

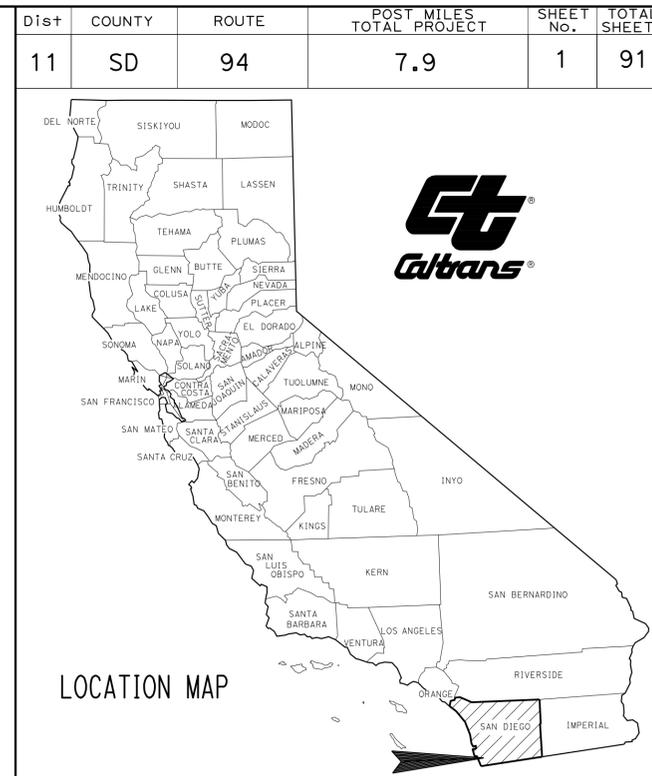
INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2-7	TYPICAL CROSS SECTIONS
8	LAYOUTS
9	SUPERELEVATION DIAGRAM
10-12	CONSTRUCTION DETAILS
13-15	TEMPORARY WATER POLLUTION CONTROL PLAN, DETAILS AND QUANTITIES
16-21	CONTOUR GRADING AND DRAINAGE PLANS
22	UTILITY PLAN
23	CONSTRUCTION AREA SIGNS
24-27	STAGE CONSTRUCTION
28	TRAFFIC HANDLING PLAN
29-30	PAVEMENT DELINEATION PLANS
31-34	SIGN PLANS
35-37	SUMMARY OF QUANTITIES
38-44	RETAINING WALL PLANS, TYPICAL, DETAILS, QUANTITIES AND LOG OF TEST BORING
45-57	HIGHWAY PLANTING
58-61	ELECTRICAL PLANS
62-91	REVISED AND NEW STANDARD PLANS

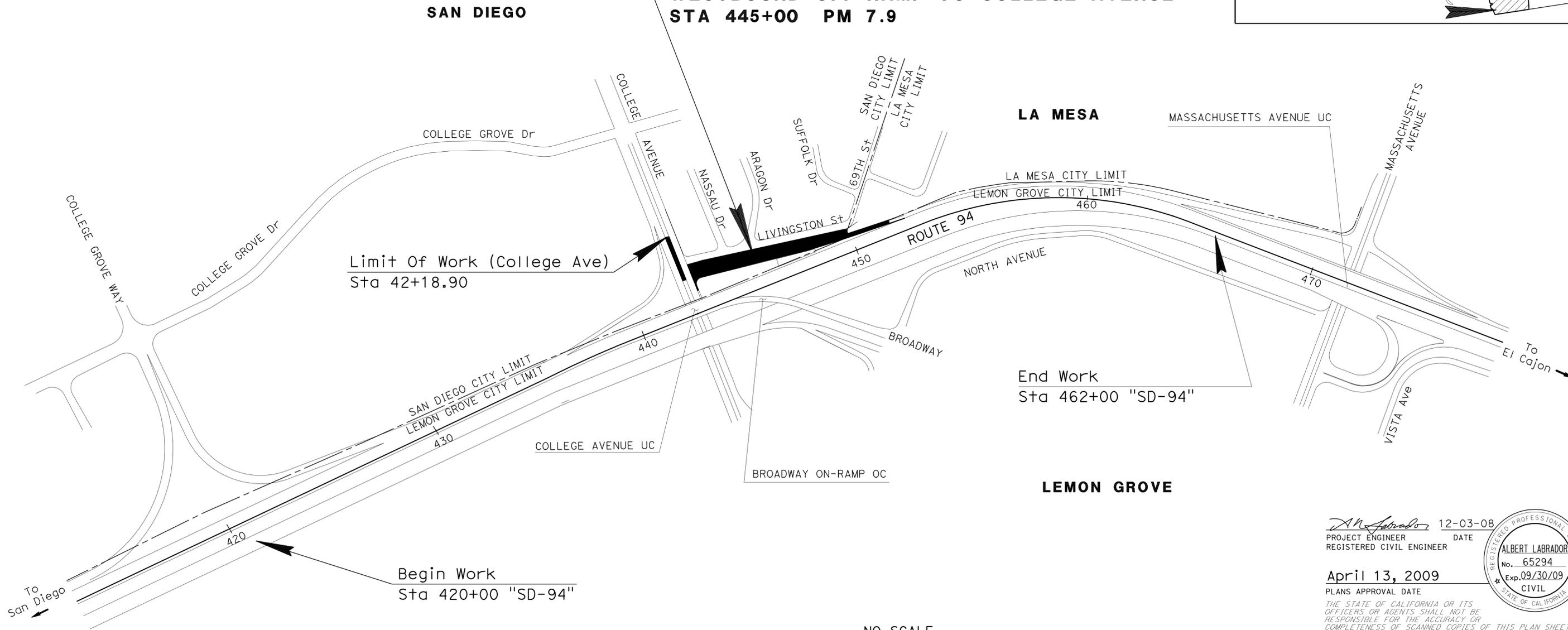
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA ACHSNHG-P094(057)E  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN SAN DIEGO COUNTY**  
**IN SAN DIEGO, LA MESA AND LEMON GROVE**  
**AT WESTBOUND OFF-RAMP TO COLLEGE AVENUE**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

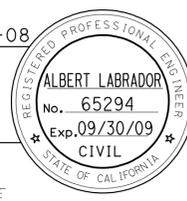


**LOCATION OF CONSTRUCTION**  
**WESTBOUND OFF-RAMP TO COLLEGE AVENUE**  
**STA 445+00 PM 7.9**



PROJECT MANAGER  
**RICHARD N. ESTRADA**  
 DESIGN ENGINEER  
**ALBERT N. LABRADOR**

*Albert Labrador* 12-03-08  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER



**April 13, 2009**  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTRACT No. **11-262604**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR  
 RICHARD N. ESTRADA

CALCULATED-DESIGNED BY  
 CHECKED BY

ALBERT N. LABRADOR  
 SRIDHAR KIDAMBI

REVISED BY  
 DATE REVISED

**NOTES:**

- DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.

**DESIGN DESIGNATION (ROUTE 94 WB COLLEGE Ave OFF-RAMP)**

2005 ADT=6300 AM PM  
 2030 ADT=8820 400 450  
 T=4% 500 650

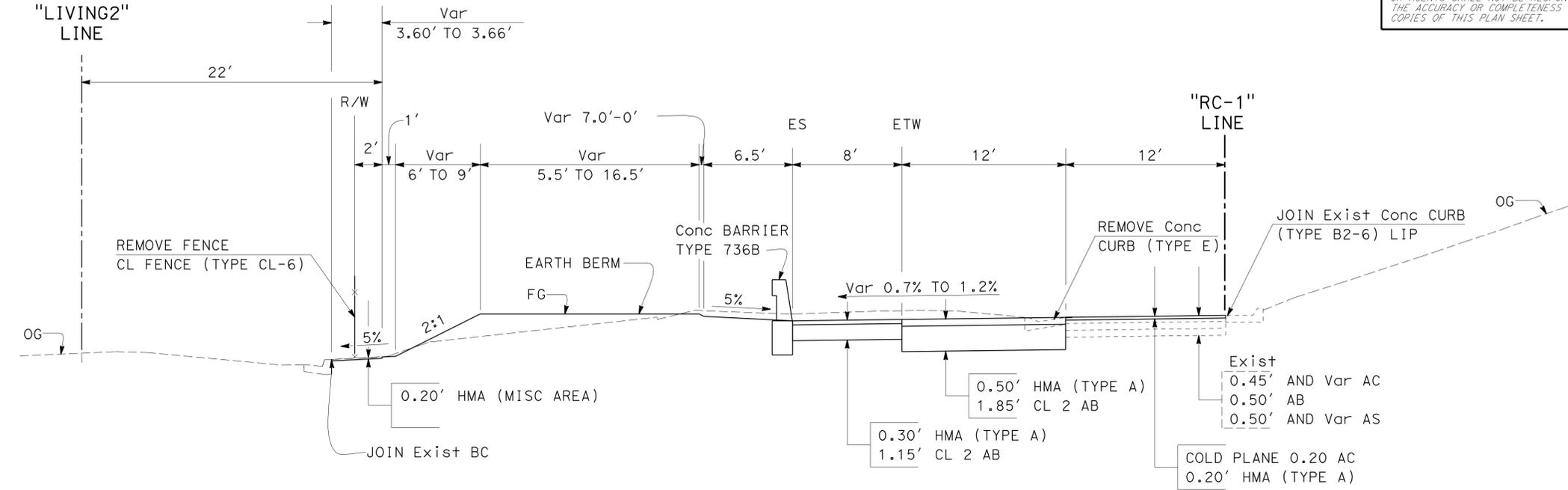
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	2	91

REGISTERED CIVIL ENGINEER  
 No. 65294  
 Exp. 09/30/09  
 CIVIL

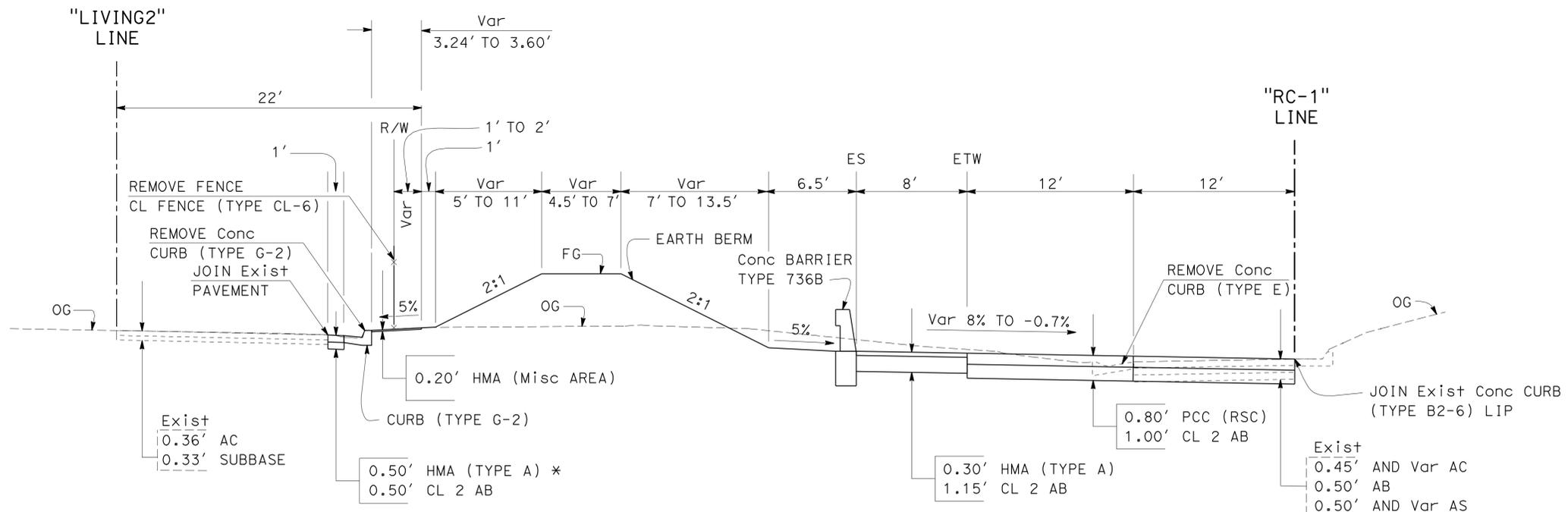
12-03-08  
 DATE

4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



WESTBOUND ROUTE 94 TO COLLEGE Ave OFF-RAMP  
 Sta 444+91.00 TO Sta 445+00.00 "RC-1" LINE

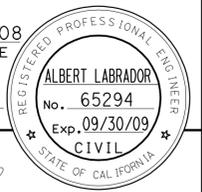


WESTBOUND ROUTE 94 TO COLLEGE Ave OFF-RAMP  
 Sta 443+43.44 TO Sta 444+91.00 "RC-1" LINE  
 \*Sta 443+43.44 TO Sta 443+70.11 "RC-1" LINE

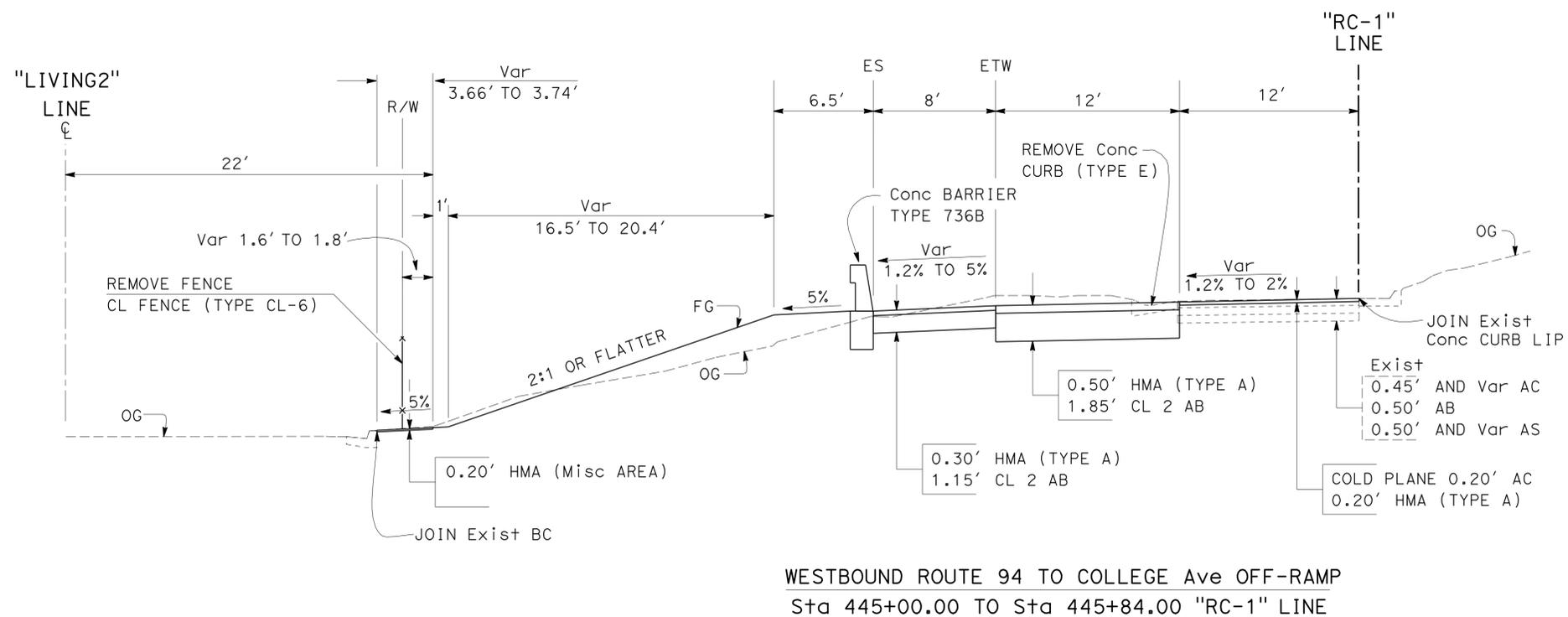
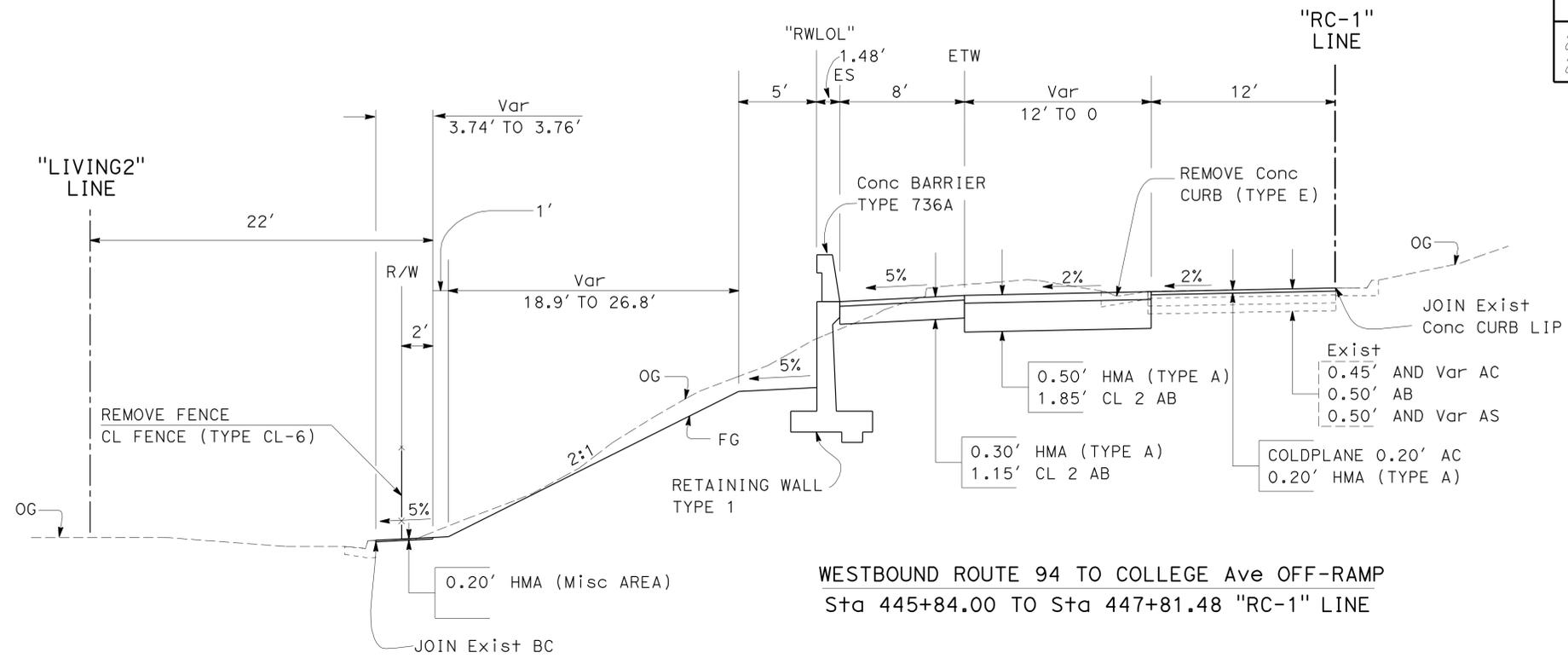
**ABBREVIATION:**  
 BC - BACK OF CURB  
 RSC - RAPID STRENGTH CONCRETE  
 S/C - SAW CUT LINE

**TYPICAL CROSS SECTIONS**  
 NO SCALE  
 X-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	3	91
			12-03-08 REGISTERED CIVIL ENGINEER DATE		
			4-13-09 PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC PROJECT DEVELOPMENT**  
 FUNCTIONAL SUPERVISOR: RICHARD N. ESTRADA  
 REVISIONS: (Grids X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ



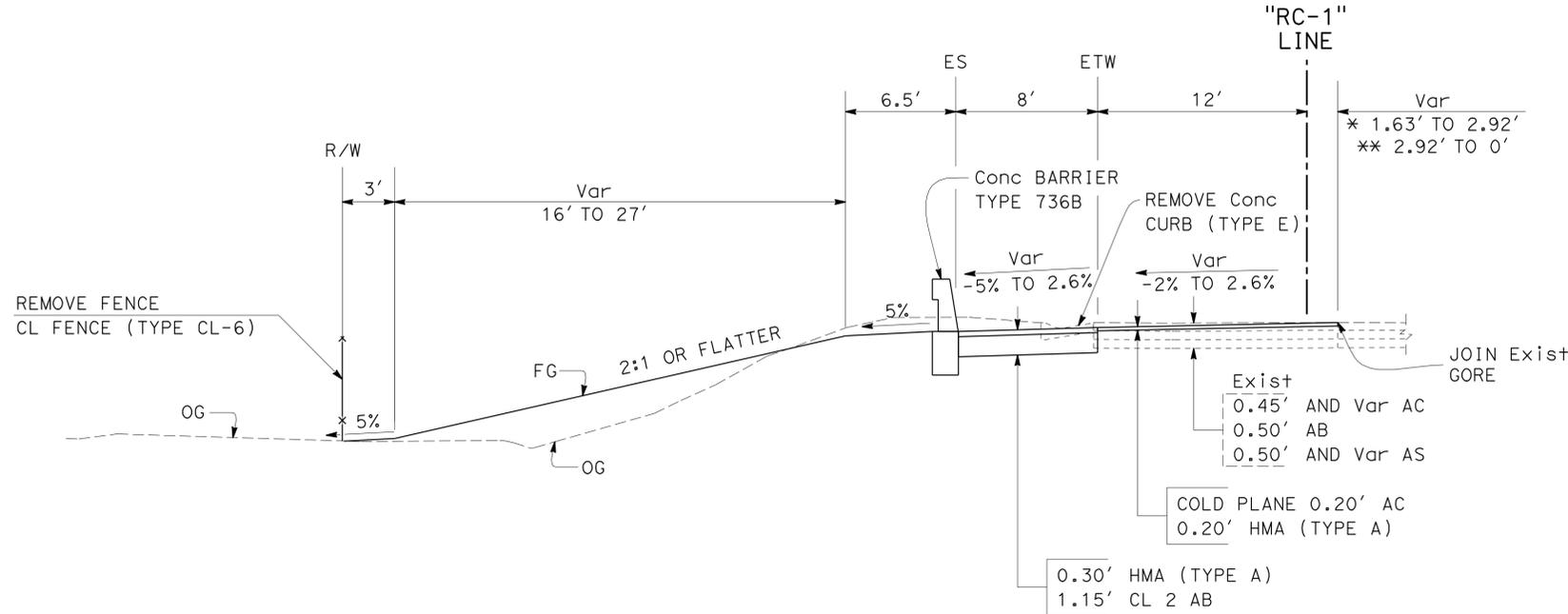
**TYPICAL CROSS SECTIONS**  
 NO SCALE  
**X-2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	4	91

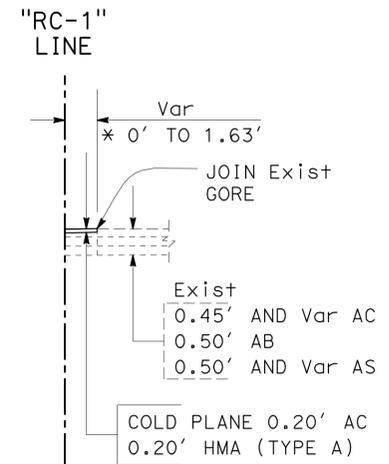
REGISTERED CIVIL ENGINEER DATE 12-03-08  
 4-13-09  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 ALBERT LABRADOR  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA

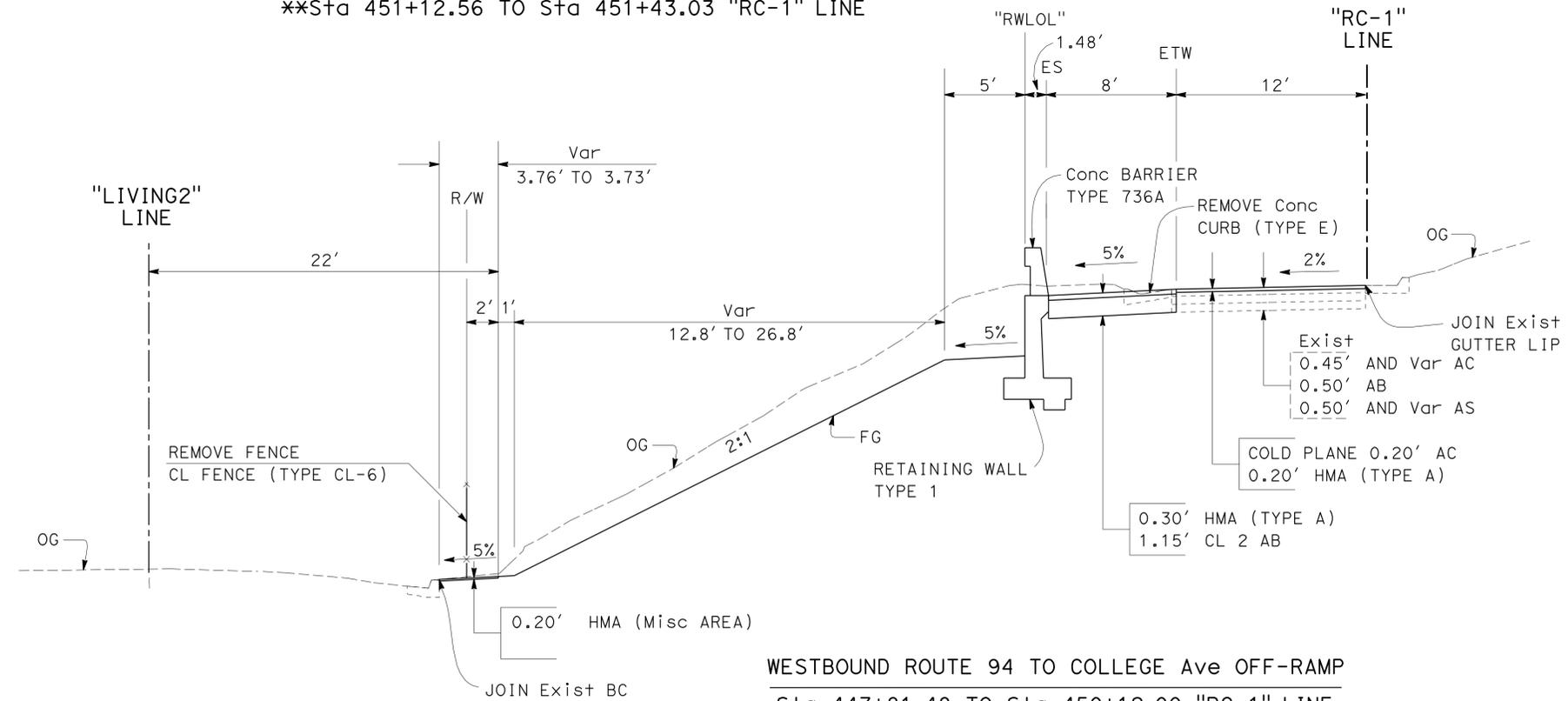
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



WESTBOUND ROUTE 94 TO COLLEGE Ave OFF-RAMP  
 Sta 450+12.00 TO Sta 451+43.03 "RC-1" LINE  
 \*Sta 450+12.00 TO Sta 451+12.56 "RC-1" LINE  
 \*\*Sta 451+12.56 TO Sta 451+43.03 "RC-1" LINE



WESTBOUND ROUTE 94 TO COLLEGE Ave OFF-RAMP  
 \*Sta 449+07.80 TO Sta 450+12.00 "RC-1" LINE



WESTBOUND ROUTE 94 TO COLLEGE Ave OFF-RAMP  
 Sta 447+81.48 TO Sta 450+12.00 "RC-1" LINE  
 \*Sta 449+07.80 TO Sta 450+12.00 "RC-1" LINE

**TYPICAL CROSS SECTIONS**  
 NO SCALE  
**X-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC PROJECT DEVELOPMENT**

FUNCTIONAL SUPERVISOR  
 RICHARD N. ESTRADA

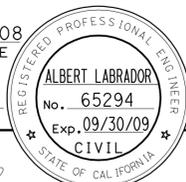
CALCULATED-DESIGNED BY  
 CHECKED BY

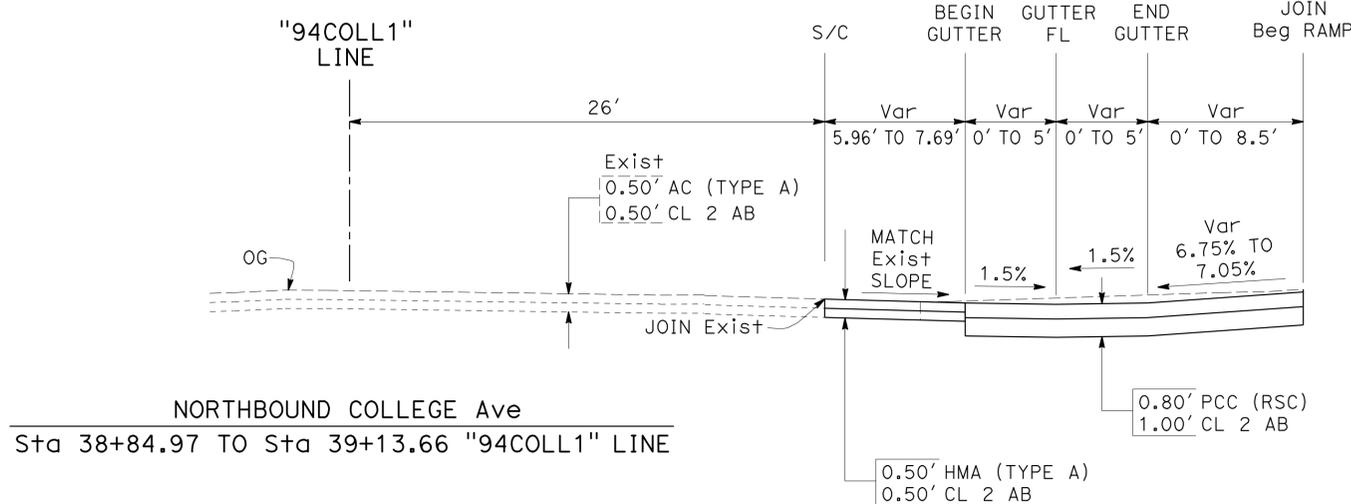
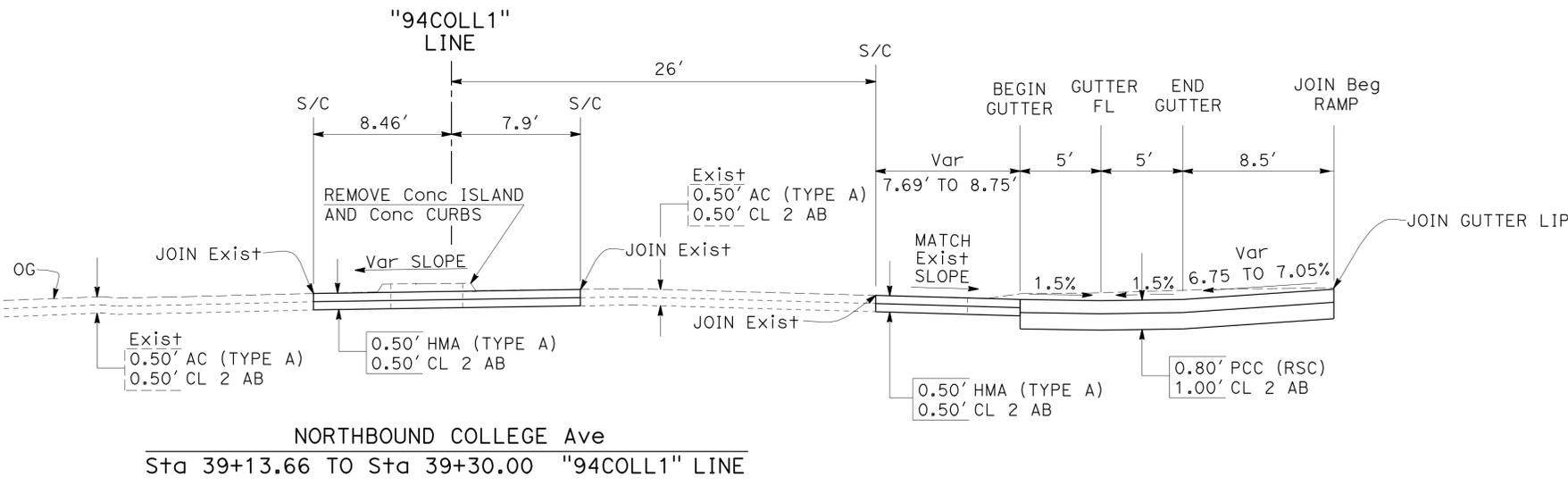
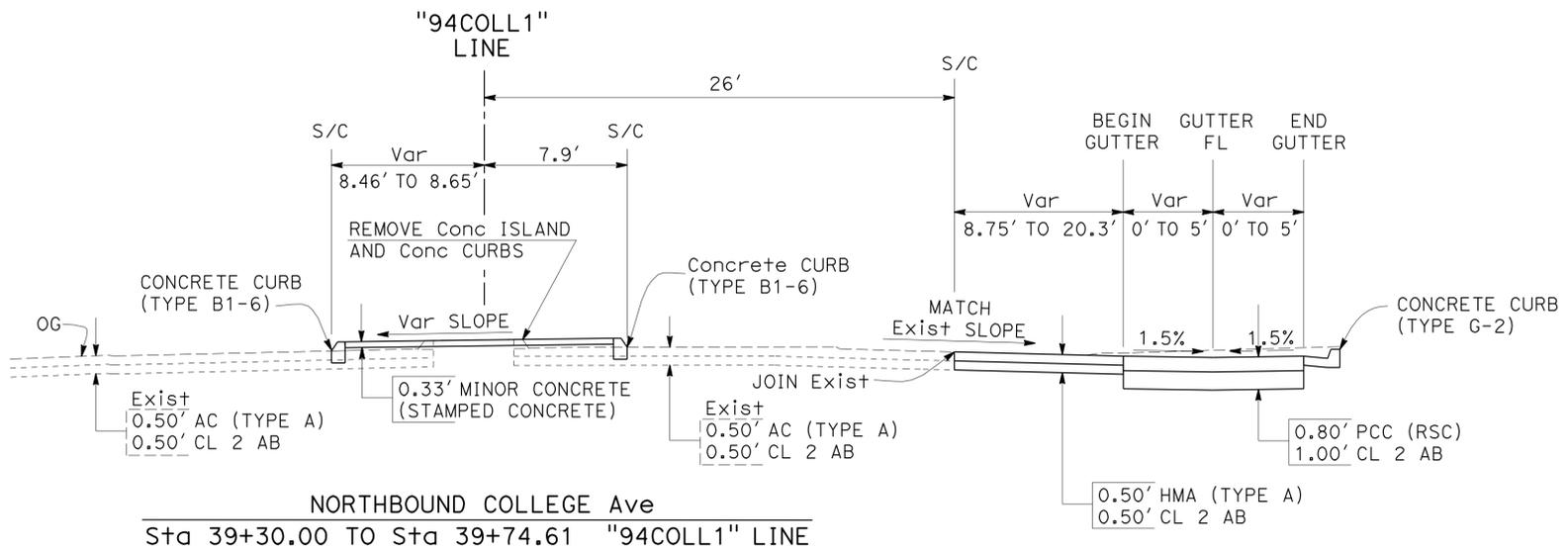
ALBERT N. LABRADOR  
 SRIDHAR KIDAMBI

REVISED BY  
 DATE REVISED

x  
 x  
 x  
 x  
 x



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	6	91
			12-03-08 REGISTERED CIVIL ENGINEER DATE		
			4-13-09 PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



**TYPICAL CROSS SECTIONS**  
 NO SCALE  
**X-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC PROJECT DEVELOPMENT**  
 FUNCTIONAL SUPERVISOR: RICHARD N. ESTRADA  
 CALCULATED/DESIGNED BY: ALBERT N. LABRADOR  
 CHECKED BY: SRIDHAR KIDAMBI  
 REVISED BY: ALBERT N. LABRADOR  
 DATE REVISED: SRIDHAR KIDAMBI

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	7	91

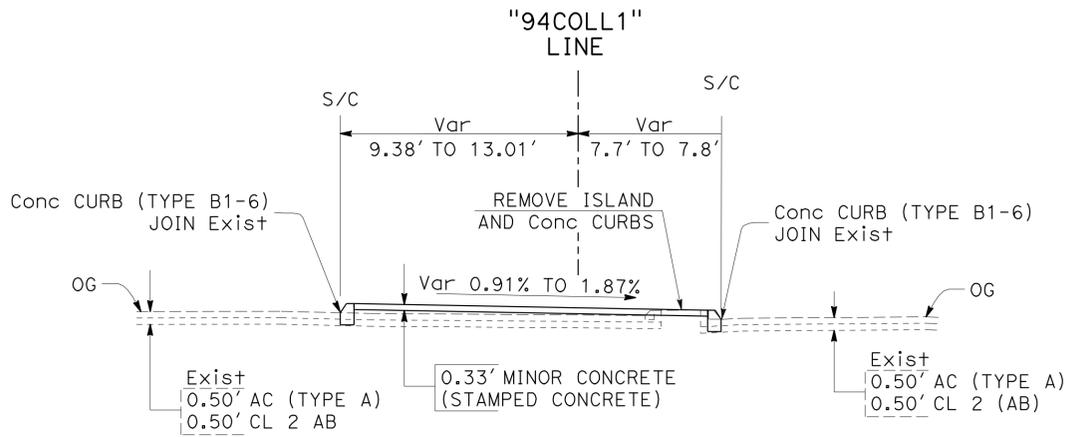
  

<i>Albert Labrador</i>	12-03-08
REGISTERED CIVIL ENGINEER	DATE
4-13-09	
PLANS APPROVAL DATE	

