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

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Overcomer Y. Hor — No. C45803 — Exp. 12-31-06 — CIVIL — STATE OF CALIFORNIA

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2006 STANDARD PLAN C8B

SPACER MEMBERS REQUIRED PER TRANSVERSE SECTION / STRINGER MEMBERS REQUIRED PER CELL

WALL HEIGHT	BEARING PLATE	FRONT COLUMN HEIGHT IN FEET				REAR COLUMN HEIGHT IN FEET				Total Column Length in Feet	Column Splice	Column Cap	SPACERS (Thickness & Length)								BOTTOM SPACERS (Thickness & Length)										STRINGERS				St'r St'f 9.5'	WALL HEIGHT FEET
		1st Lift	2nd Lift	3rd Lift	Total Height	1st Lift	2nd Lift	3rd Lift	Total Height				0.064" 5.2'	0.064" 7.4'	0.079" 9.6'	0.109" 11.8'	0.109" 14.0'	0.109" 16.2'	0.064" 5.2'	0.064" 7.4'	0.079" 9.6'	0.109" 11.8'	0.109" 14.0'	0.109" 16.2'	0.064" 9.5'	0.079" 9.5'	0.109" 9.5'	0.138" 9.5'		
FEET	16"x22"																																			
4.00	2	4.00			4.00	1.33			1.33	5.33		1							1						4				1	4.00
5.33	2	5.33			5.33	2.67			2.67	8.00		1	1						1						6				1	5.33
6.67	2	6.67			6.67	4.00			4.00	10.67		1	2						1						8				1	6.67
8.00	2	8.00			8.00	5.33			5.33	13.33		1	3						1						10				1	8.00
9.33	2	9.33			9.33	6.67			6.67	16.00		1	4						1						12				1	9.33
10.67	2	10.67			10.67	8.00			8.00	18.67		1	5	5					1	1					14				1	10.67
12.00	2	12.00			12.00	9.33			9.33	21.33		1		6						1					14	2			1	12.00
13.33	2	8.00	5.33		13.33	10.67			10.67	24.00	1	1		7						1					14	4			1	13.33
14.67	2	8.00	6.67		14.67	12.00			12.00	26.67	1	1		8	8					1	1				14	6			1	14.67
16.00	2	8.00	8.00		16.00	8.00	5.33		13.33	29.33	2	1		9	9					1	1				14	8			1	16.00
17.33	2	12.00	5.33		17.33	8.00	6.67		14.67	32.00	2	1		10	10					1	1				14	8	2		1	17.33
18.67	2	12.00	6.67		18.67	8.00	8.00		16.00	34.67	2	1			11	11					1	1			14	8	4		1	18.67
20.00	2	12.00	8.00		20.00	12.00	5.33		17.33	37.33	2	1			12	12					1	1			14	8	6		1	20.00
21.33	2	12.00	9.33		21.33	12.00	6.67		18.67	40.00	2	1			13	13					1	1			14	8	8		1	21.33
22.67	2	12.00	10.67		22.67	12.00	8.00		20.00	42.67	2	1				14	14					1	1		14	8	10		1	22.67
24.00	2	12.00	12.00		24.00	12.00	9.33		21.33	45.33	2	1				15	15					1	1		14	8	12		1	24.00
25.33	2	12.00	8.00	5.33	25.33	12.00	10.67		22.67	48.00	3	1				16	16					1	1		14	8	14		1	25.33
26.67	2	12.00	8.00	6.67	26.67	12.00	12.00		24.00	50.67	3	1				17	17					1	1		14	8	14	2	1	26.67
28.00	2	12.00	8.00	8.00	28.00	12.00	8.00	5.33	25.33	53.33	4	1					18	18					1	1	14	8	14	4	1	28.00
29.33	2	12.00	12.00	5.33	29.33	12.00	8.00	6.67	26.67	56.00	4	1					19	19					1	1	14	8	14	6	1	29.33
30.67	2	12.00	12.00	6.67	30.67	12.00	8.00	8.00	28.00	58.67	4	1					20	20					1	1	14	8	14	8	1	30.67
32.00	2	12.00	12.00	8.00	32.00	12.00	12.00	5.33	29.33	61.33	4	1						21						1	14	8	14	10	1	32.00
33.33	2	12.00	12.00	9.33	33.33	12.00	12.00	6.67	30.67	64.00	4	1						22						1	14	8	14	12	1	33.33
34.67	2	12.00	12.00	10.67	34.67	12.00	12.00	8.00	32.00	66.67	4	1						23						1	14	8	14	14	1	34.67
36.00	2	12.00	12.00	12.00	36.00	12.00	12.00	9.33	33.33	69.33	4	1						24						1	14	8	14	16	1	36.00

NOTE: This table applies only to standard panel sections and includes stringer member for both front and rear of a 10' length of wall.

