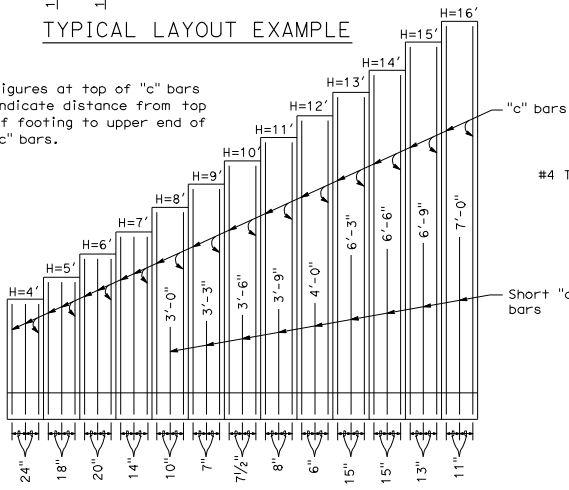


TYPICAL LAYOUT EXAMPLE

Figures at top of "c" bars indicate distance from top of footing to upper end of "c" bars.



REINFORCED CONCRETE WINGWALLS

"H"	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'
W	3'-2"	3'-8"	4'-2"	4'-8"	5'-2"	5'-8"	6'-2"	6'-8"	7'-2"	7'-8"	8'-2"	8'-8"	9'-2"
C	1'-0"	1'-2"	1'-4"	1'-6"	1'-8"	1'-10"	2'-0"	2'-2"	2'-4"	2'-6"	2'-8"	2'-10"	3'-0"
B	2'-2"	2'-6"	2'-10"	3'-2"	3'-6"	3'-10"	4'-2"	4'-6"	4'-10"	5'-2"	5'-6"	5'-10"	6'-2"
F	1'-2"												
Batter	None												
S	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6 1/2"	1'-7"	1'-7 1/2"	1'-8"
"c" Bars	#4@24	#4@18	#5@20	#5@14	#5@10	#5@7	#6@7 1/2	#7@8	#7@6	#9@15	#10@15	#10@13	#10@11
"d" Bars	#4@24	#4@18	#5@20	#5@14	#5@10	#6@14	#7@15	#8@16	#7@12	#8@15	#9@15	#9@13	#9@11
Conc CY/LF	0.32	0.38	0.44	0.49	0.55	0.61	0.67	0.73	0.79	1.02	1.10	1.18	1.26
Reinf LB/LF	13	16	19	25	30	37	49	62	76	73	90	104	125

Quantities do not include that portion above the design "H" limit.

NOTES:

Unit Stresses:  $f_s = 24,000$  psi,  $f_c = 1300$  psi,  $n = 10$

Maximum Toe Pressure =  $1/2$  Tons/SQFT

Elevations, length and angle of flare of wings may be varied by the Engineer to suit conditions encountered in the field. Walls designed for 2'-0" live load surcharge, 1/2:1 sloping surcharge not to exceed 5'-0" in elevation plus 2'-0" live load surcharge, or unlimited 2:1 sloping surcharge.

Dimensions "H", "L", "M", "N", Elevation "a" and "Angle of flare" (as apply) are shown on the plans.

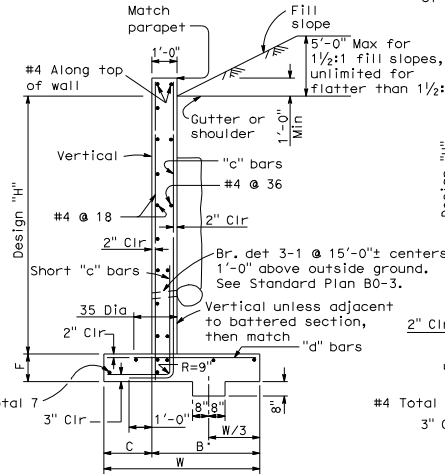
Wall height may be exceeded by 6" before going to next greater "H".

Eliminate cutoff wall if adjacent channel is paved and skew is 20° maximum.