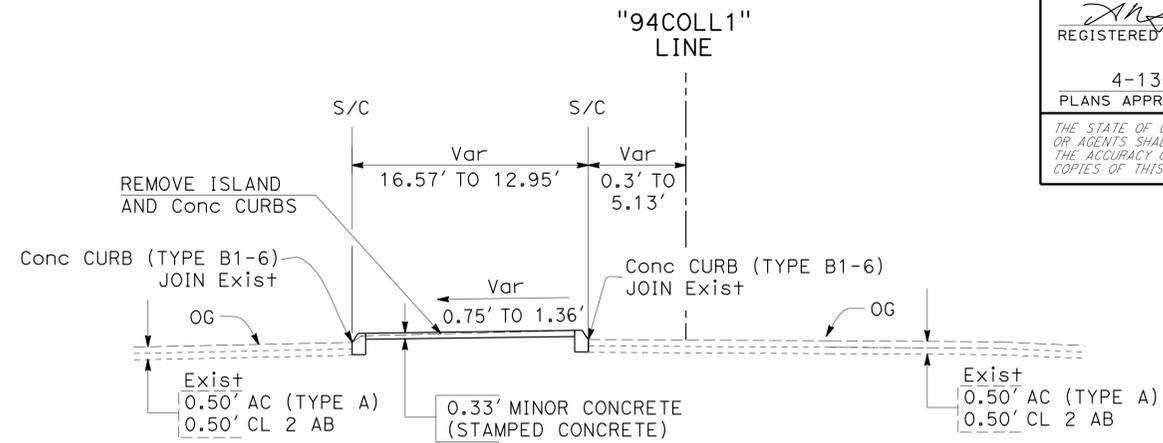
  

REGISTERED PROFESSIONAL ENGINEER	ALBERT LABRADOR
No. 65294	
Exp. 09/30/09	
CIVIL	

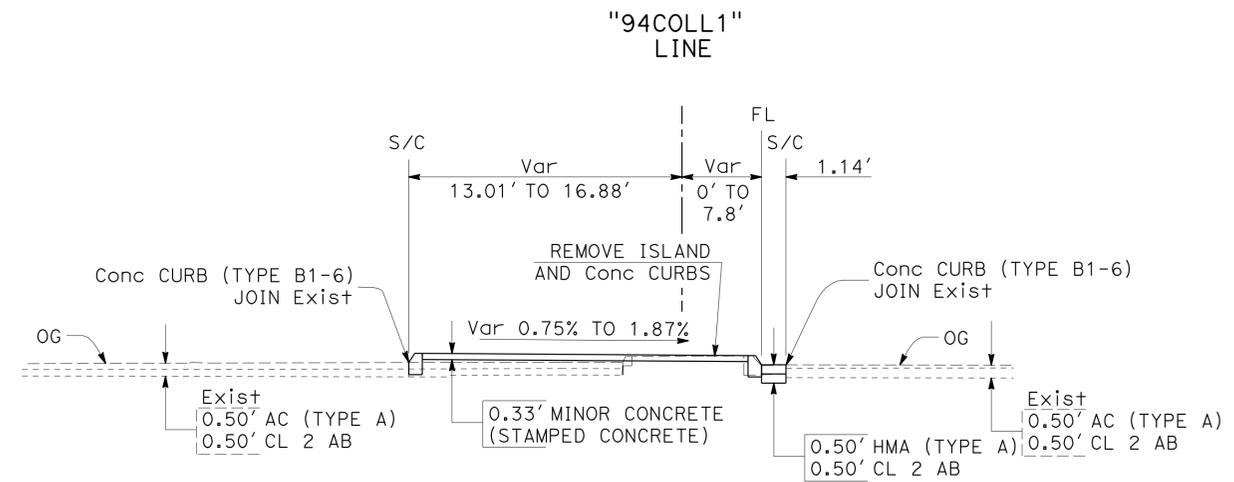
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



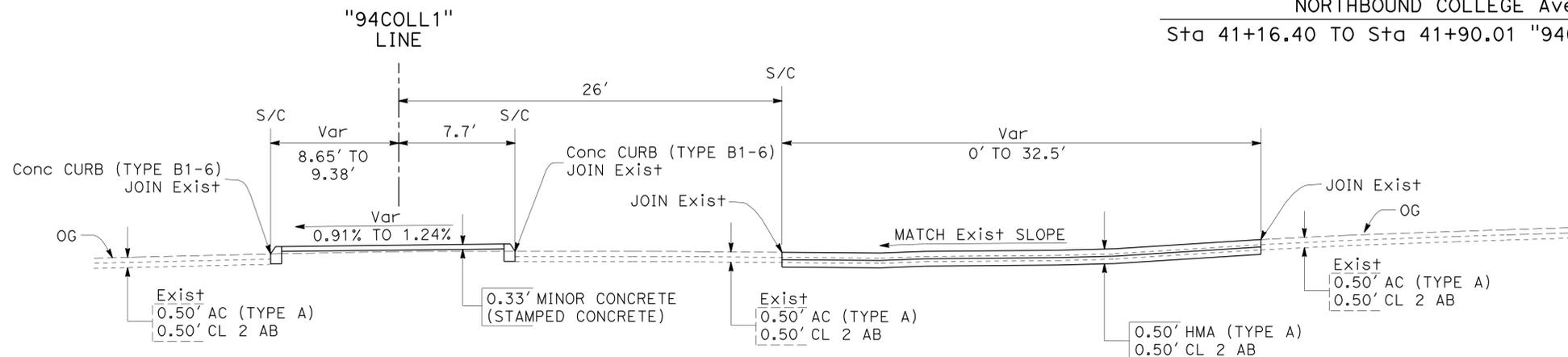
NORTHBOUND COLLEGE Ave  
Sta 40+34.50 TO Sta 41+16.40 "94COLL1" LINE



NORTHBOUND COLLEGE Ave  
Sta 41+90.01 TO Sta 42+18.90 "94COLL1" LINE



NORTHBOUND COLLEGE Ave  
Sta 41+16.40 TO Sta 41+90.01 "94COLL1" LINE



NORTHBOUND COLLEGE Ave  
Sta 39+74.61 TO Sta 40+34.50 "94COLL1" LINE

**TYPICAL CROSS SECTIONS**

NO SCALE

**X-6**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**TRAFFIC PROJECT DEVELOPMENT**  
CALTRANS

FUNCTIONAL SUPERVISOR  
RICHARD N. ESTRADA

CALCULATED-DESIGNED BY  
CHECKED BY

ALBERT N. LABRADOR  
SRIDHAR KIDAMBI

REVISED BY  
DATE REVISED

x

x

x

x

x

**NOTES:**

- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
- HORIZONTAL DATUM: NAV 83 EPOCH 1991.35  
VERTICAL DATUM: NAVD 88

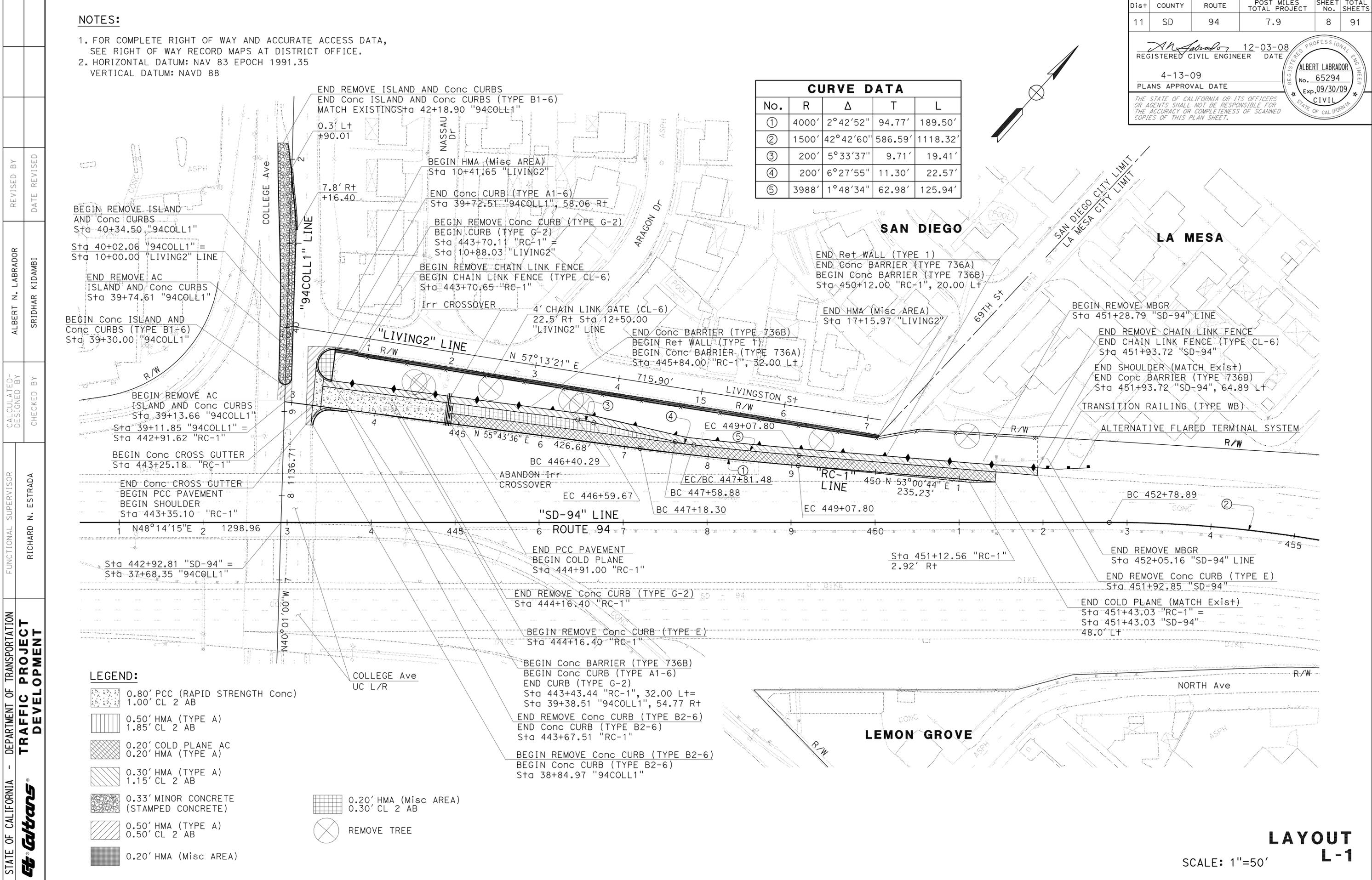
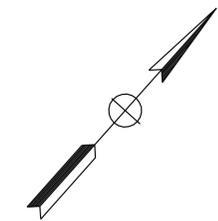
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	8	91

*Albert N. Labrador* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
**ALBERT LABRADOR**  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA

No.	R	Δ	T	L
①	4000'	2°42'52"	94.77'	189.50'
②	1500'	42°42'60"	586.59'	1118.32'
③	200'	5°33'37"	9.71'	19.41'
④	200'	6°27'55"	11.30'	22.57'
⑤	3988'	1°48'34"	62.98'	125.94'

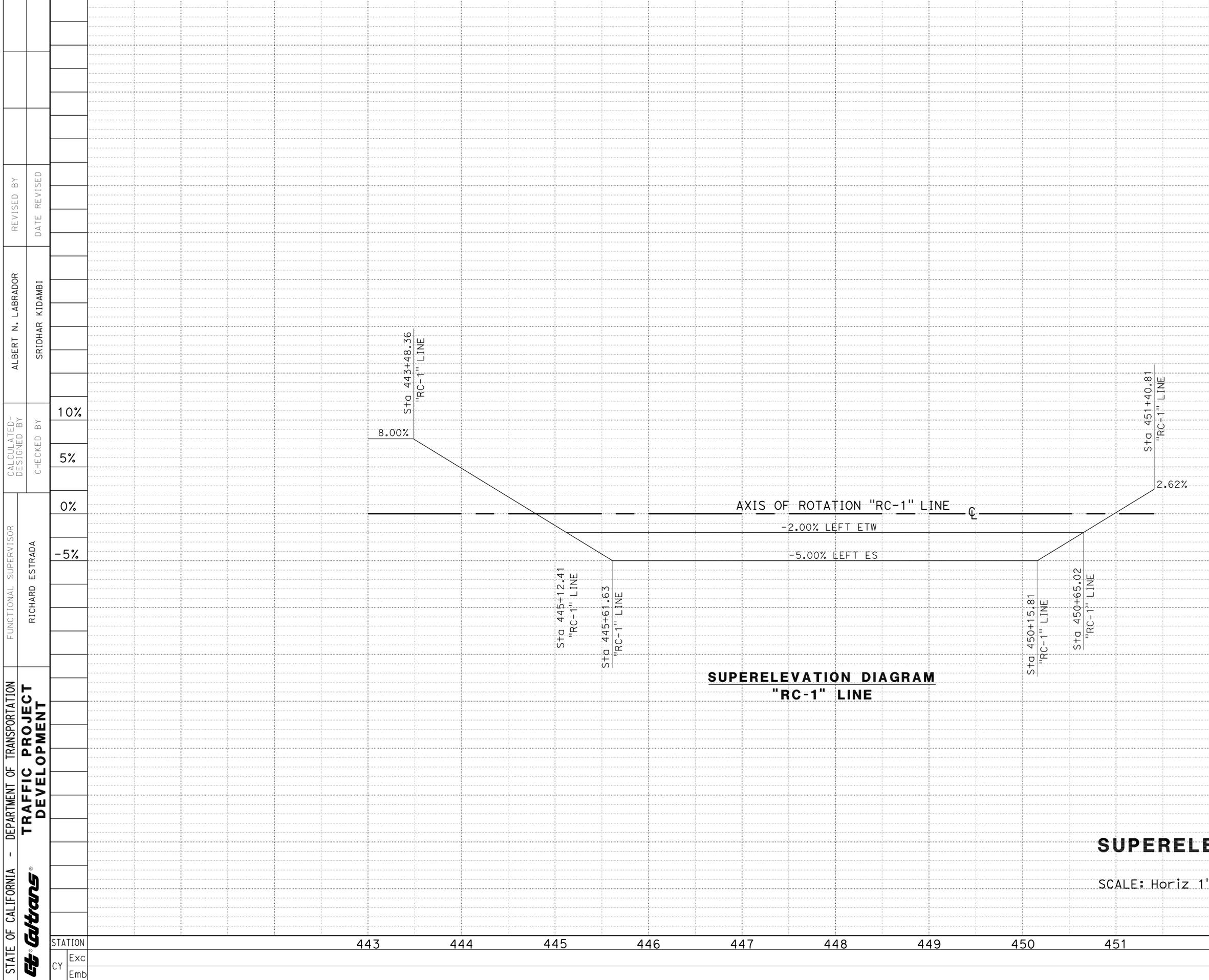


REVISOR: ALBERT N. LABRADOR  
 CHECKED BY: SRIDHAR KIDAMBI  
 DESIGNED BY: ALBERT N. LABRADOR  
 SUPERVISOR: RICHARD N. ESTRADA  
 PROJECT: DEPARTMENT OF TRANSPORTATION - TRAFFIC PROJECT DEVELOPMENT

LAST REVISION: DATE PLOTTED => 22-APR-2009  
 TIME PLOTTED => 08:40

**LAYOUT L-1**

SCALE: 1"=50'

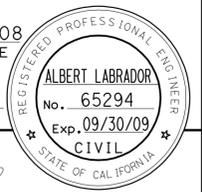


**SUPERELEVATION DIAGRAM  
"RC-1" LINE**

**SUPERELEVATION DIAGRAM  
SE-1**

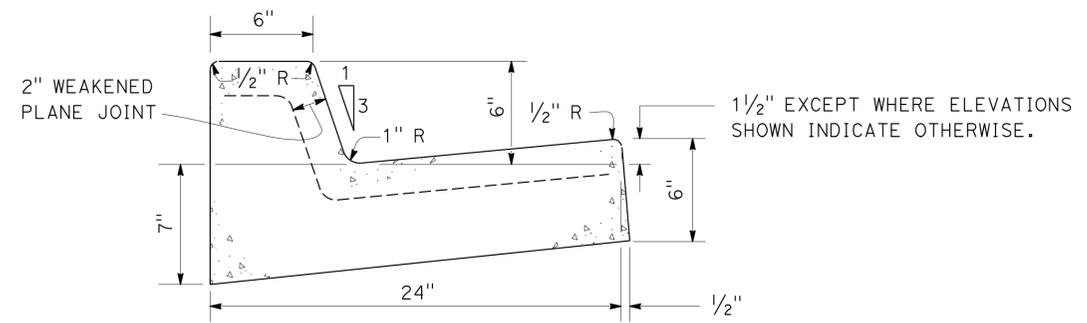
SCALE: Horiz 1" = 50'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	9	91
			12-03-08		
			REGISTERED CIVIL ENGINEER	DATE	
			4-13-09	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

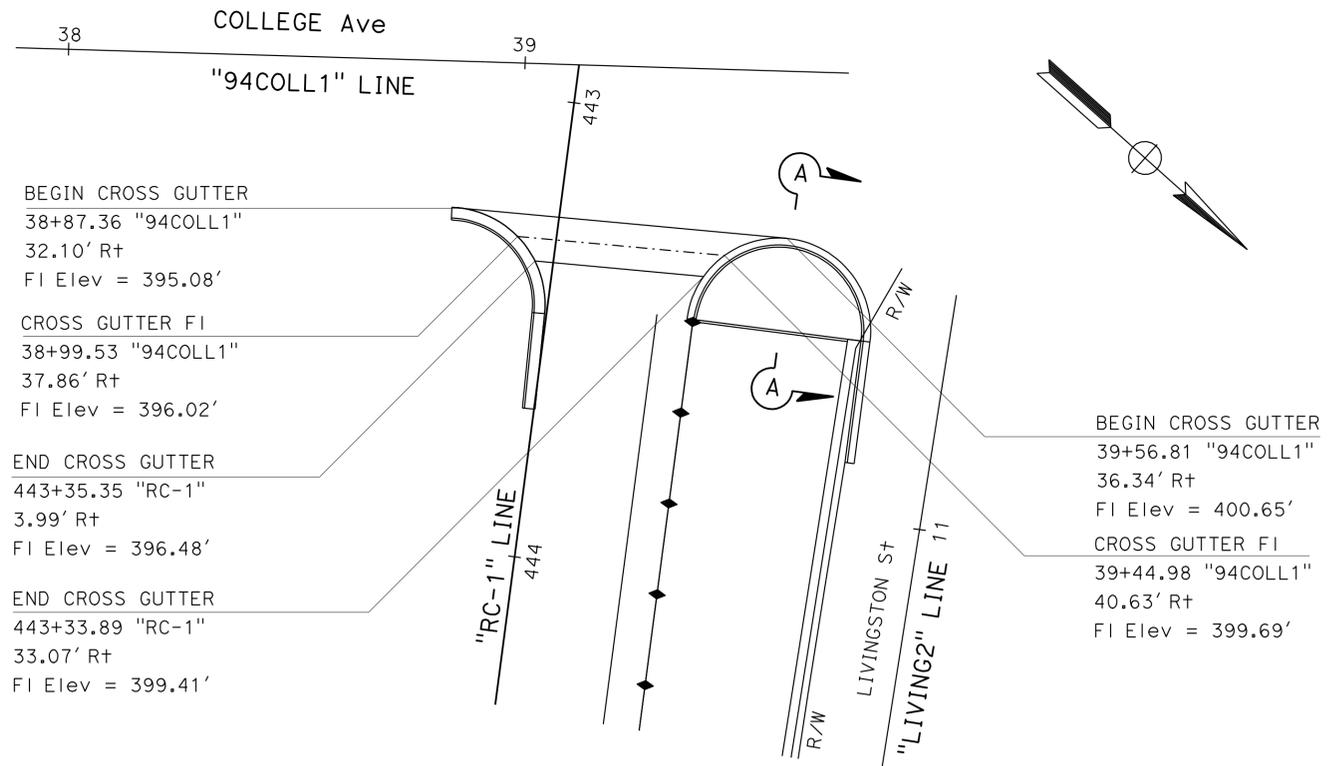
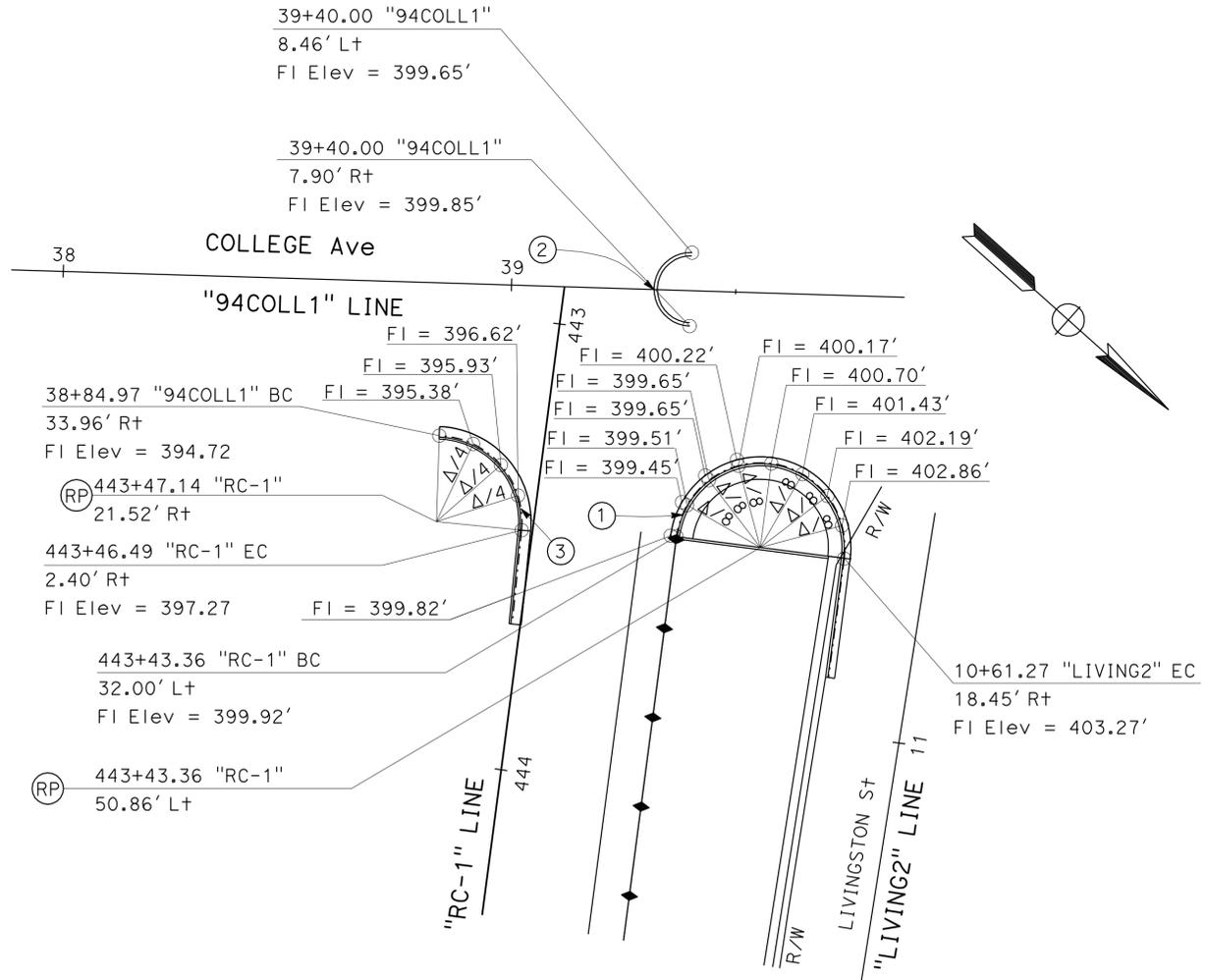
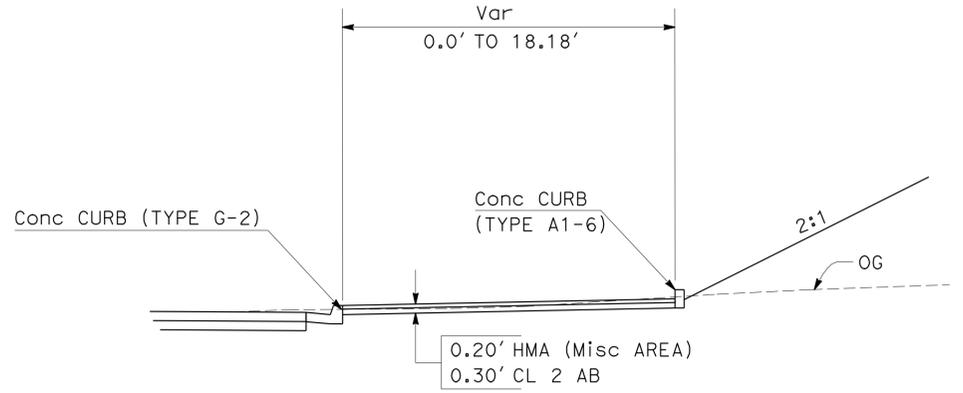


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION <b>Caltrans</b> TRAFFIC PROJECT DEVELOPMENT	FUNCTIONAL SUPERVISOR	CHECKED BY	CALCULATED-DESIGNED BY	ALBERT N. LABRADOR	REVISOR BY	DATE REVISED
	RICHARD ESTRADA	10%	5%	SRIDHAR KIDAMBI		
		0%				
		-5%				
STATION	443	444	445	446	447	448
Exc						
Emb						
TOTAL						

LAST REVISION DATE PLOTTED => 22-APR-2009 12-10-08 TIME PLOTTED => 08:41



CURVE DATA				
No.	R	Δ	T	L
①	18.85'	179°59'59"	0.00'	59.23'
②	6.25'	180°00'00"	0.00'	19.63'
③	19.13'	93°45'02"	20.42'	31.30'



CURB AND GUTTER FLOW LINES

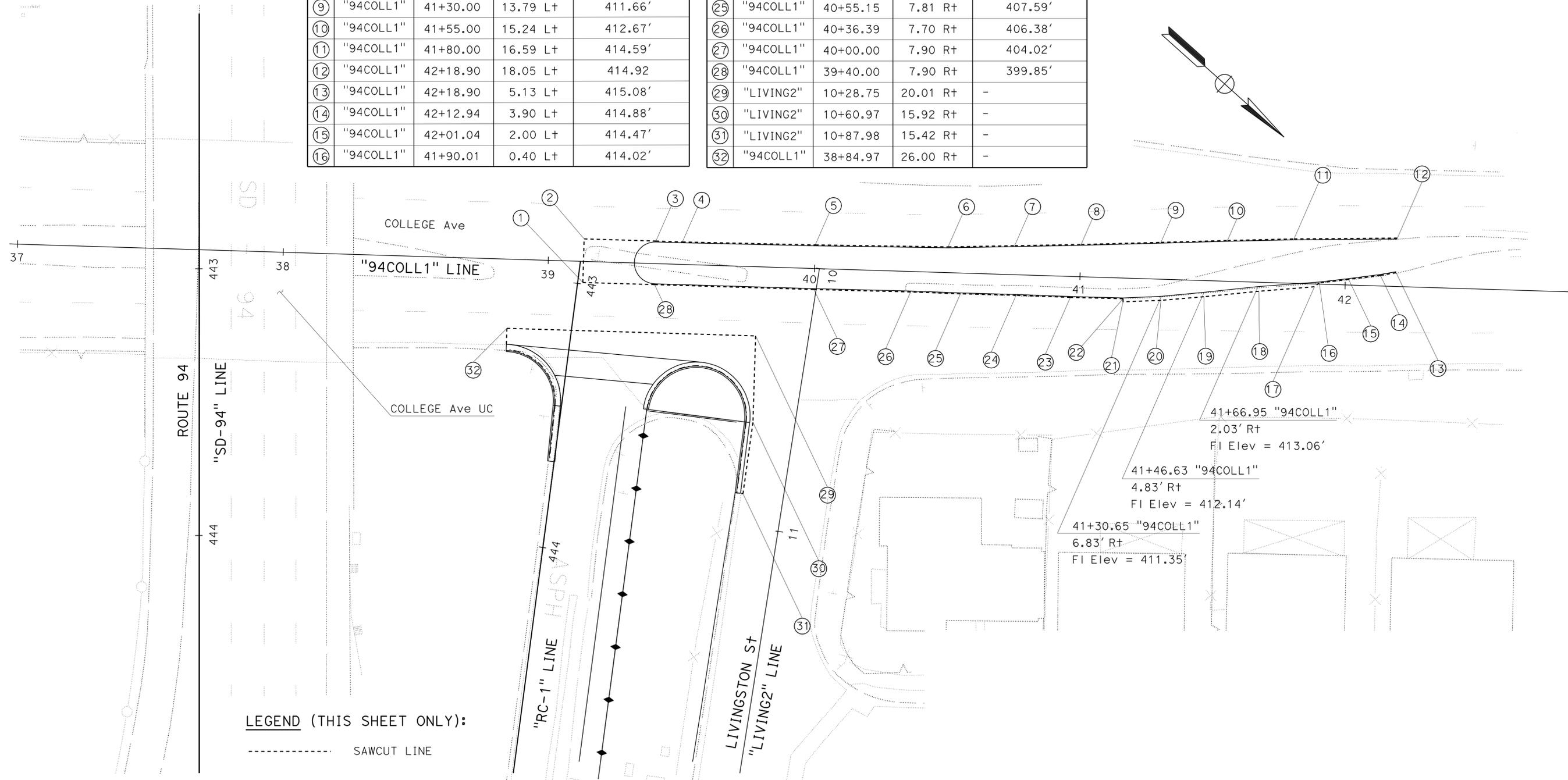
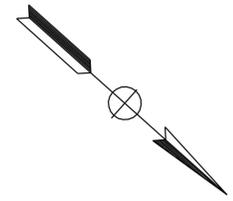
CROSS GUTTER FLOW LINES AND Misc HMA PAD

CONSTRUCTION DETAILS  
NO SCALE  
C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 TRAFFIC PROJECT DEVELOPMENT  
 Et Galtans  
 FUNCTIONAL SUPERVISOR: RICHARD N. ESTRADA  
 CALCULATED/DESIGNED BY: ALBERT N. LABRADOR  
 CHECKED BY: SRIDHAR KIDAMBI  
 REVISED BY: ALBERT N. LABRADOR  
 DATE REVISIED: SRIDHAR KIDAMBI

SAWCUT POINTS				
PT	LINE	STATION	OFFSET	GUTTER FL Elev
①	"94COLL1"	39+13.66	7.90 Rt	-
②	"94COLL1"	39+13.66	8.46 Lt	-
③	"94COLL1"	39+40.00	8.46 Lt	399.65'
④	"94COLL1"	39+50.00	8.46 Lt	400.38'
⑤	"94COLL1"	40+00.00	8.86 Lt	404.04'
⑥	"94COLL1"	40+50.00	9.61 Lt	407.36'
⑦	"94COLL1"	40+75.00	10.82 Lt	408.88'
⑧	"94COLL1"	41+00.00	12.07 Lt	410.16'
⑨	"94COLL1"	41+30.00	13.79 Lt	411.66'
⑩	"94COLL1"	41+55.00	15.24 Lt	412.67'
⑪	"94COLL1"	41+80.00	16.59 Lt	414.59'
⑫	"94COLL1"	42+18.90	18.05 Lt	414.92
⑬	"94COLL1"	42+18.90	5.13 Lt	415.08'
⑭	"94COLL1"	42+12.94	3.90 Lt	414.88'
⑮	"94COLL1"	42+01.04	2.00 Lt	414.47'
⑯	"94COLL1"	41+90.01	0.40 Lt	414.02'

SAWCUT POINTS				
PT	LINE	STATION	OFFSET	GUTTER FL Elev
⑰	"94COLL1"	41+88.27	1.15 Rt	-
⑱	"94COLL1"	41+67.36	3.45 Rt	-
⑲	"94COLL1"	41+46.76	6.12 Rt	-
⑳	"94COLL1"	41+30.68	7.98 Rt	-
㉑	"94COLL1"	41+16.40	8.97 Rt	-
㉒	"94COLL1"	41+16.40	7.83 Rt	-
㉓	"94COLL1"	40+96.53	7.92 Rt	409.78'
㉔	"94COLL1"	40+76.14	7.76 Rt	408.63'
㉕	"94COLL1"	40+55.15	7.81 Rt	407.59'
㉖	"94COLL1"	40+36.39	7.70 Rt	406.38'
㉗	"94COLL1"	40+00.00	7.90 Rt	404.02'
㉘	"94COLL1"	39+40.00	7.90 Rt	399.85'
㉙	"LIVING2"	10+28.75	20.01 Rt	-
㉚	"LIVING2"	10+60.97	15.92 Rt	-
㉛	"LIVING2"	10+87.98	15.42 Rt	-
㉜	"94COLL1"	38+84.97	26.00 Rt	-



LEGEND (THIS SHEET ONLY):  
 - - - - - SAWCUT LINE

**SAW CUT LINES**

**CONSTRUCTION DETAILS**  
 SCALE: 1" = 20'  
**C-2**

THIS PLAN ACCURATE FOR CONSTRUCTION DETAILS ONLY.

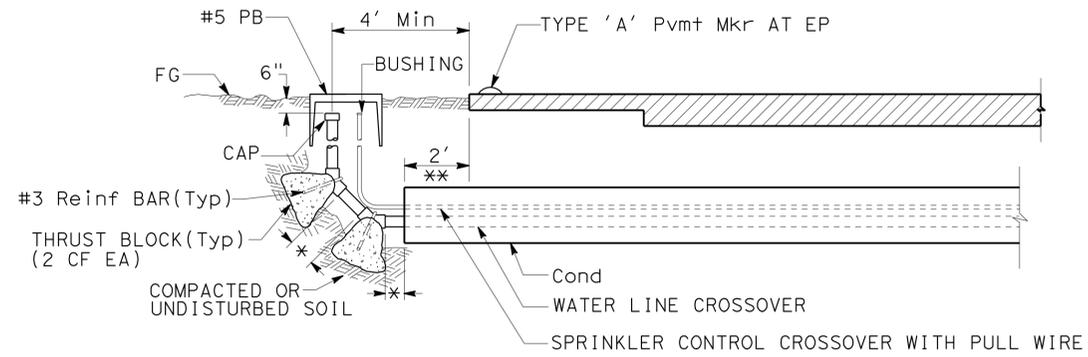
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	12	91

*Albert Labrador* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE

4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS  
 OR AGENTS SHALL NOT BE RESPONSIBLE FOR  
 THE ACCURACY OR COMPLETENESS OF SCANNED  
 COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
**ALBERT LABRADOR**  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA



(\* = 8" Min - 10" Max)  
 \*\* END OF CONDUIT TO EXTEND 2' BEYOND  
 EDGE OF BARRIER WHERE APPLICABLE

**SECTION  
 IRRIGATION CROSSOVER  
 (MODIFIED TYPE I)**

**THRUST BLOCK DETAIL**

INSTALLATION	TYPE FITTING	PIPE SIZE			REQUIRED BEARING AREA SQFT
		4"	6"	8"	
	45°	1.07	2.15	3.23	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC PROJECT DEVELOPMENT**  
 FUNCTIONAL SUPERVISOR  
 RICHARD N. ESTRADA  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 ALBERT N. LABRADOR  
 MATT MACE  
 REVISED BY  
 DATE REVISED

**CONSTRUCTION DETAILS**

NO SCALE

**C-3**

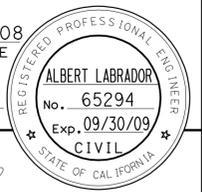
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	13	91

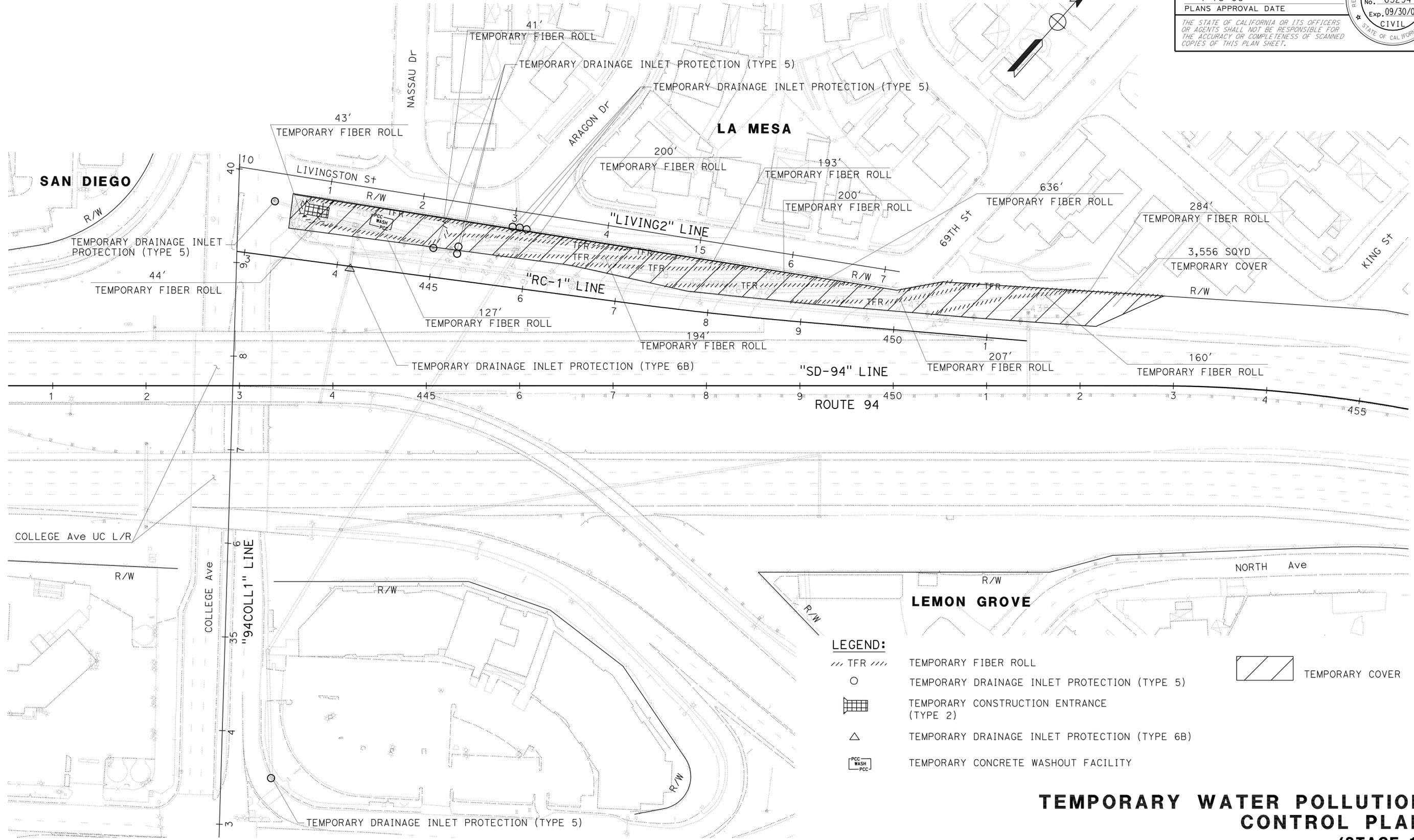
<i>Albert Labrador</i>	12-03-08
REGISTERED CIVIL ENGINEER	DATE
4-13-09	
PLANS APPROVAL DATE	

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



**NOTES:**  
 1. SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA.



**LEGEND:**

- TEMPORARY FIBER ROLL
- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 5)
- TEMPORARY CONSTRUCTION ENTRANCE (TYPE 2)
- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 6B)
- TEMPORARY CONCRETE WASHOUT FACILITY
- TEMPORARY COVER

**TEMPORARY WATER POLLUTION CONTROL PLAN (STAGE 1) WPC-1**

SCALE: 1" = 50'

THIS PLAN ACCURATE FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC PROJECT DEVELOPMENT  
 FUNCTIONAL SUPERVISOR: RICHARD N. ESTRADA  
 CALCULATED/DESIGNED BY: [blank] CHECKED BY: [blank]  
 ALBERT N. LABRADOR  
 DOLORES VALADEZ  
 REVISED BY: [blank] DATE REVISED: [blank]

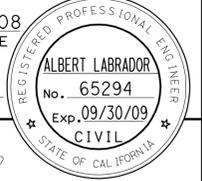
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	14	91

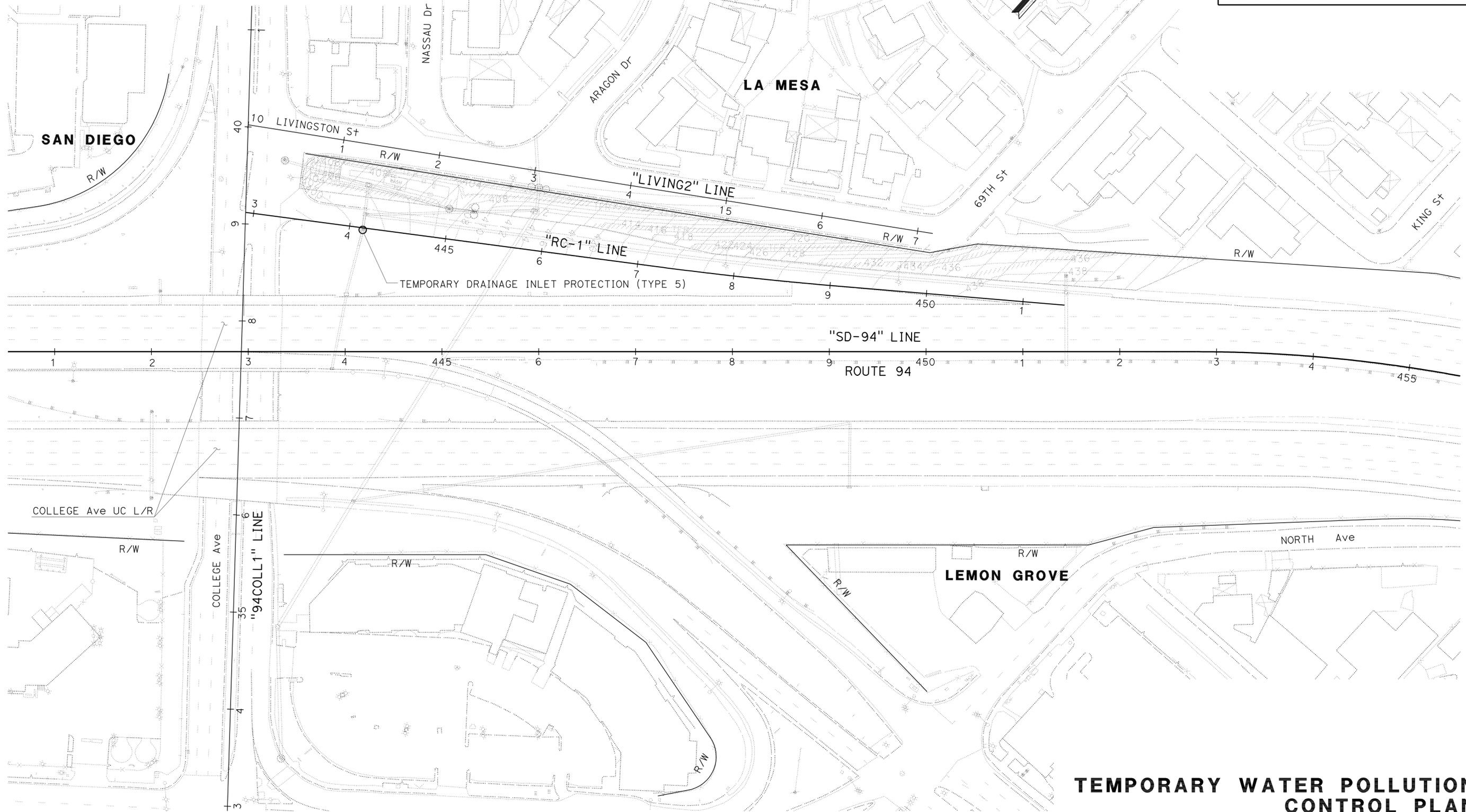
<i>Albert Labrador</i>	12-03-08
REGISTERED CIVIL ENGINEER	DATE
4-13-09	
PLANS APPROVAL DATE	

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



**NOTES:**  
 1. SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.  
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA.