STRINGER MEMBERS REQUIRED PER CELL

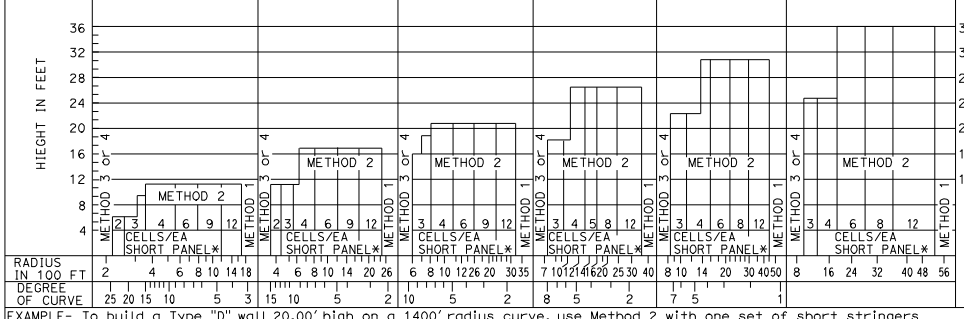
WALL HEIGHT	SHORT STRINGERS IN FRONT OF WALL									SHORT STRINGERS IN REAR OF WALL								
	0.064"		0.079"		0.109"		0.138"		St'f	0.064"		0.079"		0.109"		0.138"		St'd
	St'd	Short	St'd	Short	St'd	Short	St'd	Short	St'r	St'd	Short	St'd	Short	St'd	Short	St'd	Short	St'r
FEET	9.5	9.0	9.5	9.0	9.5	9.0	9.5	9.0	St'f	9.5	9.0	9.5	9.0	9.5	9.0	9.5	9.0	St'f
4.00	1	3							1	3	1							1
5.33	2	4							1	4	2							1
6.67	3	5							1	5	3							1
8.00	4	6							1	6	4							1
9.33	5	7							1	7	5							1
10.67	6	8							1	8	6							1
12.00	6	8							1	8	6							1
13.33	6	8	2	2					1	8	6	2	2					1
14.67	6	8	3	3					1	8	6	3	3					1
16.00	6	8	4	4					1	8	6	4	4					1
17.33	6	8	4	4	1	1			1	8	6	4	4	1	1			1
18.67	6	8	4	4	2	2			1	8	6	4	4	2	2			1
20.00	6	8	4	4	3	3			1	8	6	4	4	3	3			1
21.33	6	8	4	4	4	4			1	8	6	4	4	4	4			1
22.67	6	8	4	4	5	5			1	8	6	4	4	5	5			1
24.00	6	8	4	4	6	6			1	8	6	4	4	6	6			1
25.33	6	8	4	4	7	7			1	8	6	4	4	7	7			1
26.67	6	8	4	4	7	7	1	1	1	8	6	4	4	7	7	1	1	1
28.00	6	8	4	4	7	7	2	2	1	8	6	4	4	7	7	2	2	1
29.33	6	8	4	4	7	7	3	3	1	8	6	4	4	7	7	3	3	1
30.67	6	8	4	4	7	7	4	4	1	8	6	4	4	7	7	4	4	1
32.00	6	8	4	4	7	7	5	5	1	8	6	4	4	7	7	5	5	1
33.33	6	8	4	4	7	7	6	6	1	8	6	4	4	7	7	6	6	1
34.67	6	8	4	4	7	7	7	7	1	8	6	4	4	7	7	7	7	1
36.00	6	8	4	4	7	7	8	8	1	8	6	4	4	7	7	8	8	1

NOTE: This table applies only to short panel sections for curved walls and includes stringers for both front and rear of a 9.5' length of wall.

CURVATURE CHART - 1 TO 6 BATTER

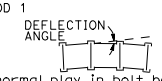
THIS DATA, OMITTING HEIGHT RESTRICTIONS, CAN BE USED FOR VERTICAL WALLS

DESIGN	Type "A" BASE WIDTH 5.5'	Type "B" BASE WIDTH 7.7'	Type "C" BASE WIDTH 9.9'	Type "D" BASE WIDTH 12.1'	Type "E" BASE WIDTH 14.3'	Type "F" BASE WIDTH 16.5'
METHOD 1 ANGLE	0° to 0°-26'	0° to 0°-20'	0° to 0°-14'	0° to 0°-12'	0° to 0°-10'	0° to 0°-8'
METHOD 2 ANGLE	4°-59' to 5°-25'	3°-34' to 3°-54'	2°-47' to 3°-01'	2°-16' to 2°-28'	1°-55' to 2°-05'	1°-18' to 1°-26'



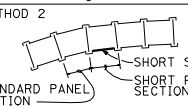
EXAMPLE- To build a Type "D" wall 20.00' high on a 1400' radius curve, use Method 2 with one set of short stringers in each group of five panel sections.

METHOD 1



Use normal play in bolt holes of standard parts. Maximum deflection shown at top of table can be obtained at each column in vertical or battered walls. Chart shows smallest radius which can be used for each design of wall.

METHOD 2

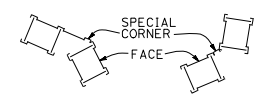


Use short stringer members (9'-6" face or rear) in addition to play in bolt holes. Curvature chart indicates number * of cells in each group, including a modified cell, necessary to build a curved wall at a required height and radius.

METHOD 3

Use stringers field cut (with saber saw) and drilled to fit wall dimensions as it is assembled. Any radius can be fitted on any height of wall, battered or vertical. Generally standard panels are used between field cut panels. With very short radii the spacing of the spacer member sections can be reduced so that two pieces can be cut from each stringer. This method is applicable to large single deflections.

METHOD 4



Use special shop fabricated corner connection pieces. Batter, height, angle, direction of turn, and base width determine the dimension limitations applicable on this method. Manufacturer should be contacted before detailing design for a specific turn. Rear stringers are omitted and it may be necessary to increase the base width of adjacent cells to provide needed stability. This method is an alternative for Method 3.

Right angle turns in vertical walls can be made by starting a new wall at the rear of the first wall and using the end spacer members for the face members.

Right angle turns in battered walls can be made by erecting one complete cell vertically in the corner.

NOTES:

1. Use Graphs shown on Standard Plan C8C to determine the type of steel crib to use for the various surcharges on both vertical and batter walls.
2. For non-tangent wall alignment, special length stringers may be required.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STEEL CRIB WALL DESIGN DATA

NO SCALE

C8B

1-17-06