Zone 1 = Top half of stem height
Zone 2 = Bottom half of stem height
∞ - Bundle of two bars



ELEVATION

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'
W	6'-5"	7'-3"	8'-3"	9'-3"	10'-8"	12'-6"	13'-9"	15'-1"	16'-6"	17'-10"	19'-3"	20'-4"	21'-5"	22'-8"	23'-11"	25'-1"	26'-4"
C	2'-2"	2'-6"	3'-0"	3'-6"	3'-8"	3'-11"	4'-0"	4'-7"	5'-3"	6'-0"	7'-0"	7'-9"	8'-3"	8'-8"	9'-0"	9'-6"	9'-10"
B	4'-3"	4'-9"	5'-3"	5'-9"	7'-0"	8'-7"	9'-9"	10'-6"	11'-3"	11'-10"	12'-3"	12'-7"	13'-2"	14'-0"	14'-11"	15'-7"	16'-6"
F	1'-4"	1'-4"	1'-4"	1'-6"	1'-6"	1'-8"	2'-0"	2'-4"	2'-9"	3'-2"	3'-0"	3'-0"	3'-0"	3'-0"	3'-3"	3'-3"	3'-3"
BATTER	1/2" @ 12"	1/2" @ 12"	1/2" @ 12"	1/2" @ 12"	1/2" @ 12"	1/2" @ 12"	1/2" @ 12"	1/2" @ 12"	1/2" @ 12"	1/2" @ 12"	3/4" @ 12"	3/4" @ 12"	1" @ 12"	1" @ 12"	1 1/4" @ 12"	1 1/4" @ 12"	1 1/4" @ 12"
SPACING "S"	16"	16"	16"	8"	8"	7"	7"	6"	6"	7"	7"	6"	6"	6"	6"	6"	8"
⊕ BARS	-	-	-	-	-	-	-	-	-	#5	#5	#5	#5	#5	#5	#5	#5
⊙ BARS	-	-	-	-	-	-	#5	#5	#5	#7	#7	#7	#8	#8	#8	#8	#9
⊚ BARS	#5	#5	#6	#5	#6	#6	#7	#8	#8	#9	#10	#10	#10	#10	#10	#11	#11
∞ BARS	#5	#5	#6	#5	#6	#8	#9	#9	#9	#10	#11	#9	#9	#9	#10	#10	#9
h1	-	-	-	4'-2"	4'-7"	6'-2"	7'-3"	8'-6"	8'-8"	9'-8"	11'-0"	12'-2"	14'-0"	13'-0"	15'-10"	14'-6"	12'-0"
h2	-	-	-	-	-	-	10'-6"	12'-9"	14'-2"	13'-8"	17'-0"	18'-6"	17'-10"	18'-9"	20'-3"	21'-0"	17'-0"
h3	-	-	-	-	-	-	-	-	-	15'-6"	17'-9"	19'-6"	23'-0"	24'-8"	25'-6"	24'-8"	-
No. of Toe Stirrups	0	0	0	0	0	0	0	0	0	0	0	6	6	7	7	7	8
No. of Heel Stirrups	0	0	0	0	0	0	0	0	0	0	0	6	6	6	6	6	6
ZONE 1 ⊕ BARS	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"
ZONE 2 ⊙ BARS	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"	#5 @ 18"
ZONE 1 ⊚ BARS	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
ZONE 2 ⊚ BARS	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
Ser: B', q ₀	4.3, 0.8	4.9, 1.1	5.6, 1.3	7.1, 1.5	8.0, 1.8	9.3, 2.1	10.6, 2.3	11.9, 2.5	13.3, 2.6	14.6, 2.8	15.9, 2.9	17.0, 3.0	18.0, 3.1	19.3, 3.3	20.4, 3.5	21.5, 3.7	22.7, 3.9
Str: B', q ₀	2.4, 2.2	2.4, 2.7	2.7, 3.2	3.0, 3.7	4.3, 3.8	5.9, 3.8	7.0, 4.1	7.9, 4.3	9.0, 4.5	9.9, 4.7	10.8, 4.9	11.6, 5.0	12.3, 5.2	13.3, 5.4	14.2, 5.7	15.0, 5.9	16.0, 6.1
Ext: B', q ₀	4.1, 1.5	3.9, 2.1	3.8, 2.8	3.5, 3.9	3.6, 4.9	4.2, 5.5	4.6, 6.3	5.0, 7.0	5.6, 7.4	6.0, 8.0	6.5, 8.4	6.9, 8.6	7.2, 9.2	7.7, 9.6	8.1, 10.4	8.4, 10.9	8.9, 11.3

NOTES:

TYPICAL SECTION

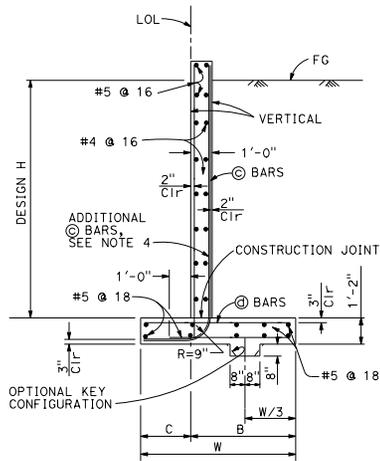
- For details not shown and drainage notes see RSP B3-5
- For wall stem joint details see B0-3 3-3 and B0-3 3-4
- At ⊕ bars:
H < 6', no splices are allowed within 1'-8" above the top of footing.
H > 6', no splices are allowed within H/4 above the top of footing.
- Bundle ⊚ bars for H = 36'.
- Hook stirrups around & space with alternating transverse reinforcement at 2 x 'S'.

RSP B3-1C DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
RETAINING WALL TYPE 1 (CASE 3)
NO SCALE

REVISED STANDARD PLAN RSP B3-1C

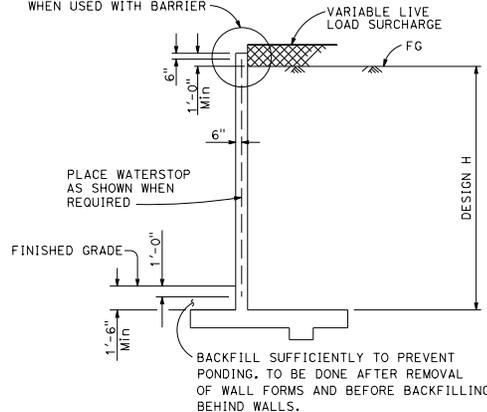
2010 REVISED STANDARD PLAN RSP B3-1C



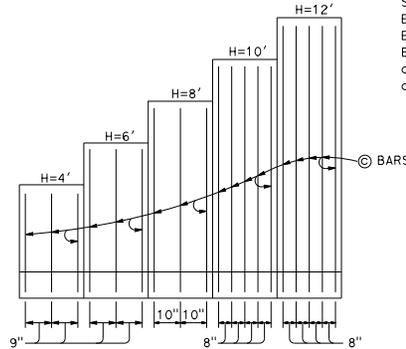
SPREAD FOOTING SECTION

Place concrete in toe against undisturbed material, except as permitted by the Engineer.

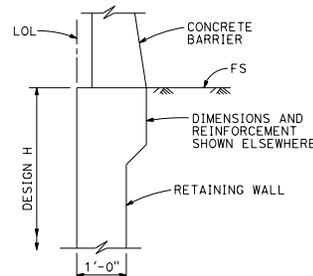
APPROPRIATE DETAILS AT TOP OF WALL ARE SHOWN ELSEWHERE, SEE "STEM HAUNCH DETAIL" WHEN USED WITH BARRIER



DESIGN SECTION



ELEVATION



STEM HAUNCH DETAIL

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA						
DESIGN H	4'	6'	8'	10'	12'	
W	7'-0"	7'-0"	7'-3"	7'-5"	8'-2"	
C	2'-3"	2'-3"	2'-3"	2'-5"	2'-7"	
B	4'-9"	4'-9"	5'-0"	5'-0"	5'-7"	
⊙ BARS	#6 @ 9	#6 @ 9	#7 @ 10	#7 @ 8	#7 @ 8	
⊙ BARS	#5 @ 9	#5 @ 9	#6 @ 10	#7 @ 8	#7 @ 8	
Ser: B', q ₀	6.7, 0.9	6.7, 1.0	6.3, 1.3	5.8, 1.6	6.2, 1.9	
Str: B', q ₀	6.6, 1.6	5.2, 1.7	3.7, 2.2	2.8, 3.3	3.0, 3.9	
Ext I: B', q ₀	5.6, 0.9	4.8, 1.4	4.1, 2.0	3.1, 3.2	2.7, 4.5	
Ext II: B', q ₀	2.8, 1.9	2.7, 2.5	2.8, 3.0	2.6, 3.7	3.4, 3.6	

SYMBOLS:

- Ser - service limit state I
- Str - strength limit state I
- Ext I - extreme event limit state I
- Ext II - extreme event limit state II
- B' - effective footing width (ft)
- q₀ - net bearing stress (ksf), OG assumed to be FG at toe
- q₀ - gross uniform bearing stress (ksf)

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

REGISTERED CIVIL ENGINEER
 Gary Wong
 No. C58238
 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
- CT: 54 kip transverse force applied at H_e = 32", distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.
- SEISMIC: K_h = 0.2
K_v = 0.0
- SOIL: φ = 34°
γ = 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 = αDC+βEV+γEH+1.75LS
Extreme I Q = 1.00DC+1.00EV+1.00EH+1.00EOD+1.00EOE
Extreme II Q = 1.00DC+1.00EV+1.00EH+1.00CT
- Where:
Q: Force Effects
α: 1.25 or 0.90, Whichever Controls Design
β: 1.35 or 1.00, Whichever Controls Design
γ: 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
EOE: Seismic Earth Pressure
EOD: Soil and Structural and Nonstructural Components Inertia
CT: Vehicular Collision Force

NOTES:

1. For details not shown and drainage notes see
2. For wall stem joint details see and
3. At ⊙ 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.
4. Provide #6 @ 8" ⊙ bars in addition to tabulated ⊙ bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall location.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
RETAINING WALL TYPE 1A (CASE 1)
 NO SCALE
 RSP B3-3A DATED APRIL 20, 2012 SUPPLEMENTS THE
 STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-3A

2010 REVISED STANDARD PLAN RSP B3-3A

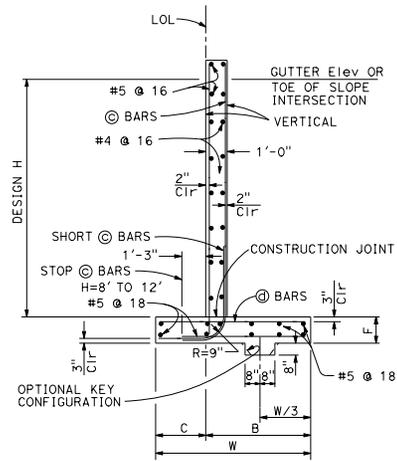
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Jerry Wong
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

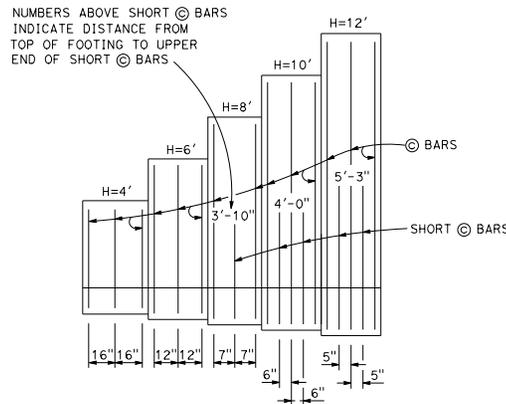
Gary Wong
No. C58238
Exp. 6-30-12
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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.