THIS PLAN ACCURATE FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY.

**TEMPORARY WATER POLLUTION CONTROL PLAN**  
**(STAGE 2)**  
**WPC-2**

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR  
 RICHARD N. ESTRADA

CALCULATED-DESIGNED BY  
 CHECKED BY

ALBERT N. LABRADOR  
 DOLORES VALADEZ

REVISED BY  
 DATE REVISED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC PROJECT DEVELOPMENT**

BORDER LAST REVISED 4/11/2008

FUNCTIONAL SUPERVISOR  
 RICHARD N. ESTRADA

CALCULATED-DESIGNED BY  
 CHECKED BY  
 ALBERT N. LABRADOR  
 DOLORES VALADEZ

REVISED BY  
 DATE REVISED

**SUMMARY OF QUANTITIES**

STAGE	SHEET No.	TEMPORARY FIBER ROLL	TEMPORARY CONSTRUCTION ENTRANCE	TEMPORARY COVER	TEMPORARY DRAINAGE INLET PROTECTION	TEMPORARY DRAINAGE INLET PROTECTION	TEMPORARY CONCRETE WASHOUT FACILITY
		LF	(TYPE 2) EA	SQYD	(TYPE 6B) EA	(TYPE 5) EA	EA
		1	WPC-1	2329	1	3556	1
2	WPC-2					1	
SUBTOTAL					1	9	
TOTAL		2329	1	3556	10		1

**TEMPORARY WATER POLLUTION CONTROL QUANTITIES WPCQ-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	15	91

*Albert Labrador* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 ALBERT LABRADOR  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

RELATIVE BORDER SCALE IS IN INCHES

USERNAME => frrikes1  
 DGN FILE => b26260gd001.dgn

CU 11233 EA 262601

LAST REVISION | DATE PLOTTED => 22-APR-2009  
 12-04-08 TIME PLOTTED => 08:42

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC PROJECT DEVELOPMENT**

FUNCTIONAL SUPERVISOR  
 RICHARD N. ESTRADA

CALCULATED-DESIGNED BY  
 CHECKED BY

ALBERT N. LABRADOR  
 SRIDHAR KIDAMBI

REVISED BY  
 DATE REVISED

**NOTE:**  
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

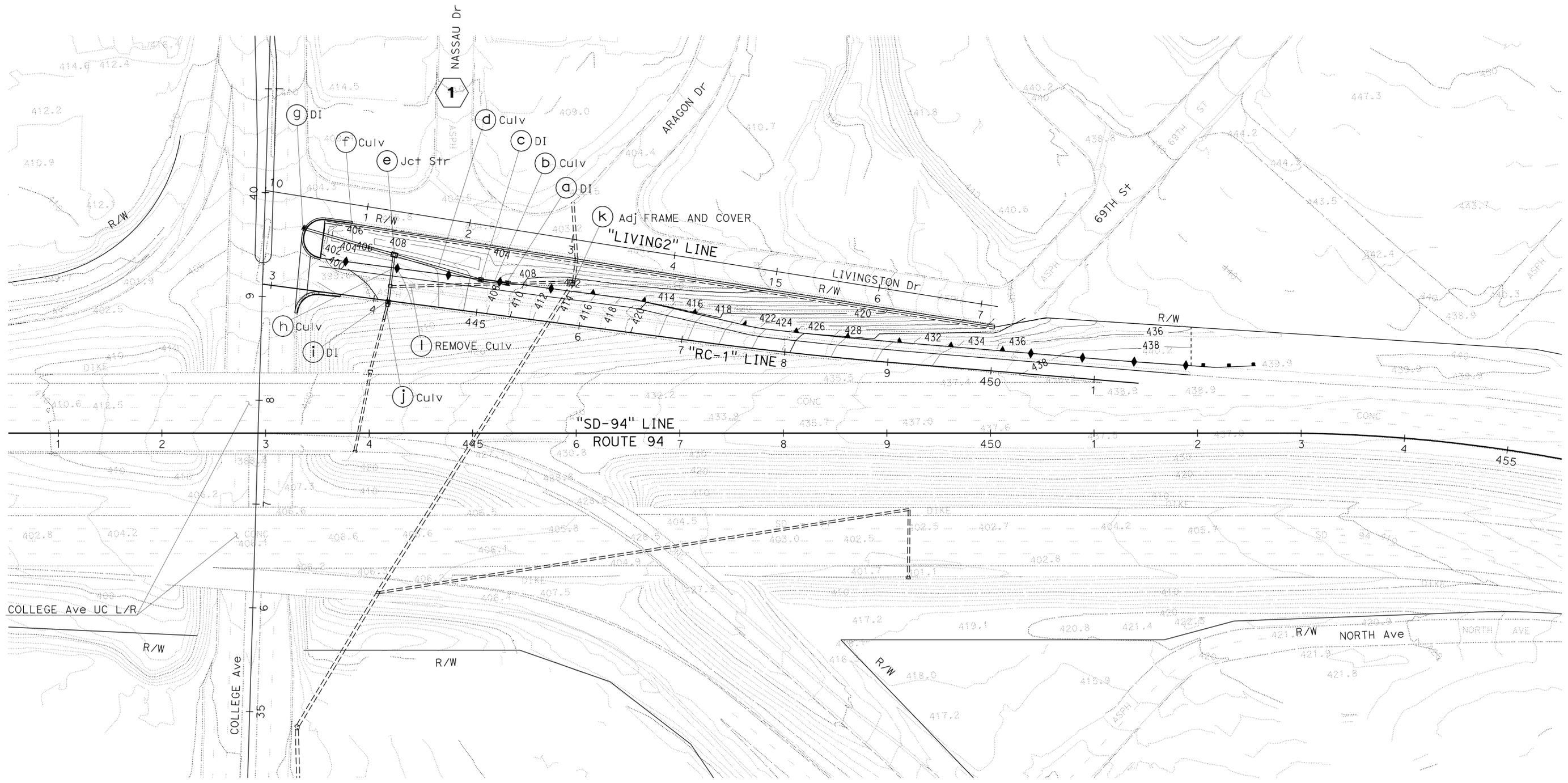
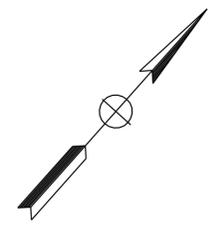
**LEGEND:**  
 DRAINAGE SYSTEM NUMBER  
 DRAINAGE UNIT NUMBER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	16	91

 12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**ALBERT LABRADOR**  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



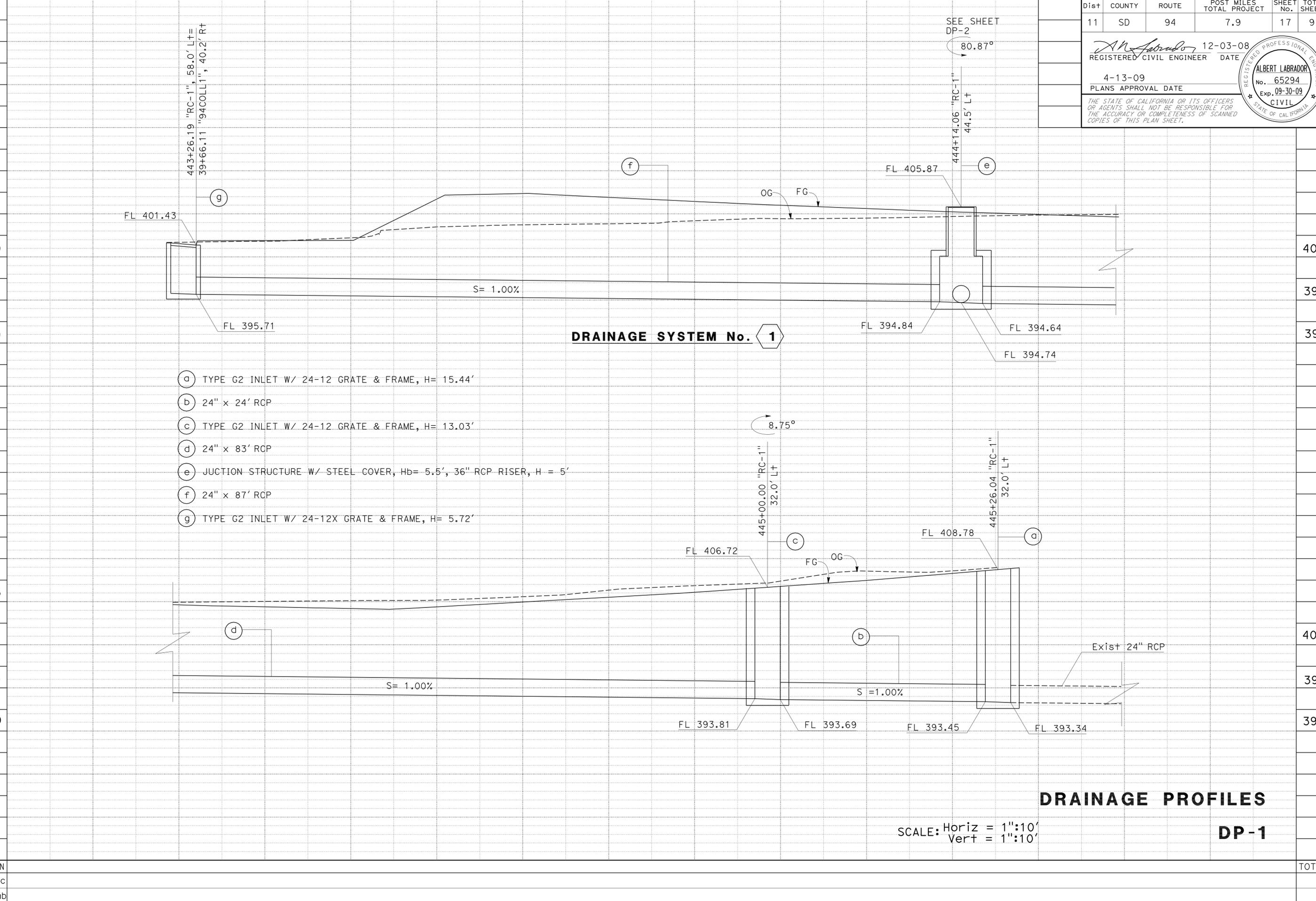
THIS PLAN ACCURATE FOR DRAINAGE WORK AND CONTOUR GRADING ONLY.

**CONTOUR GRADING AND DRAINAGE PLAN**  
**G-1**

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC PROJECT DEVELOPMENT

FUNCTIONAL SUPERVISOR: RICHARD N. ESTRADA  
 CALCULATED-DRAWN BY: ALBERT N. LABRADOR  
 CHECKED BY: SRIDHAR KIDAMBI  
 REVISIONS: 400, 395, 390, 405, 400, 395, 390



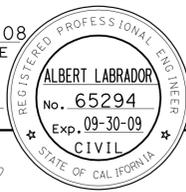
- (a) TYPE G2 INLET W/ 24-12 GRATE & FRAME, H= 15.44'
- (b) 24" x 24' RCP
- (c) TYPE G2 INLET W/ 24-12 GRATE & FRAME, H= 13.03'
- (d) 24" x 83' RCP
- (e) JUCTION STRUCTURE W/ STEEL COVER, Hb= 5.5', 36" RCP RISER, H = 5'
- (f) 24" x 87' RCP
- (g) TYPE G2 INLET W/ 24-12X GRATE & FRAME, H= 5.72'

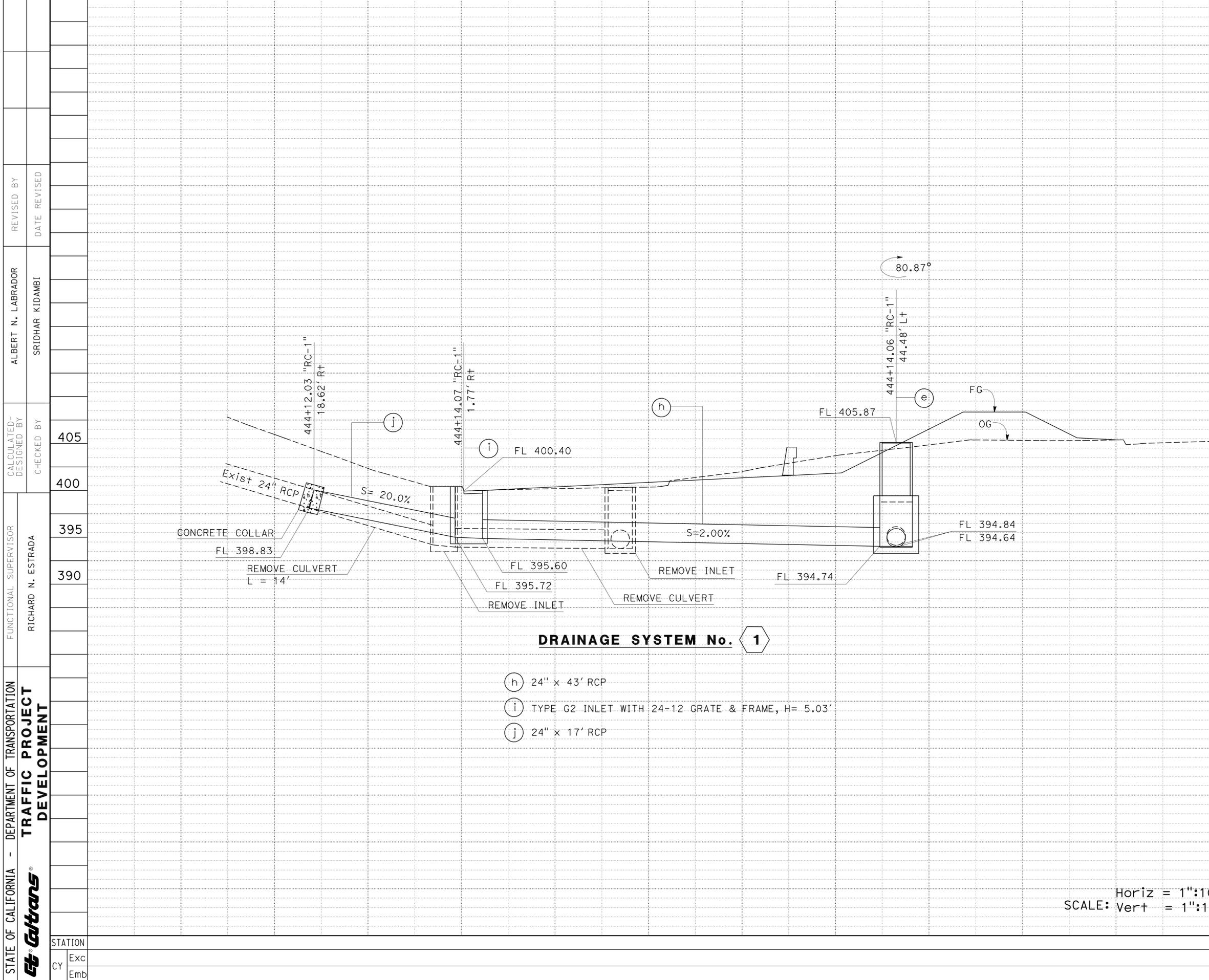
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	17	91

REGISTERED CIVIL ENGINEER: *Albert Labrador* 12-03-08  
 DATE: 4-13-09  
 PLANS APPROVAL DATE

ALBERT LABRADOR  
 No. 65294  
 Exp. 09-30-09  
 CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	18	91
			12-03-08	DATE	
REGISTERED CIVIL ENGINEER					
4-13-09			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
					



**DRAINAGE SYSTEM No. 1**

- (h) 24" x 43' RCP
- (i) TYPE G2 INLET WITH 24-12 GRATE & FRAME, H= 5.03'
- (j) 24" x 17' RCP

**DRAINAGE PROFILE  
DP-2**

Horiz = 1":10'  
SCALE: Vert = 1":10'

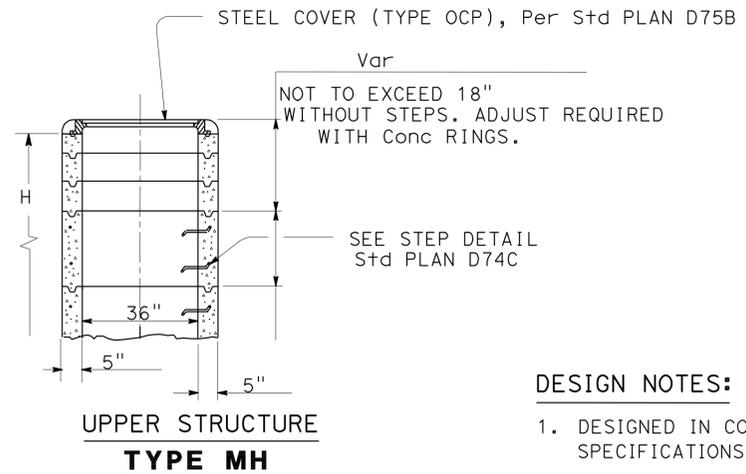
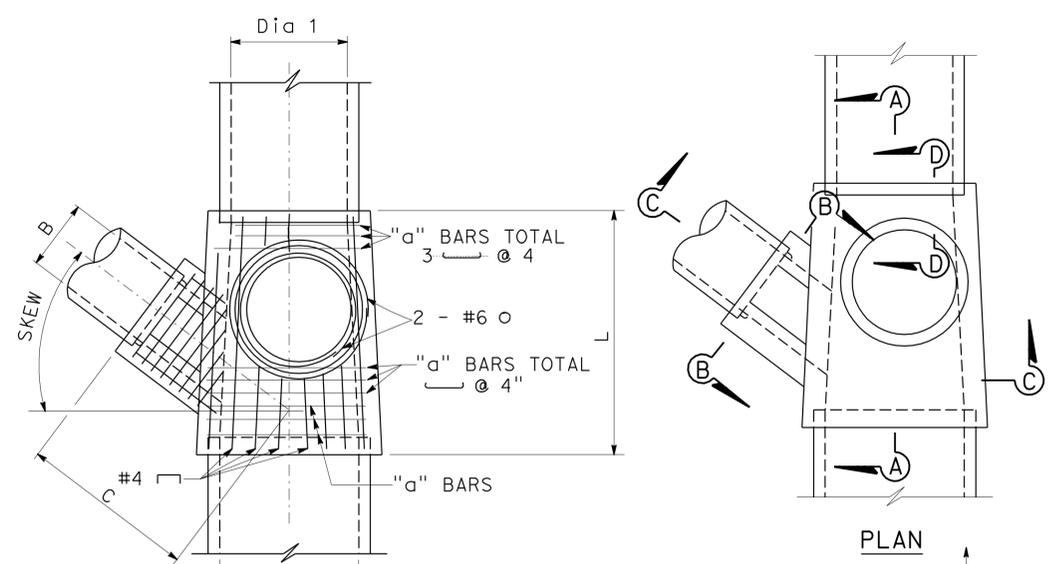
LAST REVISION DATE PLOTTED => 22-APR-2009 12-12-08 TIME PLOTTED => 08:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	19	91

12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE

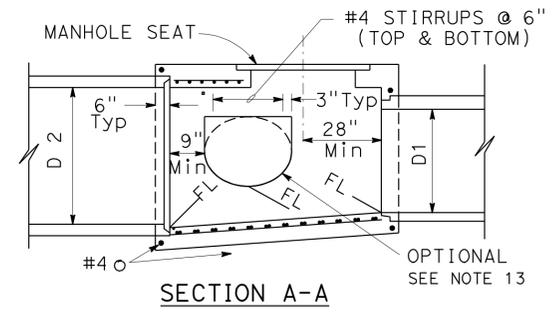
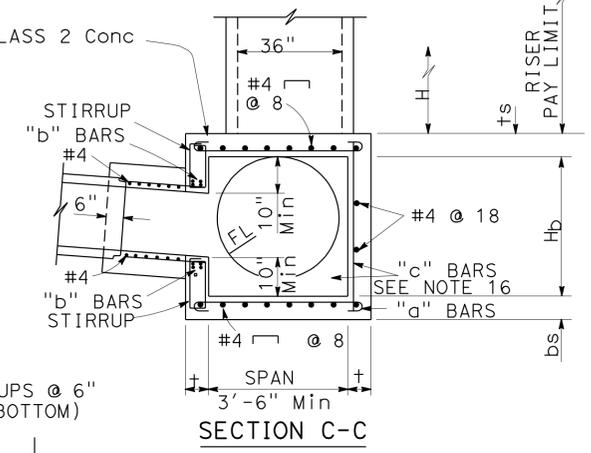
No. 65294  
 Exp. 09/30/09  
 CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



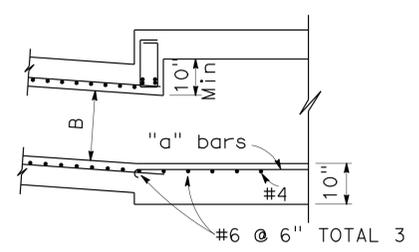
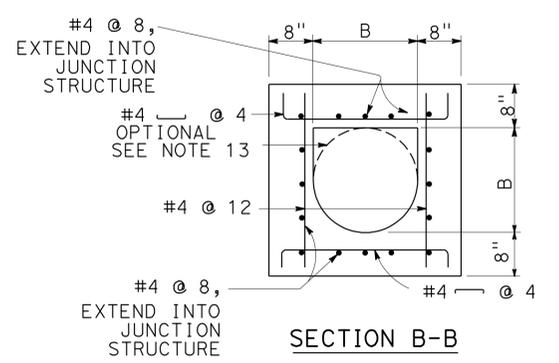
B	"b" bars Top & bottom
2.5'	#5 TOTAL 4
3.0'	#5 TOTAL 4
3.5'	#5 TOTAL 4
4.0'	#5 TOTAL 4
4.5'	#5 TOTAL 4
5.0'	#6 TOTAL 4

H <sub>b</sub>	"c" BARS	SIDEWALL THICKNESS (+)
5.5' or less	#4 @ 4"	8"
6.5'	#5 @ 4"	8.5"
7.0'	#5 @ 4"	9"
8.0'	#6 @ 4"	9.5"

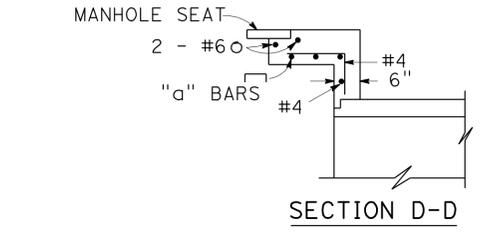
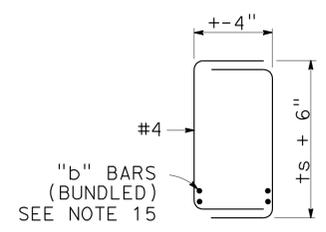


SPAN	"a" BARS	TOP AND BOTTOM SLAB THICKNESS (+s, bs)*
3.5'	#4 @ 4"	8"
4.0'	#4 @ 4"	8"
4.5'	#5 @ 5"	8"
5.0'	#5 @ 4.5"	8"
5.5'	#6 @ 5.5"	8"
6.0'	#6 @ 5.5"	9"
6.5'	#6 @ 4.5"	9"
7.0'	#6 @ 4"	9.5"

\* WHEN FILL OVER JUNCTION STRUCTURE IS 2'-0" OR LESS, ts SHALL BE INCREASED BY 2"



SECTION C-C (OPTIONAL)  
 MAXIMUM FILL HEIGHT = 8'-0"  
 FOR REINFORCEMENT AND DETAILS NOT SHOWN, SEE SECTION C-C



**DESIGN NOTES:**

- DESIGNED IN CONFORMANCE WITH BRIDGE DESIGN SPECIFICATIONS ( 1983 AASHTO SPECIFICATIONS WITH REVISIONS BY CALTRANS).
- LIVE LOAD: HS20-44 TRUCK. EARTH PRESSURES: 140 PCF VERTICAL 100 PCF HORIZONTAL.
- UNIT STRESSES:  $f'_c = 3600$  PSI;  $f_y = 60,000$  PSI
- MAXIMUM FILL HEIGHT = 20 ft.

**GENERAL NOTES:**

- PLANS SHALL DESIGNATE: INLET AND OUTLET PIPE DIAMETERS UPPER STRUCTURE OR MANHOLE (IF REQUIRED), LATERAL PIPE DIAMETER AND SKEW (IF REQUIRED), C, H, AND H<sub>b</sub>. MANHOLE OR LATERAL MAY BE OMITTED.
- UPPER STRUCTURE, WHEN REQUIRED, MAY BE ANY DESIGNATED INLET TYPE AS SHOWN ON STANDARD PLAN D72, D73, D74, D75 OR THIS SHEET.
- RISER SHALL BE POSITIONED TO EITHER SIDE OF THE STRUCTURE AS SHOWN.
- EACH RISER SHALL HAVE A LADDER. FOR DETAILS SEE STANDARD PLANS D93
- THICKNESS OF DECK SHALL VARY AS NECESSARY TO PROVIDE A LEVEL MANHOLE SEAT.
- REINFORCING STEEL SHALL BE PLACED 2" CLEAR. EXCEPT AS SHOWN.
- MAXIMUM SKEW OF LATERAL PIPE B IS 45° .
- LATERAL MAY BE PLACED IN EITHER SIDE WALL.
- WHERE Dia 1 AND/OR Dia 2 ARE LESS THAN 3.5', CLEAR DISTANCE BETWEEN SIDES WALLS SHALL BE 3.5'. END WALLS SHALL BE 6" THICK WITH #4 @ 12" PLACED BOTH WAYS
- SIDE WALLS SHALL BE FLUSH WITH THE INSIDE OF THE INLET AND OUTLET PIPES WHEN PIPE DIAMETER ARE 3.5' OR MORE
- L IS 5'-8" IF A RISER IS REQUIRED. IF NO RISER THEN L IS 5'-0".
- WHEN C IS NOT SPECIFIED, BRING THE LATERAL DIRECTLY INTO THE WALL OF THE STRUCTURE
- WHEN C IS SPECIFIED, CONTRACTOR MAY, AT HIS OPTION, BRING THE LATERAL DIRECTLY INTO THE WALL FOR USE AS AN INSIDE FORM. A COLLAR CONFORMING WITH THE WALL THICKNESS AND REINFORCEMENT AS SHOWN IN SECTION B-B SHALL BE POURED AROUND THE PIPE.
- WHEN LATERAL IS EXTENDED DIRECTLY INTO THE WALL. IT SHALL BE MITERED AS NECESSARY TO BE FLUSH WITH WALL
- "b" BARS SHALL EXTEND A MINIMUM OF 8" ON EITHER SIDE OF THE OPENING
- ADJACENT TO EACH SIDE OF THE OPENING, PLACE ADDITIONAL REINFORCEMENT. EQUIVALENT TO HALF THE INTERRUPTED MAIN REINFORCEMENT.

**JUNCTION STRUCTURE DETAILS**

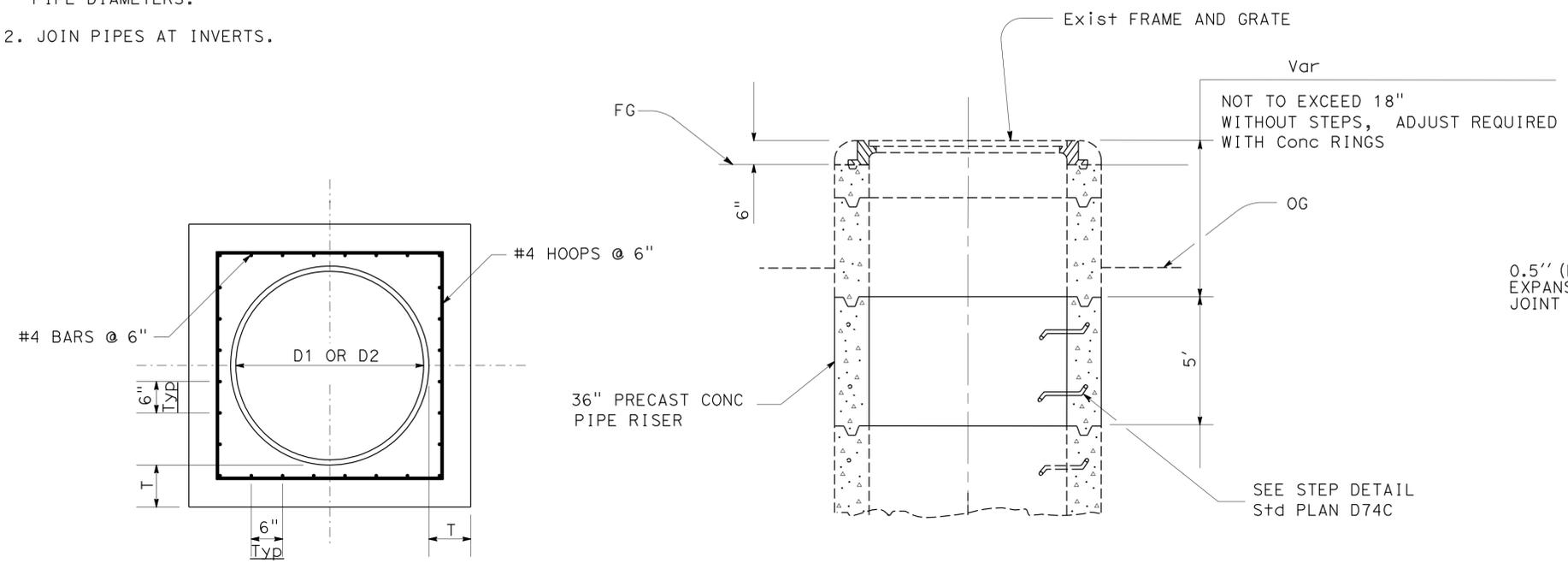
**DRAINAGE DETAILS DD-1**

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - TRAFFIC PROJECT DEVELOPMENT  
 ALBERT N. LABRADOR - REGISTERED CIVIL ENGINEER  
 SRIDHAR KIDAMBI  
 RICHARD N. ESTRADA  
 FUNCTIONAL SUPERVISOR  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 REVISED BY  
 DATE REVISED

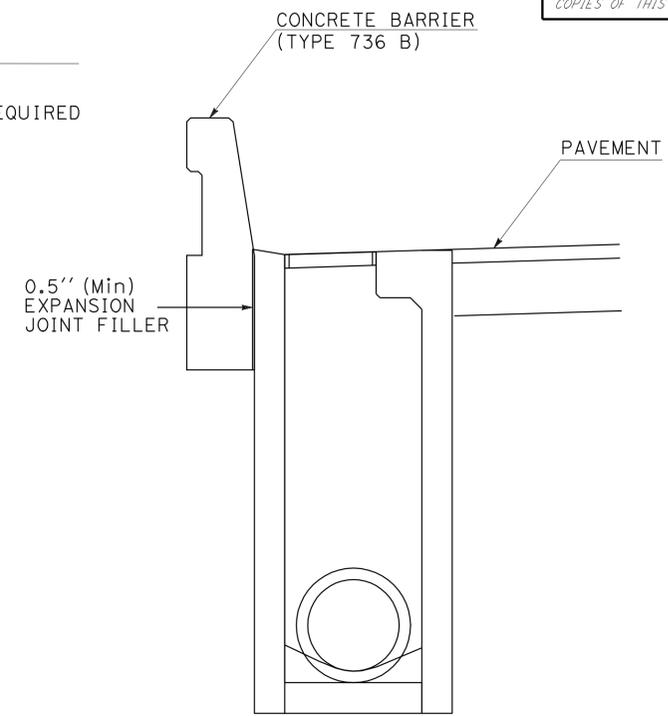
**NOTES:**

- WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONC COLLAR, L & T SHALL CORRESPOND WITH THE LARGER OF THE TWO PIPE DIAMETERS.
- JOIN PIPES AT INVERTS.



