

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

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

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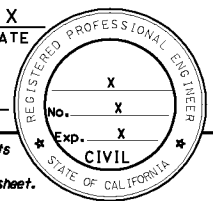


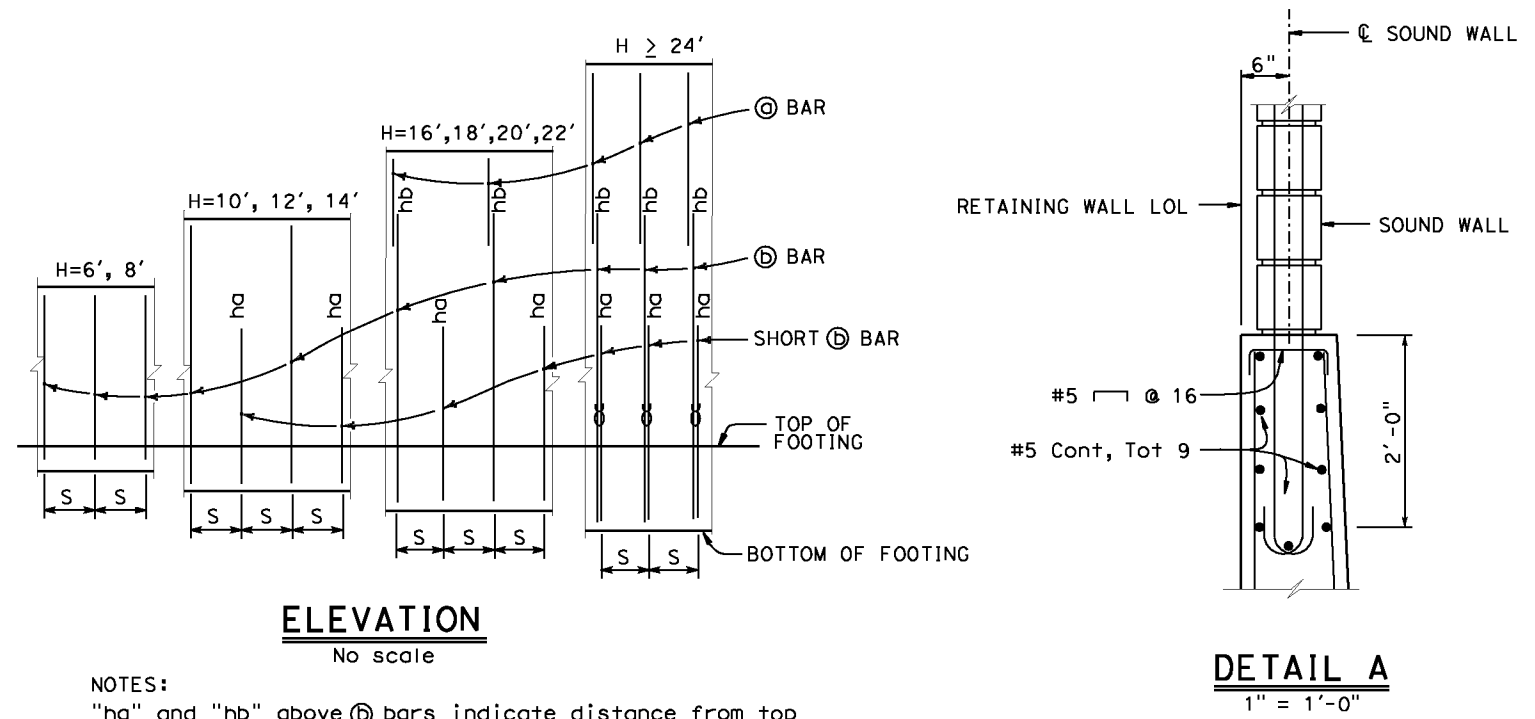
TABLE 1: TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'
W	8'-3"	8'-6"	9'-0"	9'-6"	10'-0"	10'-9"	11'-3"	12'-0"	13'-3"	14'-3"	15'-9"	16'-9"	18'-0"	19'-9"
C	2'-9"	2'-9"	3'-0"	3'-3"	3'-4"	3'-6"	3'-9"	4'-0"	4'-3"	4'-9"	5'-3"	5'-6"	5'-9"	6'-7"
B	5'-6"	5'-9"	6'-0"	6'-3"	6'-8"	7'-3"	7'-6"	8'-0"	9'-0"	9'-6"	10'-6"	11'-3"	12'-3"	13'-2"
F PILE FOOTING	1'-6"	1'-6"	1'-6"	1'-6"	1'-9"	2'-0"	2'-0"	2'-6"	2'-9"	2'-9"	3'-0"	3'-3"	3'-9"	4'-0"
M	1'-3"	1'-3"	1'-6"	1'-9"	1'-10"	2'-0"	2'-3"	2'-6"	2'-9"	3'-3"	3'-9"	4'-0"	4'-3"	5'-1"
N	4'-0"	4'-3"	4'-6"	4'-9"	5'-2"	5'-9"	6'-0"	6'-6"	7'-6"	8'-0"	9'-0"	9'-9"	10'-9"	11'-8"
ROW 1 SPACING	12'-3"	10'-3"	8'-9"	7'-6"	6'-3"	5'-3"	4'-9"	4'-0"	3'-9"	3'-9"	4'-0"	3'-9"	3'-9"	3'-9"
ROW 2 SPACING	14'-0"	12'-9"	11'-6"	10'-3"	9'-3"	8'-3"	7'-9"	6'-6"	7'-6"	6'-0"	4'-0"	4'-0"	3'-9"	3'-9"
ROW 3 SPACING									6'-0"	5'-3"	5'-0"	4'-0"	6'-0"	4'-0"
ROW 4 SPACING													3'-9"	3'-9"
BATTER	0	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	5/8:12	5/8:12	3/4:12	3/4:12	7/8:12	1:12	1:12
Ⓐ BARS						#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6	#6 @ 6	#6 @ 6	#8 @ 9	#9 @ 9
Ⓑ BARS	#8 @ 12	#7 @ 9	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6	#8 @ 6	#8 @ 6	#10 @ 9	#11 @ 9
ha			5'-0"	6'-0"	7'-0"	7'-0"	6'-0"	7'-0"	7'-0"	7'-6"	8'-6"	9'-3"	15'-0"	11'-3"
hb						11'-6"	12'-0"	13'-3"	16'-0"	15'-6"	17'-6"	18'-9"	21'-0"	20'-9"
Ⓒ BARS	#6 @ 12	#6 @ 9	#5 @ 6	#6 @ 6	#6 @ 6	#8 @ 7.5	#8 @ 6	#9 @ 6	#9 @ 6	#10 @ 6	#10 @ 6	#11 @ 6	#10 @ 9	#10 @ 9
Ⓓ BARS	#5 @ 12	#5 @ 9	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 15	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#6 @ 9	#9 @ 9
Ⓔ BARS	10-#7 @ 6	8-#7 @ 7	10-#6 @ 6	8-#6 @ 6	6-#6 @ 12	6-#5 @ 12	6-#5 @ 12	6-#5 @ 15	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18
Ⓕ BARS	10-#8 @ 7	10-#8 @ 6	10-#7 @ 8	12-#6 @ 7	8-#7 @ 11	7-#6 @ 13	8-#6 @ 12	8-#5 @ 15	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18

