

1 ADDED PER ADDENDUM No. 1 DATED OCTOBER 23, 2014

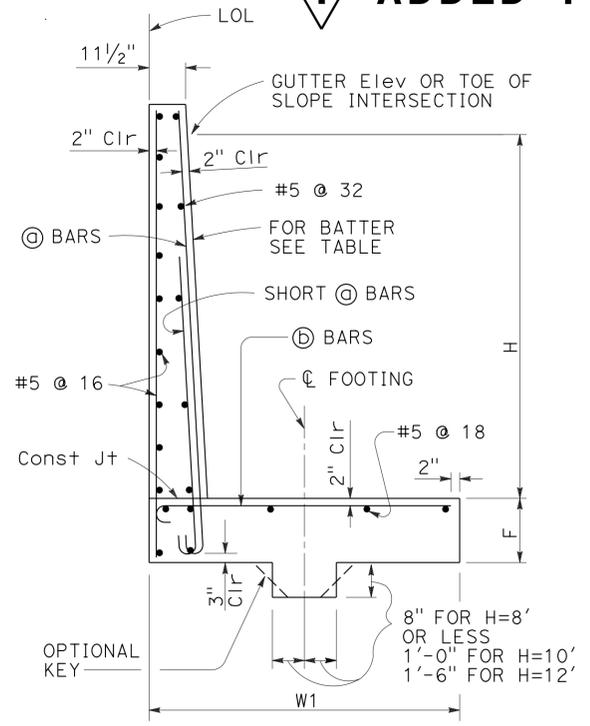
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Sta	108	31.2	18A	30

12-09-13
REGISTERED CIVIL ENGINEER DATE

3-17-14
PLANS APPROVAL DATE

THAAR F. JAWHAR
No. 64207
Exp 6-30-15
CIVIL

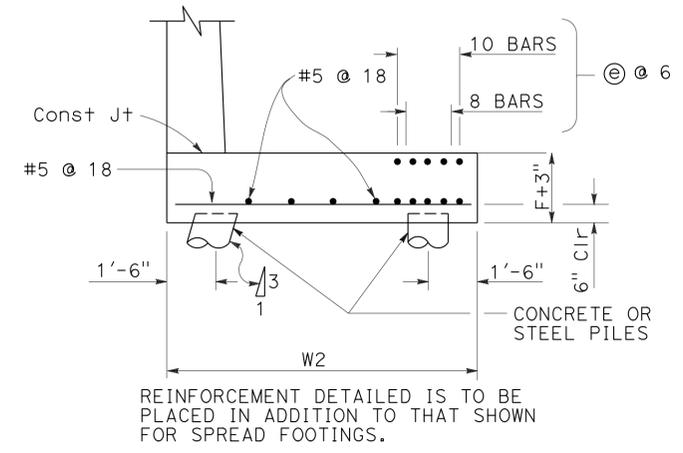
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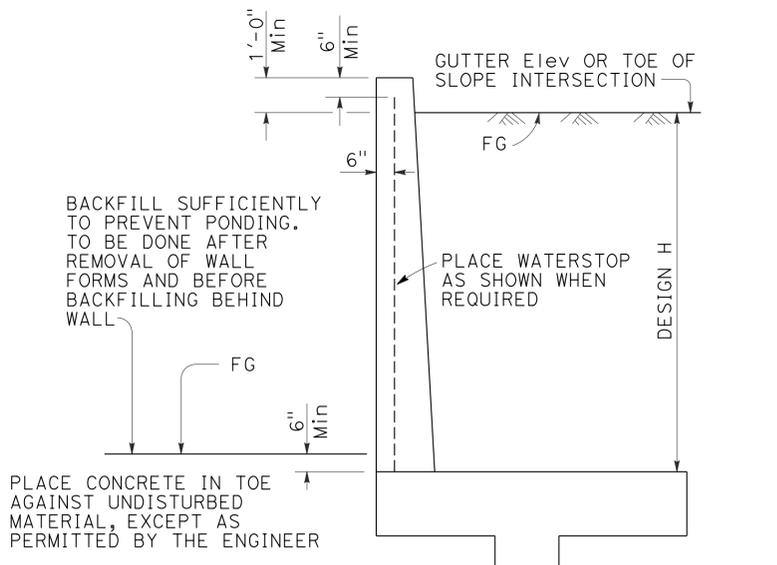
SPREAD FOOTING SECTION

Max PILE SPACING FOR 90 KIP PILES		
DESIGN H	FRONT ROW 1:3 BATTER	BACK ROW VERTICAL
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"