**SECTION B-B**

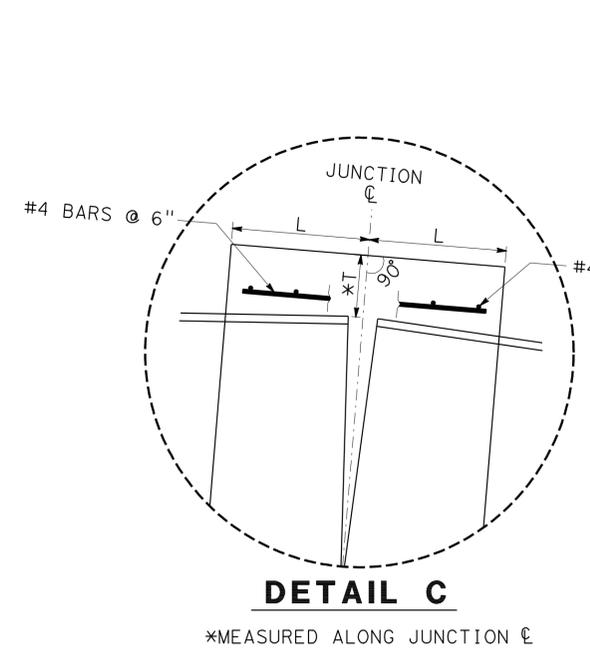
**ADJUST FRAME AND COVER TO GRADE**



**TYPICAL G-2 INLET AT CONCRETE BARRIER (TYPE 736 B)**

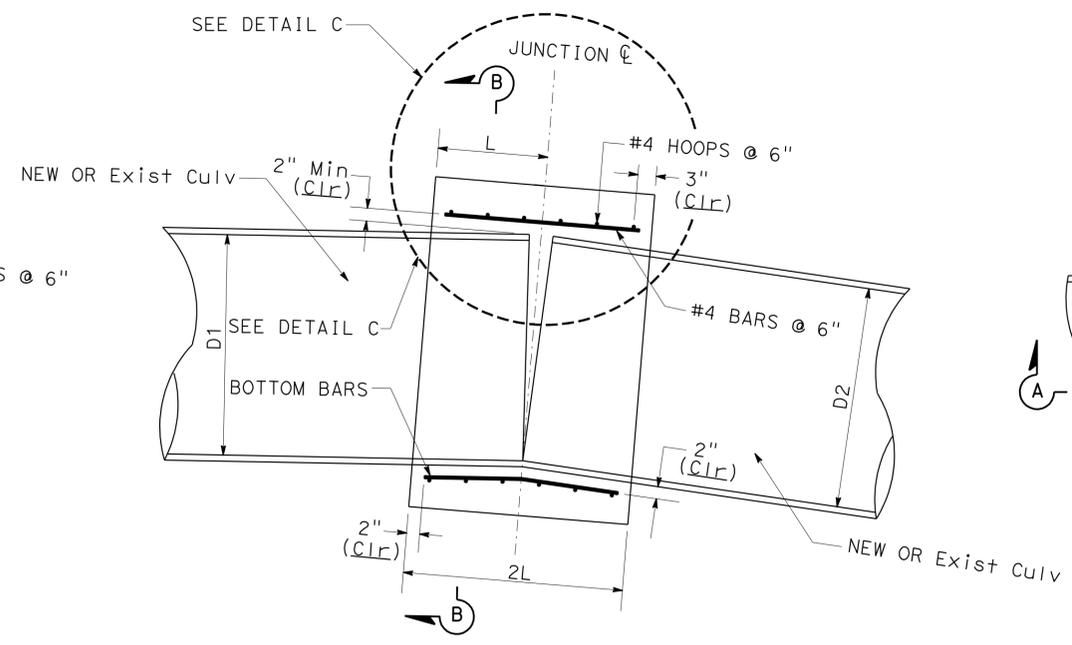
**TABLE D**

D	L (Min)	T (Min)
1'-6"	1'-0"	6"
2'-0"	1'-0"	6"
3'-0"	1'-6"	8"
4'-0"	1'-6"	8"
4'-6"	1'-6"	9"
5'-0"	2'-0"	1'-0"
5'-6"	2'-0"	1'-0"
6'-0"	2'-0"	1'-0"



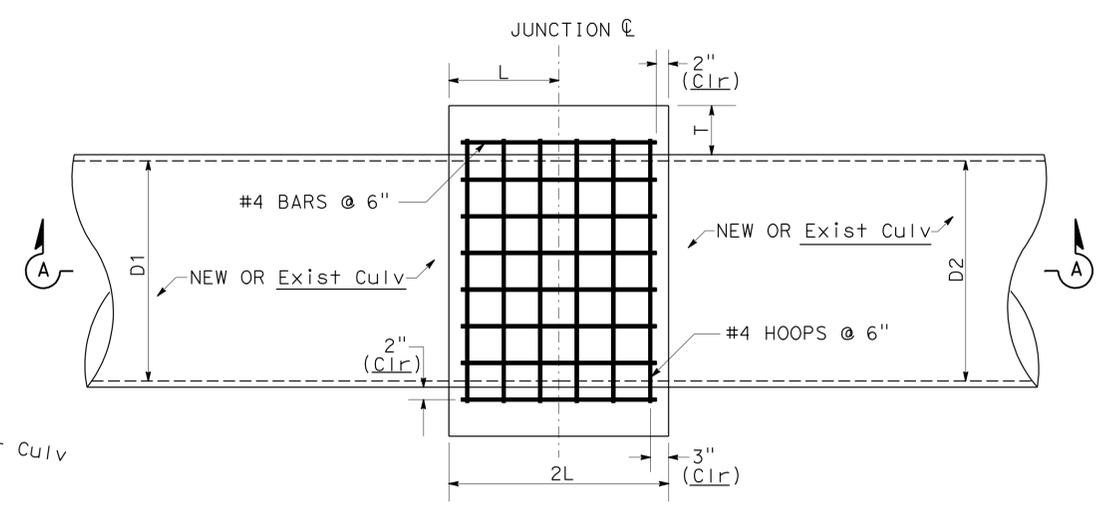
**DETAIL C**

\*MEASURED ALONG JUNCTION C



**SECTION A-A**

NOTE: BEND BOTTOM BARS AS NECESSARY TO MAINTAIN 2" CLEARANCE



**CONC COLLAR PLAN**

**DRAINAGE DETAILS**

NO SCALE

**DD-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 TRAFFIC PROJECT DEVELOPMENT  
 ALBERT N. LABRADOR  
 SRIDHAR KIDAMBI  
 RICHARD N. ESTRADA  
 4/11/2008

LAST REVISION DATE PLOTTED => 22-APR-2009  
 12-11-08 TIME PLOTTED => 08:43

**NOTES:**

- (N) - NOT A SEPARATE PAY ITEM. FOR INFORMATION ONLY.
- PIPE JOINT TYPES: S - STANDARD  
 P - POSITIVE  
 D - DOWNDRAIN

**DRAINAGE QUANTITIES**

DRAINAGE SYSTEM No.	DRAINAGE UNIT No.	RCP		FRAMES, GRATES AND COVERS		DRAINAGE INLETS		36" PRECAST CONCRETE PIPE RISER	CLASS 2 CONCRETE (MINOR STRUCTURE)	MINOR CONCRETE (MINOR STRUCTURE)	ADJUST FRAME AND COVER TO GRADE	MISCELLANEOUS IRON AND STEEL	HEIGHT OF INLET "H" (N)	Max HEIGHT OF COVER (N)	REMOVE CULVERT	CONCRETE COLLAR (N)	PIPE JOINT TYPE (N)	DESCRIPTION	STATION	DRAINAGE PLAN SHEET No.	DRAINAGE SYSTEM No.	DRAINAGE UNIT No.
		LF	EA	EA	EA	EA	EA															
1	a		1			1				6.13		326	15.44					TYPE G2 INLET W/ GRATE & FRAME	445+26.04	D-1	1	a
1	b	24												13.45			S	24" x 24' RCP		D-1	1	b
1	c		1			1				5.27		326	13.03					TYPE G2 INLET W/ GRATE & FRAME	445+00.00	D-1	1	c
1	d	83												11.04			S	24" x 83' RCP		D-1	1	d
1	e			1			5	4.10				112						JUNCTION STRUCTURE W/36" STEEL COVER Hb = 5.5', TYPE OCP	444+14.06	D-1	1	e
1	f	87												8.47			S	24" x 88' RCP		D-1	1	f
1	g		1		1					2.00		239	5.72					TYPE G2 INLET W/ GRATE & FRAME	443+26.19	D-1	1	g
1	h	43												9.13			S	24" x 43' RCP		D-1	1	h
1	i		1		1					1.83		326	5.03					TYPE G2 INLET W/ GRATE & FRAME	444+14.07	D-1	1	i
1	j	17												3.03		1	S	24" x 17' RCP		D-1	1	j
1	k										1							ADJUST FRAME AND COVER TO GRADE	445+89.22	D-1	1	k
1	l													113.0				REMOVE CULVERT (24" RCP)	444+14.07 TO 445+26.04	D-1	1	l
SUB TOTAL		254						4.10	15.23	1	1329			113.0								
TOTAL		254					5	4.10	15.23	1	1329			113.0								

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	21	91

 12-03-08  
 REGISTERED CIVIL ENGINEER DATE

4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
**ALBERT LABRADOR**  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA

**DRAINAGE QUANTITIES DQ-1**

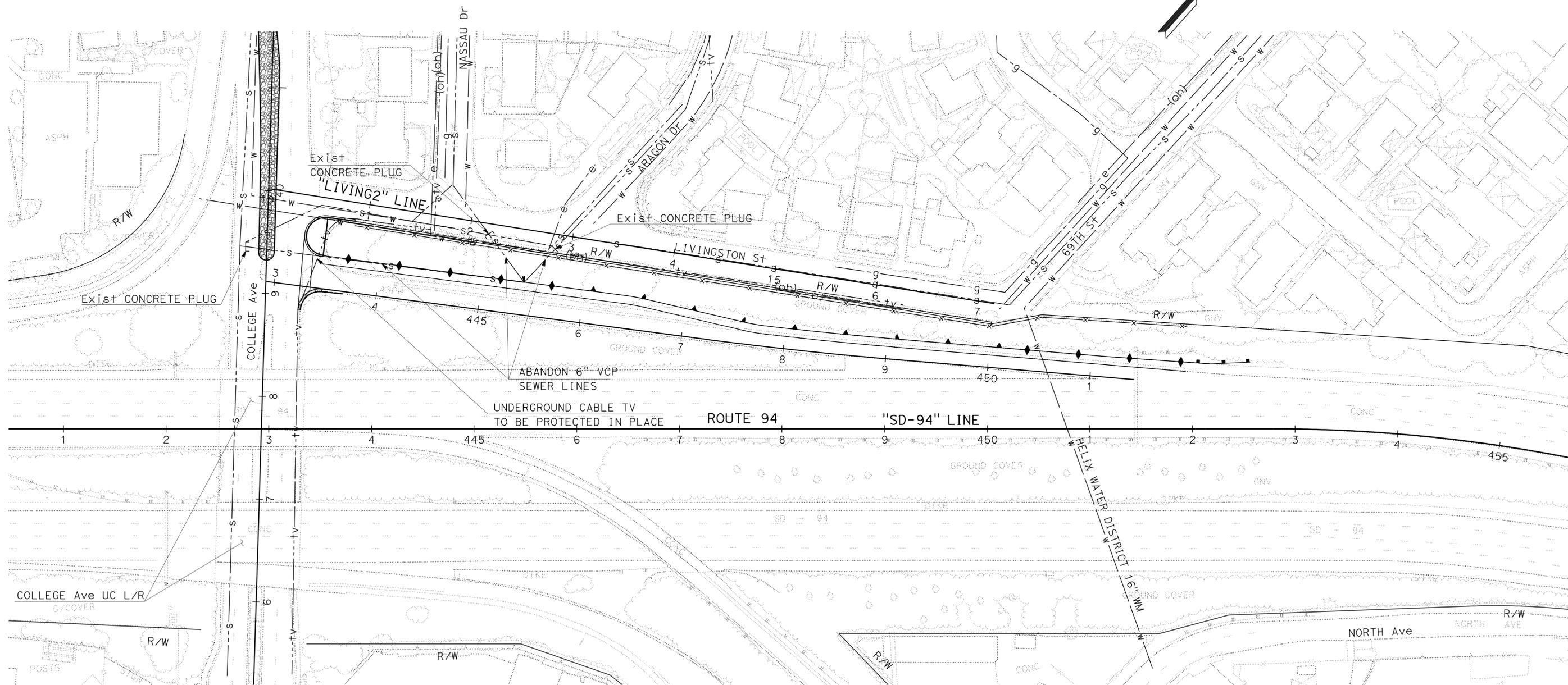
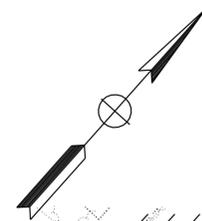
NOTE: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

**LEGEND:**

Exist UTILITY	OWNER
---s---	SEWERLINE / CITY OF SAN DIEGO
-w-	WATERLINE / CITY OF SAN DIEGO & HELIX WATER DISTRICT
-g-	GAS LINE / SAN DIEGO GAS & ELECTRIC
-e-	OH ELECTRICAL / SAN DIEGO GAS & ELECTRIC
-e-	UG ELECTRICAL / SAN DIEGO GAS & ELECTRIC
---tv---	TELEVISION CABLE / COX COMMUNICATION

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	22	91

*Albert Labrador* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**TRAFFIC PROJECT DEVELOPMENT**  
 Et Caltrans®  
 FUNCTIONAL SUPERVISOR: RICHARD N. ESTRADA  
 CALCULATED/DESIGNED BY: ALBERT N. LABRADOR  
 CHECKED BY: DOLORES VALADEZ  
 REVISED BY: ALBERT N. LABRADOR  
 DATE REVISED: DOLORES VALADEZ

THIS PLAN ACCURATE FOR UTILITY WORK ONLY.

**UTILITY PLAN**  
**U-1**  
 SCALE: 1"=50'

*Joel P. Sims* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

### CONSTRUCTION AREA SIGNS

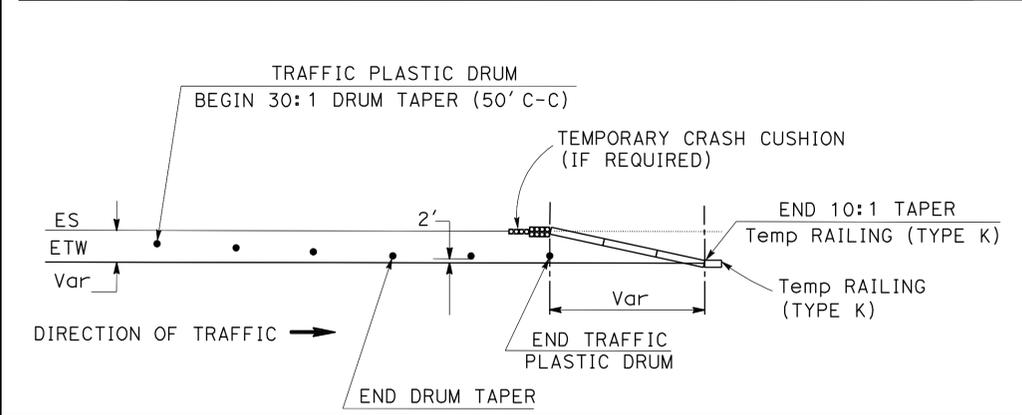
SIGN No.	TYPE	PANEL SIZE	No. OF POST AND SIZE	No. OF SIGNS
1	C40 (CA)	108" X 42"	2-4" X 6" (s)	1
2	C23 (CA)	48" X 48"	1-4" X 6" (s)	7
3	C14 (CA)	48" X 24"	1-4" X 4" (s)	4
4	SC6-4 (CA)	48" X 60"	PORTABLE	2
TOTAL				14

(S) DENOTES STATIONARY MOUNTED SIGN

#### LEGEND:

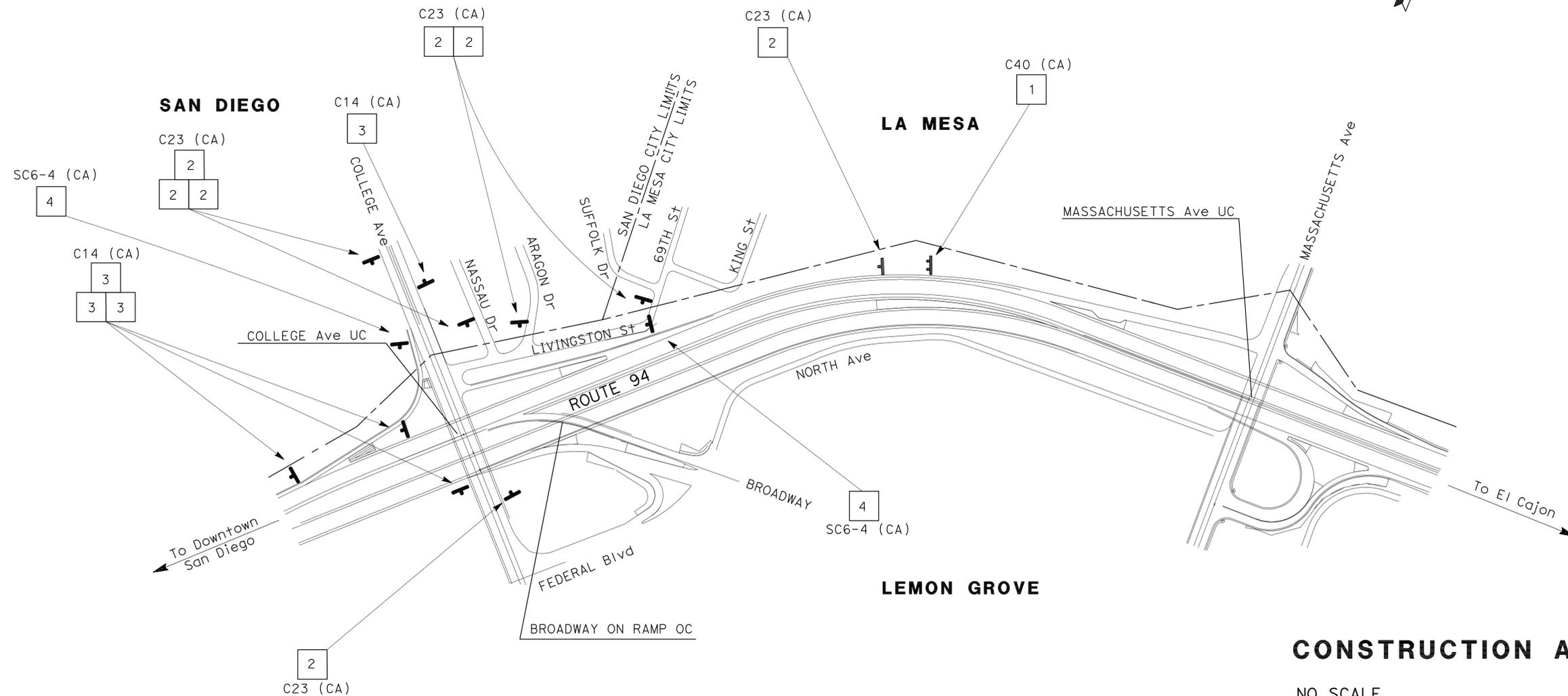
- XX = CONSTRUCTION AREA SIGN
- = DIRECTION OF TRAFFIC

### TYPICAL- PLACEMENT OF TRAFFIC PLASTIC DRUM



#### NOTES:

- EXACT LOCATION OF CONSTRUCTION AREA SIGNS SHALL BE DETERMINED BY THE ENGINEER.
- FEDERAL MUTCD SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA) INDICATING STANDARD CALIFORNIA SIGN SPECIFICATIONS ARE USED.
- SEE STAGE CONSTRUCTION AND TRAFFIC HANDLING PLANS FOR ADDITIONAL CONSTRUCTION AREA SIGNS.
- EXISTING UTILITIES ARE NOT SHOWN ON THESE PLAN SHEETS. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES AND ADJUST THE FIELD LOCATION OF SIGN POSTS IN CONSULTATION WITH THE ENGINEER.



### CONSTRUCTION AREA SIGNS

NO SCALE

### CS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	24	91

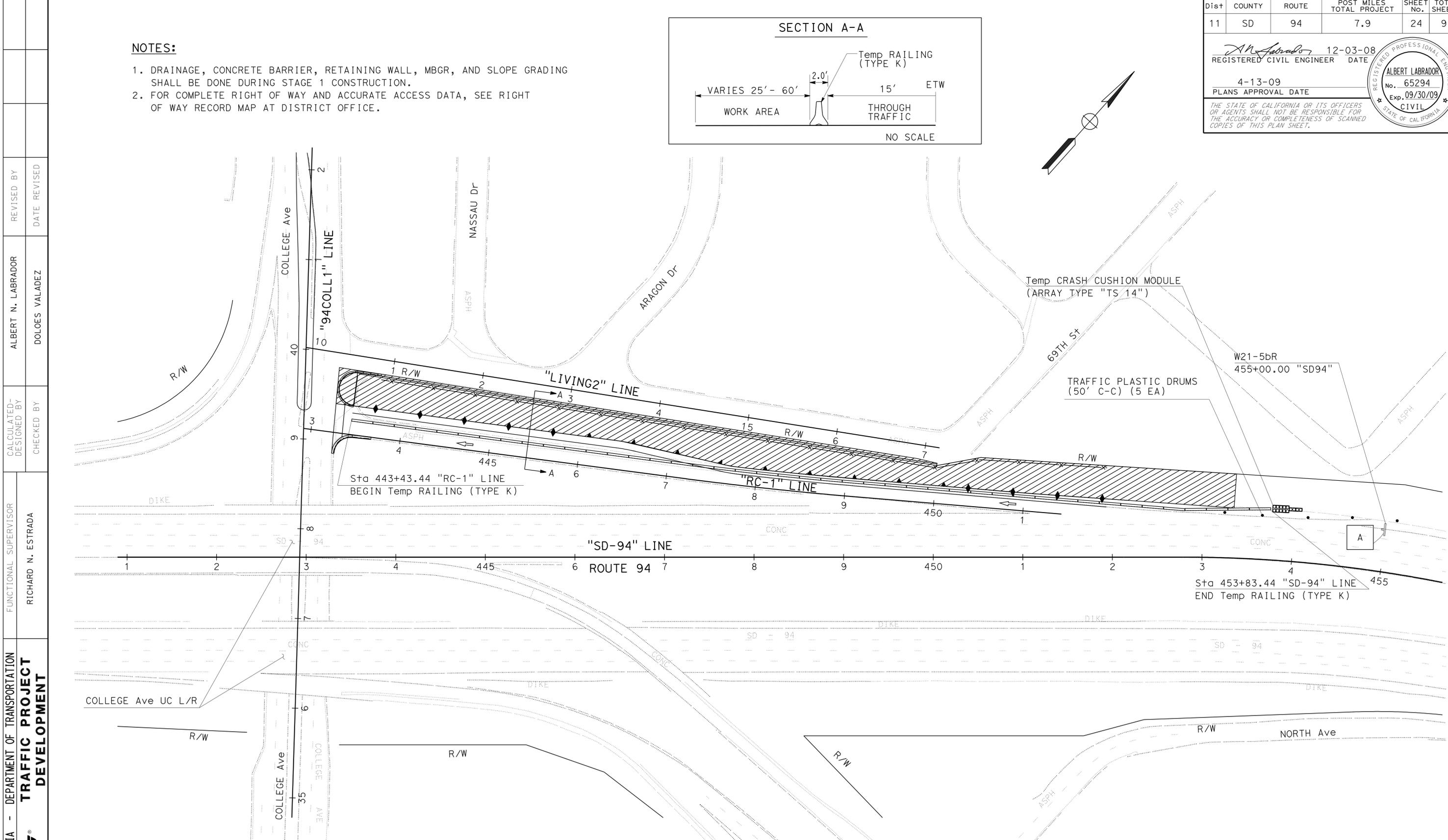
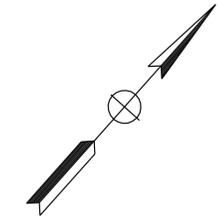
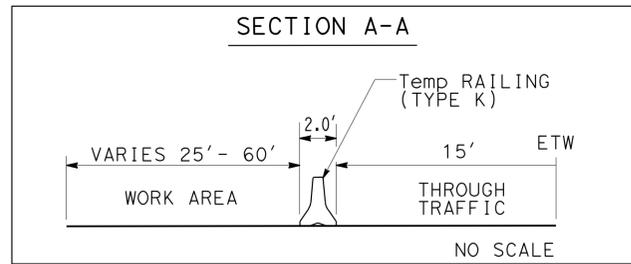
12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 ALBERT LABRADOR  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

- DRAINAGE, CONCRETE BARRIER, RETAINING WALL, MBGR, AND SLOPE GRADING SHALL BE DONE DURING STAGE 1 CONSTRUCTION.
- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAP AT DISTRICT OFFICE.



**LEGEND:**

- CONSTRUCT THIS STAGE
- DIRECTION OF TRAFFIC
- CONSTRUCTION AREA SIGN
- TRAFFIC PLASTIC DRUM
- Temp RAILING (TYPE K)
- BARRICADE TYPE III

**STAGE CONSTRUCTION  
AND TRAFFIC HANDLING PLAN**  
**(STAGE 1)**  
**SC-1**

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING ONLY

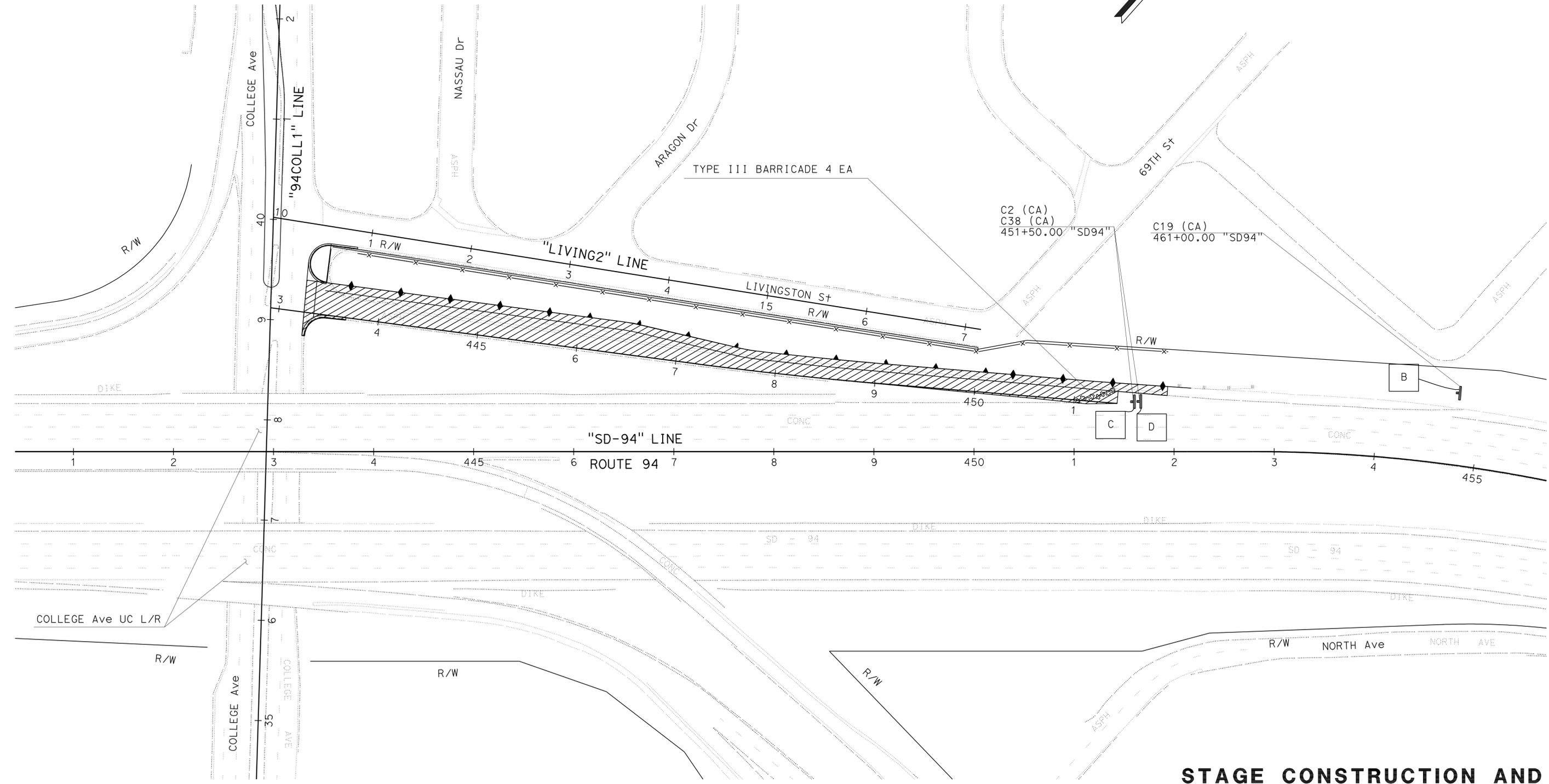
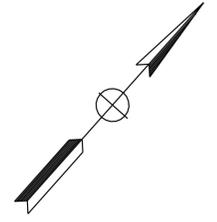
SCALE: 1"=50'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	25	91

*Albert Labrador* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

1. STAGE 2 CONSTRUCTION SHALL BE DONE DURING FULL RAMP CLOSURE.
2. DRAINAGE, RAMP WIDENING AND COLD PLANE & HMA WORK SHALL BE DONE DURING STAGE 2 CONSTRUCTION.
3. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**TRAFFIC PROJECT DEVELOPMENT**  
 Et Caltrans®  
 FUNCTIONAL SUPERVISOR: RICHARD N. ESTRADA  
 CALCULATED/DESIGNED BY: ALBERT N. LABRADOR  
 CHECKED BY: SRIDHAR KIDAMBI  
 REVISED BY: ALBERT N. LABRADOR  
 DATE REVISED:

**STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN**  
**(STAGE 2)**  
**SC-2**

THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING ONLY

SCALE: 1"=50'

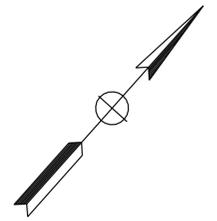
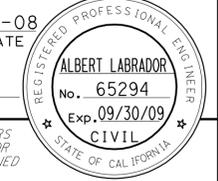
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	26	91

<i>Albert Labrador</i>	12-03-08
REGISTERED CIVIL ENGINEER	DATE
4-13-09	
PLANS APPROVAL DATE	

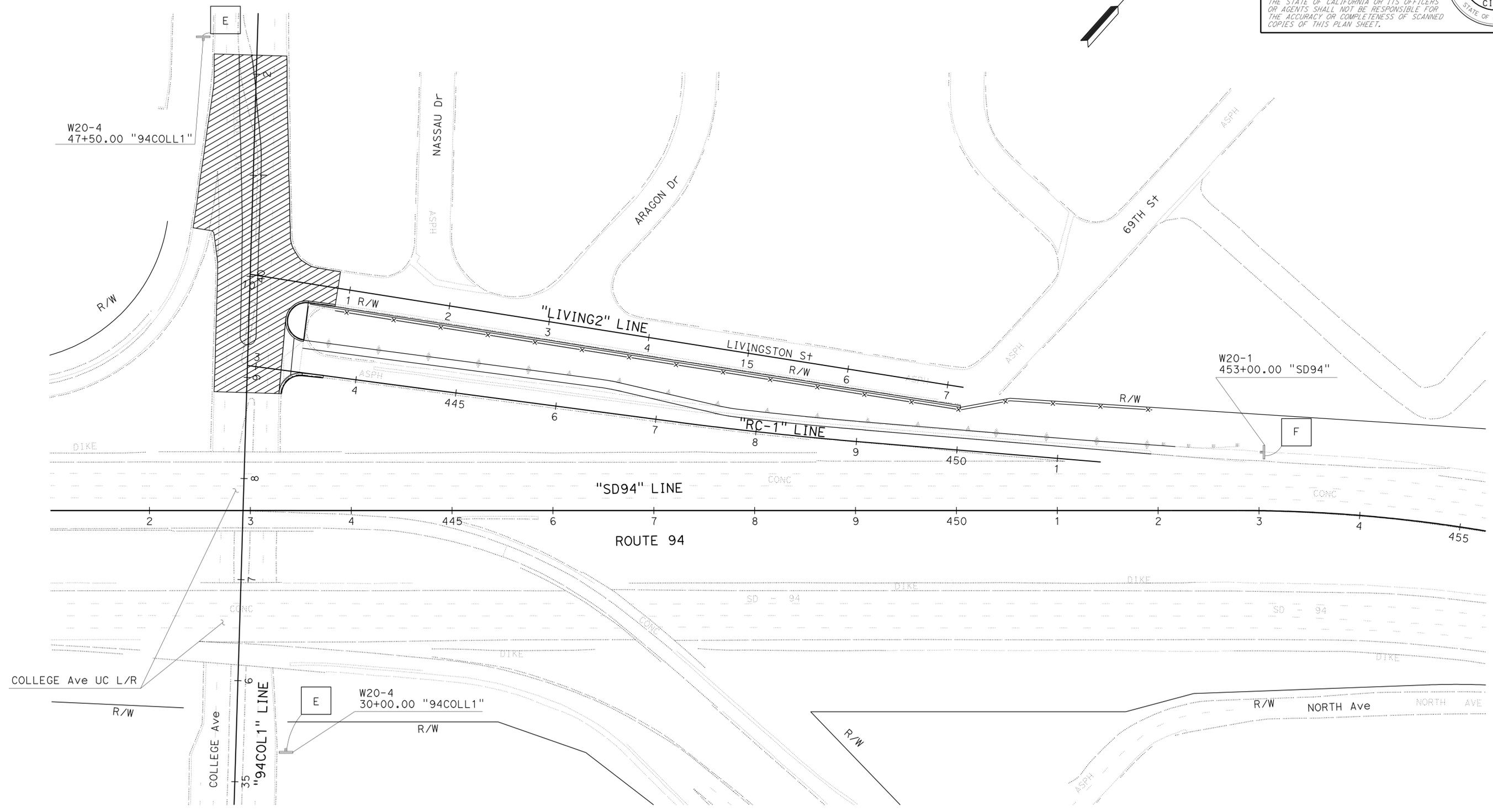
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



**NOTES:**

1. COLLEGE Ave ROADWORK SHALL BE DONE DURING STAGE 3 CONSTRUCTION.
2. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**TRAFFIC PROJECT DEVELOPMENT**  
**Caltrans**  
 FUNCTIONAL SUPERVISOR: RICHARD N. ESTRADA  
 CALCULATED/DESIGNED BY: ALBERT N. LABRADOR  
 CHECKED BY: SRIDHAR KIDAMBI  
 REVISED BY: DATE REVISD:



THIS PLAN ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING ONLY.

**STAGE CONSTRUCTION  
 AND TRAFFIC HANDLING PLAN  
 (STAGE 3)**  
**SC-3**

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC PROJECT DEVELOPMENT**  
 FUNCTIONAL SUPERVISOR  
 RICHARD ESTRADA  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 DOLORES VALADEZ  
 ALBERT N. LABRADOR  
 REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	27	91

*Albert Labrador* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE

4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONSTRUCTION AREA SIGNS				
SIGN No.	TYPE	PANEL SIZE	No. OF POST AND SIZE	No. OF SIGNS
A	W21-5bR	48" X 48"	1 = 4" X 6" (s)	1
B	C19 (CA)	36" X 36"	1 = 4" X 6" (s)	1
C	C2 (CA)	48" X 30"	1 = 4" X 6" (s)	1
D	C38 (CA)	48" X 36"	1 = 4" X 6" (s)	1
E	W20-4	36" X 36"	1 = 4" X 6" (s)	2
F	W20-1	48" X 48"	1 = 4" X 6" (s)	1
TOTAL				7

TRAFFIC PLASTIC DRUM	
SHEET	EACH
SC-1	5
TOTAL	5

**NOTES:**

- SEE CONSTRUCTION AREA SIGN AND TRAFFIC HANDLING PLANS FOR ADDITIONAL CONSTRUCTION AREA SIGNS.
- (S) DENOTES STATIONARY MOUNTED SIGN.

