SPAN		4′						5′								6′								7′								8′									
HEIGHT		2′		3′		4′		2′		3′		4′		5′		3′		4′		5′		6′		3′		4′		5′		6′		4′		5′		6′		7′		8′	
Maximum Earth Cover		10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′
Conc	Roof T_1	7″	7″	7″	7″	7″	7″	7½″	7½″	7½″	7½″	7½″	7½″	7½″	7½″	8″	8″	8″	8″	8″	8″	8″	8″	8″	9″	8″	9″	8″	9″	8½″	9″	8½″	9½″	8½″	9½″	8½″	9½″	8½″	10″	8½″	10″	8½″	10″
	Walls T_2	6″	6″	6″	6″	6″	6½″	6″	6″	6″	6″	6″	7″	6½″	7½″	6″	6″	7″	6½″	7½″	7″	8½″	7″	6″	6″	6″	7″	6½″	7½″	7″	8½″	8″	9½″	6″	7″	6½″	7½″	7″	8½″	8″	9½″	8½″	10½″
	Invert T_3	6″	6″	6″	6″	6″	6½″	6½″	7″	6½″	7″	6½″	7″	6½″	7″	7″	8″	7″	8″	7″	8″	7″	8″	8″	9″	8″	9″	8″	9″	8″	9″	8″	9″	8″	9½″	8″	10″	8″	10″	8″	10″	8″	10″
Reinf	Spacing	7″	7″	7″	7″	7″	7″	8½″	6″	8½″	5½″	8½″	5½″	8½″	5½″	7½″	5″	7½″	5″	7½″	4½″	7½″	5″	6½″	5″	6½″	4½″	6½″	5½″	6½″	5½″	6½″	5½″	6″	5″	6″	5″	6″	4½″	6″	5″	6″	4½″
	"a" Size Bar	#6	#6	#6	#6	#6	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7
	"e" Size Bar	#4	#4	#4	#5	#5	#6	#4	#4	#4	#4	#5	#5	#6	#6	#4	#4	#5	#5	#6	#6	#7	#6	#4	#4	#5	#5	#6	#6	#6	#7	#7	#7	#5	#5	#5	#6	#6	#6	#6	#7	#7	#7
Quantities	Concrete CF/LF	7.4	7.4	8.4	8.4	9.4	10.1	8.9	9.2	10.0	10.2	11.0	12.0	12.5	13.7	11.7	12.3	12.7	14.2	14.2	15.9	15.9	18.3	13.7	14.9	14.6	16.8	16.1	18.5	18.1	21.0	20.7	23.8	16.4	19.0	17.9	21.1	19.5	24.1	22.1	26.9	24.1	30.1
	Reinforcement LB/LF	48	48	50	55	58	67	58	60	58	68	67	81	82	105	70	81	82	96	97	120	124	148	94	94	105	118	121	147	130	177	160	192	123	151	131	171	137	198	160	215	192	252