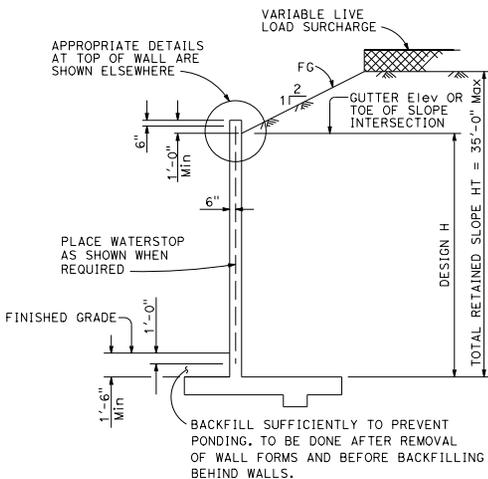


SPREAD FOOTING SECTION

Place concrete in toe against undisturbed material, except as permitted by the Engineer.



ELEVATION



DESIGN SECTION

SYMBOLS:

- Ser - service limit state I
- Str - strength limit state I
- Ext - extreme event limit state I
- B' - effective footing width (ft)
- q₀ - net bearing stress (ksf), OG assumed to be FG at toe
- q_o - gross uniform bearing stress (ksf)

DESIGN H	4'	6'	8'	10'	12'
W	5'-10"	7'-7"	9'-0"	11'-0"	12'-5"
C	2'-4"	2'-7"	3'-0"	3'-6"	4'-0"
B	3'-6"	5'-0"	6'-0"	7'-6"	8'-5"
F	1'-4"	1'-7"	1'-7"	1'-9"	1'-9"
@ BARS	#5 @ 16	#5 @ 12	#5 @ 7	#6 @ 6	#7 @ 5
⊙ BARS	#5 @ 16	#5 @ 12	#5 @ 7	#6 @ 6	#7 @ 5
Ser: B', q ₀	4.0, 0.8	5.6, 1.0	8.8, 1.1	10.6, 1.3	12.0, 1.6
Str: B', q ₀	1.9, 2.0	3.5, 2.1	4.5, 2.3	6.5, 2.3	7.7, 2.5
Ext: B', q ₀	2.8, 2.3	3.3, 3.3	3.9, 3.9	5.3, 4.1	5.9, 4.5

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:

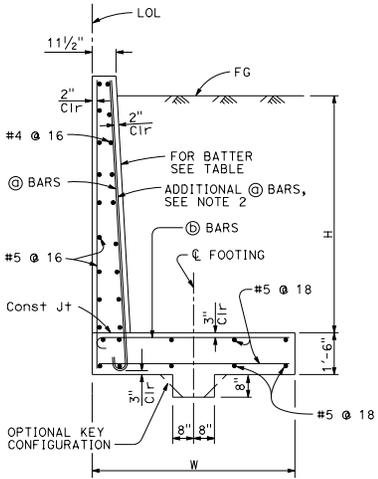
- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
- LS: Varied surcharge on level ground surface
- DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered
- SEISMIC: k_h = 0.2
k_v = 0.0
- SOIL: φ = 34°
γ = 120 pcf
- REINFORCED CONCRETE: 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 = αDC+βEV+ηEH+1.75LS
Extreme I Q = 1.00DC+1.00EV+1.00EH+1.00EOD+1.00EOE
- Where:
Q: Force Effects
α: 1.25 or 0.90, Whichever Controls Design
β: 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
EOE: Seismic Earth Pressure
EOD: Soil and Structural and Nonstructural Components Inertia

NOTES:

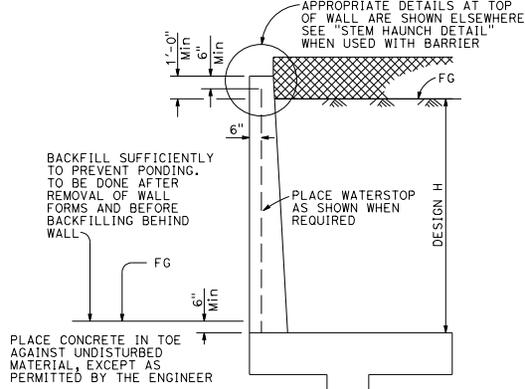
1. For details not shown and drainage notes see ^(RSP B3-5)
2. For wall stem joint details see ^(B0-3 3-3) and ^(B0-3 3-4)
3. At ⊙ and short ⊙ bars:
H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
H > 6', no splices are allowed within H/4 above the top of footing.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
RETAINING WALL TYPE 1A (CASE 2)
NO SCALE
RSP B3-3B DATED APRIL 20, 2012 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED 2010.
REVISED STANDARD PLAN RSP B3-3B

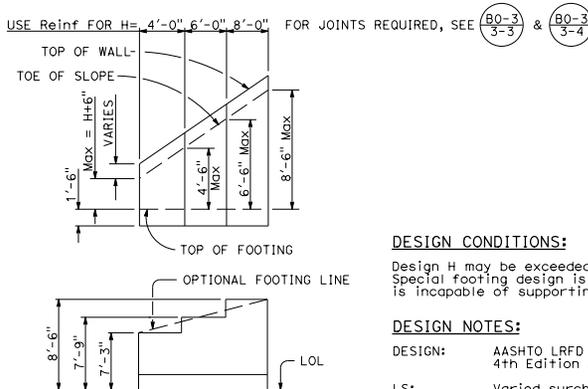
2010 REVISED STANDARD PLAN RSP B3-3B



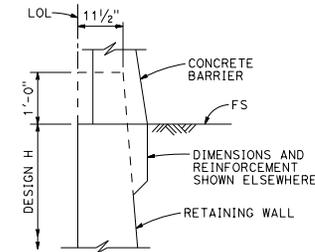
SPREAD FOOTING SECTION



DESIGN SECTION



TYPICAL LAYOUT EXAMPLE



STEM HAUNCH DETAIL

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

Gary Wong
 REGISTERED CIVIL ENGINEER
 No. C58238
 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:

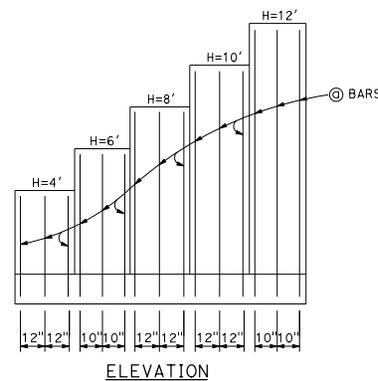
- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
- LS: Varied surcharge on level ground surface
- DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered
- CT: 54 kip transverse force applied at $H_e = 32'$, distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.
- 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 $Q = aDC+\beta EV+nEH+1.75LS$
 Extreme I $Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$
 Extreme II $Q = 1.00DC+1.00EV+1.00EH+1.00CT$

Where:

- Q: Force Effects
 a: 1.25 or 0.90, Whichever Controls Design
 β : 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
 CT: Vehicular Collision Force

NOTES:

- At \textcircled{A} 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.
- Provide #6 @ 8" \textcircled{A} bars in addition to tabulated \textcircled{A} bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations.



ELEVATION

SYMBOLS:

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

DESIGN H	4'	6'	8'	10'	12'
W	7'-3"	7'-9"	8'-6"	9'-6"	10'-6"
BATTER	NONE	NONE	100 : 2	100 : 3	100 : 4
\textcircled{A} BARS	#7 @ 12	#7 @ 10	#7 @ 12	#7 @ 12	#7 @ 10
\textcircled{B} BARS	#7 @ 12	#7 @ 10	#8 @ 12	#9 @ 12	#10 @ 10
Ser: B', q_0	6.2, 1.4	6.1, 1.8	6.4, 2.1	7.0, 2.5	7.7, 2.8
Str: B', q_0	6.2, 2.4	6.1, 2.9	5.3, 3.0	6.0, 3.5	6.6, 4.0
Ext I: B', q_0	4.4, 1.5	4.1, 2.2	4.0, 3.1	4.1, 3.9	4.2, 4.8
Ext II: B', q_0	2.5, 2.7	3.1, 3.0	3.8, 3.2	4.9, 3.3	5.8, 3.5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
RETAINING WALL TYPE 5 (CASE 1)
NO SCALE

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

REVISED STANDARD PLAN RSP B3-4A

DIS+ COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Gary Wong
REGISTERED CIVIL ENGINEER

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.

REGISTERED PROFESSIONAL ENGINEER
Gary Wong
No. C58288
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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 $Q = aDC + \phi EV + \eta EH + 1.75LS$
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
 ϕ : 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

NOTES:

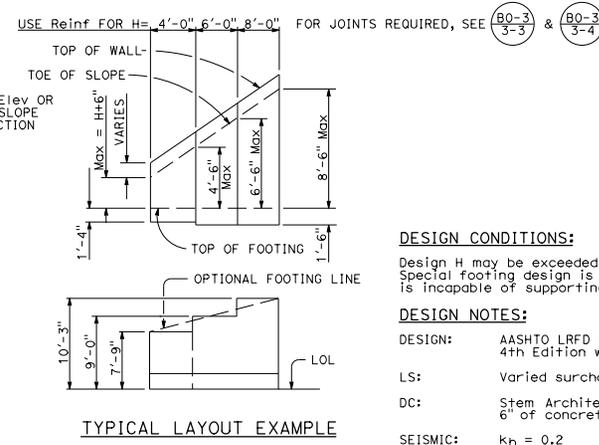
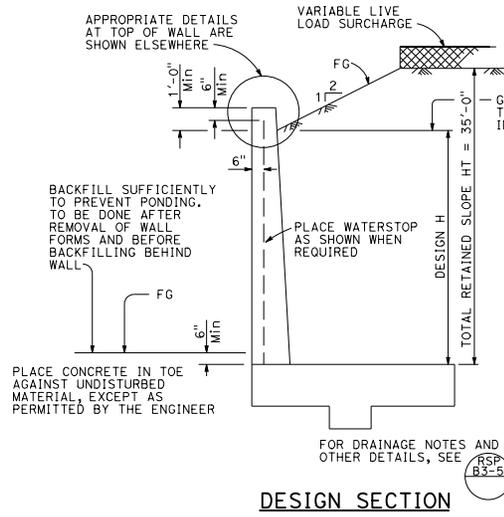
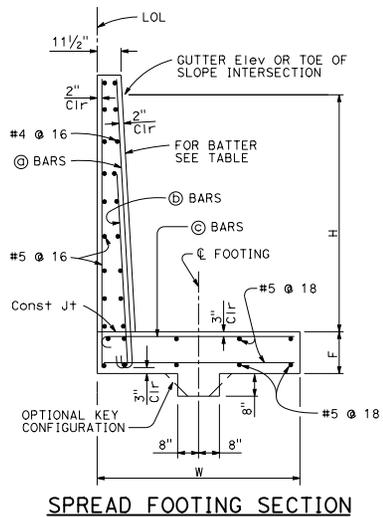
1. At \odot and \oplus bars:
H \leq 6', no splices are allowed within 1'-8" above the top of footing.
H > 6', no splices are allowed within H/4 above the top of footing.