TEMPORARY RAILING (TYPE K)			
LINE	STATIONS		LF
	FROM	TO	
"RC-1"	443+43.44	451+43.03	797.60
"SD-94"	451+43.03	453+83.44	240.41
TOTAL			1038.01

TEMPORARY CRASH CUSHION MODULE (ARRAY TYPE "TS 14")	
SHEET	EACH
SC-1	14
TOTAL	14

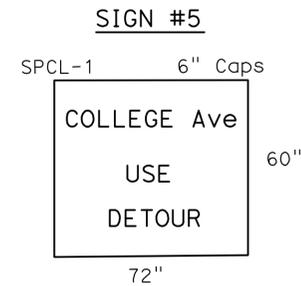
TYPE III BARRICADE	
SHEET	EACH
SC-2	4
TOTAL	4

**STAGE CONSTRUCTION  
 QUANTITIES  
 SCQ-1**

CONSTRUCTION AREA SIGNS				
SIGN No.	TYPE	PANEL SIZE	No. OF POST AND SIZE	No. OF SIGNS
5	SPCL-1	72" X 60"	PORTABLE	2
6	SC9 (CA)	36" X 36"	PORTABLE	6
7	M4-8a	24" X 18"	PORTABLE	1
TOTAL				9

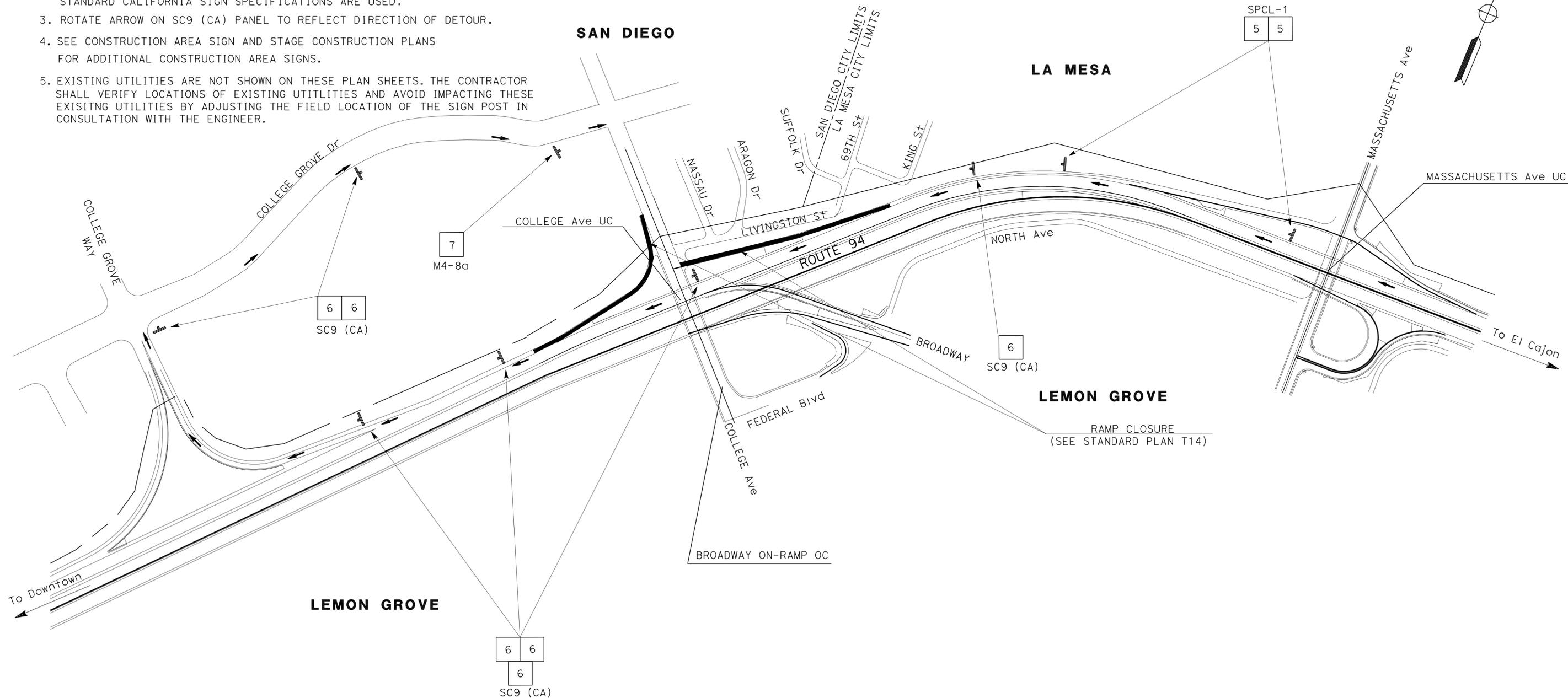
**LEGEND**

- XX = CONSTRUCTION AREA SIGNS
- SPCL = SPECIAL CONSTRUCTION AREA SIGN
- Caps = CAPITAL LETTERING
- = DETOUR DIRECTION OF TRAVEL



**NOTES:**

- EXACT LOCATION OF CONSTRUCTION AREA SIGNS SHALL BE DETERMINED BY THE ENGINEER.
- FEDERAL MUTCD SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA) INDICATING STANDARD CALIFORNIA SIGN SPECIFICATIONS ARE USED.
- ROTATE ARROW ON SC9 (CA) PANEL TO REFLECT DIRECTION OF DETOUR.
- SEE CONSTRUCTION AREA SIGN AND STAGE CONSTRUCTION PLANS FOR ADDITIONAL CONSTRUCTION AREA SIGNS.
- EXISTING UTILITIES ARE NOT SHOWN ON THESE PLAN SHEETS. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES AND AVOID IMPACTING THESE EXISTING UTILITIES BY ADJUSTING THE FIELD LOCATION OF THE SIGN POST IN CONSULTATION WITH THE ENGINEER.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN  
 FUNCTIONAL SUPERVISOR: CAMILLE ABOUFADEL  
 CALCULATED/DESIGNED BY: [blank]  
 CHECKED BY: [blank]  
 IRAM SYED  
 REVISED BY: [blank]  
 DATE REVISED: [blank]  
 JOEL SIMS

THIS PLAN ACCURATE FOR TRAFFIC HANDLING WORK ONLY

**TRAFFIC HANDLING PLAN**

NO SCALE

**TH-1**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	29	91

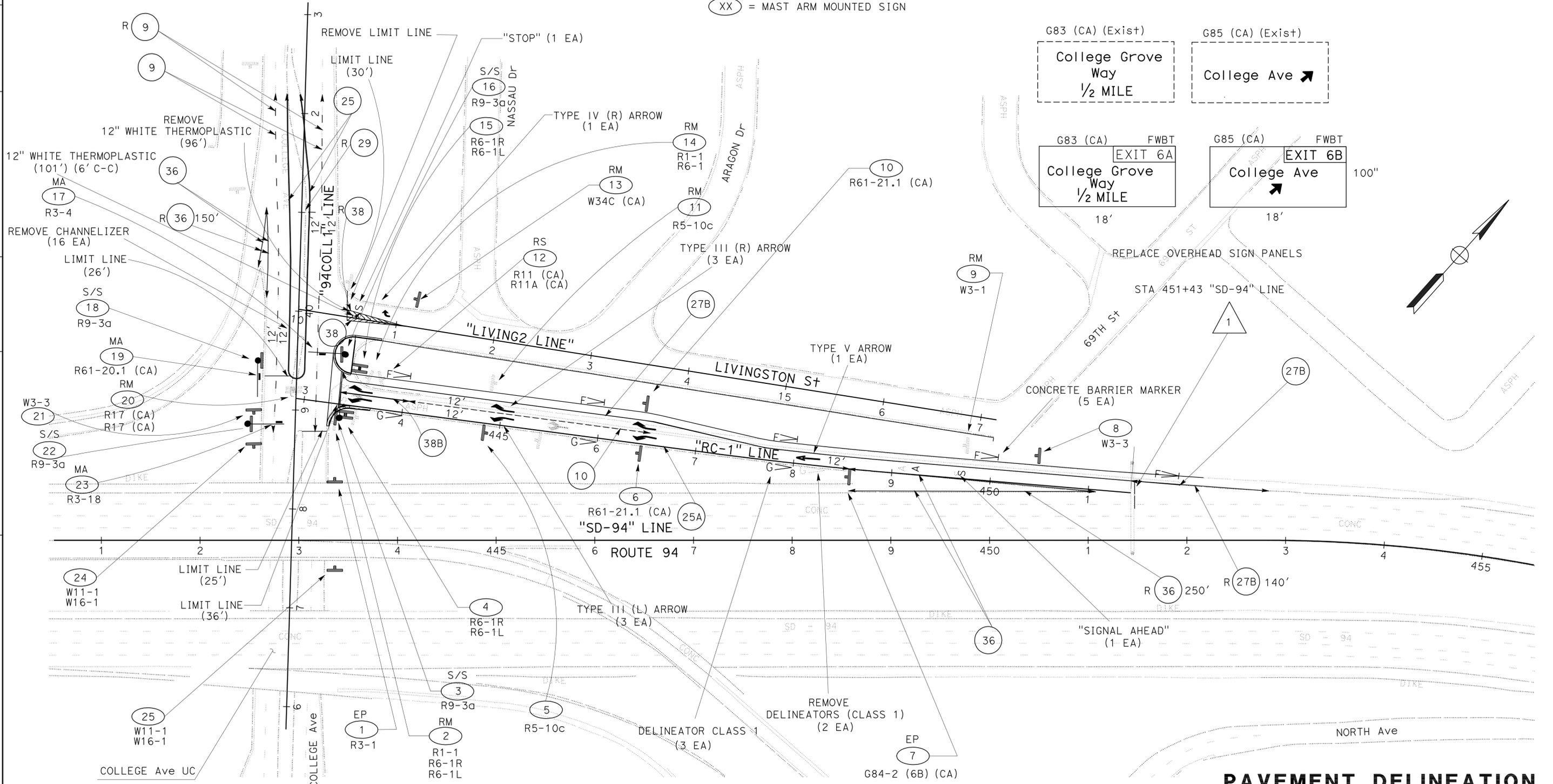
<i>Joel P. Sims</i> 12-03-08 REGISTERED CIVIL ENGINEER DATE	
4-13-09 PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>	

REGISTERED PROFESSIONAL ENGINEER  
**J.P. SIMS**  
 No. 49715  
 Exp. 9-30-10  
 CIVIL  
STATE OF CALIFORNIA

### LEGEND

- = CHANGE OF PAVEMENT DELINEATION DETAIL
- XX = PAVEMENT DELINEATION DETAIL
- R XX = REMOVE PAVEMENT DELINEATION DETAIL
- ∧ = DELINEATOR (CLASS 1)
- ∧ = CONCRETE BARRIER MARKER
- XX = ROADSIDE SIGN
- RS = RESET ROADSIDE SIGN
- S/S = STRAP AND SADDLE BRACKET METHOD
- MA = MAST ARM MOUNTED SIGN
- EP XX = SIGN PANEL ON EXISTING POST
- RM XX = REMOVE ROADSIDE SIGN
- △ X = OVERHEAD SIGN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN  
 FUNCTIONAL SUPERVISOR: CAMILLE ABOUFADEL  
 CALCULATED/DESIGNED BY: JOEL SIMS  
 CHECKED BY:  
 IRAM SYED  
 REVISED BY: DATE REVISD:  
 BORDER LAST REVISED 4/11/2008



## PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1"=50'

PD-1

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION WORK ONLY



USERNAME => fmmikesl  
DGN FILE => b26260na001.dgn

CU 11233

EA 262601

LAST REVISION DATE PLOTTED => 22-APR-2009  
 12-11-08 TIME PLOTTED => 08:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	30	91

*Joel P. Sims* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE

J.P. SIMS  
 No. 49715  
 Exp. 9-30-10  
 CIVIL  
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PAVEMENT MARKER SUMMARY						TRAFFIC STRIPE SUMMARY		REMARKS	
LINE	DETAIL No	EA		EA					
		NON-REFLECTIVE		RETROREFLECTIVE					
		TYPE A WHITE	BLACK	TYPE C RED & CLEAR	TYPE D YELLOW	TYPE G CLEAR	TYPE H YELLOW		
"RC-1"	10	36				6		L = 246'	
	25A						22		
	27B						522		
	38B					6		70	
"94COLL1"	36					21		500	
	9					16		670	
	25						14	590	
"LIVING2"	36					7		150	
	38					6		120	
SUB-TOTAL		36				62	36	2732	840
TOTAL		36			98			2732	840

THERMOPLASTIC PAVEMENT MARKING								
LINE	LIMIT LINE 12" WHITE	STOP	SIGNAL	AHEAD	ARROW TYPE V	ARROW TYPE III	ARROW TYPE IV	REMARKS
	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	
"RC-1"	36		32	31	33	252		
"94COLL1"	26							
	25							
"LIVING2"	30	22					15	
	101							
SUBTOTAL		218	22	32	31	33	252	15
TOTAL								603

REMOVE TRAFFIC STRIPE AND PAVEMENT MARKING		
LOCATION	TYPE	SQFT
"RC-1", "LIVING2", "SD-94", "94COLL1" LINES	9, 27B, 36, 38, LIMIT LINE, HATCHING	556
TOTAL		556

REMOVE YELLOW PAINTED TRAFFIC STRIPE		
LOCATION	TYPE	LF
"94COLL1" LINE	29	490
TOTAL		490

CONCRETE BARRIER MARKER	
LOCATION	TYPE F (WHITE) (ONE WAY)
"RC-1" LINE	EA
	5
TOTAL	5

DELINEATOR (CLASS 1)		
LOCATION	TYPE	EA
"RC-1" LINE	G	3
TOTAL		3

REMOVE DELINEATOR		
LOCATION	EA	
"RC-1" LINE	2	
TOTAL		2

REMOVE CHANNELIZERS		
LOCATION	EA	
COLLEGE Ave	16	
TOTAL		16

REMOVE PAVEMENT MARKERS (N)		
LOCATION	TYPE	EA
"RC-1" LINE	D AND G	60
"LIVING2" LINE		
"94COLL1" LINE		
TOTAL		60

**PAVEMENT DELINEATION QUANTITIES**

**PDQ-1**

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 TRAFFIC DESIGN  
 Camille Aboufadel  
 Functional Supervisor  
 Checked by  
 IRAM SYED  
 Revised by  
 JOEL SIMS  
 Date Revised

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR  
 CAMILLE ABOUFADEL

DESIGNED BY  
 IRAM SYED

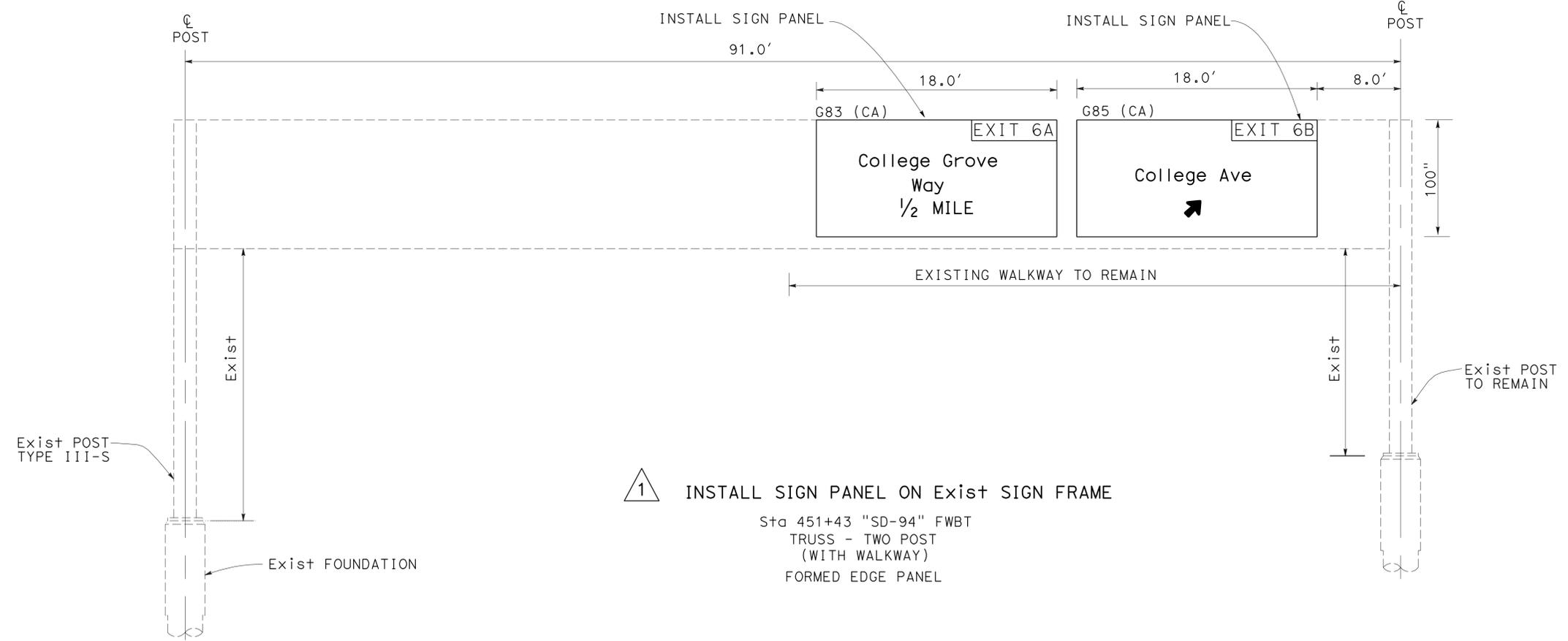
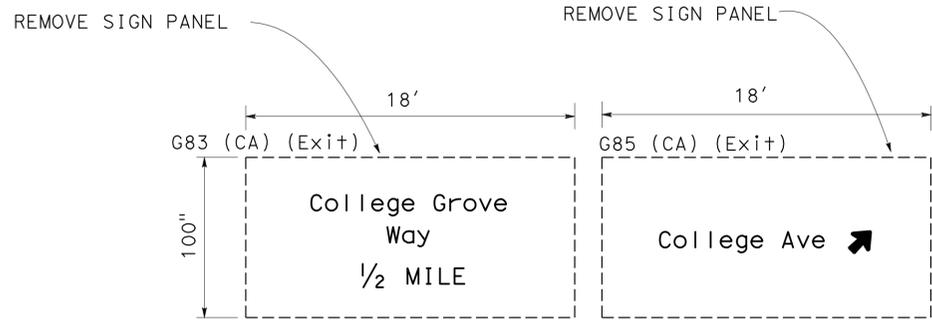
CHECKED BY  
 JOEL SIMS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	31	91

*Joel P. Sims* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**J.P. SIMS**  
 No. 49715  
 Exp. 9-30-10  
 CIVIL  
 STATE OF CALIFORNIA

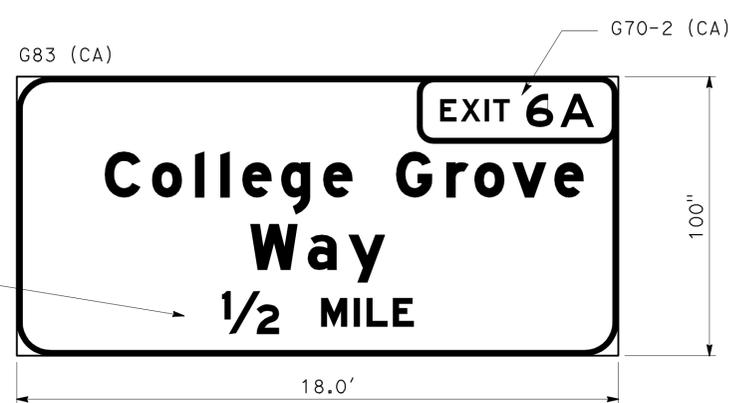
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



**1** INSTALL SIGN PANEL ON Exist SIGN FRAME  
 Sta 451+43 "SD-94" FWBT  
 TRUSS - TWO POST  
 (WITH WALKWAY)  
 FORMED EDGE PANEL

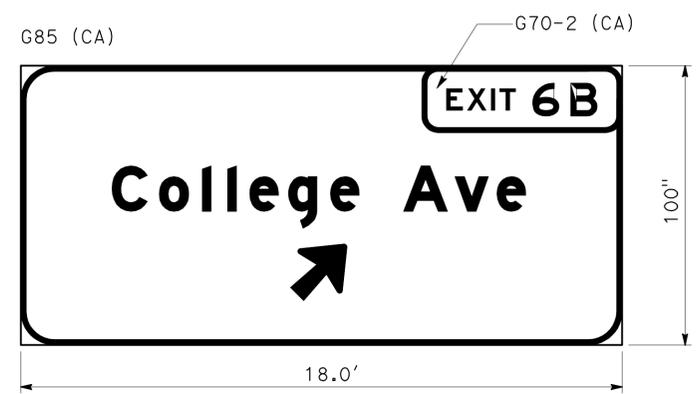
**SIGN DETAILS**  
 NO SCALE **SD-1**

**LEGEND:**  
 U/L = UPPER/LOWER CASE  
 Caps = CAPITAL  
 Num = NUMBER  
 Deg = DEGREES



1 STA 451+43 "SD-94" LINE - FWBT

LEGEND				ARROW	
LINE#	U/L	Caps	Num	Deg	LENGTH
1		8"E	12"E		
2, 3	16"E(M)/12"E(M)				
4		12"E	12"E		



1 STA 451+43 "SD-94" LINE - FWBT

LEGEND				ARROW	
LINE#	U/L	Caps	Num	Deg	LENGTH
1		8"E	12"E		
2	16"E(M)/12"E(M)				
3				45	25"

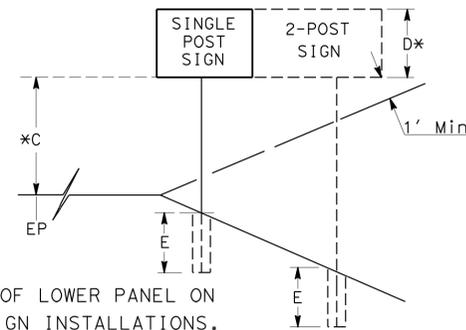
**SIGN DETAILS**  
 NO SCALE **SD-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN  
 FUNCTIONAL SUPERVISOR: CAMILLE ABOUFADEL  
 IRAM SYED  
 REVISOR: IRAM SYED  
 CHECKED BY: JOEL SIMS  
 CALCULATED/DESIGNED BY: [blank]  
 REVISED BY: [blank]  
 DATE REVISED: [blank]

**NOTES:**

- FEDERAL (MUTCD) SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA) INDICATING STANDARD CALIFORNIA SIGN SPECIFICATIONS.
- MINIMUM POST LENGTHS WERE CALCULATED ASSUMING A LEVEL GROUND SURFACE FROM THE EP. ENSURE "C" DIMENSION IS MET. POST LENGTHS MAY VARY DUE TO SITE CONDITIONS.
- EXACT LOCATIONS OF SIGNS AND POSTS SHALL BE DETERMINED BY THE ENGINEER.
- REFER TO "FURNISH ROADSIDE SIGN PANEL" CHART FOR FURTHER INFORMATION.

**ROADSIDE SIGN QUANTITIES**



SIGN No.	LINE	CODE	PANEL SIZE		D	C	E	Min POST LENGTH	POST SIZE				ROADSIDE SIGN		RESET	RELO-CATE	REMOVE	INSTALL ROAD-SIDE SIGN		INSTALL SIGN (STRAP& SADDLE BRACKET METHOD)	MAST ARM MOUNTED SIGN (N)	REMARKS	
			Horiz	Vert					4X4	4X6	6X6	6X8	ONE POST	TWO POST				EA	EA				EA
1	94COLL1	R3-1	24 X 24		F+	F+	F+	F+											EA	EA		REMOVE EXISTING R16 (CA) PANEL	
	RC-1	R1-1																					
2		R6-1R																					
		R6-1L																					
3		R9-3a	24 X 24														1						
		R6-1R	54 X 18		1.5	1.5	4.5	7.50															
4		R6-1L	54 X 18		1.5	1.5	4.5	7.50														TWO PANELS BACK TO BACK	
		R5-10c	24 X 12		1.0	7.0	3.5	11.50	X														
6		R61-21.1 (CA)	48 X 36		3.0	7.0	4.5	14.50		X													
7		G84-2 (6B) (CA)	54 X 48		4.0	7.0	5.0															REMOVE EXISTING G84 (CA) PANEL	
8		W3-3	36 X 36		3.0	7.0	4.5	14.50		X													
		W3-1																					
10		R61-21.1 (CA)	48 X 36		3.0	7.0	4.5	14.50		X													
11		R5-10c																					
12		R11 (CA)	36 X 36																				
		R11A (CA)	36 X 21																				
13	LIVING2	W34C (CA)																					
14	RC-1	R1-1																					
		R6-1																					
15		R6-1R	54 X 18		1.5	1.5	4.5	7.50															
		R6-1L	54 X 18		1.5	1.5	4.5	7.50		X												TWO PANELS BACK TO BACK	
16	94COLL1	R9-3a	24 X 24																				
17		R3-4	24 X 24																				
18		R9-3a	24 X 24																				
19		R61-20.1 CA)	36 X 30																				
20		R17 (CA)																					
		R17 (CA)																					
21		W3-3	36 X 36		3.0	7.0	4.5	14.50		X													
22		R9-3a	24 X 24																				
23		R3-18	24 X 24																				
		W11-1	24 X 24																				
24		W16-1	18 X 24		4.83	7.0	4.5	16.33		X													
		W11-1	24 X 24																				
25		W16-1	18 X 24		4.83	7.0	4.5	16.33		X													
									<b>TOTAL</b>				9		1		6			2	4	3	

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

**SIGN QUANTITIES SQ-1**

**NOTES:**

- FEDERAL (MUTCD) SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA) INDICATING STANDARD CALIFORNIA SIGN SPECIFICATIONS.
- REFER TO "ROADSIDE SIGN QUANTITIES" CHART FOR FURTHER INFORMATION.
- GREEN-Grn, WHITE-Wht, BLACK-Bik, BLUE-Blu, YELLOW-Ylw, BROWN-Brn, RED-Red, ORANGE-Org, CREAM-Crm.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	34	91

*Joel P. Sims* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE

4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**FURNISH ROADSIDE SIGN PANEL**

SIGN No.	CODE	PANEL SIZE		BACKGROUND			LEGEND			SIGN PANEL						REMARKS
		Horiz	Vert	SHEETING COLOR	RETRO-REFLECTIVE ASTM TYPE	SHEETING COLOR	REFLECTIVE ASTM TYPE	BLACK (NON-REFLECTIVE)	SINGLE SHEET ALUMINUM (SQFT)				LAMINATED (SQFT)		PROTECTIVE OVERLAY	
									UNFRAMED		FRAMED		TYPE B	TYPE H	PREMIUM FILM	
		INCHES X INCHES	0.063 INCHES	0.080 INCHES	0.063 INCHES	0.080 INCHES	1 INCHES	2.5 INCHES								
1	R3-1	24	24	Wht	VII	Red/Bik	VII	X	4.0						X	
3	R9-3a	24	24	Wht	IV	Red/Bik	IV	X	4.0						X	
4	R6-1R	54	18	Wht	IV	Wht/Bik	IV	X	6.8						X	
	R6-1L	54	18	Wht	IV	Wht/Bik	IV	X	6.8						X	
5	R5-10c	24	12	Wht	IV	Bik		X	2.0						X	
6	R61-21.1 (CA)	48	36	Wht	IV	Bik		X		12.0					X	
7	G84-2 (6B) (CA)	54	48	Grn	IV	Wht	IV			18.0					X	
8	W3-3	36	36	Ylw	VII	Red/Grn/Bik/Ylw	VII	X	9.0						X	
10	R61-21.1 (CA)	48	36	Wht	IV	Bik		X		12.0					X	
15	R6-1R	54	18	Wht	IV	Wht/Bik	IV	X	6.8						X	
	R6-1L	54	18	Wht	IV	Wht/Bik	IV	X	6.8						X	
16	R9-3a	24	24	Wht	IV	Red/Bik	IV	X	4.0						X	
17	R3-4	24	24	Wht	VII	Red/Bik	VII	X	4.0						X	
18	R9-3a	24	24	Wht	IV	Red/Bik	IV	X	4.0						X	
19	R61-20.1 (CA)	36	30	Wht	IV	Bik		X	7.5						X	
21	W3-3	36	36	Ylw	VII	Red/Grn/Bik/Ylw	VII	X	9.0						X	
22	R9-3a	24	24	Wht	IV	Red/Bik	IV	X	4.0						X	
23	R3-18	24	24	Wht	VII	Red/Bik	VII	X	4.0						X	
24	W11-1	24	24	Ylw	IV	Bik		X	4.0						X	
	W16-1	18	24	Ylw	IV	Bik		X	3.0						X	
25	W11-1	24	24	Ylw	IV	Bik		X	4.0						X	
	W16-1	18	24	Ylw	IV	Bik		X	3.0						X	
<b>TOTAL</b>									96.7	42.0						

**OVERHEAD SIGN QUANTITIES**

SIGN No.	CODE	SHEET No.	PANEL SIZE		BACKGROUND			LEGEND			FURNISH SIGN PANEL				INSTALL SIGN PANEL ON EXISTING FRAME	REMARKS
			Horiz	Vert	SHEETING COLOR	RETRO-REFLECTIVE ASTM TYPE	SHEETING COLOR	REFLECTIVE ASTM TYPE	FORMED	LAMINATED	HARDWARE TYPE	PROTECTIVE OVERLAY				
													INCHES X INCHES	SQFT		
1	G83 (CA)	PD-1	216	100	Grn	IV	Wht	IV	150		X	X	150			
1	G85 (CA)	PD-1	216	100	Grn	IV	Wht	IV	150		X	X	150			
<b>TOTAL</b>									300				300			

**SIGN QUANTITIES SQ-2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	35	91

*Albert Labrador* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE

4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS  
 OR AGENTS SHALL NOT BE RESPONSIBLE FOR  
 THE ACCURACY OR COMPLETENESS OF SCANNED  
 COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
**ALBERT LABRADOR**  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA

CONCRETE BARRIER (TYPE 736B)				
SHEET	LINE	STATION		LF
		FROM	TO	
L-1	"RC-1"	443+43.44	445+84.00	240.56
L-1	"RC-1"	450+12.00	451+43.03	131.03
L-1	"SD-94"	451+43.03	451+93.72	50.69
TOTAL				422.28

CONCRETE BARRIER (TYPE 736A)				
SHEET	LINE	STATION		LF
		FROM	TO	
L-1	"RC-1"	445+84.00	450+12.00	428.00
TOTAL				428.00

EARTHWORK					
LINE	STATION		ROADWAY EXCAVATION	ROADWAY EXCAVATION (TYPE Z-2) (AERIALY DEPOSITED LEAD)	ROADWAY EMBANKMENT (N)
	FROM	TO	CY	CY	CY
"94COLL1"	38+84.97	42+18.90	186.91	-	0.00
"RC-1"	443+43.44	451+43.03	802.50	892.74	472.56
"SD-94"	451+43.03	451+93.72	35.33	65.00	4.70
TOTAL			1024.74	957.74	477.26

COLD PLANE ASPHALT CONCRETE PAVEMENT					
SHEET	LINE	STATIONS		AREA	
		FROM	TO	SQYD	
L-1	"RC-1"	444+91.00	451+43.03	924.99	
TOTAL				924.99	

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

REMOVE CONCRETE							
SHEET	STATION		STATION		LENGTH LF (N)	DESCRIPTION	CY
	FROM	LINE	TO	LINE			
L-1	444+16.40	"RC-1"	451+43.03	"RC-1"	726.63	TYPE E CURB ALONG THE OFF-RAMP	48.40
L-1	451+43.03	"SD-94"	451+92.85	"SD-94"	49.82	TYPE E CURB ALONG THE OFF-RAMP	3.32
L-1	39+13.66	"94COLL1"	39+74.61	"94COLL1"	130.22	TYPE B-3 CURB ON COLLEGE AVENUE	1.40
L-1	40+34.50	"94COLL1"	42+18.90	"94COLL1"	384.40	TYPE B-3 CURB ON COLLEGE AVENUE	4.13
L-1	40+34.50	"94COLL1"	42+18.90	"94COLL1"	184.40	STAMPED CONCRETE MEDIAN ISLAND ON COLLEGE AVENUE	15.49
L-1	38+84.97	"94COLL1"	443+67.51	"RC-1"	51.03	TYPE B2-6 CURB AT THE SE CORNER OF COLLEGE AVENUE AND THE OFF-RAMP	3.15
L-1	10+88.03	"LIVING2"	444+16.40	"RC-1"	124.39	TYPE G-2 CURB BETWEEN LIVINGSTON ST & THE OFF-RAMP	6.59
TOTAL							82.47

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

## SUMMARY OF QUANTITIES

### Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC PROJECT DEVELOPMENT  
 FUNCTIONAL SUPERVISOR: RICHARD ESTRADA  
 CALCULATED/DESIGNED BY: ALBERT N. LABRADOR  
 CHECKED BY: DOLORES VALADEZ  
 REVISED BY: DATE REVISED:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	36	91

*Albert Labrador* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE

4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
**ALBERT LABRADOR**  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA

ROADWAY QUANTITIES							
LINE	STATIONS		CLASS 2 AGGREGATE BASE	CONCRETE PAVEMENT (RAPID STRENGTH CONCRETE)	HMA (TYPE A)	TACK COAT	ASPHALTIC EMULSION (FOG SEAL COAT)
	FROM	TO	CY	CY	TON	TON	TON
"94COLL1"	38+84.97	39+13.66	11.85	6.58	7.04	0.01	0.00
"94COLL1"	39+13.66	39+30.00	13.11	9.09	14.42	0.02	0.00
"94COLL1"	39+30.00	39+74.61	21.67	7.00	28.95	0.03	0.00
"94COLL1"	39+74.61	40+34.50	1.93	0.00	3.74	0.01	0.00
"94COLL1"	40+34.50	41+16.40	0.00	0.00	0.00	0.00	0.00
"94COLL1"	41+16.40	41+90.01	1.76	0.00	3.42	0.00	0.00
"94COLL1"	41+90.01	42+18.90	0.00	0.00	0.00	0.00	0.00
"LIVING2"	10+60.85	10+87.52	0.49	0.00	0.96	0.00	0.00
"RC-1"	443+43.44	444+91.00	181.44	104.93	32.70	0.03	0.03
"RC-1"	444+91.00	445+00.00	10.47	0.00	7.45	0.01	0.00
"RC-1"	445+00.00	445+84.00	97.69	0.00	69.65	0.09	0.02
"RC-1"	445+84.00	446+40.29	65.46	0.00	46.71	0.06	0.01
"RC-1"	446+40.29	447+81.48	106.15	0.00	86.74	0.10	0.03
"RC-1"	447+81.48	449+07.80	43.04	0.00	50.36	0.06	0.02
"RC-1"	449+07.80	450+12.00	35.51	0.00	42.47	0.05	0.02
"RC-1"	450+12.00	451+12.56	34.26	0.00	37.89	0.05	0.02
"RC-1"	450+12.56	451+43.03	10.38	0.00	11.15	0.02	0.01
"SD-94"	451+43.03	451+93.72	17.27	0.00	8.74	0.01	0.01
TOTAL			652.48	127.60	452.39	0.55	0.17

REMOVE TREE	
SHEET	QUANTITY (EA) (N)
L-1	7

(N)-NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)							
SHEET	STATION		STATION		LENGTH LF (N)	TYPE & LOCATION	QUANTITY
	FROM	LINE	TO	LINE			CY
L-1	39+30.00	"94COLL1"	42+18.90	"94COLL1"	584.50	TYPE B1-6 CURBS RAISED MEDIAN AT ISLAND ON COLLEGE Ave	17.10
L-1	443+43.44	"RC-1"	10+61.24	"LIVING2"	34.15	TYPE A1-6 CURB RETAINING BETWEEN LIVINGSTON St AND WB 94 OFF-RAMP	0.74
L-1	38+84.97	"94COLL1"	443+67.51	"RC-1"	55.53	TYPE B2-6 CURB AT THE CORNER OF COLLEGE Ave AND WB 94 OFF-RAMP	3.43
L-1	10+88.03	"LIVING2"	443+43.44	"RC-1"	85.37	TYPE G-2 CURB BETWEEN LIVINGSTON St AND WB 94 OFF-RAMP	4.24
TOTAL							25.51

(N)-NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

MINOR CONCRETE (STAMPED CONCRETE)									
SHEET	STATION		STATION		LENGTH LF (N)	AREA SQFT (N)	THICK FT (N)	TYPE & LOCATION	QUANTITY
	FROM	LINE	TO	LINE					CY
L-1	39+30.00	"94COLL1"	42+18.90	"94COLL1"	288.90	4605.02	0.33	STAMPED CONCRETE RAISED MEDIAN ISLAND ON COLLEGE AVENUE	56.28
TOTAL									56.28

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

## SUMMARY OF QUANTITIES

### Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Et Caltrans**  
 TRAFFIC PROJECT DEVELOPMENT  
 FUNCTIONAL SUPERVISOR  
 RICHARD N. ESTRADA  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 ALBERT N. LABRADOR  
 SRIDHAR KIDAMBI  
 REVISED BY  
 DATE REVISED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC PROJECT DEVELOPMENT**  
 FUNCTIONAL SUPERVISOR  
 RICHARD N. ESTRADA  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 ALBERT N. LABRADOR  
 SRIDHAR KIDAMBI  
 REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	37	91

12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**ALBERT LABRADOR**  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REMOVE CHAIN LINK FENCE			
LINE	STATIONS		LF
	FROM	TO	
"RC-1"	443+70.65	451+43.03	772.38
"SD-94"	451+43.03	451+93.72	50.69
TOTAL			823.07

CHAIN LINK FENCE (TYPE CL-6)			
LINE	STATIONS		LF
	FROM	TO	
"RC-1"	443+70.65	451+43.03	772.38
"SD-94"	451+43.03	451+93.72	50.69
TOTAL			823.07

IRRIGATION CROSSOVER							
SHEET	LINE	STATION	SIDE		8 INCH CHDPE (0.25" THICK) LF	WATER LINE CROSSOVER (N) SIZE (In)	SPRINKLER CONTROL CROSSOVER (N) SIZE (In)
			R+	L+			
L-1	RC-1	444+85.00	X	X	40	4	(2) 2
TOTAL					40	4	2

ABANDON IRRIGATION CROSSOVER			
SHEET	LINE	STATION	EA
L-1	RC-1	444+89.00	1
TOTAL			1

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

METAL BEAM GUARD RAILING SUMMARY									
SHEET	LAYOUT TYPE (N)	LINE	STATION		MBGR LF	ALTERNATIVE FLARED TERMINAL SYSTEM	TRANSITION RAILING (TYPE WB)	REMOVE MBGR	REMOVE TERMINAL SECTION
			FROM	TO		EA	EA	LF	EA(N)
L-1	-	SD-94	451+28.79	452+05.16	-	-	-	77	1
L-1	12B	SD-94	451+93.72	452+56.22	-	1	1	-	-
TOTAL						1	1	77	1

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

ABANDON SEWER				
SHEET	STATIONS			LF
	FROM	TO		
U-1	39+45.57 "94COLL1" LINE	445+41.26	"RC-1" LINE	279.0
U-1	444+90.97 "RC-1" LINE	445+41.26	"RC-1" LINE	73.0
U-1	445+41.26 "RC-1" LINE	445+77.24	"RC-1" LINE	62.0
TOTAL				414.0

PLACE HMA (MISCELLANEOUS AREA)			
SHEET	STATIONS		SQYD
	FROM	TO	
L-1	443+43.44 "RC-1" LINE	10+61.30 "LIVING2" LINE	57.71
L-1	10+61.30 "LIVING2" LINE	17+15.91 "LIVING2" LINE	266.60
TOTAL			324.31

REMOVE SEWER MANHOLE			
SHEET	LINE	STATION	EA
U-1	RC-1	445+41.26	1
TOTAL			1

4' CHAIN LINK GATE (TYPE CL-6)			
SHEET	LINE	STATION	EA
L-1	LIVING2	12+50.00	1
TOTAL			1

## SUMMARY OF QUANTITIES

### Q-3

NOTE: 1. THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY.