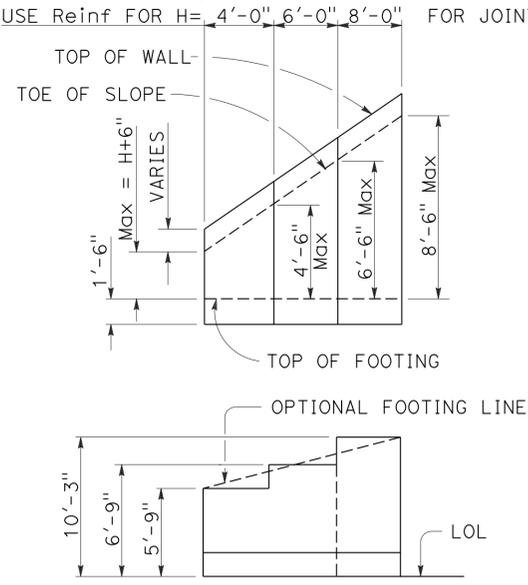
For actual spacing, see Wall Layout. Pile Layout does not apply to case III conditions.



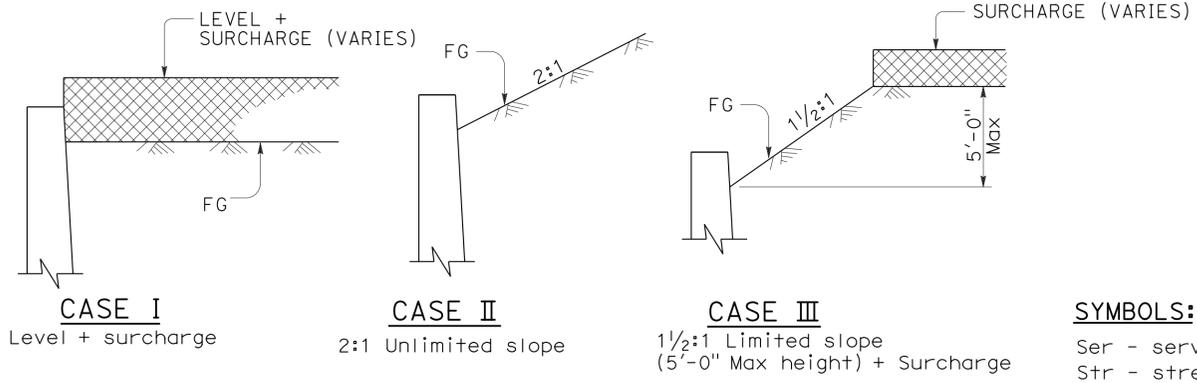
90 KIP PILE FOOTING SECTION



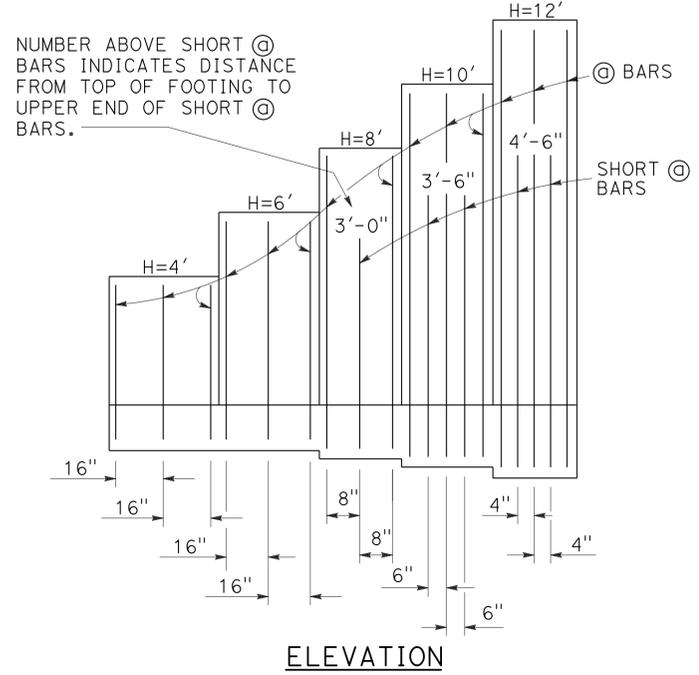
DESIGN SECTION



TYPICAL LAYOUT EXAMPLE



DETAIL OF DESIGN LOADING CASES



ELEVATION

USE Reinf FOR H= 4'-0" 6'-0" 8'-0" FOR JOINTS REQUIRED, SEE B0-3/3-3 & B0-3/3-4

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.

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)

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 DETAILS
(TYPE 5)

NO SCALE

R-5