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

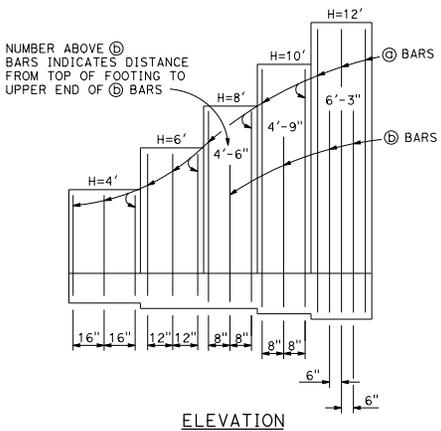


DESIGN SECTION

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
\oplus BARS	#5 @ 16	#5 @ 12	#5 @ 16	#6 @ 16	#5 @ 12
\odot BARS	NONE	NONE	#6 @ 16	#6 @ 16	#6 @ 12
\ominus 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



ELEVATION

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

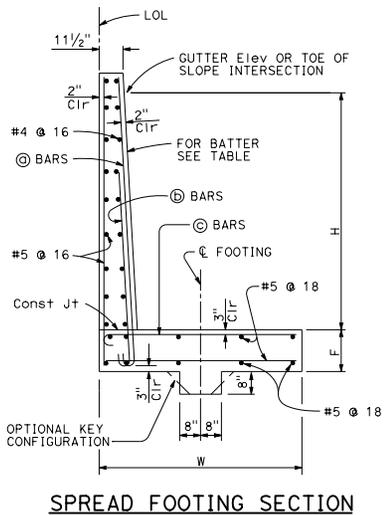
Gary Wong
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

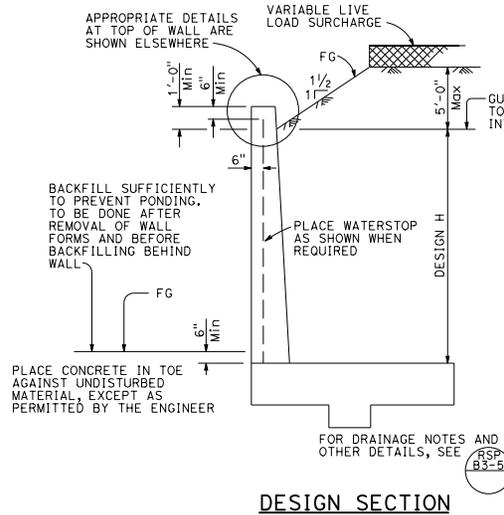
Gary Wong
No. C58238
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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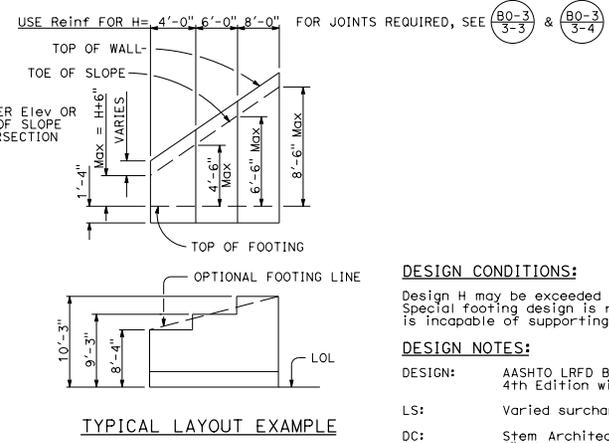
TO ACCOMPANY PLANS DATED _____



SPREAD FOOTING SECTION



DESIGN SECTION



TYPICAL LAYOUT EXAMPLE

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:

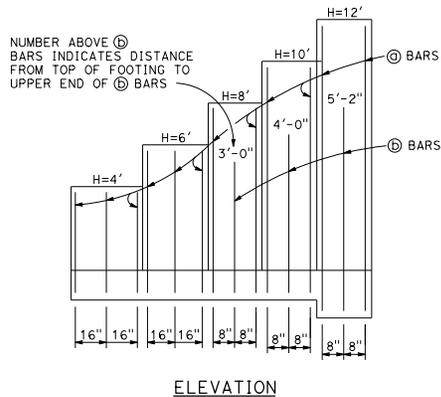
- Service I $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS$
- Strength I $Q = qDC + pEV + rEH + 1.75LS$
- Extreme I $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$

Where:

- Q: Force Effects
- a: 1.25 or 0.90, Whichever Controls Design
- p: 1.35 or 1.00, Whichever Controls Design
- r: 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:

- At \textcircled{a} and \textcircled{b} 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.



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), OG assumed to be FG at toe
- q_g - 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
\textcircled{a} BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
\textcircled{b} BARS	NONE	NONE	#5 @ 16	#5 @ 16	#5 @ 16
\textcircled{c} BARS	#6 @ 8	#7 @ 8	#8 @ 8	#9 @ 8	#9 @ 8
Ser: B', q_0	5.6, 1.4	6.4, 1.8	7.4, 2.2	7.8, 2.6	8.9, 3.0
Str: B', q_0	3.6, 2.4	4.2, 3.0	5.0, 3.4	5.3, 4.0	6.4, 4.2
Ext: B', q_0	4.4, 2.1	4.2, 3.0	4.2, 4.0	3.9, 5.5	4.2, 6.7

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

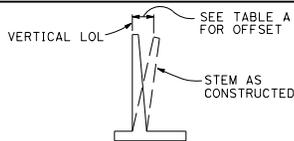
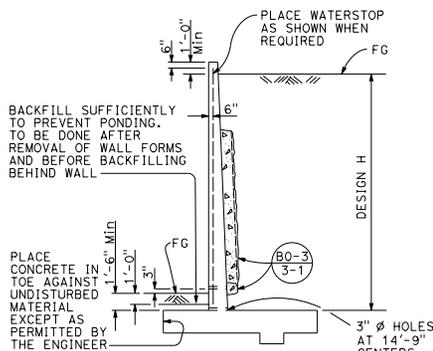
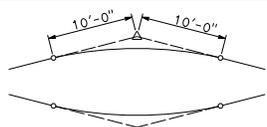


TABLE A

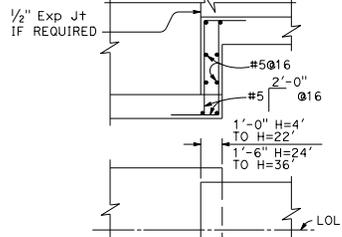
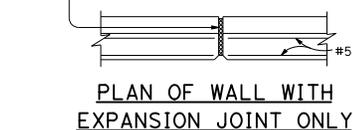
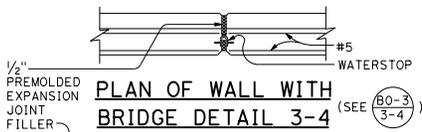
H	OFFSET
4'-12'	$\frac{H}{200}$
14'-16'	$\frac{H}{160}$
18'-20'	$\frac{H}{140}$
22'-24'	$\frac{H}{130}$
26'-36'	$2\frac{1}{2}''$

APPROXIMATE WALL OFFSET VALUES

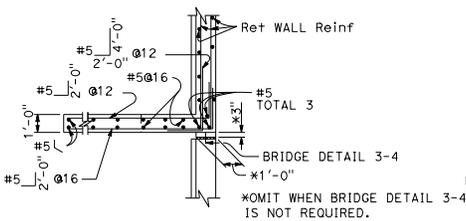
Values for offsetting forms to be determined by the Engineer.



DESIGN AND DRAINAGE

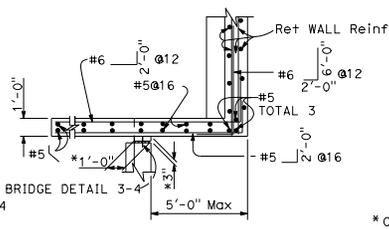


FOOTING STEP



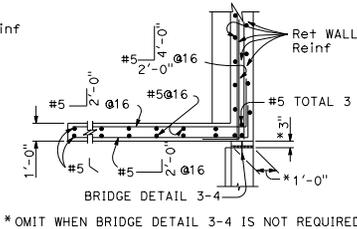
PLAN

(For return wall Type "A")



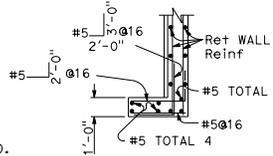
PLAN

(For return wall Type "B")



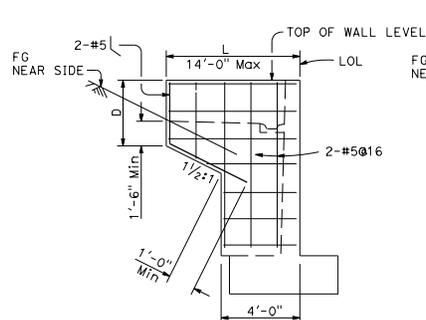
PLAN

(For return wall Type "C")



PLAN

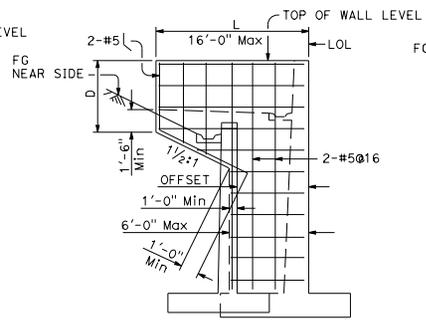
(For return wall Type "D")



ELEVATION

RETURN WALL TYPE "A"

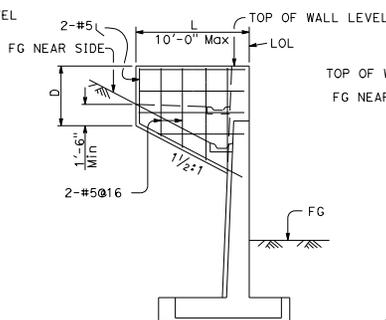
Use where H=8' or less



ELEVATION

RETURN WALL TYPE "B"

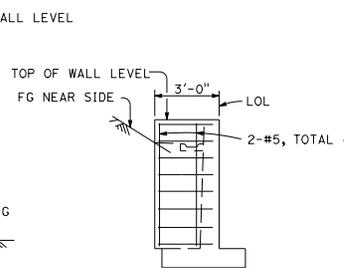
Use where H=10' or more on offset walls



ELEVATION

RETURN WALL TYPE "C"

Use where H=10' or more on straight walls



ELEVATION

RETURN WALL TYPE "D"

Use where H=6' or less

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

Gary Wong
REGISTERED CIVIL ENGINEER

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.