**LEGEND**

- TOF = TOP OF FOOTING
- XX STANDARD PLAN No.
- XX DETAIL No.
- TOW = TOP OF WALL

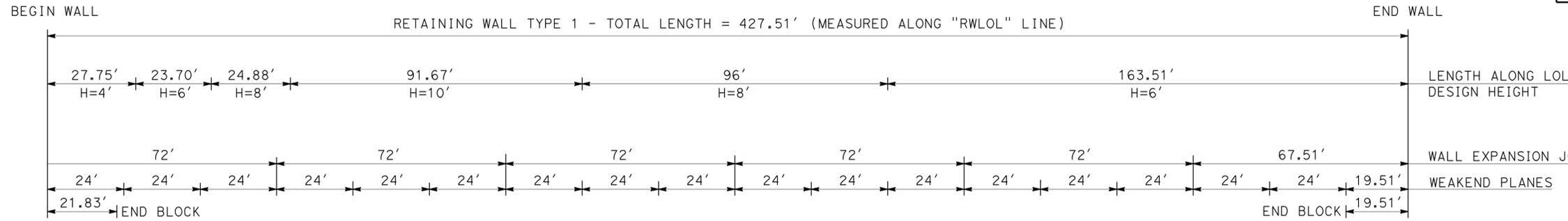
WALL	STATION	RETAINING WALL					
		CLASS 2 CONCRETE (CY)	BAR REINFORCING STEEL (LB)	STRUCTURE EXCAVATION (CY)	STRUCTURE BACKFILL (CY)	PERVIOUS BACKFILL MATERIAL (CY)	EXPOSED AGGREGATE FINISH (SQFT)
"RWLOL"	445+84 - 450+12 "RC-1"	200	18,886	444	263	46	1559
	<b>TOTAL</b>	<b>200</b>	<b>18,886</b>	<b>444</b>	<b>263</b>	<b>46</b>	<b>1559</b>

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	38	91

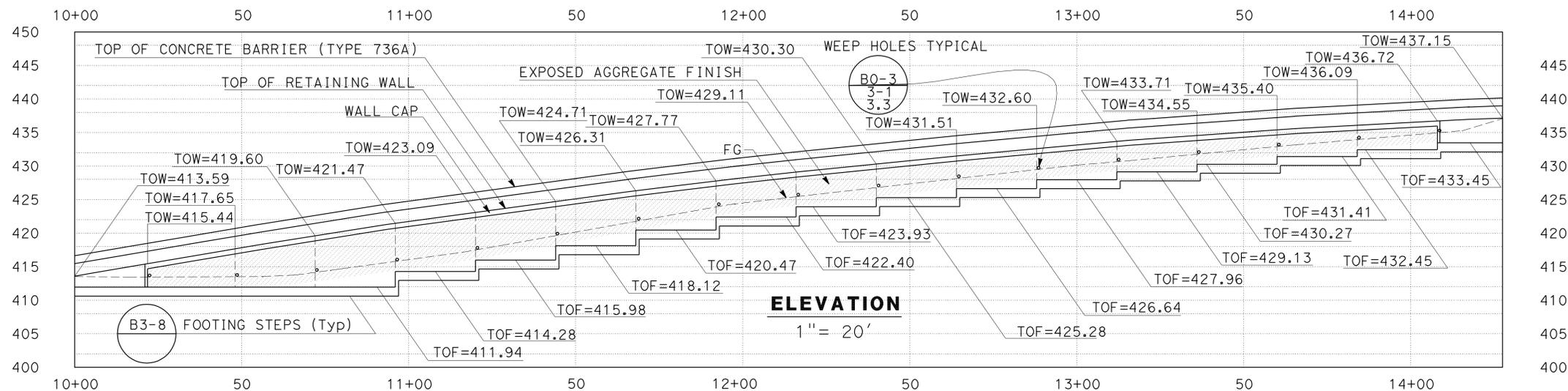
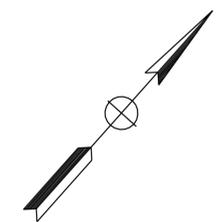
REGISTERED CIVIL ENGINEER DATE 12-03-08  
 ALBERT N. LABRADOR  
 No. 65294  
 Exp. 09/30/09  
 CIVIL

4-13-09  
 PLANS APPROVAL DATE

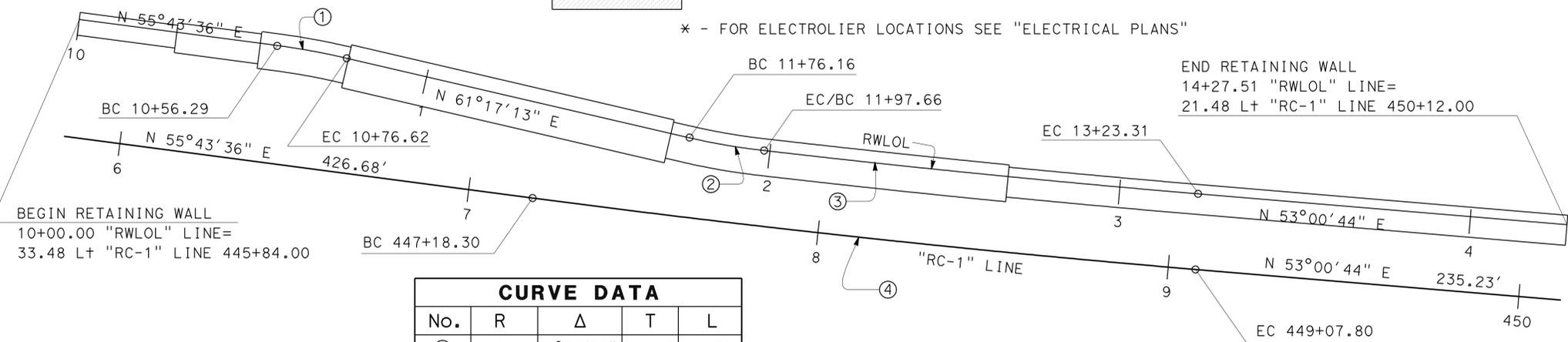
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



B0-3  
3-3  
3-4



[Hatched Area] - EXPOSED AGGREGATE FINISH (FROM END CAP TO 1' BELOW FG)  
 \* - FOR ELECTROLIER LOCATIONS SEE "ELECTRICAL PLANS"



CURVE DATA				
No.	R	Δ	T	L
①	209.48	5°33'37"	10.17	20.33
②	190.52	6°27'55"	10.76	21.50
③	3978.52	1°48'34"	62.83	125.65
④	4000.00	2°42'52"	94.77	189.50

**PLAN**  
1" = 40'

**RETAINING WALL PLAN AND QUANTITIES ("RWLOL")**  
SCALE AS SHOWN **R-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC PROJECT DEVELOPMENT  
 FUNCTIONAL SUPERVISOR RICHARD N. ESTRADA  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 ALBERT N. LABRADOR  
 MATTHEW J. MACE  
 REVISED BY  
 DATE REVISED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC PROJECT DEVELOPMENT**

FUNCTIONAL SUPERVISOR  
 RICHARD N. ESTRADA

CALCULATED-DESIGNED BY  
 CHECKED BY

ALBERT N. LABRADOR  
 MATTHEW J. MACE

REVISED BY  
 DATE REVISED

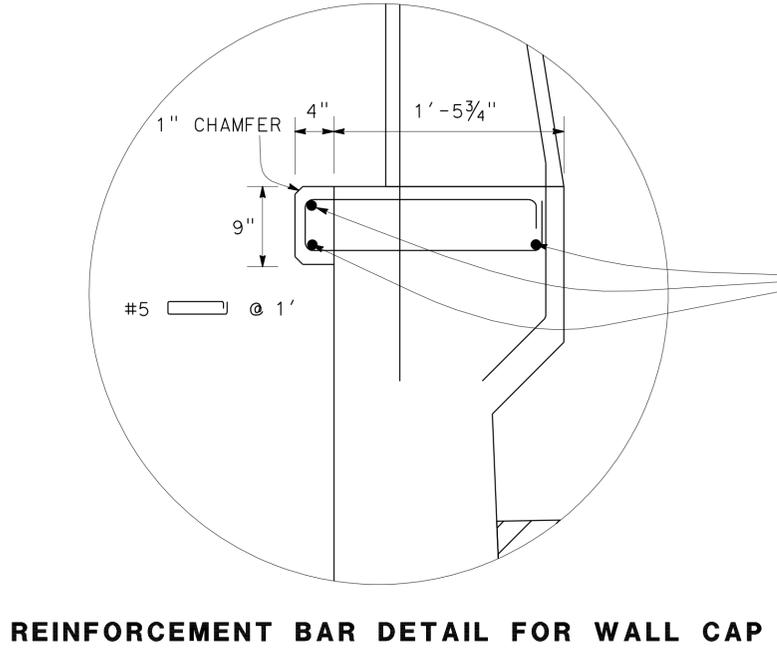
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	39	91

*Albert Labrador* 12-03-08  
 REGISTERED CIVIL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE

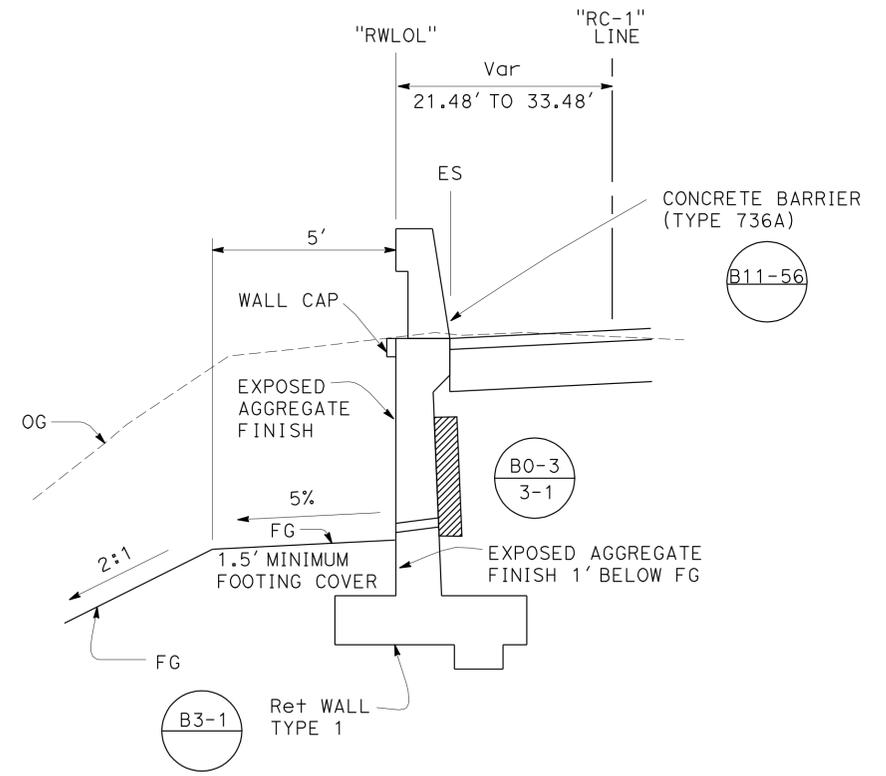
REGISTERED PROFESSIONAL ENGINEER  
 ALBERT LABRADOR  
 No. 65294  
 Exp. 09/30/09  
 CIVIL  
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTE:** 1. SEE STANDARD PLANS FOR DETAILS NOT SHOWN ON RETAINING WALL (TYPE 1) AND CONCRETE BARRIER (TYPE 736 A).



#5 X 3  
 OTHER REBAR SHOWN IN STANDARD PLANS FOR RETAINING WALL AND CONCRETE BARRIER (SEE NOTE 1)



**RETAINING WALL DETAIL ("RWLOL")**  
 NO SCALE  
**R-2**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	94	7.9	40	91

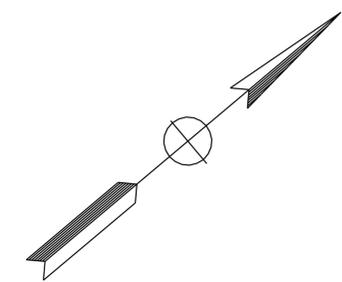
12-03-08  
REGISTERED CIVIL ENGINEER

4-13-09  
PLANS APPROVAL DATE

Ali Lari  
No. C65846  
Exp. 12-31-09  
CIVIL  
STATE OF CALIFORNIA

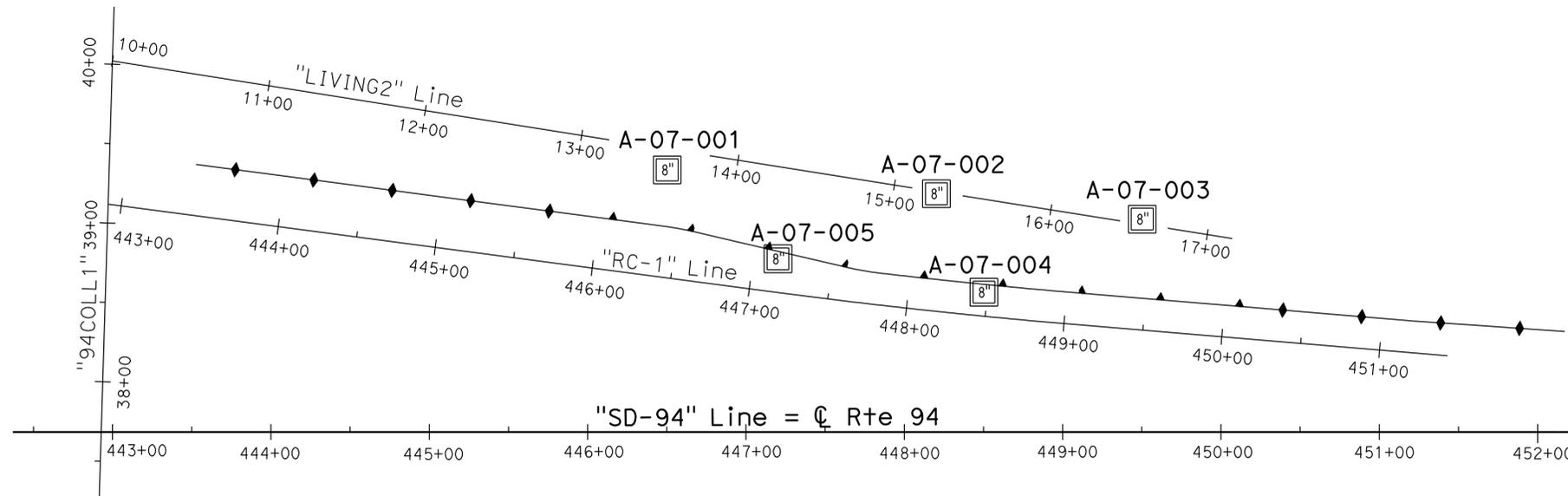
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).



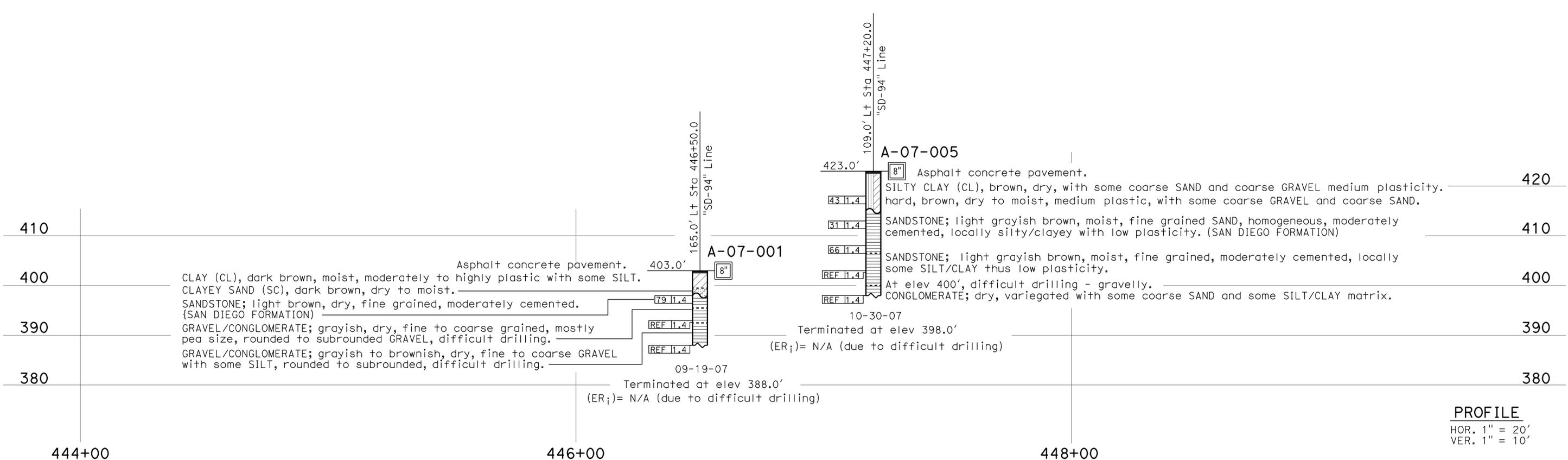
**BENCH MARK**

The elevations have been provided by District 11 Design.



**PLAN**

1" = 50'



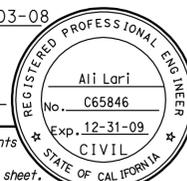
**PROFILE**

HOR. 1" = 20'  
VER. 1" = 10'

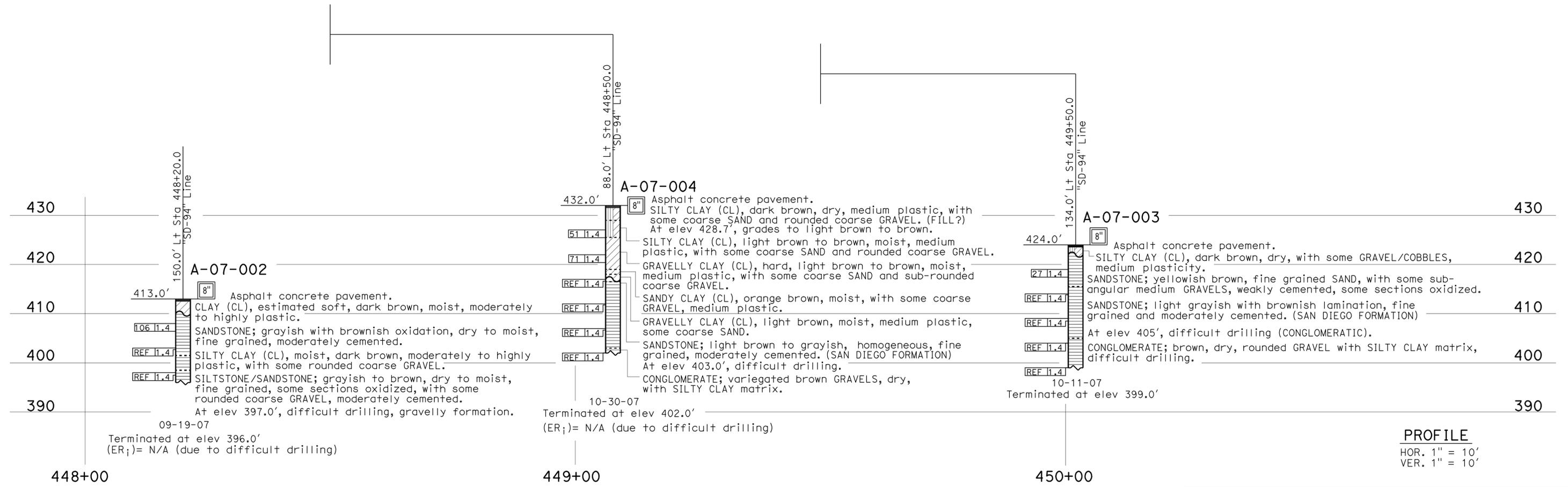
<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>	<b>DIVISION OF ENGINEERING SERVICES</b>	BRIDGE NO.	<b>RETAINING WALL "RWLOL" R-3</b>	
FUNCTIONAL SUPERVISOR	DRAWN BY: F. Nguyen 12/07	FIELD INVESTIGATION BY:		<b>DEPARTMENT OF TRANSPORTATION</b>	<b>STRUCTURE DESIGN</b>	POST MILES	<b>LOG OF TEST BORINGS 1 OF 5</b>	
NAME: Brian Hinman	CHECKED BY: J. Tesar	E. Galleta		CU 11	EA 262601	7.9	REVISION DATES	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES		01-22-08	SHEET OF

FILE => b26260qb001.dgn

USERNAME => fhmikes DATE PLOTTED => 22-APR-2009 TIME PLOTTED => 08:46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	94	7.9	41	91
 REGISTERED CIVIL ENGINEER			12-03-08		
PLANS APPROVAL DATE 4-13-09					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

FOR PLAN VIEW, SEE  
 "LOG OF TEST BORINGS" 1 OF 5



PROFILE  
 HOR. 1" = 10'  
 VER. 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		RETAINING WALL "RWLOL" R-4	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 12/07		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		POST MILES		LOG OF TEST BORINGS 2 OF 5	
NAME: Brian Hinman		CHECKED BY: J. Tesar		E. Galleta		DESIGN BRANCH		7.9			
065 CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU EA 11 262601		REVISION DATES	
				0 1 2 3				DISREGARD PRINTS BEARING EARLIER REVISION DATES		01-22-08	

USERNAME => hrmkgs DATE PLOTTED => 22-APR-2009 TIME PLOTTED => 08:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	94	7.9	42	91

12-03-08  
REGISTERED CIVIL ENGINEER

4-13-09  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
No. C65846  
Exp. 12-31-09  
CIVIL  
STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

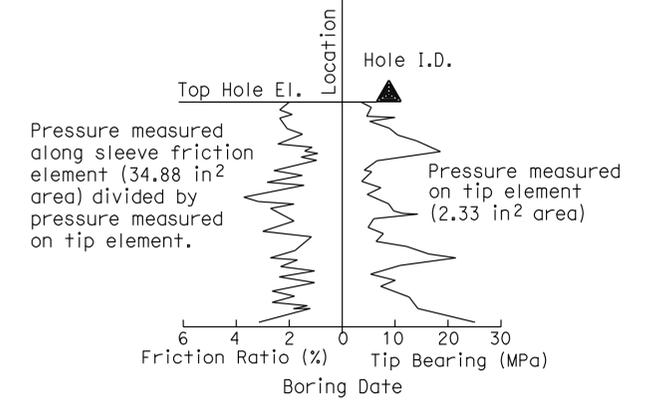
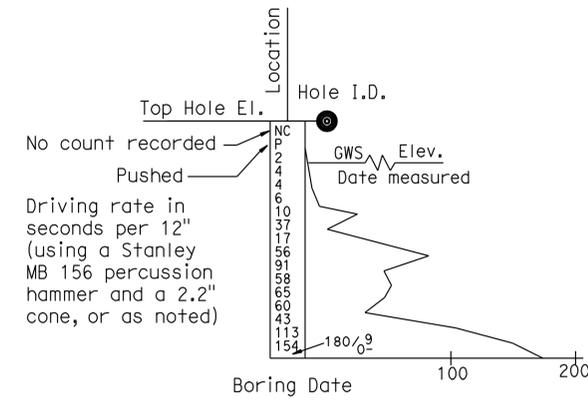
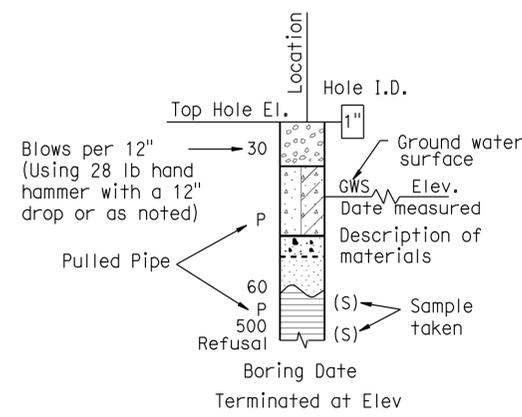
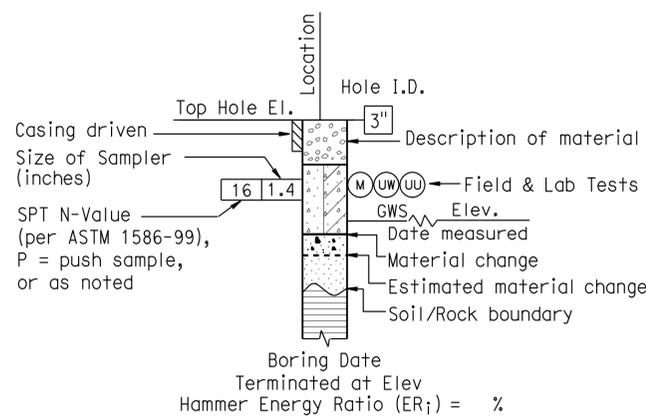
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

**Note: Size in inches.**

PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



<b>ENGINEERING SERVICES</b>	<b>GEOTECHNICAL SERVICES</b>	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	<b>DIVISION OF ENGINEERING SERVICES</b> STRUCTURE DESIGN <b>DESIGN BRANCH</b>	BRIDGE NO. POST MILE 7.9	<b>RETAINING WALL "RWLOL" R-5</b> <b>LOG OF TEST BORINGS 3 OF 5</b>
PREPARED BY: F. Nguyen 12/07		CU 11 EA 262601		REVISION DATES	

GS LOTB SOIL LEGEND ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 FILE => b26260qb003.dgn DISREGARD PRINTS BEARING EARLIER REVISION DATES

USERNAME => fmmkgs DATE PLOTTED => 22-APR-2009 TIME PLOTTED => 08:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	94	7.9	43	91

12-03-08  
REGISTERED CIVIL ENGINEER

4-13-09  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
Ali Lari  
No. C65846  
Exp. 12-31-09  
CIVIL  
STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

GROUP SYMBOLS AND NAMES					
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	GW	Well-graded GRAVEL		CL	Lean CLAY
		Well-graded GRAVEL with SAND			Lean CLAY with SAND
	GP	Poorly graded GRAVEL		CL-ML	Lean CLAY with GRAVEL
		Poorly graded GRAVEL with SAND			SANDY lean CLAY
	GW-GM	Well-graded GRAVEL with SILT		ML	SANDY lean CLAY with GRAVEL
		Well-graded GRAVEL with SILT and SAND			GRAVELLY lean CLAY
	GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY)		OL	GRAVELLY lean CLAY with SAND
		Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)			SILTY CLAY
	GP-GM	Poorly graded GRAVEL with SILT		OH	SANDY SILTY CLAY with GRAVEL
		Poorly graded GRAVEL with SILT and SAND			GRAVELLY SILTY CLAY
	GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY)		OL/OH	GRAVELLY SILTY CLAY with SAND
		Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)			ORGANIC lean CLAY
	GM	SILTY GRAVEL		OH	ORGANIC lean CLAY with SAND
		SILTY GRAVEL with SAND			ORGANIC lean CLAY with GRAVEL
	GC	CLAYEY GRAVEL		OH	SANDY ORGANIC lean CLAY
		CLAYEY GRAVEL with SAND			SANDY ORGANIC lean CLAY with GRAVEL
	GC-GM	SILTY, CLAYEY GRAVEL		OH	GRAVELLY ORGANIC lean CLAY
		SILTY, CLAYEY GRAVEL with SAND			GRAVELLY ORGANIC lean CLAY with SAND
	SW	Well-graded SAND		CH	Fat CLAY
		Well-graded SAND with GRAVEL			Fat CLAY with SAND
	SP	Poorly graded SAND		MH	Fat CLAY with GRAVEL
		Poorly graded SAND with GRAVEL			SANDY fat CLAY
	SW-SM	Well-graded SAND with SILT		MH	SANDY fat CLAY with GRAVEL
		Well-graded SAND with SILT and GRAVEL			GRAVELLY fat CLAY
	SW-SC	Well-graded SAND with CLAY (or SILTY CLAY)		OH	GRAVELLY fat CLAY with SAND
		Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)			Elastic SILT
	SP-SM	Poorly graded SAND with SILT		OH	Elastic SILT with SAND
		Poorly graded SAND with SILT and GRAVEL			Elastic SILT with GRAVEL
	SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY)		OH	SANDY elastic SILT
		Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)			SANDY elastic SILT with GRAVEL
	SM	SILTY SAND		OH	GRAVELLY elastic SILT
		SILTY SAND with GRAVEL			GRAVELLY elastic SILT with SAND
	SC	CLAYEY SAND		OH	ORGANIC fat CLAY
		CLAYEY SAND with GRAVEL			ORGANIC fat CLAY with SAND
	SC-SM	SILTY, CLAYEY SAND		OH	ORGANIC fat CLAY with GRAVEL
		SILTY, CLAYEY SAND with GRAVEL			SANDY ORGANIC fat CLAY
	PT	PEAT		OH	SANDY ORGANIC fat CLAY with GRAVEL
					GRAVELLY ORGANIC fat CLAY
		COBBLES		OH	GRAVELLY ORGANIC fat CLAY with SAND
		COBBLES and BOULDERS			ORGANIC SOIL
		BOULDERS		OH	ORGANIC SOIL with SAND
					ORGANIC SOIL with GRAVEL
				OH	SANDY ORGANIC SOIL
					SANDY ORGANIC SOIL with GRAVEL
				OH	GRAVELLY ORGANIC SOIL
					GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
	Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N <sub>60</sub> (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

<b>ENGINEERING SERVICES</b>	<b>GEOTECHNICAL SERVICES</b>	<b>STATE OF CALIFORNIA</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b>	BRIDGE NO.	<b>RETAINING WALL "RWLOL" R-6</b>
	PREPARED BY: F. Nguyen 12/07	<b>DEPARTMENT OF TRANSPORTATION</b>	<b>DESIGN BRANCH</b>	POST MILE 7.9	<b>LOG OF TEST BORINGS 4 OF 5</b>
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 11 EA 262601	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES

FILE => b26260qb004.dgn

12-03-08  
REGISTERED CIVIL ENGINEER

4-13-09  
PLANS APPROVAL DATE

No. C65846  
Exp. 12-31-09  
CIVIL  
STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

**PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)**

REC =  $\frac{\sum \text{Length of the recovered core pieces (inches)}}{\text{Total length of core run (inches)}} \times 100\%$

RQD =  $\frac{\sum \text{Length of intact core pieces} \geq 4''}{\text{Total length of core run (inches)}} \times 100\%$

**RELATIVE STRENGTH OF INTACT ROCK**

Term	Uniaxial Compressive Strength (PSI)
Extremely Strong	> 30,000
Very Strong	14,500 - 30,000
Strong	7,000 - 14,500
Medium Strong	3,500 - 7,000
Weak	700 - 3,500
Very Weak	150 - 700
Extremely Weak	< 150

**BEDDING SPACING**

Description	Thickness / Spacing
Massive	Greater than 10 ft
Very thickly bedded	3 to 10 ft
Thickly bedded	1 to 3 ft
Moderately bedded	3-5/8" to 1 ft
Thinly bedded	1-1/4" to 3-5/8"
Very thinly bedded	3/8" to 1-1/4"
Laminated	Less than 3/8"

**LEGEND OF ROCK MATERIALS**

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

**ROCK HARDNESS**

Description	Criteria
Extremely Hard	Specimen cannot be scratched with a pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows.
Very Hard	Specimen cannot be scratched with a pocket knife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Specimen can be scratched with a pocket knife or sharp pick with difficulty (heavy pressure). Heavy hammer blows required to break specimen.
Moderately Hard	Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure. Core breaks with moderate hammer pressure.
Moderately Soft	Specimen can be grooved 1/6" deep with a pocket knife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Specimen can be grooved or gouged easily by a pocket knife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Specimen can be readily indented, grooved or gouged with fingernail, or carved with a pocket knife. Breaks with light manual pressure.

**WEATHERING DESCRIPTORS FOR INTACT ROCK**

Description	Diagnostic features					General Characteristics
	Chemical Weathering-Discoloration and/or oxidation		Mechanical Weathering-Grain boundary conditions (disaggregation) primarily for granitics and some coarse-grained sediments	Texture and Solutioning		
	Body of Rock	Fracture Surfaces		Texture	Solutioning	
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change.	No solutioning.	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull.	Minor to complete discoloration or oxidation of most surfaces.	No visible separation, intact (tight).	Preserved.	Minor leaching of some soluble minerals may be noted.	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty," feldspar crystals are "cloudy."	All fracture surfaces are discolored or oxidized.	Partial separation of boundaries visible.	Generally preserved.	Soluble minerals may be mostly leached.	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in-situ disaggregation, see grain boundary conditions.	All fracture surfaces are discolored or oxidized, surfaces friable.	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated.	Texture altered by chemical disintegration (hydration, argillation).	Leaching of soluble minerals may be complete.	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures, or veinlets. Rock is significantly weakened.
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay.		Complete separation of grain boundaries (disaggregated).	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete.		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes."

Combination descriptors (such as "slightly weathered to fresh") are permissible where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant, identifiable zones can be delineated. Only two adjacent descriptors may be combined. "Very intensely weathered" is the combination descriptor for "intensely weathered to decomposed."

**FRACTURE DENSITY**

Description	Observed Fracture Density
Unfractured	No fractures.
Very slightly fractured	Lengths greater than 3 feet.
Slightly fractured	Lengths from 1 to 3 feet with few lengths less than 1 foot or greater than 3 feet.
Moderately fractured	Lengths mostly in 4" to 1 foot range with most lengths about 8"
Intensely fractured	Lengths average from 1 to 4" with scattered fragmented intervals with lengths less than 4"
Very intensely fractured	Mostly chips and fragments with a few scattered short core lengths.

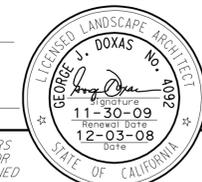
Combination descriptors (such as "Very intensely to intensely fractured") are used where equal distribution of both fracture density characteristics is present over a significant interval or exposure, or where characteristics are "in between" the descriptor definitions. Only two adjacent descriptors may be combined.

<b>ENGINEERING SERVICES</b>	<b>GEOTECHNICAL SERVICES</b>	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	<b>DIVISION OF ENGINEERING SERVICES</b> STRUCTURE DESIGN <b>DESIGN BRANCH</b>	BRIDGE NO. POST MILE 7.9	<b>RETAINING WALL "RWLOL" R-7</b> <b>LOG OF TEST BORINGS 5 OF 5</b>
	PREPARED BY: F. Nguyen 12/07				
GS LOTB ROCK LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 11 EA 262601	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET OF

FILE => b26260qb005.dgn

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	45	91

  
 LICENSED LANDSCAPE ARCHITECT  
 4-13-09  
 PLANS APPROVAL DATE



THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**ABBREVIATIONS:**

Amend. — AMENDMENT	No. — NUMBER
B&B — BALLED AND BURLAPPED	PKT — PACKET(S)
Dia — DIAMETER	PLT ESTB — PLANT ESTABLISHMENT
EA — EACH	Pvmt — PAVEMENT
oz — OUNCE	R/W — RIGHT OF WAY
lb — POUND	SF — STATE-FURNISHED
yd — YARD	TAB — TABLET(S)
yd <sup>2</sup> — SQUARE YARD	TRVD — TRAVELED
yd <sup>3</sup> — CUBIC YARD	BTH — BROWN TRUNK HEIGHT
Max — MAXIMUM	" — INCH
Min — MINIMUM	' — FOOT

**NOTES:**

1. UNDERLINED PORTIONS OF BOTANICAL NAMES INDICATE ABBREVIATIONS USED ON PLANTING PLANS.
2. ALL SIZES AS PER PLANT LIST EXCEPT WHERE NOTED ON PLANTING PLANS.

**PLANT LIST AND PLANTING SPECIFICATIONS**

PLANT GROUP	PLANT No.	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY EACH	HOLE SIZE Dia DEPTH	BASIN TYPE II	IRON SULFATE ① (lb)	SOIL AMEND	COMMERCIAL FERTILIZER ①		MULCH ① (yd3)	STAKING	PLANTING LIMITS						REMARKS	
											PLANTING	PLT ESTB			TRVD WAY	Pvmt	FENCE	WALL	PAVED DITCH	EARTH DITCH		ON CENTER (ft)
B	1		<u>CALLISTEMON CITRINUS</u>	LEMON BOTTLEBRUSH	No.5	64	②	II	0.25	-	3 PKT	0.5 lb	0.03	-	-	5	6	6	8	8	12	SHRUB
	2		<u>PLUMBAGO AURICULATA</u>	CAPE PLUMBAGO	No.5	18	②	II	0.25	-	3 PKT	0.5 lb	0.03	-	15	5	6	6	8	8	④	SHRUB
H	3		<u>CARPOBROTUS EDULIS</u>	HOT 'N TOT FIG	CUTTINGS	30885	②	-	-	-	4 lb/ 1000 ft <sup>2</sup>	4 lb/ 1000 ft <sup>2</sup>	-	-	-	-	3	3	4	4	1	GROUND COVER
U	4		<u>LIQUIDAMBAR STYRACIFLUA 'FESTIVAL'</u>	SWEET GUM	No.15	15	②	II	0.5	-	6 PKT	1.0 lb	0.06	⑥	30	5	9	9	12	12	④	TREE

**APPLICABLE WHEN CIRCLED:**

- |   |   |
|---|---|
| ① - QUANTITIES SHOWN ARE 'PER PLANT' UNLESS SHOWN AS yd <sup>2</sup> APPLICATION RATES. | 5 - UNLESS OTHERWISE SHOWN ON PLANS.      |
| ② - SUFFICIENT TO RECEIVE ROOT BALL.  | ⑥ - SEE STANDARD DETAIL.                  |
| 3 - DOES NOT APPLY TO MULCH AREAS.  | 7 - SEE TREE GRATE PLANTING DETAIL.       |
| ④ - AS SHOWN ON PLANS.  | 8 - ALTERNATE PLANTING OF EACH VINE TYPE. |

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Et Gtrans LANDSCAPE ARCHITECTURE  
 FUNCTIONAL SUPERVISOR  
 TOM HAM  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 GEORGE DOXAS  
 EMILIO VIRAMONTES  
 REVISED BY  
 DATE REVISED

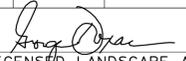
**PLANT LIST  
PL-1**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	GEORGE DOXAS	REVISED BY
<b>Caltrans</b> LANDSCAPE ARCHITECTURE	TOM HAM	CHECKED BY	EMILIO VIRAMONTES	DATE REVISED

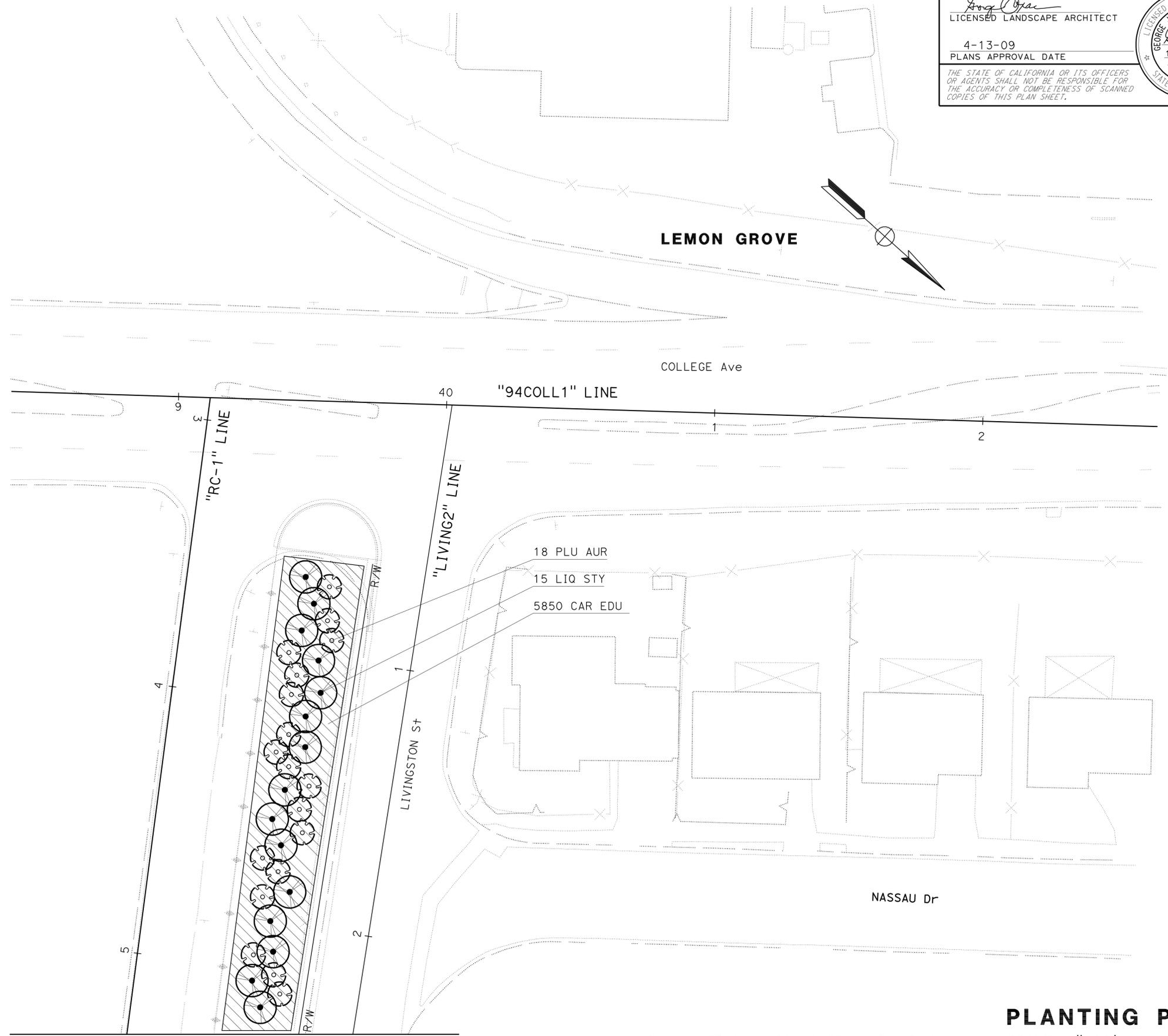
NOTE: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	46	91