SPAN		10′												12′												14′															
HEIGHT		5′		6′		7′		8′		9′		10′		6′		7′		8′		9′		10′		11′		12′		7′		8′		9′		10′		11′		12′		13′		14′	
Maximum Earth Cover		10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′	10′	20′
Conc	Roof T_1	8″	10½″	8″	10½″	8″	10½″	8″	10½″	8″	10½″	8½″	11″	8½″	12″	8½″	12″	8½″	12″	8½″	12″	9″	12″	9½″	12″	9½″	12″	9½″	14″	9½″	14″	9½″	14″	9½″	14″	9½″	14″	10″	14″	10″	14″	11″	14″
	Walls T_2	8″	8″	8″	9″	8″	9″	8″	10″	8½″	11½″	9½″	12½″	8″	10″	8½″	10½″	8½″	10½″	8½″	11½″	9″	12½″	10½″	13½″	11½″	15″	9½″	11″	9½″	11½″	9½″	11½″	10″	12½″	10½″	14″	11½″	15″	12½″	16½″	13½″	17½″
	Invert T_3	8″	11″	8″	11″	8″	11″	8″	11″	8″	11″	8½″	11″	8½″	12½″	9″	12½″	9″	12½″	9″	12½″	9″	12½″	9½″	13″	10″	13″	10″	14½″	10″	14½″	10″	14½″	10″	14½″	10½″	14½″	10½″	15″	11″	15″	11½″	15″
Reinforcement	Spacing	13″	12″	12″	12″	11″	11″	10″	11″	11″	10″	11″	10″	9″	10″	9″	10″	9″	10″	8″	10″	8″	10″	10″	9″	9″	8″	10″	9″	9″	10″	8″	10″	8″	10″	8″	10″	8″	10″	10″	10″	10″	9″
	∗∗"a" Size Bar	#6	#7	#6	#7	#6	#7	#6	#7	#6	#6	#6	#6	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#6	#6	#6	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#6	#7	#6	#7	#6	#7
	"b" Size Bar	#6	#7	#6	#7	#6	#7	#6	#7	#6	#6	#7	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#7	#7	#6	#7	#6	#7	#7	#7	#7	#7	#7	#7	#7	#7	#6	#8	#7	#8	#7	#8
	"b" Dimension "B" Feet-Inches	2-11	2-11	2-11	3-0	2-11	3-9	2-11	3-9	2-11	3-9	2-11	3-9	3-1	3-2	3-9	3-9	3-9	3-9	3-7	3-9	3-7	4-4	3-7	4-4	4-4	4-4	2-9	4-2	3-4	4-4	3-4	4-6	3-4	4-6	3-6	4-6	3-6	4-6	3-6	4-6	4-9	6-0
	"b" Dimension "Bw" Feet-Inches	4-10	5-0	4-10	5-0	4-10	5-0	4-10	5-0	4-10	5-0	4-7	4-7	6-0	5-10	6-2	6-7	6-2	6-7	4-11	4-11	4-11	4-11	4-11	4-11	4-4	4-4	6-5	7-0	7-0	8-4	7-0	8-4	6-0	6-0	6-0	6-0	6-0	6-0	5-0	6-0	4-6	6-0
	"c" Size Bar #	#6	#7	#6	#7	#6	#7	#6	#7	#7	#7	#7	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#8	#8	#8	#8
	"c" Dimension "C" Feet-Inches	3-4	3-4	7-4	4-8	7-7	4-8	8-2	4-8	7-7	4-8	7-7	4-8	4-4	3-7	8-1	5-7	8-1	5-7	8-1	5-7	8-1	5-7	8-1	5-7	8-1	5-7	4-0	4-2	6-9	6-9	5-10	5-10	6-0	6-4	8-11	6-4	8-11	6-4	8-11	6-4	8-11	6-4
	∗"e" Size Bar	#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#5	#5	#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#5	#5	#5	#5	#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#5	#6	#6	#6
Quantities	Concrete CF/LF	21.6	26.8	23.0	29.5	24.3	31.0	25.6	34.1	27.8	37.7	32.1	42.3	26.8	37.7	29.3	40.1	30.3	41.9	32.2	45.4	34.5	49.8	40.7	54.2	45.4	59.9	36.2	51.0	37.8	53.1	39.5	54.9	41.9	58.7	45.9	64.1	49.9	69.5	55.6	75.8	61.6	81.3
	Reinforcement LB/LF	191	267	233	285	260	325	300	339	314	327	360	373	295	362	353	409	365	420	402	413	415	424	440	471	468	534	374	471	449	522	446	587	449	580	492	596	537	605	564	634	604	759

∗ See Note 5
∗∗ See Note 6

"d" bars, for earth covers up to and including 10′-0″							
Span	4′	5′	6′	7′	8′	10′	12′	14′
Number	7	8	9	10	11	12	15	20

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

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Dallas Forester No. C37765 Exp. 12-31-06 CIVIL STATE OF CALIFORNIA