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

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 table

Return wall not required unless shown elsewhere

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments

LIVE LOAD: Surcharge on level ground surface

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

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

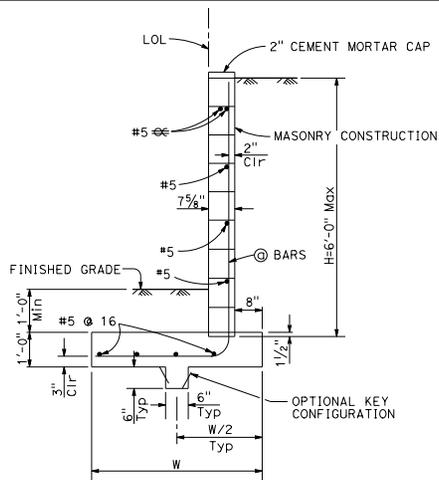
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS No. 1

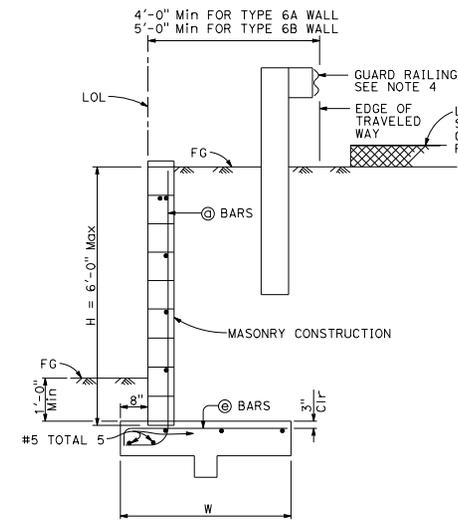
NO SCALE

RSP B3-5 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN B3-5 DATED MAY 20, 2011 - PAGE 277 OF THE STANDARD PLANS BOOK DATED 2010.
REVISED STANDARD PLAN RSP B3-5

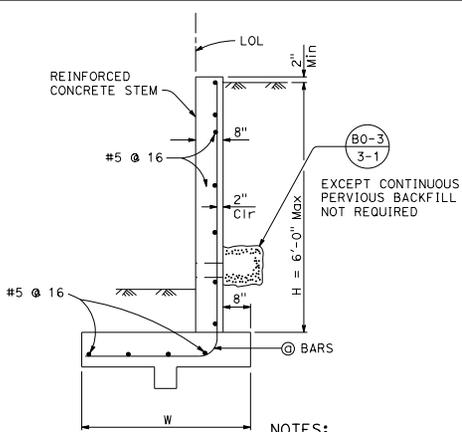
2010 REVISED STANDARD PLAN RSP B3-5



TYPE 6A WALL



TYPE 6B WALL



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 5'-0", dependent on wall type.
- For reinforced concrete wall stem joint details, See (B0-3) and (B0-3) 3-3 3-4.
- No splices are allowed on @ bars.
- See "Retaining Wall Type 6 Details" sheet for Elevation View and Footing Step Details.

SYMBOLS:

- Ser - service limit state I
- Str - strength limit state I
- 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)

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

REGISTERED CIVIL ENGINEER
 Gary Wong
 No. C58288
 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.

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:** φ = 34°
 γ = 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 0 = 1.00DC+1.00EV+1.00EH+1.00LS
 Strength I 0 = αDC+PEV+EH+1.75LS
 Extreme I 0 = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE

- Where:**
- Q: Force Effects
 - α: 1.25 or 0.90, Whichever Controls Design
 - β: 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
 - EQD: Seismic Earth Pressure
 - EQE: 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'-0"	3'-3"	3'-8"	4'-2"	4'-8"
@ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
Ser: B', q _o	2.8, 0.2	3.0, 0.3	3.4, 0.3	3.8, 0.3	4.3, 0.3
Str: B', q _o	2.7, 0.6	2.9, 0.7	3.2, 0.7	3.6, 0.7	3.3, 0.6
Ext: B', q _o	1.7, 0.8	1.6, 0.9	1.7, 1.0	2.0, 1.0	2.1, 1.0

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

DESIGN H	3'-4"	4'-0"	4'-8"	5'-4"	6'-0"
W	3'-0"	3'-9"	4'-0"	4'-6"	4'-9"
@ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
@ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16
Ser: B', q _o	2.6, 0.4	3.4, 0.4	2.7, 0.8	3.1, 0.8	3.2, 1.0
Str: B', q _o	2.6, 0.8	3.3, 0.9	1.7, 1.6	2.1, 1.6	2.0, 1.8
Ext: B', q _o	1.5, 1.1	2.0, 1.1	2.0, 1.4	2.2, 1.5	2.1, 1.9

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
RETAINING WALL TYPE 6 (CASE 1)
NO SCALE

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

REVISED STANDARD PLAN RSP B3-7A

2010 REVISED STANDARD PLAN RSP B3-7A

SYMBOLS:

Ser - service limit state 1
Str - strength limit state 1
Ext - extreme event limit state I
B' - effective footing width (ft)
q₀ - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

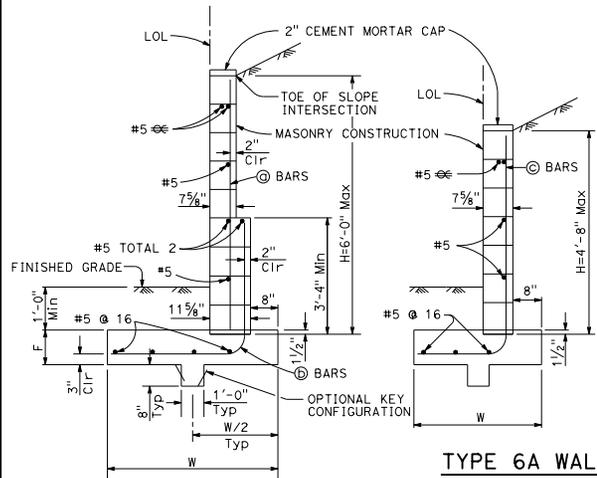
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Gary Wong
REGISTERED CIVIL ENGINEER

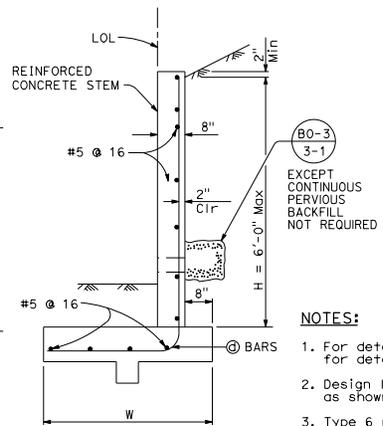
April 20, 2012
PLANS APPROVAL DATE

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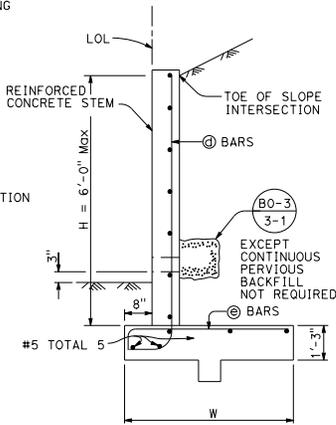
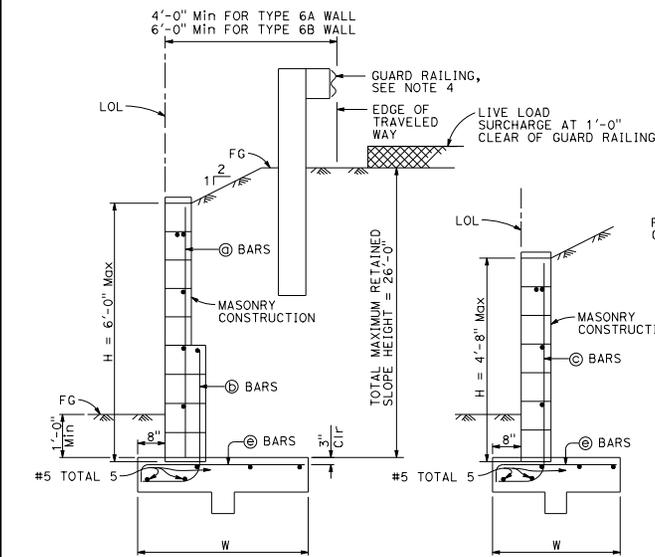
REGISTERED PROFESSIONAL ENGINEER
No. C58238
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA



TYPE 6A WALL



TYPE 6B WALL



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 $Q = aDC+PEV+nEH+1.75LS$
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

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 ₀	3.4, 0.3	3.8, 0.3	4.3, 0.3	4.9, 0.4	6.0, 0.4
Str: B', q ₀	3.3, 0.7	3.6, 0.7	4.1, 0.8	4.7, 0.8	5.7, 0.9
Ext: B', q ₀	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 ₀	3.3, 0.6	3.7, 0.8	4.0, 0.9	4.5, 1.0	4.1, 1.4
Str: B', q ₀	1.9, 1.4	2.3, 1.6	2.5, 1.8	2.8, 1.9	1.8, 3.6
Ext: B', q ₀	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

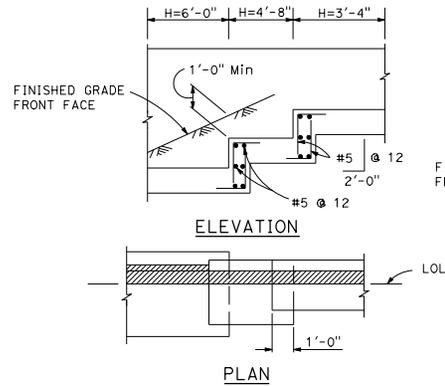
Jerry Wong
 REGISTERED CIVIL ENGINEER

April 20, 2012
 PLANS APPROVAL DATE

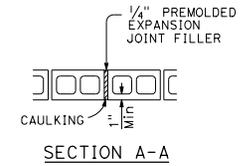
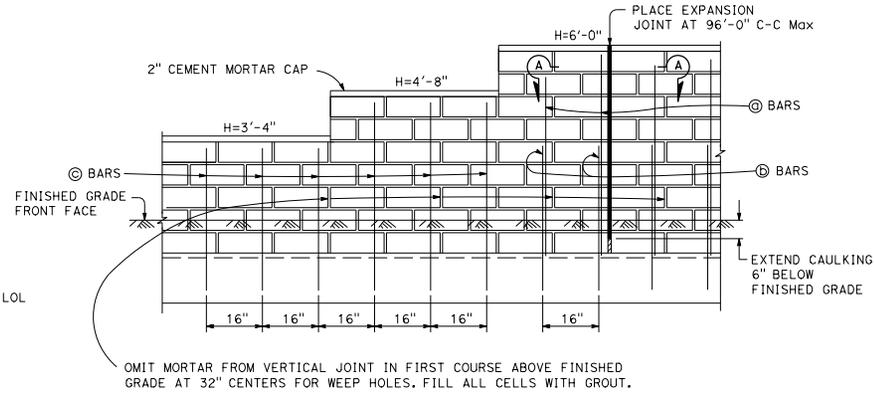
Gary Wong
 No. C58238
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED _____