NOTE:
Total Ⓐ bars and Ⓕ bars shown are total number of top and bottom bars combined

LEGEND:
⌘ : 2 bar bundle

- NOTES:
- All piles are class 90 concrete piles.
 - Pile batter shown are 1:3.
 - Minimum distance between center pile and edge of footing is 1'-6".
 - Lateral resistance of each pile:
30 kip for strength limit states.
40 kip for extreme limit states.
 - Maximum spacing between piles is shown in the table. Reduce to suit the length of footing.
 - Minimum distance between any two piles is 3'-0". Reduce to suit the length of footing.
 - For sound wall and retaining wall architectural finish or texture, see details elsewhere in Project Plans.
 - For details not shown and drainage notes, see (B3-5)
 - Footing cover, 1'-6" minimum.
 - For sound wall and reinforcements see "SOUND WALL - MASONRY BLOCK ON RETAINING WALL" sheets.



DESIGN DATA

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

WS: 33 psf on sound wall
LS: Varied surcharge on level ground surface
EQE: Mononabe-Okabe Method
K_h = 0.3
K_v = 0.0

Soil: φ = 34°
γ = 120 pcf

Reinforced Concrete: f'c = 3600 psi
fy = 60,000 psi

Load Combinations and Limit States

Service I Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS
Service II Q=1.00DC+1.00EV+1.00EH+1.00WS
Strength I Q=aDC+BEV+1.50EH+1.75LS
Q=1.25DC + 1.35EV + 0.90EH + 1.75LS (for piles at heel)
Strength III Q=aDC+BEV+1.50EH+1.40WS
Strength V Q=aDC+BEV+1.50EH+1.35LS+0.40WS
Extreme I Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE

Where:
Q: Force Effects
a: 1.25 or 0.90, Which ever Controls Design
B: 1.35 or 1.00, which ever Controls Design
DC: Dead Load of Structure Components
EV: Vertical Earth Fill Pressure
LS: Live Load Surcharge
EQE: Seismic Earth Pressure
EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design
WS: Wind Load on Sound Wall and Barrier

NOTES:
"ha" and "hb" above Ⓑ bars indicate distance from top of footing to upper end of Ⓑ bars, see table.
"S" is Ⓑ bar spacing, see table.
⌘ : 2 bar bundle

STANDARD DRAWING	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. X	POST MILE X	RETAINING WALL TYPE 1SWP-DETAILS NO. 1
FILE NO. xs14-310-1	APPROVAL DATE July 2011	UNIT: X PROJECT NUMBER & PHASE: X	CONTRACT NO.: X		REVISION DATES SHEET OF X X

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. [02-02-11]) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3