  
 LICENSED LANDSCAPE ARCHITECT  
 4-13-09  
 PLANS APPROVAL DATE



THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



MATCH LINE SEE SHEET PP-2

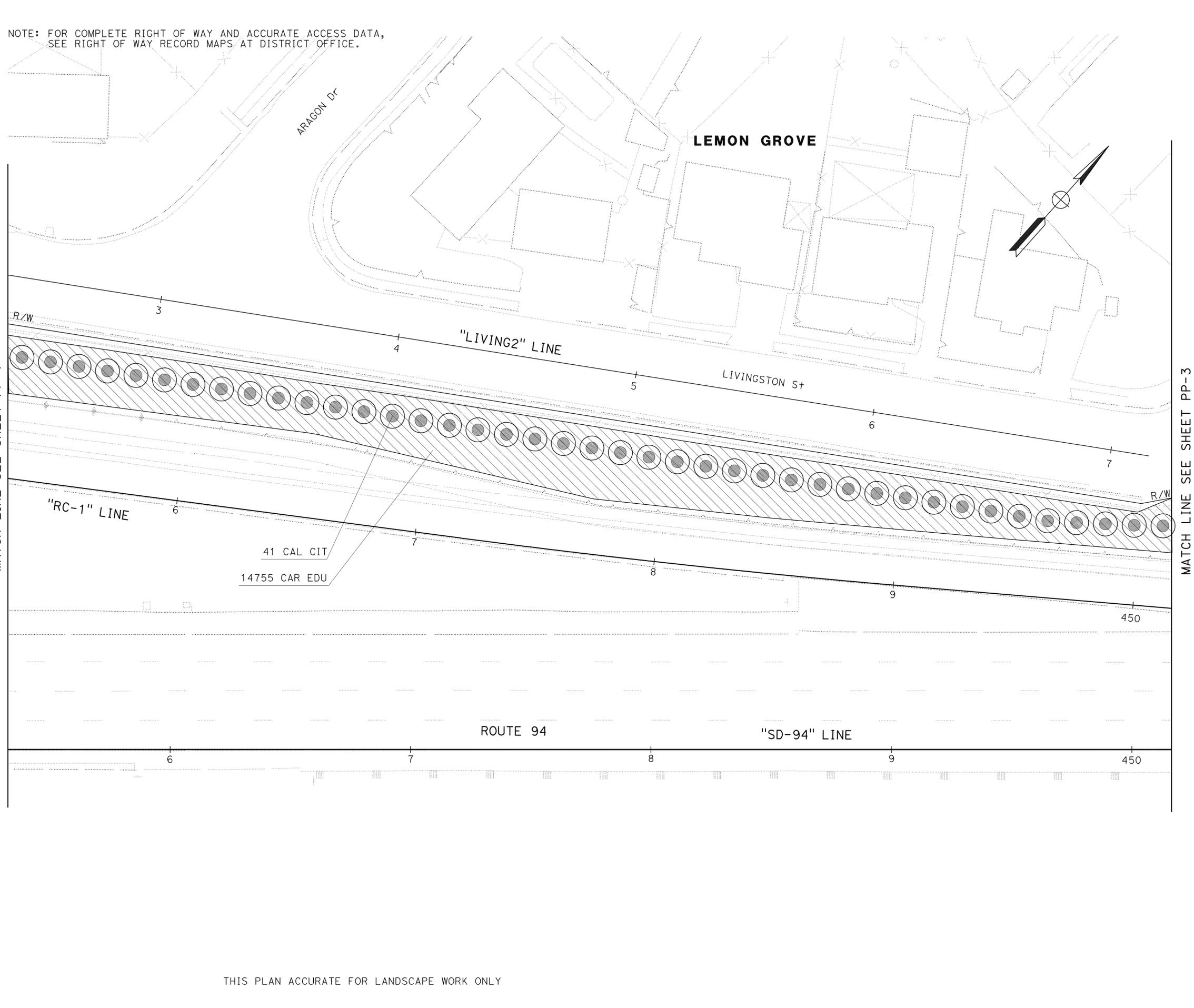
THIS PLAN ACCURATE FOR LANDSCAPE WORK ONLY

**PLANTING PLAN**  
**PP-1**

SCALE: 1"=20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** LANDSCAPE ARCHITECTURE

FUNCTIONAL SUPERVISOR: TOM HAM  
 CALCULATED/DESIGNED BY: GEORGE DOXAS  
 CHECKED BY: EMILIO VIRAMONTES  
 REVISED BY: DATE REVISD



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	47	91

4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



THIS PLAN ACCURATE FOR LANDSCAPE WORK ONLY

**PLANTING PLAN**  
 SCALE: 1"=20'  
**PP-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** LANDSCAPE ARCHITECTURE

FUNCTIONAL SUPERVISOR  
 TOM HAM

CALCULATED-DESIGNED BY  
 CHECKED BY

GEORGE DOXAS  
 EMILIO VIRAMONTES

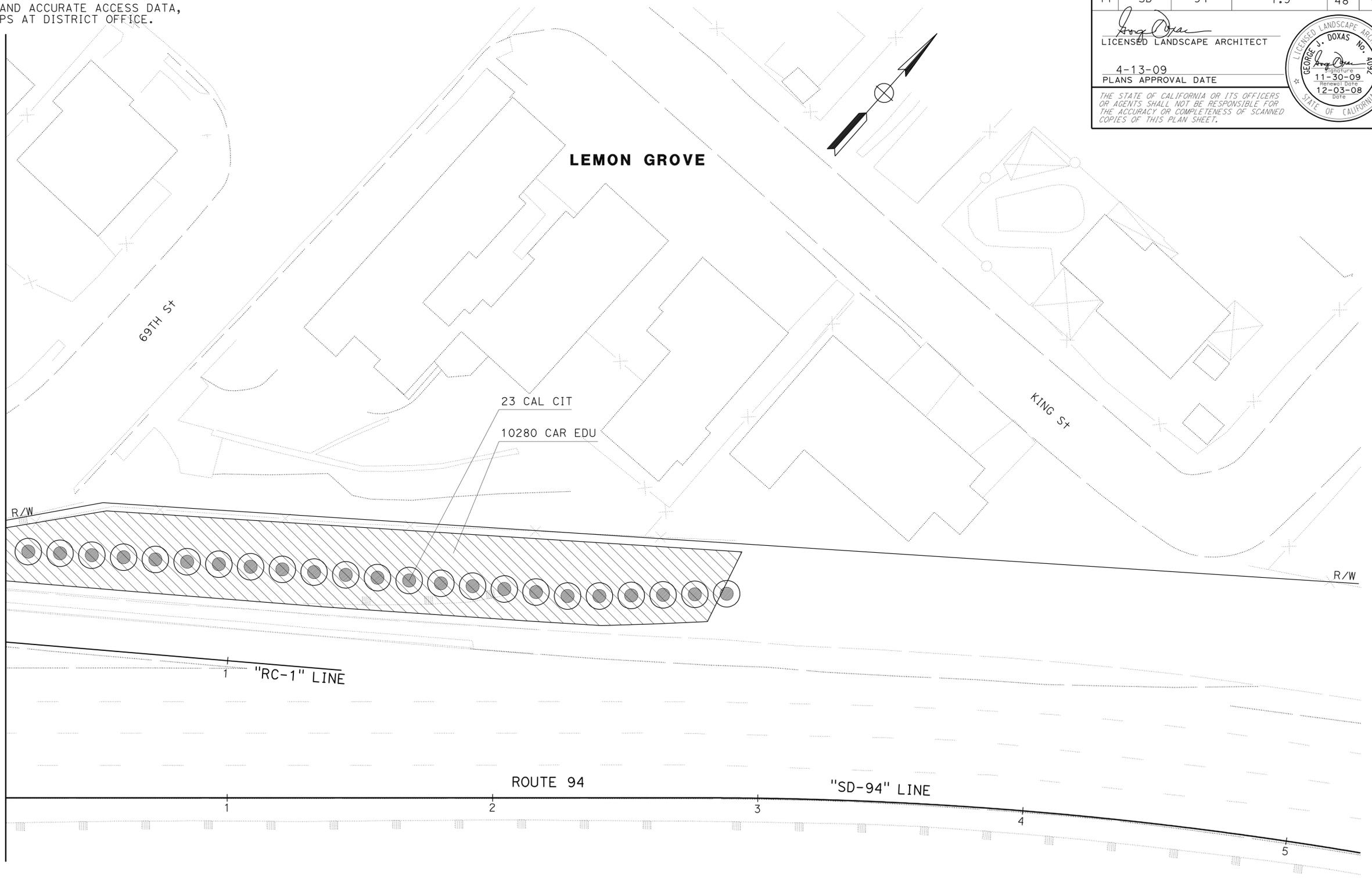
REVISED BY  
 DATE REVISED

NOTE: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,  
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	48	91

*George J. Doxas*  
 LICENSED LANDSCAPE ARCHITECT  
 4-13-09  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

MATCH LINE SEE SHEET PP-2



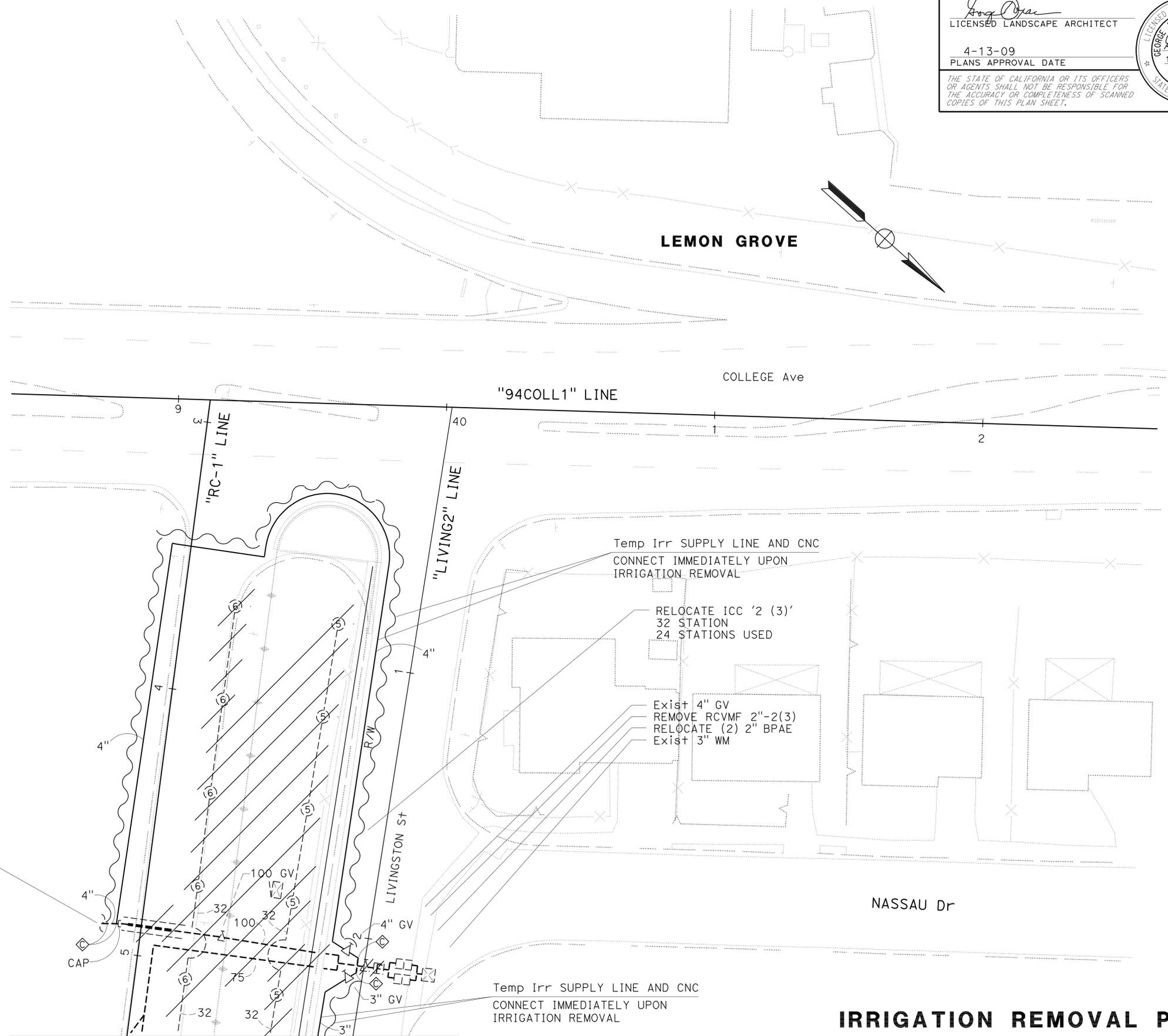
THIS PLAN ACCURATE FOR LANDSCAPE WORK ONLY

**PLANTING PLAN**  
 SCALE: 1"=20'  
**PP-3**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	49	91

Signature: *George J. Doxas*  
 LICENSED LANDSCAPE ARCHITECT  
 4-13-09  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR
<b>Et Gtrans</b> LANDSCAPE ARCHITECTURE	TOM HAM	CHECKED BY	DATE REVISED
		GEORGE DOXAS	
		EMILIO VIRAMONTES	



THIS PLAN ACCURATE FOR IRRIGATION REMOVAL WORK ONLY

MATCH LINE SEE SHEET IR-2

**IRRIGATION REMOVAL PLAN**  
**IR-1**  
 SCALE: 1"=20'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	50	91

4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CHECKED BY	DESIGNED BY	REVISOR
<b>Caltrans</b> LANDSCAPE ARCHITECTURE	TOM HAM	EMILIO VIRAMONTES	GEORGE DOXAS	DATE REVISOR



THIS PLAN ACCURATE FOR IRRIGATION REMOVAL WORK ONLY

**IRRIGATION REMOVAL PLAN**  
 SCALE: 1"=20'  
**IR-2**

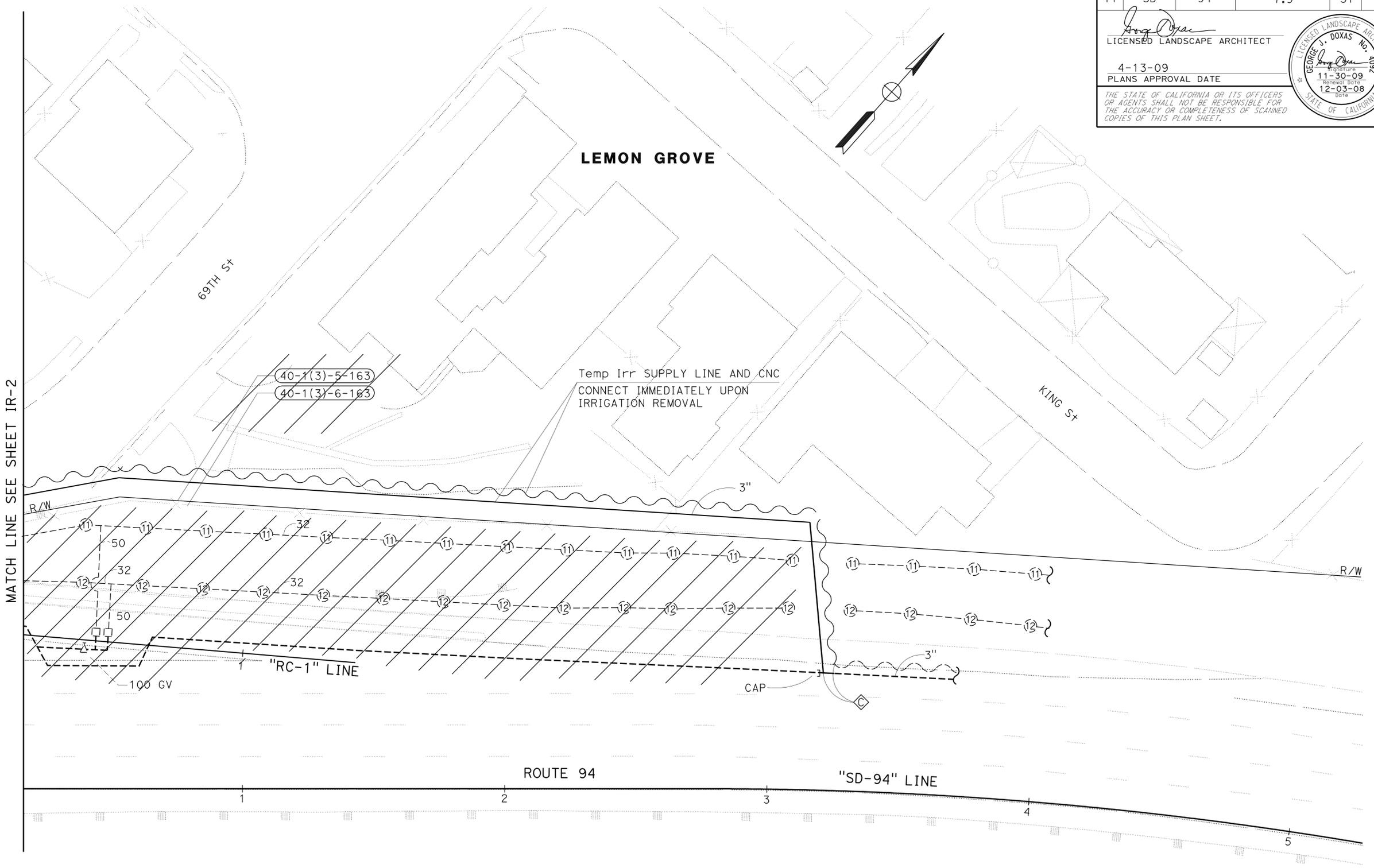
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** LANDSCAPE ARCHITECTURE

FUNCTIONAL SUPERVISOR  
 TOM HAM

CALCULATED-DESIGNED BY  
 CHECKED BY

GEORGE DOXAS  
 EMILIO VIRAMONTES

REVISED BY  
 DATE REVISED



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	51	91

4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



MATCH LINE SEE SHEET IR-2

LEMON GROVE

40-1(3)-5-163  
 40-1(3)-6-163

Temp Irr SUPPLY LINE AND CNC  
 CONNECT IMMEDIATELY UPON  
 IRRIGATION REMOVAL

"RC-1" LINE

"SD-94" LINE

ROUTE 94

THIS PLAN ACCURATE FOR IRRIGATION REMOVAL WORK ONLY

**IRRIGATION REMOVAL PLAN**  
**IR-3**

SCALE: 1"=20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** LANDSCAPE ARCHITECTURE

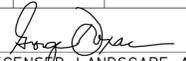
FUNCTIONAL SUPERVISOR  
TOM HAM

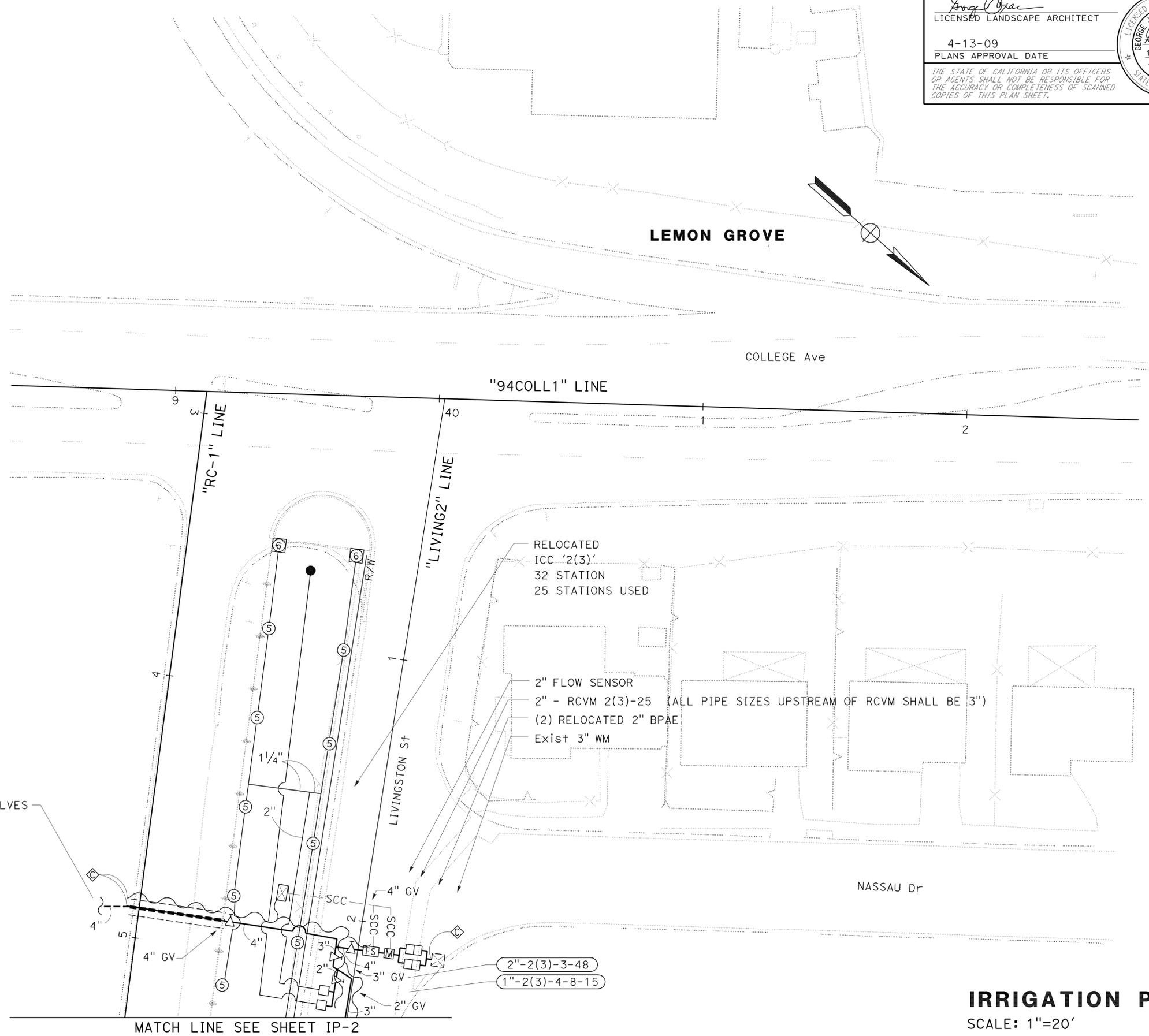
CALCULATED-DESIGNED BY  
CHECKED BY

GEORGE DOXAS  
EMILIO VIRAMONTES

REVISED BY  
DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	52	91

  
 LICENSED LANDSCAPE ARCHITECT  
 4-13-09  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

THIS PLAN ACCURATE FOR IRRIGATION WORK ONLY

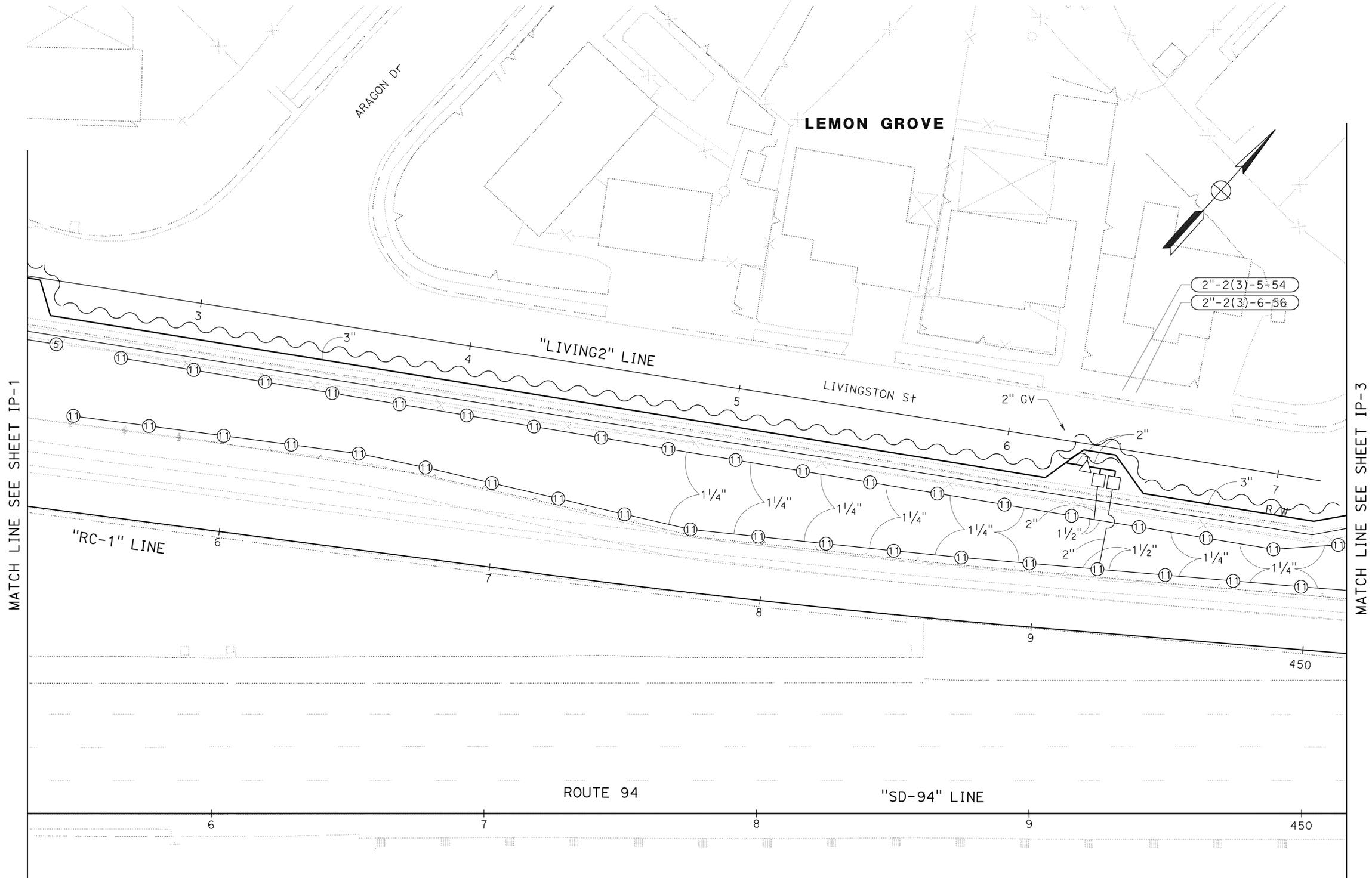
**IRRIGATION PLAN**  
**IP-1**  
 SCALE: 1"=20'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	53	91

*George J. Doxas*  
 LICENSED LANDSCAPE ARCHITECT  
 4-13-09  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	GEORGE DOXAS	REVISOR	
<b>Et</b> <i>Caltrans</i> LANDSCAPE ARCHITECTURE	TOM HAM	CHECKED BY	EMILIO VIRAMONTES	DATE	



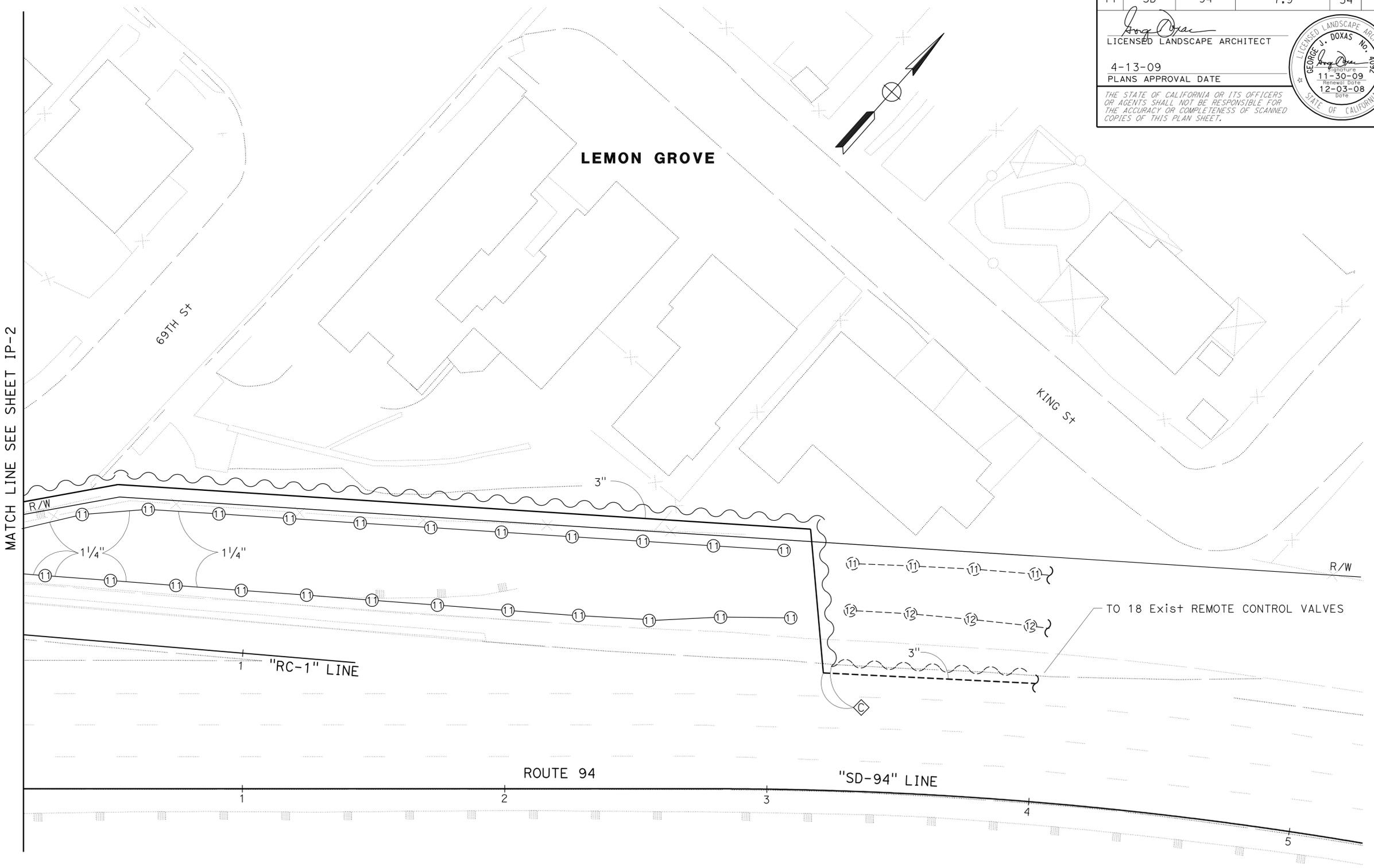
THIS PLAN ACCURATE FOR IRRIGATION WORK ONLY

**IRRIGATION PLAN**  
**IP-2**  
 SCALE: 1"=20'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	54	91

Signature: *George J. Doxas*  
 LICENSED LANDSCAPE ARCHITECT  
 4-13-09  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

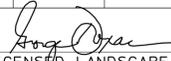
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR
<b>Et</b> Caltrans LANDSCAPE ARCHITECTURE	TOM HAM	CHECKED BY	DATE REVISOR
		GEORGE DOXAS	
		EMILIO VIRAMONTES	



THIS PLAN ACCURATE FOR IRRIGATION WORK ONLY

**IRRIGATION PLAN**  
SCALE: 1"=20'  
**IP-3**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	55	91

  
 LICENSED LANDSCAPE ARCHITECT  
 4-13-09  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



### SPRINKLER SCHEDULE

SYMBOL	TYPE	DESCRIPTION	SPRAY PATTERN	OPERATING PRESSURE (PSI)	PRESSURE COMPENSATING	PLUS / MINUS 5% ②					MATERIAL	NOZZLE SIZE (INCH)	INLET CONNECTION (NPT) (DN IN INCHES)(INCH)	POSITIVE-LOCKING ADJ ARC STOP	BACKSPASH PREVENTER	DIFFUSER PIN	DISTANCE CONTROL FLAP	ADJ DISCHARGE	RISER					REMARKS								
						DISCHARGE			RADIUS (F+)	WIDTH x LENGTH (F+)									TYPE	MATERIAL		SIZE (IPS) (INCH)	HEIGHT (INCH)		FLOW SHUTOFF DEVICE	SWING JOINT (TYPE)	RISER SUPPORT	SPRINKLER PROTECTOR (TYPE)				
						GALONS PER SECOND (GPS)	GALONS PER MINUTE (GPM)	GALONS PER HOUR (GPH)												PLASTIC	GALVANIZED											
⑤	A-5	GEAR DRIVEN	P	50	-	-	4	-	40	-	PL	-	3/4	-	-	X	-	-	I	X	-	3/4	6	-	1	-	-	-	-	-	-	③⑦
⑥	A-6	GEAR DRIVEN	P	50	-	-	4	-	40	-	PL	-	3/4	-	-	X	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	③⑦ 12" POP-UP
⑪	A-11	GEAR DRIVEN	P	50	-	-	1.8	-	25	-	PL	-	3/4	-	-	X	-	-	I	X	-	3/4	6	-	1	-	-	-	-	-	-	③⑦
●	C-2 Mod	MODIFIED FLOOD BUBBLER	-	30	X	-	0.5	-	-	-	PL	-	1/2	-	-	-	-	-	III	X	-	1/2	-	-	1	-	-	-	-	-	-	④⑨

APPLICABLE WHEN CIRCLED BELOW:

- 1 - SEE SPECIAL PROVISIONS.
- ② - IF A PRESSURE COMPENSATING DEVICE IS SPECIFIED, THE DISCHARGE AND RADII SHOWN REFLECT ITS USE.
- ③ - SHALL HAVE AN INTERNAL OR EXTERNAL CHECK VALVE.
- ④ - NON-ADJUSTABLE DISCHARGE RATE.
- 5 - REQUIRED ADJACENT TO SHOULDERS, CURBS, SIDEWALKS, AND DIKES.
- 6 - UNLESS OTHERWISE SHOWN ON PLANS.
- ⑦ - ADJUSTABLE ARC.
- 8 - MATCHED PRECIPITATION RATE NOZZLES.
- ⑨ - REFER TO PIPE SIZING CHARTS.

X IN BOX DENOTES REQUIREMENT

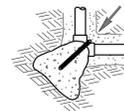
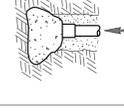
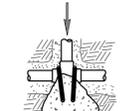
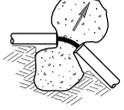
#### ABBREVIATIONS

- ADJ — ADJUSTABLE
- B/B — BRASS/BRONZE
- B/B/PL — BRASS/BRONZE/PLASTIC
- B/PL — BRASS/PLASTIC
- CST — CENTER STRIP
- DN — DIAMETER NOMINAL
- EST — END STRIP
- F+ — FEET
- F — FULL CIRCLE
- F/P — FULL/PART CIRCLE
- GPH — GALONS PER HOUR
- GPM — GALONS PER MINUTE
- GPS — GALONS PER SECOND
- H — HALF CIRCLE
- IPS — IRON PIPE SIZE
- NPT — NATIONAL PIPE THREAD
- P — PART CIRCLE
- PL — PLASTIC
- PSI — POUNDS PER SQUARE INCH
- Q — QUARTER CIRCLE
- SST — SIDE STRIP
- T — THIRD CIRCLE
- TQ — THREE QUARTER CIRCLE
- TT — TWO THIRDS CIRCLE

#### NOTE:

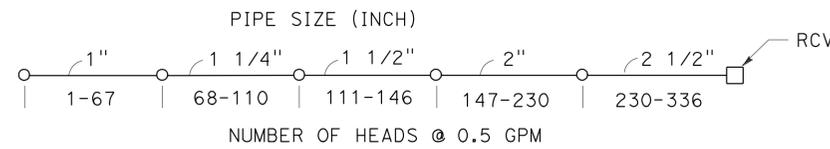
- 1. ALL LATERAL PIPE NOT LABELED SHALL BE 1 INCH, OR AS SHOWN ON PIPE SIZING CHARTS.

### THRUST BLOCK DETAIL

INSTALLATION	TYPE FITTING	INSTALLATION	TYPE FITTING
	90° ELL		DEAD END
	BEND 45° 22.5° 11.25°		GATE VALVE
		VERTICAL BEND (TYPE I) 45° 22.5° 11.25°	
	TEE		VERTICAL BEND (TYPE II) 45° 22.5° 11.25°

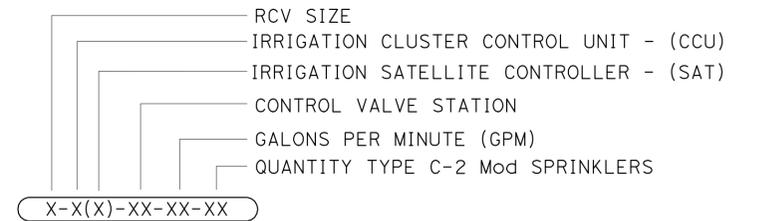
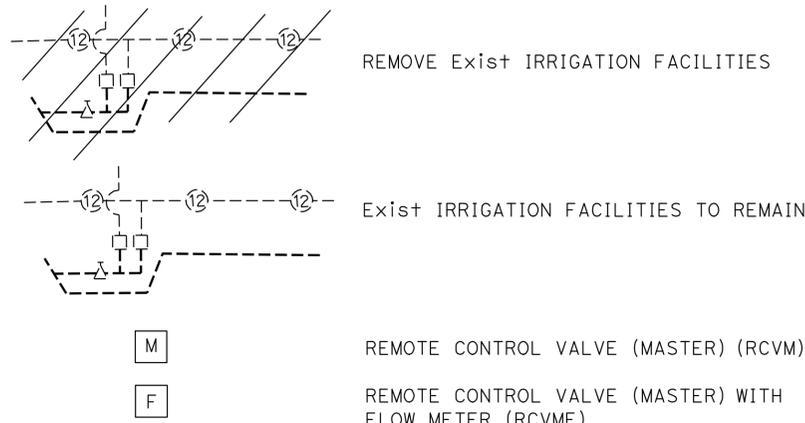
#### NOTES:

- Min 1 F+<sup>3</sup> PCC FOR PIPE 1/2" AND SMALLER.
- Min 2 F+<sup>3</sup> PCC FOR PIPE 2" AND LARGER.
- USE #3 REINFORCING BAR WHERE SHOWN ( Ω ).