FOOTING STEP DETAILS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
RETAINING WALL TYPE 6 DETAILS
NO SCALE

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

REVISED STANDARD PLAN RSP B3-7C

2010 REVISED STANDARD PLAN RSP B3-7C

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

Florante E. Bautista
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

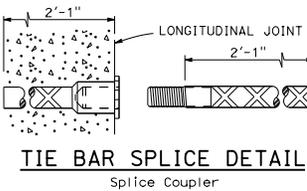
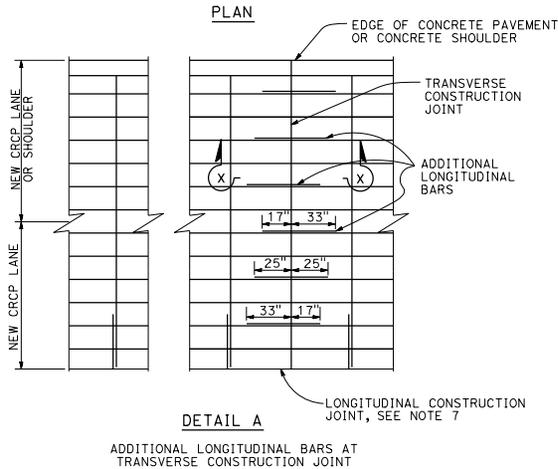
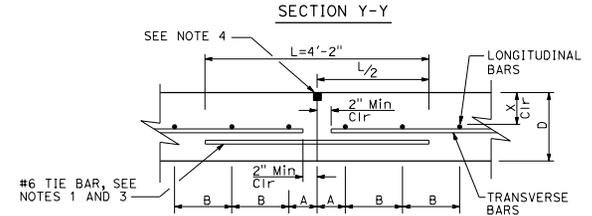
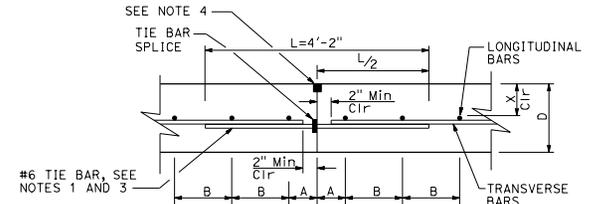
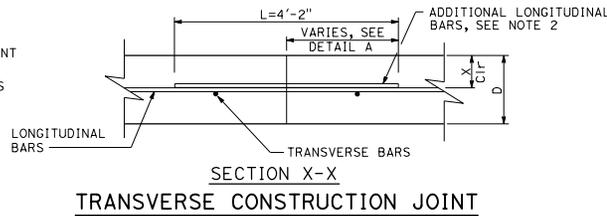
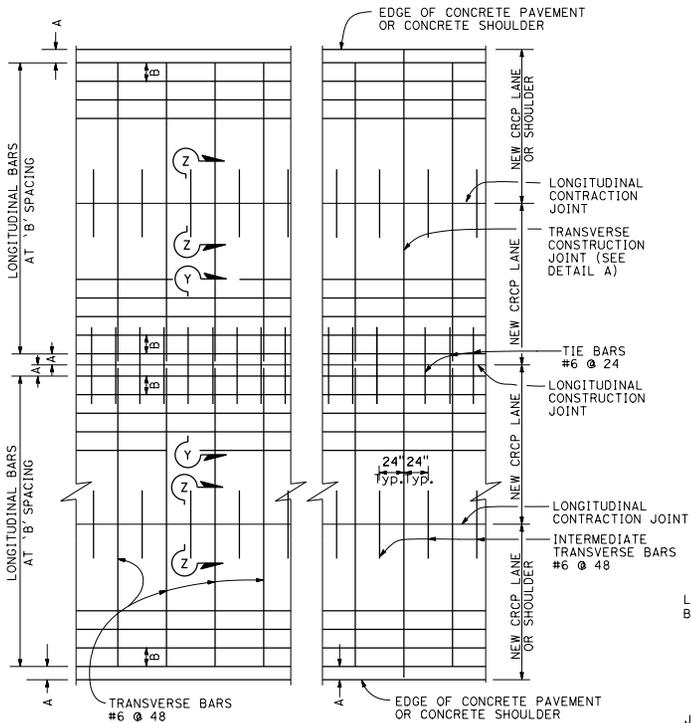
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REGISTERED PROFESSIONAL ENGINEER
Florante
E. Bautista
No. 054859
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

TABLE No. 1 LONGITUDINAL BAR REINFORCEMENT

SLAB THICKNESS AND BAR SIZE	FIRST SPACING AT EDGE OR JOINT	REGULAR BARS		ADDITIONAL BARS AT TRANSVERSE CONSTRUCTION JOINT		Cir
		SPACING A	SPACING B	SPACING 2 x B	LENGTH L	
.80'	#6 3" TO 4"	7.5"	15"	50"	4"	4"
.85'	#6 3" TO 4"	7.0"	14"	50"	4"	4"
.90'	#6 3" TO 4"	6.5"	13"	50"	4"	4"
.95'	#6 3" TO 4"	6.25"	12.5"	50"	4"	4"
1.00'	#6 3" TO 4"	6.0"	12"	50"	6"	6"
1.05'	#6 3" TO 4"	5.75"	11.5"	50"	6"	6"
1.10'	#6 3" TO 4"	5.5"	11"	50"	6"	6"

- NOTES:** TO ACCOMPANY PLANS DATED _____
- Place tie bar in the same plane as transverse bars.
 - Place additional longitudinal bars in the same horizontal plane as the longitudinal bars.
 - Place tie bars and intermediate transverse bars parallel to transverse bars.
 - Joint seals at longitudinal construction joints shall conform to the details shown on Standard Plan P20 for Type C joint.
 - Intermediate transverse bar spacing shall be equal to transverse bar spacing.
 - Reinforcing bar splices shall be a minimum of 25".
 - Additional longitudinal bars symmetrical about longitudinal construction joint.
 - Place intermediate transverse bar in the same plane as transverse bars.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
CONCRETE PAVEMENT**

NO SCALE

RSP P4 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P4
DATED MAY 20, 2011 - PAGE 128 OF THE STANDARD PLANS BOOK DATED 2010.

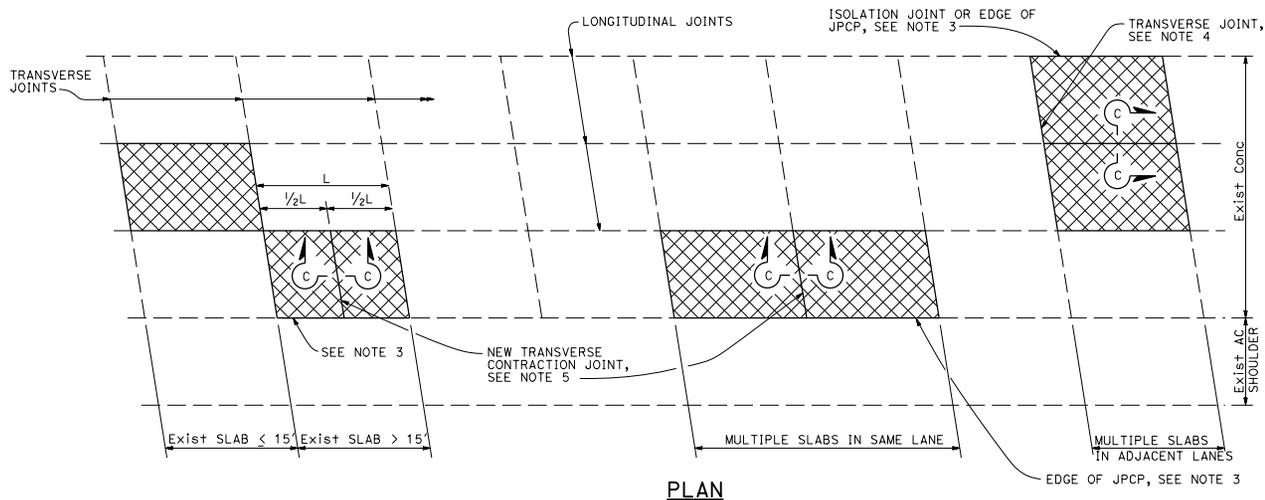
REVISED STANDARD PLAN RSP P4

2010 REVISED STANDARD PLAN RSP P4

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

William K. Farbach
 REGISTERED CIVIL ENGINEER
 No. C49042
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

April 20, 2012
 PLANS APPROVAL DATE
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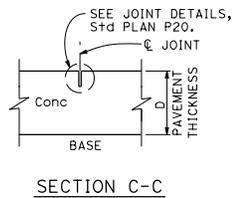
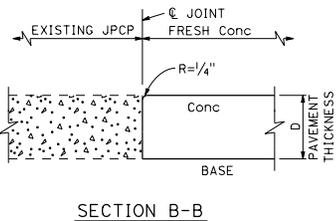
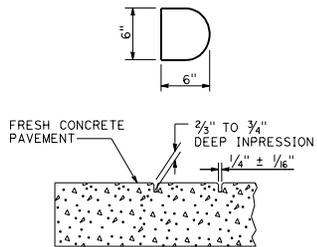
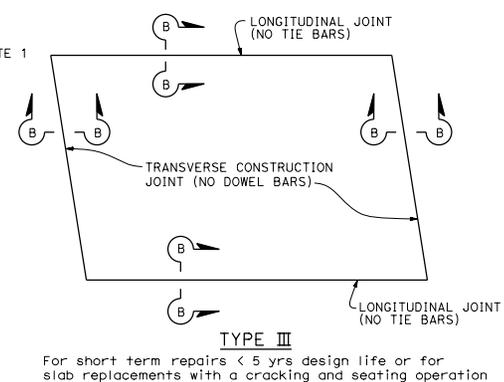
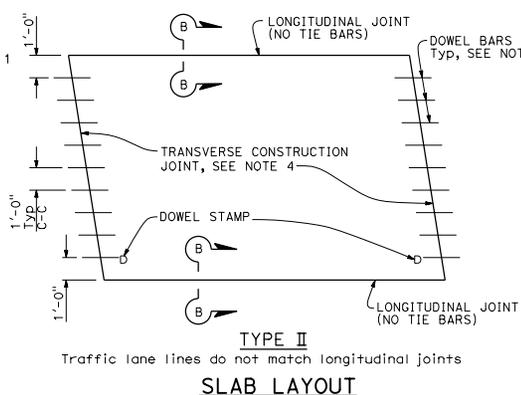
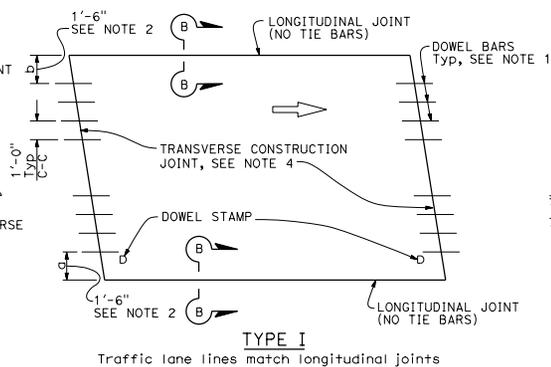
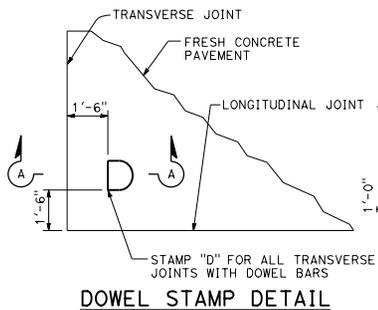


NOTES:

- For details not shown, see Revised Standard Plan P10.
- Where the existing outer shoulder pavement is asphalt concrete pavement, the "a" dimension shall be 1'-0" and the "b" dimension shall be 2'-0".
- Side forms shall be used where edge of pavement is adjacent to asphalt concrete.
- For detail, see Transverse Construction Joint for existing concrete pavement detail on Revised Standard Plan P10.
- Transverse joint to match skew of existing joint. Omit dowel bars.