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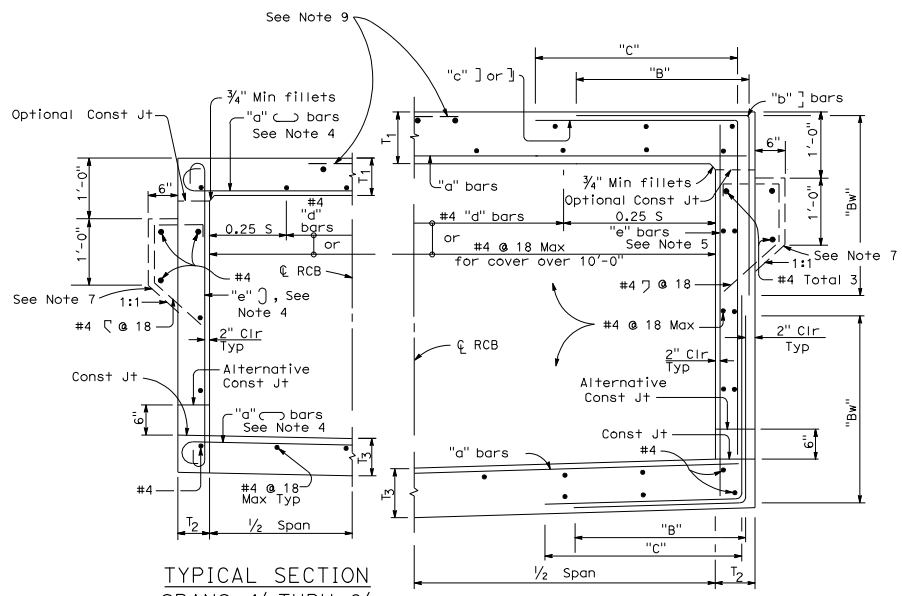
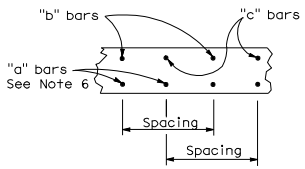
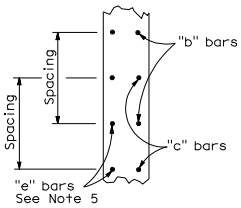


TYPICAL SECTION
SPANS 4′ THRU 8′

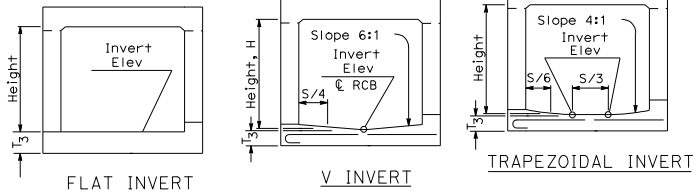
TYPICAL SECTION
SPANS 10′ THRU 14′



ROOF SECTION
SPANS 10′ THRU 14′
INVERT SIMILAR



WALL SECTION
SPANS 10′ THRU 14′



FLAT INVERT

V INVERT

TRAPEZOIDAL INVERT

SLOPED INVERT

ALTERNATIVE INVERTS

NOTES:

1. For boxes with span or height less than any of those shown in table, use next greater size box concrete dimensions and reinforcement. Make necessary changes in bar lengths and quantities.
2. Quantities are approximate and for design purposes only.
3. For boxes with span or height or cover greater than those shown in tables, a special design is required.
4. It is permissible to eliminate the 180° hooks on every other bar.
5. "e" bars are at half spacing (spans 10′ - 14′ only).
6. "a" bars are at half spacing (spans 10′ - 14′ only).
7. Provide paving notch when top is exposed and when pavement is portland cement concrete, and adjust quantities.
8. For design and details not shown, see Standard Plan D82.
9. For exposed top, provide #4 @ 1′-6″ each way 2′-0″ lap "c" bars or full span and adjust).

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CAST-IN-PLACE REINFORCED CONCRETE SINGLE BOX CULVERT

NO SCALE

D80

1-24-06

2006 STANDARD PLAN D80