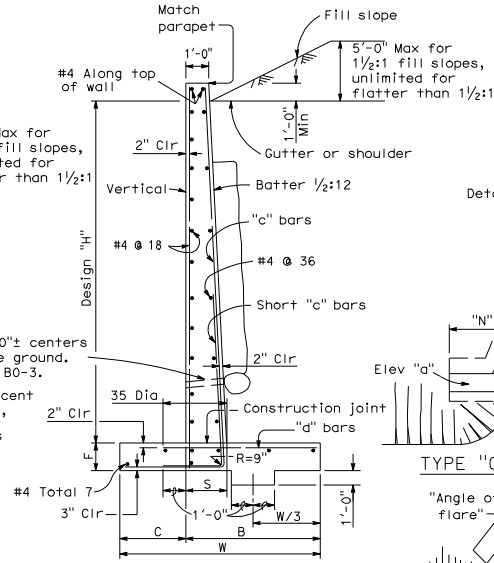
For wall offset values, see Standard Plan B3-8.

NOTE:

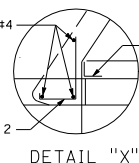
Where 1/2:1 surcharge exceeds 5'-0", use Type 2 Retaining Wall.



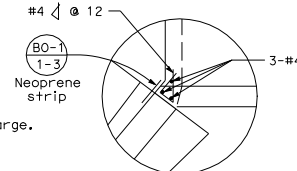
TYPICAL SECTION H=4' THRU 12'



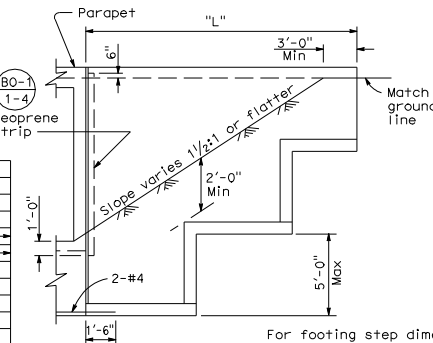
TYPICAL SECTION H=13' THRU 16'



DETAIL "X"

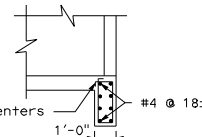


DETAIL "Y"

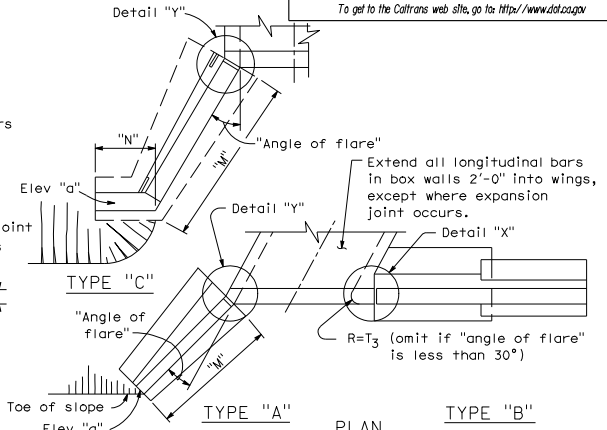


ELEVATION

For footing step dimensions and reinforcement, see "Footing Step" on Std Plan B3-8.

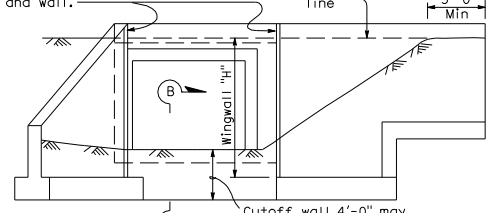


SECTION B-B



Extend all longitudinal bars in box walls 2'-0" into wings, except where expansion joint occurs.

Where design "H" exceeds 9'-0" or length of wingwall exceeds 1.5 "H", place 1/2" Exp joint filler at junction of box and wall.



END ELEVATION STRAIGHT WINGWALLS

BOX CULVERT WINGWALLS TYPES A, B AND C

NO SCALE

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