LEGEND:

Replace Concrete Pavement (See Slab Layout Detail)



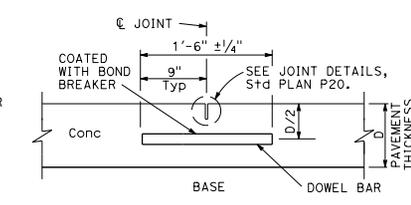
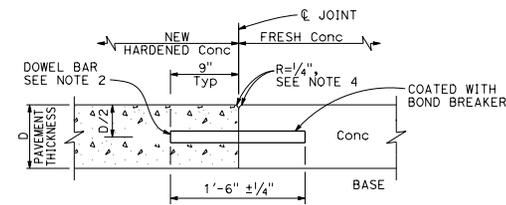
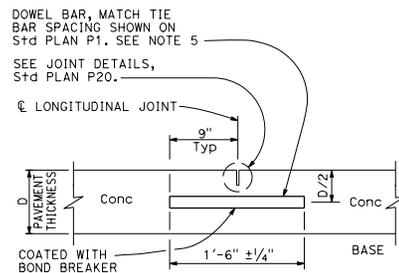
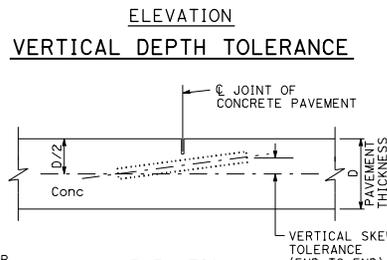
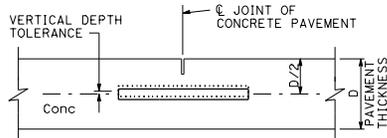
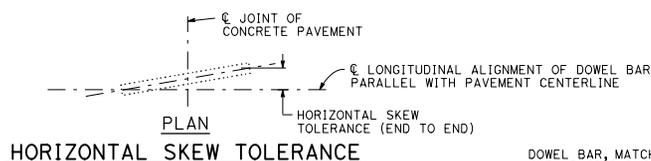
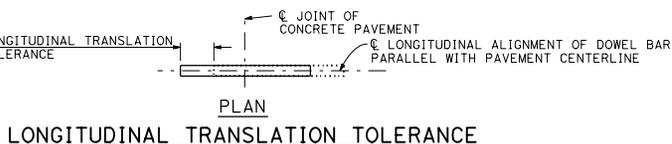
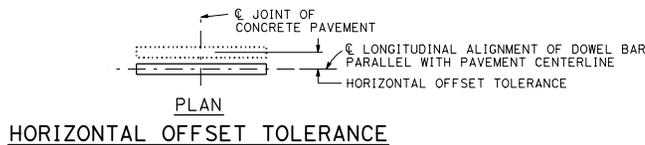
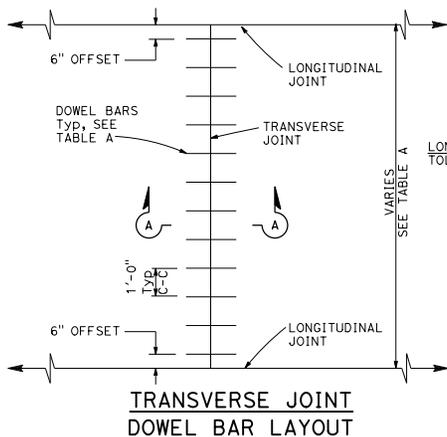
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**JOINED PLAIN CONCRETE PAVEMENT-
 INDIVIDUAL SLAB REPLACEMENT**

NO SCALE

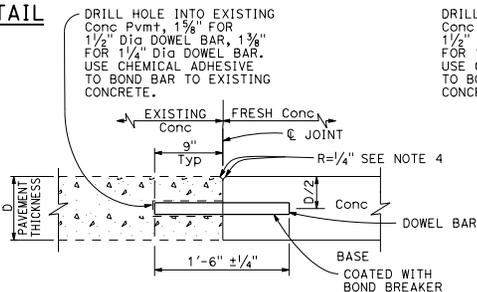
RSP P8 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P8
 DATED MAY 20, 2011 - PAGE 130 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P8

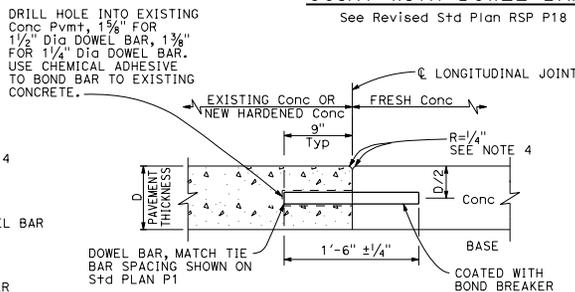
2010 REVISED STANDARD PLAN RSP P8



LONGITUDINAL CONTRACTION JOINT WITH DOWEL BARS
See Revised Std Plan RSP P18



TRANSVERSE CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT
Drill and bond locations



LONGITUDINAL CONSTRUCTION JOINT WITH DOWEL BARS
See Revised Std Plan RSP P18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
William K. Farnbach REGISTERED CIVIL ENGINEER April 20, 2012 PLANS APPROVAL DATE No. C49042 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA					

- TO ACCOMPANY PLANS DATED _____
- NOTES:**
- See Standard Plan P1 for typical dowel bar placement and locations.
 - 1/2" Dia dowel bars are to be used with a pavement thickness, D, equal to or greater than 0.70 feet. For pavement thickness, D, less than 0.70 feet, use 1/4" Dia dowel bars.
 - For widths not shown, see Project Plans.
 - If fresh concrete pavement is placed adjacent to existing concrete pavement, the top corner of the existing concrete pavement does not need to be rounded to the 1/4" radius, as shown.
 - May also use 3/4" Dia dowel bars 2'-4" ± 1/4" in length. Center the length of dowel bars at the centerline of longitudinal joint.

TABLE A (See Note 3)

DOWEL BAR TRANSVERSE SPACING TABLE	
WIDTH BETWEEN LONGITUDINAL JOINTS	NUMBER OF DOWELS BETWEEN LONGITUDINAL JOINTS
14'-0"	14
13'-0"	13
12'-0"	12
11'-0"	11
10'-0"	10
8'-0"	8
5'-0"	5
4'-0"	4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
DOWEL BAR
DETAILS**

NO SCALE

RSP P10 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P10
DATED MAY 20, 2011 - PAGE 131 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P10

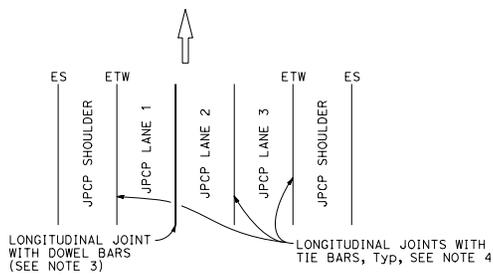
2010 REVISED STANDARD PLAN RSP P10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
William K. Farbach REGISTERED CIVIL ENGINEER					
April 20, 2012 PLANS APPROVAL DATE					
No. C49042 Exp. 9-30-12 CIVIL					
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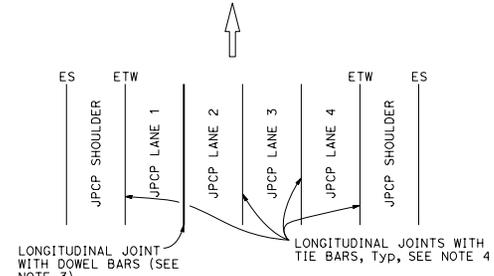
TO ACCOMPANY PLANS DATED _____

NOTES:

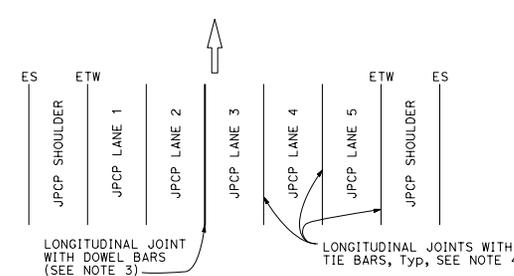
1. Where Lean Concrete Base is not used as base material, the joint filler material used for the longitudinal isolation joint shall only extend to the bottom of the new concrete slab. See Detail A.
2. Use 5/8" ± 1/16" dimension for silicone sealant.
3. See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
4. See Standard Plan P1.
5. See Standard Plan P2.



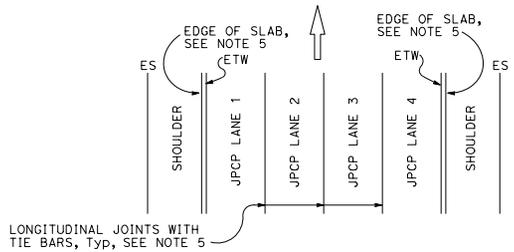
3 LANES WITH CONCRETE SHOULDERS
PLAN



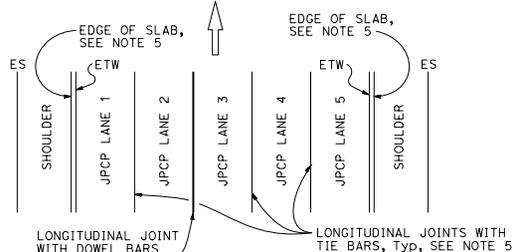
4 LANES WITH CONCRETE SHOULDERS
PLAN



5 LANES WITH CONCRETE SHOULDERS
PLAN



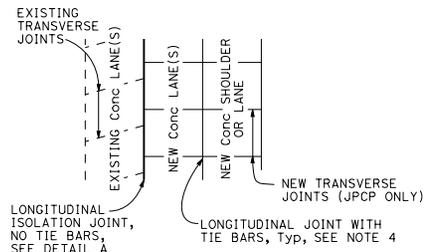
4 LANES OR LESS WITH AC SHOULDERS
PLAN



5 LANES WITH AC SHOULDERS
PLAN

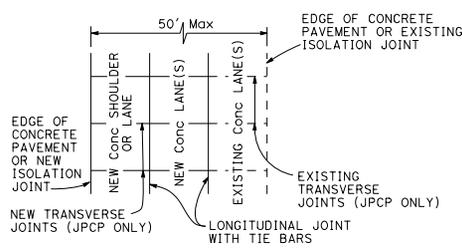
NEW CONSTRUCTION

Location of Longitudinal Joints For JPCP



CASE 1
PLAN

Transverse joints do not align between new and existing.

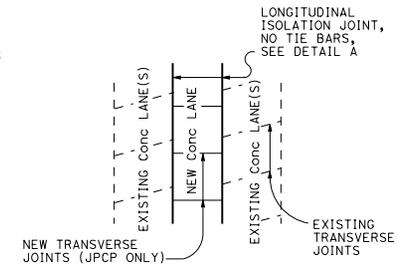


CASE 2
PLAN

Transverse joints align between new and existing.

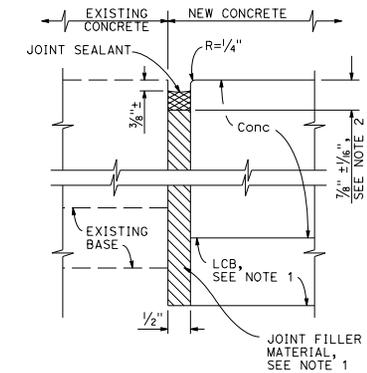
LANE/SHOULDER ADDITION OR RECONSTRUCTION

For JPCP and CRCP



CASE 3 (INTERIOR LANE REPLACEMENT)
PLAN

Transverse joints do not align between new and existing.



DETAIL "A"
ISOLATION JOINT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONCRETE PAVEMENT-
LANE SCHEMATICS
AND ISOLATION JOINT DETAIL**

NO SCALE

RSP P18 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P18
DATED MAY 20, 2011 - PAGE 135 OF THE STANDARD PLANS BOOK DATED 2010.

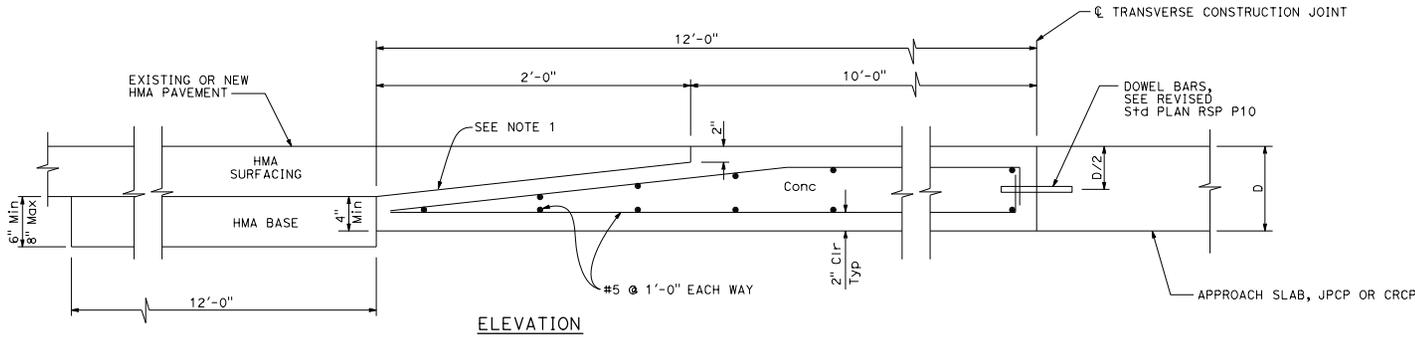
REVISED STANDARD PLAN RSP P18

2010 REVISED STANDARD PLAN RSP P18

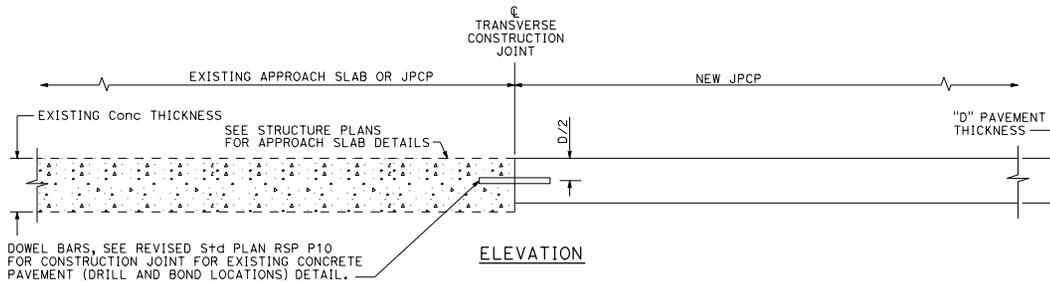
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

William K. Fairbrock
 REGISTERED CIVIL ENGINEER
 No. C49042
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

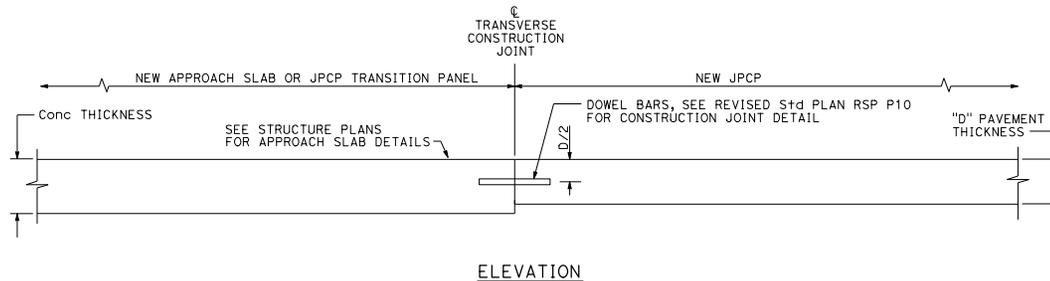
April 20, 2012
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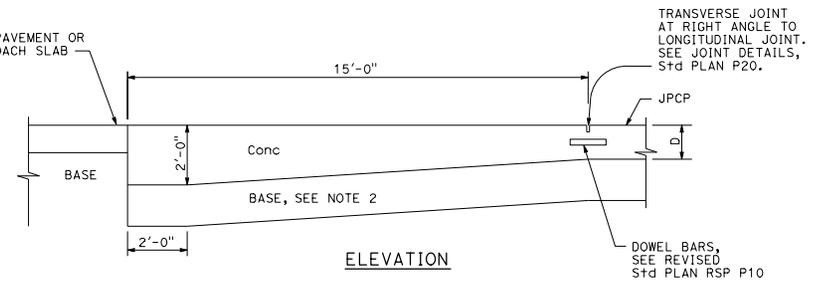
**CONCRETE PAVEMENT
TRANSITION PANEL**



TERMINAL JOINT TYPE 1
For Exist JPCP or Structure Approach Slab



TERMINAL JOINT TYPE 2
For JPCP Transition Panel or Structure Approach Slab



PAVEMENT END ANCHOR
For HMA Pvmt or Structure Approach Slab

NOTES:

1. Heavy broom finish.
2. Maintain same base thickness as JPCP.

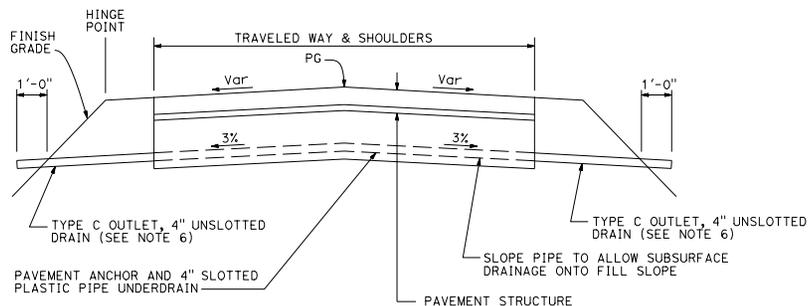
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
END PANEL
PAVEMENT TRANSITIONS**

NO SCALE

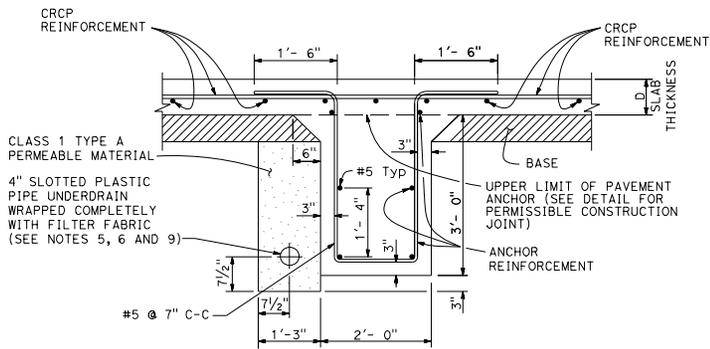
RSP P30 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P30
DATED MAY 20, 2011 - PAGE 137 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P30

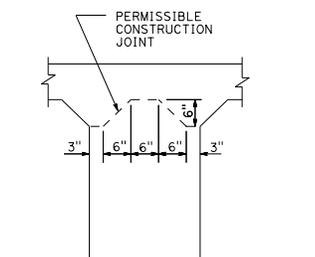
2010 REVISED STANDARD PLAN RSP P30



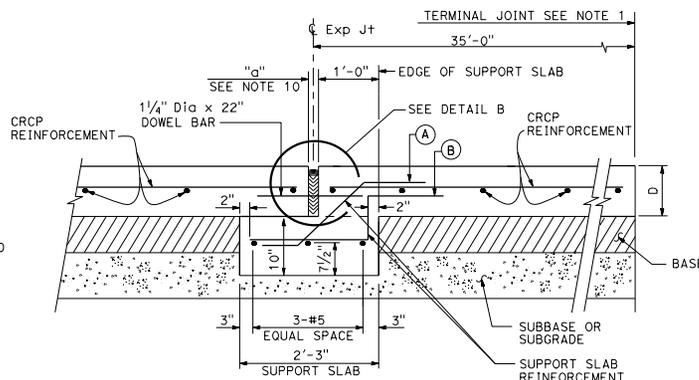
PAVEMENT ANCHOR PROFILE



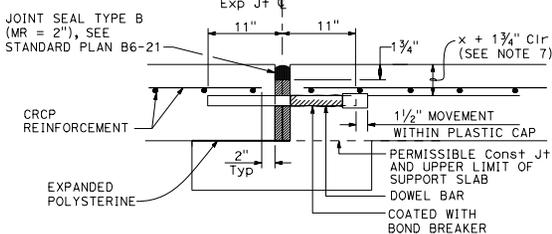
PAVEMENT ANCHOR



**PAVEMENT ANCHOR DETAIL
SHOWING PERMISSIBLE
CONSTRUCTION JOINT**

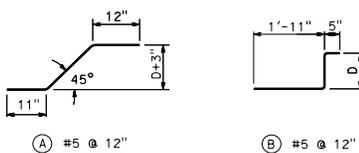


EXPANSION JOINT TYPE AN



DETAIL B

(For layout, tolerances, and other details not shown, see Revised Standard Plan RSP P10.)



REINFORCEMENT DETAIL

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

Flora E. Bautista
 REGISTERED CIVIL ENGINEER
 No. CS4859
 Exp. 6-30-12
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April 20, 2012
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TO ACCOMPANY PLANS DATED _____

NOTES:

1. For the locations of the terminal joints, expansion joints and pavement anchors, see project plans.
2. The CRCP shall continue across the pavement anchor and expansion joints as shown.
3. Details of reinforcement, tie bars, and longitudinal joints (and if necessary, transverse construction joints) are shown on Revised Standard Plan RSP P4.
4. Transverse construction joints are not allowed within 20'-0" of the pavement anchor.
5. When placing pipe through concrete barrier, use 4" unslotted plastic pipe wrapped completely with 3/8" polystyrene.
6. See Standard Plan D99B for details not shown.
7. See Revised Standard Plan RSP P4 for "x".
8. D = thickness of CRCP
9. Place the 4" Slotted Plastic Pipe on the high side of the longitudinal grade.
10. See Standard Plan B6-21 for "a".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONTINUOUSLY REINFORCED
CONCRETE PAVEMENT-
EXPANSION JOINT AND ANCHOR DETAILS**

NO SCALE

RSP P31B DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P31B
DATED MAY 20, 2011 - PAGE 139 OF THE STANDARD PLANS BOOK DATED 2010.

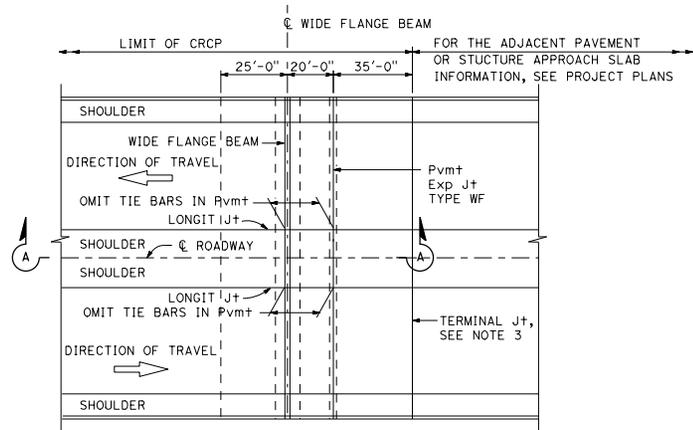
REVISED STANDARD PLAN RSP P31B

2010 REVISED STANDARD PLAN RSP P31B

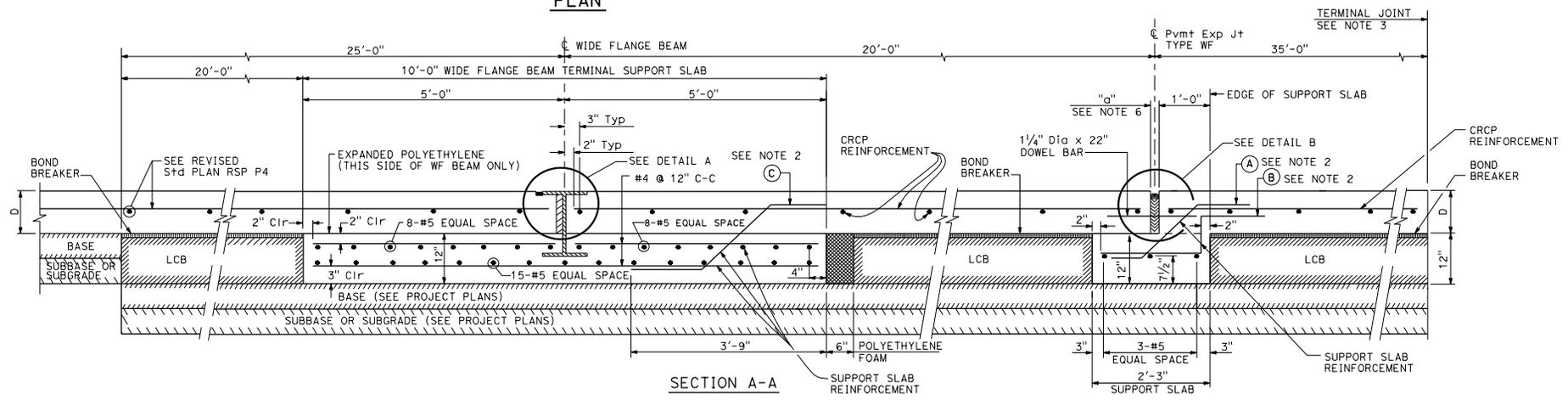
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Florante E. Bautista
 REGISTERED CIVIL ENGINEER
 No. 054859
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

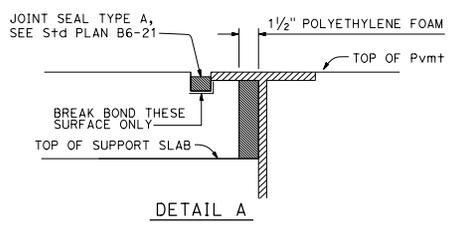
April 20, 2012
 PLANS APPROVAL DATE
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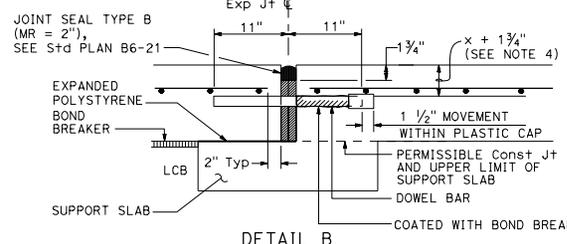
PLAN



SECTION A-A



DETAIL A



DETAIL B

For layout, tolerances, and other details not shown see Revised Std Plan RSP P10.

NOTES:

1. For additional details on reinforcement member quantities of the wide flange beam terminal and Pavement Expansion Joint Type WF, see Revised Standard Plan RSP P32B.
2. For reinforcement (A), (B), and (C) Details, see Revised Standard Plan RSP P32B.
3. For the Pavement Terminal Joint Details, see Standard Plan P31A. For Pavement Terminal Joint Type, see Project Plans.
4. See Revised Standard Plan RSP P4 for "X".
5. D = Thickness of CRCP
6. See Standard Plan B6-21 for "a".

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
 CONCRETE PAVEMENT -
 WIDE FLANGE BEAM TERMINALS**

NO SCALE

RSP P32A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P32A DATED MAY 20, 2011 - PAGE 140 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P32A

2010 REVISED STANDARD PLAN RSP P32A

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

Florante E. Bautista
 REGISTERED CIVIL ENGINEER
 No. CS4859
 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.

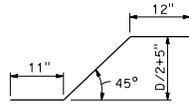
TO ACCOMPANY PLANS DATED _____

LEGEND:

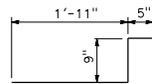
- b_f - FLANGE WIDTH
- t_f - FLANGE THICKNESS
- t_w - WEB THICKNESS
- d_b - BEAM DEPTH

NOTES:

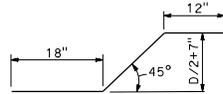
1. Studs shall be electric arc end welded with complete fusion. Any stud which is dislodged in shipping or can be dislodged by hammer shall be replaced.
2. Weld 3/8" Plate to each end of wide flange beam at pavement edges only. End plate covers entire wide flange beam.



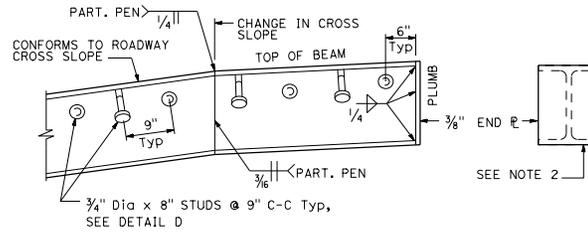
(A) #5 @ 12"



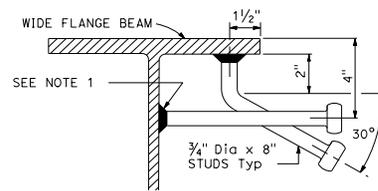
(B) #5 @ 12"



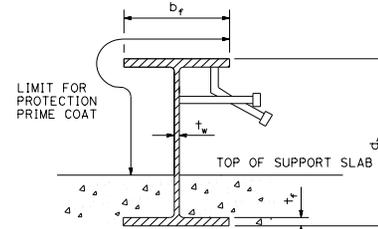
(C) #4 @ 12"



WIDE FLANGE DETAIL



DETAIL D



WIDE FLANGE PAINTING DETAIL

See "TABLE OF BEAM SIZES"

CONCRETE AND STEEL QUANTITIES

ITEM	PAVEMENT THICKNESS						
	.80'	.85'	.90'	.95'	1.00'	1.05'	1.10'
WIDE FLANGE BEAM							
TERMINAL SLAB							
Exp JOINT TYPE							
WF SUPPORT SLAB							
CONCRETE	4.81 CY						
REINFORCING STEEL	552.2 LBS	552.4 LBS	552.6 LBS	552.8 LBS	553.0 LBS	553.1 LBS	553.3 LBS
CONCRETE	1.1 CY						
REINFORCING STEEL	99.9 LBS	100.2 LBS	100.5 LBS	100.8 LBS	101.1 LBS	101.1 LBS	101.6 LBS
STEEL BEAM (WEIGHT OF WIDE FLANGE BEAM AND STUDS)	69.51 LBS/LF +2 PLATES @ 14.87 LBS EA	90.51 LBS/LF +2 PLATES @ 18.46 LBS EA	90.51 LBS/LF +2 PLATES @ 18.46 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA

TABLE OF BEAM SIZES

PAVEMENT THICKNESS	WIDE FLANGE BEAM DESIGNATION	d _b	b _f	t _f	t _w
.80'	W14 x 68	14.04"	10.04"	0.72"	0.42"
.85'	W16 x 89	16.75"	10.37"	0.88"	0.53"
.90'	W16 x 89	16.75"	10.37"	0.88"	0.53"
.95'	W18 x 97	18.59"	11.15"	0.87"	0.54"
1.00'	W18 x 97	18.59"	11.15"	0.87"	0.54"
1.05'	W18 x 97	18.59"	11.15"	0.87"	0.54"
1.10'	W18 x 97	18.59"	11.15"	0.87"	0.54"

STATE OF CALIFORNIA
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**CONTINUOUSLY REINFORCED
CONCRETE PAVEMENT -
WIDE FLANGE BEAM TERMINALS**

NO SCALE

RSP P32B DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P32B
DATED MAY 20, 2011 - PAGE 141 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P32B

2010 REVISED STANDARD PLAN RSP P32B