#### PIPE SIZING CHART C-2 Mod SPRINKLERS (FLOOD BUBBLER)

#### LEGEND



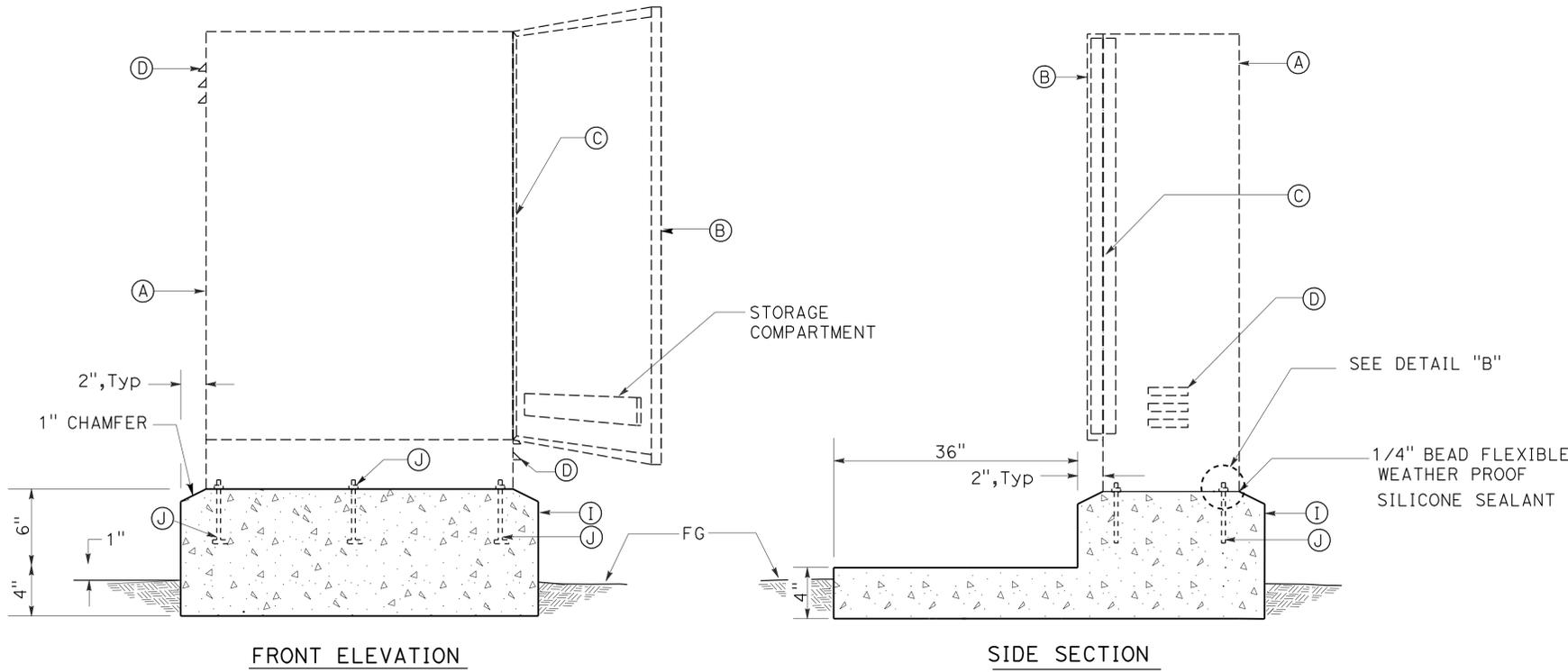
#### VALVE CODE



#### RCVMF CODE

## LANDSCAPE DETAILS LD-1





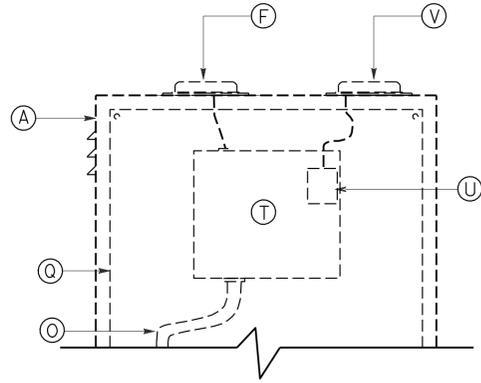
FRONT ELEVATION

SIDE SECTION

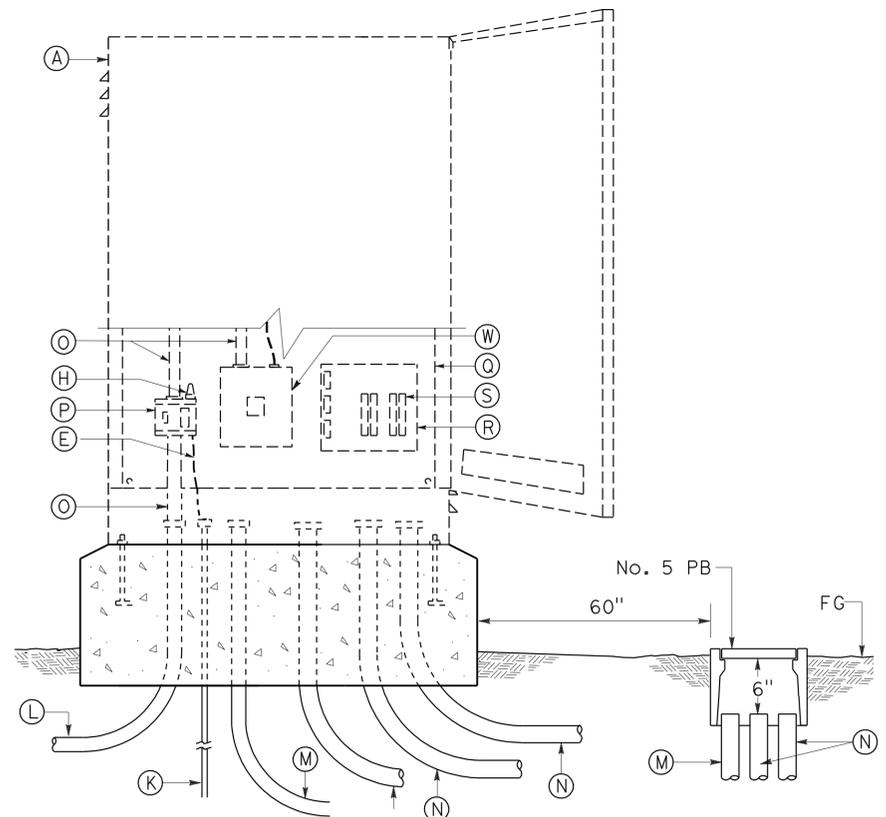
CABINET, SECURITY DOOR, AND FOUNDATION

**LEGEND:**

- (A) STAINLESS STEEL CONTROLLER ENCLOSURE CABINET
- (B) DOOR WITH THREE POINT LOCKING MECHANISM, FLUSH-MOUNTED ACCESS HANDLE FOR PADLOCK, AND STORAGE FOR PLANS
- (C) CONTINUOUS STAINLESS STEEL PIANO HINGE
- (D) LOUVERS AT TOP AND BOTTOM FOR CROSS VENTILATION
- (E) No. 8 AMERICAN WIRE GAUGE (AWG) GROUND CONDUCTOR
- (F) LOW PRO ANTENNA AND CABLE (FOR COMMUNICATION BETWEEN CLUSTER CONTROL UNIT AND SATELLITE)
- (G) JUNCTION BOX
- (H) SURGE PROTECTION
- (I) PCC PAD AND FOUNDATION
- (J) 2/5" DIAMETER, 2 3/4" LONG, WINGED STAINLESS STEEL ANCHOR BOLTS WITH WASHERS AND HEX HEAD LOCKNUTS (4 BOLTS FOR SINGLE, 6 BOLTS FOR DOUBLE)
- (K) 1/2" X 118" LONG COPPER CLAD STEEL ROD GROUND ELECTRODE AND GROUND CLAMP
- (L) SIZE 27, TYPE 3 CONDUIT FOR ELECTRICAL SERVICE (2 FOR CABINET WITH TELEPHONE SERVICE)
- (M) SIZE 41, TYPE 3 CONDUIT FOR RCVM AND FLOW SENSOR INPUT WIRING
- (N) SIZE 53, TYPE 3 CONDUIT FOR LOW VOLTAGE WIRING (2 FOR SINGLE CABINET, 3 FOR DOUBLE CABINET)
- (O) SIZE 13, TYPE 4 CONDUIT
- (P) 2 GANG WEATHER PROOF BOX WITH GROUND FAULT PROTECTED RECEPTACLE AND ON-OFF SWITCH, SEE DETAIL "D" ON THIS SHEET
- (Q) STAINLESS STEEL MOUNTING PANEL (1/6" Min THICKNESS), ATTACHED TO ENCLOSURE
- (R) BRUSHED ALUMINUM MOUNTING BOARD, SECURED WITH STAINLESS STEEL BOLTS
- (S) TERMINAL STRIPS FOR LOW VOLTAGE WIRE CONNECTIONS
- (T) SATELLITE IRRIGATION CONTROLLER (SAT) WITH TWO WAY RADIO CONNECTIONS (QUANTITIES SHOWN ON PLANS)
- (U) THE RAINBIRD CONTROLLER RECEIVER CARD (SAT ONLY)
- (V) LOW PRO ANTENNA AND CABLE (FOR COMMUNICATION BETWEEN SAT AND HANDHELD REMOTE CONTROL TRANSMITTER)
- (W) DIGITAL FLOW MONITOR (IN CABINET WHERE FLOW SENSOR IS CONNECTED)

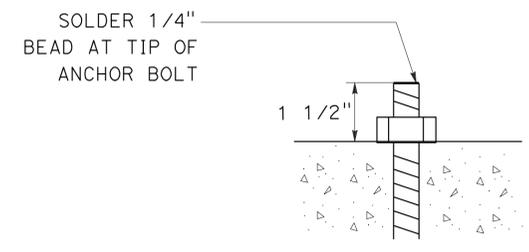


SINGLE CONTROLLER LAYOUT

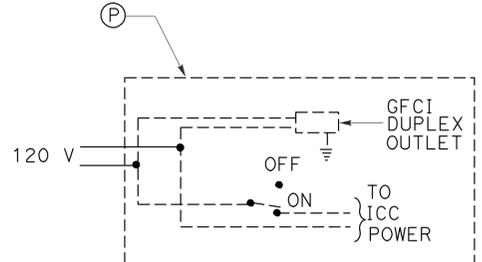


FRONT ELEVATION

ELECTRICAL LAYOUT



DETAIL "B"



DETAIL "D"

**RELOCATED IRRIGATION CONTROLLER ENCLOSURE CABINET**

**LANDSCAPE DETAILS LD-3**  
NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	58	91

12-03-08  
 REGISTERED ELECTRICAL ENGINEER DATE  
 4-13-09  
 PLANS APPROVAL DATE

DALE WILSON  
 No. 13750  
 Exp. 06-30-09  
 ELECTRICAL  
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES: (THIS SHEET ONLY)**

- 1 - AB Exist CONDUIT. INSTALL NEW CONDUIT AS NOTED.
- 2 - RC pb. INSTALL NEW PB AS SHOWN.
- 3 - RC fl FIXTURES. INSTALL ISL AS SHOWN.
- 4 - CONSTRUCT NEW FOUNDATION.
- 5 - AB Exist LOOP DETECTOR. INSTALL TWO TYPE E LOOPS, CENTERED IN EACH LANE.
- 6 - SEE RETAINING WALL ELECTRICAL DETAILS.
- 7 - RC TYPE A SERVICE. INSTALL TYPE H RISE PER SDG&E REQUIREMENTS.
- 8 - SD TYPE III-BF SERVICE EQUIPMENT ENCLOSURE SEE WIRING DIAGRAM ON SHEET E-2.
- 9 - SEE TRAFFIC SIGNAL PLAN FOR CONTINUITY.
- 10 - INSTALL STATE-FURNISHED MODEL 170 RAMP METER CONTROLLER Assy.
- 11 - RS Exist MODEL 170 CONTROLLER Assy.

**ABBREVIATION:**

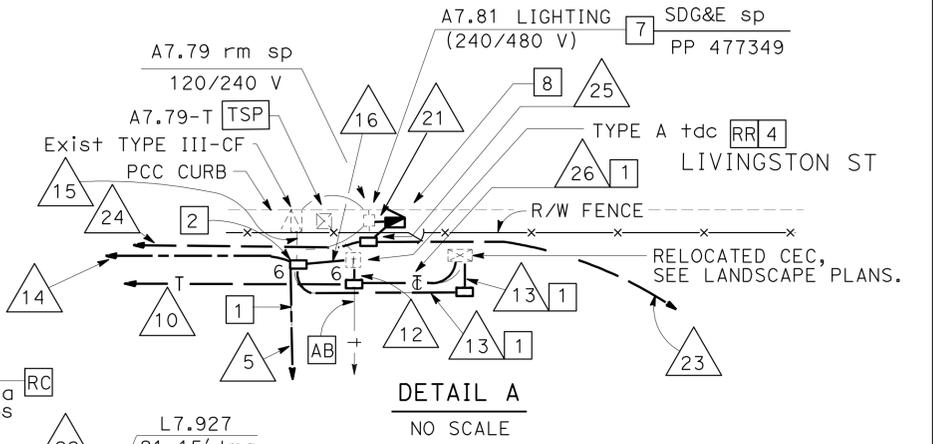
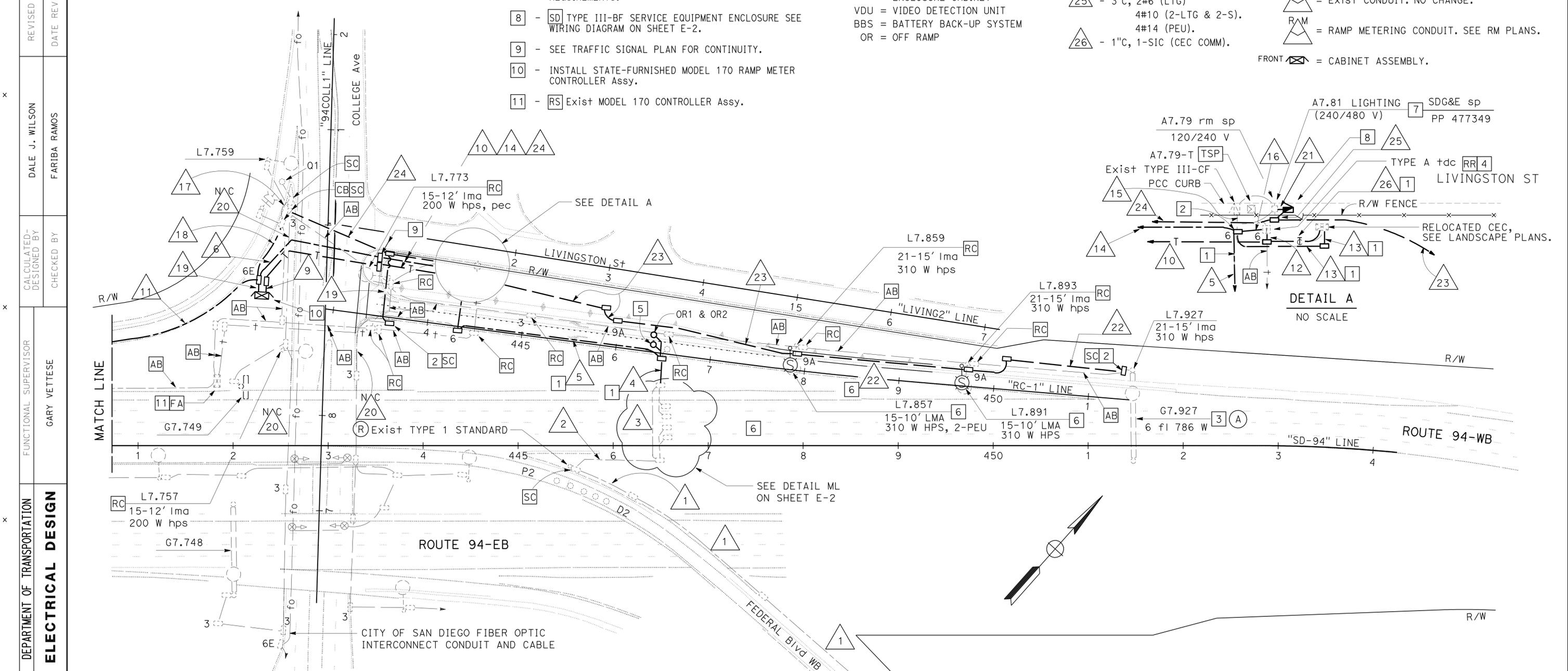
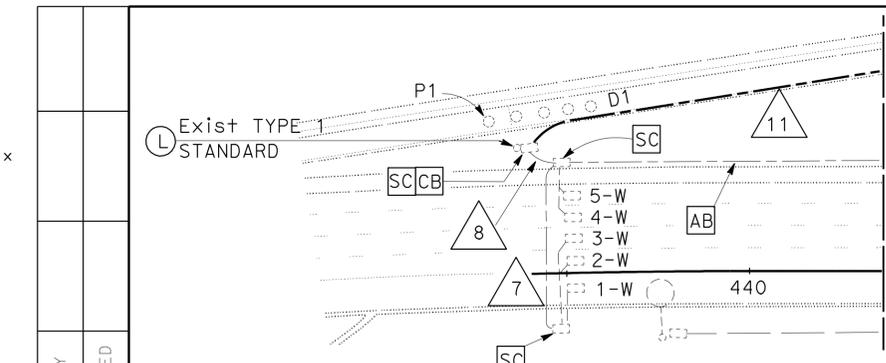
- fl = Exist FLUORESCENT LIGHTING FIXTURES.  
 S = SIGN ILLUMINATION  
 R = RIGHT  
 L = LEFT  
 ML = MAIN LANE  
 D = DEMAND  
 P = PASSAGE  
 Q = QUEUE  
 SDG&E = SAN DIEGO GAS & ELECTRIC CO  
 CEC = IRRIGATION CONTROLLER ENCLOSURE CABINET  
 VDU = VIDEO DETECTION UNIT  
 BBS = BATTERY BACK-UP SYSTEM  
 OR = OFF RAMP

**CONDUIT NOTES:**

- N/C  
 20 - Exist 1/2"C, WITH 2#6 (ltg).  
 21 - 2"C, MT (CONDUCTORS BY SDG&E).  
 22 - 2"C, 4#10 (2-LTG & 2-S).  
 23 - 2"C, 4#10 (2-LTG & 2-S) 4#14 (PEU).  
 24 - 2"C, 2#6 (LTG).  
 25 - 3"C, 2#6 (LTG) 4#10 (2-LTG & 2-S). 4#14 (PEU).  
 26 - 1"C, 1-SIC (CEC COMM).

**LEGEND:**

- N/C = Exist CONDUIT. NO CHANGE.  
 R/M = RAMP METERING CONDUIT. SEE RM PLANS.  
 FRONT [Symbol] = CABINET ASSEMBLY.



ILLUMINATED SIGN & APPURTENANCES				
SIGN No.	QUANTITY OF 87 W ISL	SERVING VOLTAGE	LOAD	REMARKS
(A)	3	480 V	261 W	SEE Std PLAN ES-15A AND RSP ES-15D TYPE SC3A CONTROL

**MODIFY LIGHTING AND SIGN ILLUMINATION RAMP METERING SYSTEM**

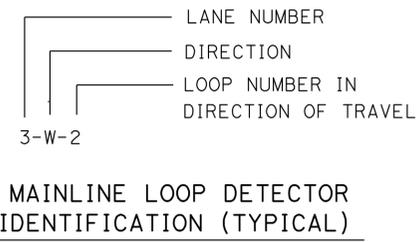
SCALE: 1"=50'

CABLE OR CONDUCTOR/AWG SIZE		CONDUIT AND CONDUCTOR SCHEDULE																		
		CONDUIT SIZE AND RUN No. **																		
CIRCUIT ID		1"	1 1/2"	2"	2"	3"	3"	1 1/2"	1 1/2"	2"	2"	3"	2"	1"	3"	3"	1"	1"	2"	2-3"
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6	SIG POWER														2	2				
	RM POWER							2								2	2			2
10	LTG (240V)														2	2				
12	TDC																2	2		
	CEC												2		2					
14	FB	2	2	2	2	2	2								2			2	4	
	PEU														3	3				
9/14	STD (R)		1	1	1	1	1								1					1
	STD (L)											1								1
	DETECTORS ML			4	8	8	8	3	5						5					13
	D		1	1	1	1	1							1						2
	P		1	1	1	1	1							1						2
	Q	1	1	1	1	1	1							1				1	1	2
	OR						2	2							2					2
	RM COMM									1	1		1							
	SIG COMM																			
	CEC COMM																			
TOTAL CONDUCTORS/CABLES		3	6	10	14	16	18	3	5	1	2	8	3	2	25	13	2	1	3	29
NOTES		1	1	1				1	1							1		1		

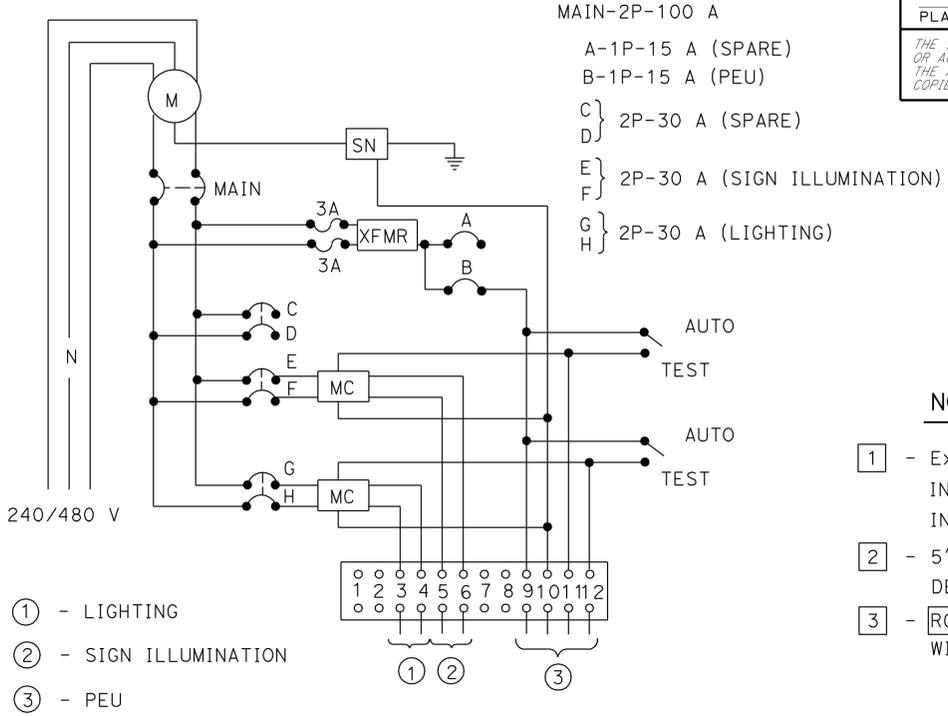
\*\* ALL CONDUITS ARE NEW UNLESS OTHERWISE NOTED.

NINE CONDUCTOR COLOR CODE AND USAGE	
USAGE	COLOR
COMMON	WHITE
RED SECTION	RED
YELLOW SECTION	YELLOW
GREEN SECTION	BROWN
SECOND RED	RED/BLACK
SECOND YELLOW	YELLOW/BLACK
SECOND GREEN	BROWN/BLACK
SPARE	BLACK
SPARE	WHITE/BLACK

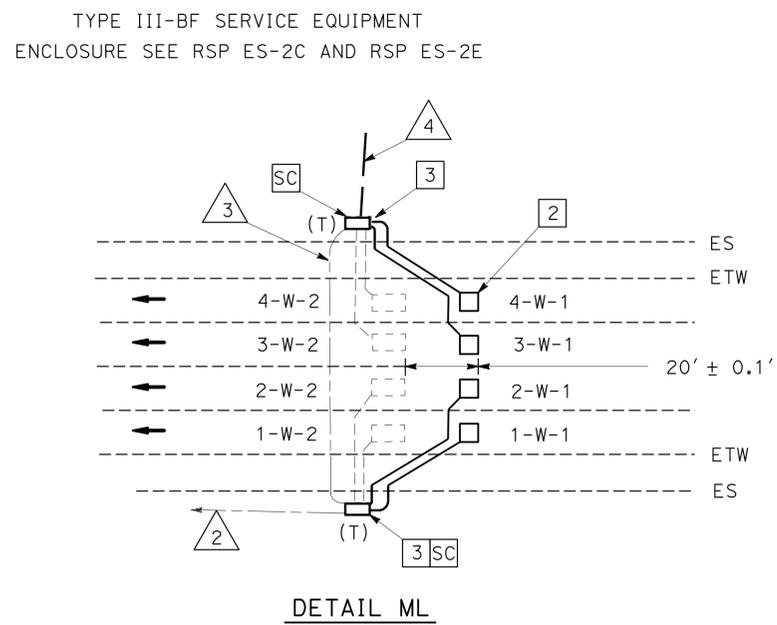
- CONDUIT NOTES:**
- 20 - Exist 1 1/2" C, WITH 2#6 (ltg).
  - 21 - 2" C, MT (CONDUCTORS BY SDG&E).
  - 22 - 2" C, 4#10 (2-LTG & 2-S).
  - 23 - 2" C, 4#10 (2-LTG & 2-S) 4#14 (PEU).
  - 24 - 2" C, 2#6 (LTG).
  - 25 - 3" C, 2#6 (LTG) 4#10 (2-LTG & 2-S) 4#14 (PEU).
  - 26 - 1" C, 1-SIC (CEC COMM).



**CIRCUIT BREAKERS:**



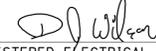
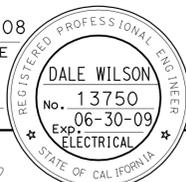
**WIRING DIAGRAM**



**MODIFY LIGHTING AND SIGN ILLUMINATION RAMP METERING SYSTEM**

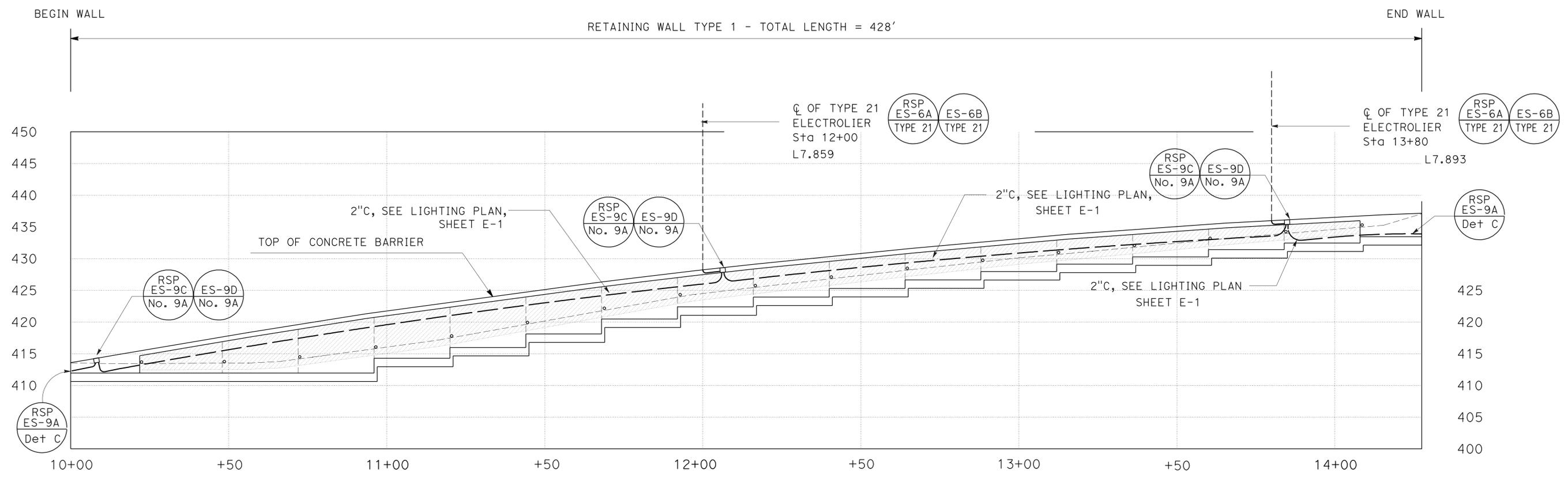
NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

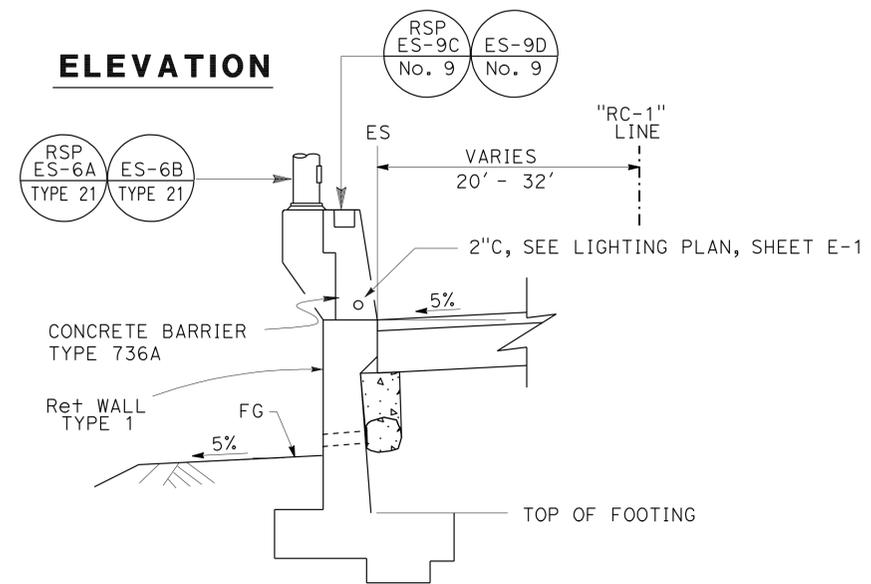
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	60	91
			12-03-08		
REGISTERED ELECTRICAL ENGINEER			DATE		
4-13-09			PLANS APPROVAL DATE		
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

**LEGEND:**

XX STANDARD PLAN No.  
 XX DETAIL No.



- NOTES:**
1. EXPANSION FITTING REQUIRED AT EACH EXPANSION JOINT. SEE ES-9B (+to+ 5).
  2. SEE SHEET R-1 FOR RETAINING WALL ALIGNMENT LINE USED FOR LOCATIONS OF ELECTROLIER ON RETAINING WALL.



**RETAINING WALL ELECTRICAL DETAILS**

NO SCALE

**E-3**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: GARY VETTESE  
 CALCULATED-DESIGNED BY: FARIBA RAMOS  
 CHECKED BY: DALE J. WILSON  
 REVISIONS: DALE J. WILSON, FARIBA RAMOS, GARY VETTESE  
 REVISIONS: DALE J. WILSON, FARIBA RAMOS, GARY VETTESE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: GARY VETTESE  
 REVISIONS: [REDACTED]  
 DESIGNED BY: FARIBA RAMOS  
 CHECKED BY: [REDACTED]  
 SUPERVISOR: DALE J. WILSON  
 DATE: 12-03-08

EQUIPMENT AND POLE SCHEDULE										
Loc	STANDARD		PLACEMENT DIMENSIONS		SIGNAL MOUNTING AND PLACEMENT				REMARKS	
	TYPE	SMA (F+)	LMA (F+)	A (F+)	B (F+)	VEHICLE		PEDESTRIAN		
						POLE	MAST ARM	SIGNAL		PPB
(A)	26-4-100	30	15	9	10	SV-1-T	MAT	SP-1-T	Ø2P	200 W HPS [1] [2]
(B)	1-A (10')			10	6.4	TV-1-T		SP-1-T	Ø2P	
(C)	17-3-100	20	15	PER PLAN	6	SV-2-TD	MAS			200 W HPS [1] [2]
(D)	16-3-100	20	15	PER PLAN	6	SV-1-T	MAS			[1] [2]
(E)	1-A (10')			PER PLAN	PER PLAN	TV-1-T				CENTER IN MEDIAN
(F)	STATE-FURNISHED MODEL 170 CONTROLLER ASSEMBLY. SEE Std ES-3C FOR FOUNDATION DETAILS.								[3] [4]	

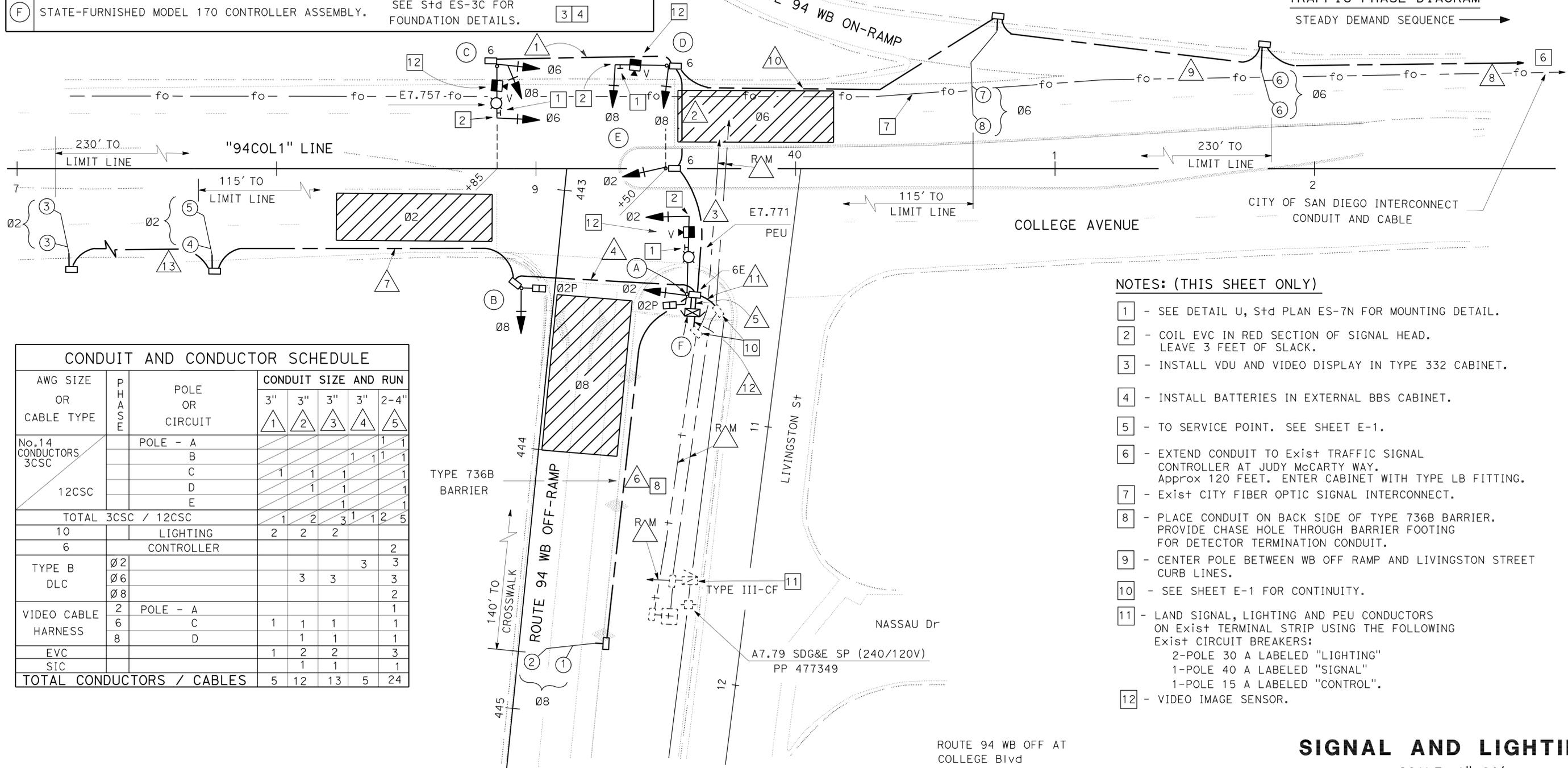
CONDUIT NOTES: (THIS SHEET ONLY)

- △6 - 2"C, 2-DLC.
- △7 - 2"C, 3-DLC.
- △8 - 2"C, 1-SIC.
- △9 - 2"C, 1-SIC 1-DLC.
- △10 - 2"C, 1-SIC 3-DLC.
- △11 - 2"C, 2#10-LTG 2#6-CONTROLLER 3#14-PEU.
- △12 - 2"C, 1-SIC.
- △13 - 2"C, 1-DLC.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	94	7.9	61	91

REGISTERED ELECTRICAL ENGINEER: DALE WILSON  
 No. 13750  
 Exp. 06-30-09  
 DATE: 12-03-08  
 PLANS APPROVAL DATE: 4-13-09

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



TRAFFIC PHASE DIAGRAM

STEADY DEMAND SEQUENCE

NOTES: (THIS SHEET ONLY)

- [1] - SEE DETAIL U, Std PLAN ES-7N FOR MOUNTING DETAIL.
- [2] - COIL EVC IN RED SECTION OF SIGNAL HEAD. LEAVE 3 FEET OF SLACK.
- [3] - INSTALL VDU AND VIDEO DISPLAY IN TYPE 332 CABINET.
- [4] - INSTALL BATTERIES IN EXTERNAL BBS CABINET.
- [5] - TO SERVICE POINT. SEE SHEET E-1.
- [6] - EXTEND CONDUIT TO EXIST TRAFFIC SIGNAL CONTROLLER AT JUDY McCARTY WAY. APPROX 120 FEET. ENTER CABINET WITH TYPE LB FITTING.
- [7] - EXIST CITY FIBER OPTIC SIGNAL INTERCONNECT.
- [8] - PLACE CONDUIT ON BACK SIDE OF TYPE 736B BARRIER. PROVIDE CHASE HOLE THROUGH BARRIER FOOTING FOR DETECTOR TERMINATION CONDUIT.
- [9] - CENTER POLE BETWEEN WB OFF RAMP AND LIVINGSTON STREET CURB LINES.
- [10] - SEE SHEET E-1 FOR CONTINUITY.
- [11] - LAND SIGNAL, LIGHTING AND PEU CONDUCTORS ON EXIST TERMINAL STRIP USING THE FOLLOWING EXIST CIRCUIT BREAKERS:  
 2-POLE 30 A LABELED "LIGHTING"  
 1-POLE 40 A LABELED "SIGNAL"  
 1-POLE 15 A LABELED "CONTROL".
- [12] - VIDEO IMAGE SENSOR.

CONDUIT AND CONDUCTOR SCHEDULE								
AWG SIZE OR CABLE TYPE	PHASE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN					
			3" 1	3" 2	3" 3	3" 4	2-4" 5	
No. 14 CONDUCTORS 3CSC		POLE - A					1	1
		B					1	1
		C	1	1	1			
		D		1	1			
		E			1			
TOTAL 3CSC / 12CSC			1	2	3	1	2	5
10		LIGHTING	2	2	2			
6		CONTROLLER						2
TYPE B DLC	Ø2						3	3
	Ø6			3	3			
	Ø8							2
VIDEO CABLE HARNESS	2	POLE - A						1
	6	C	1	1	1			1
	8	D		1	1			1
EVC			1	2	2			3
SIC				1	1			1
TOTAL CONDUCTORS / CABLES			5	12	13	5	24	

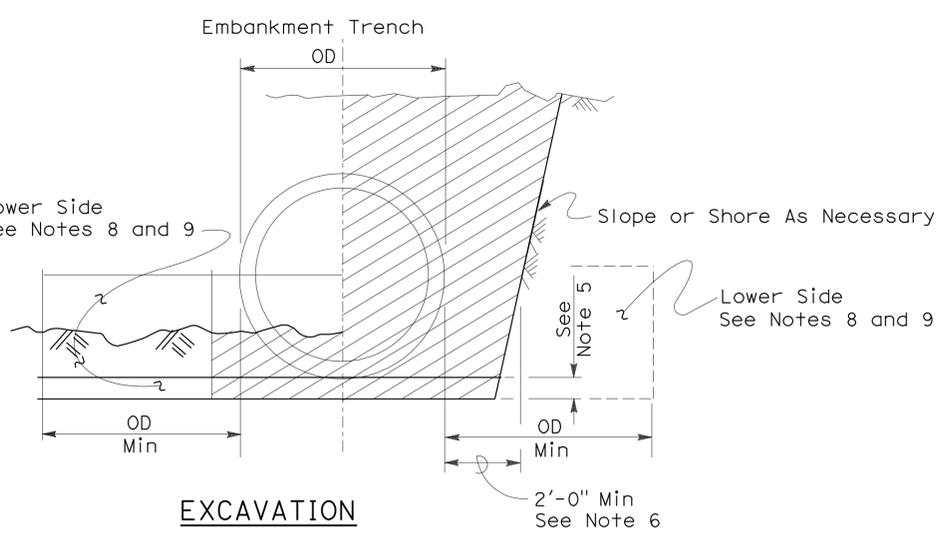
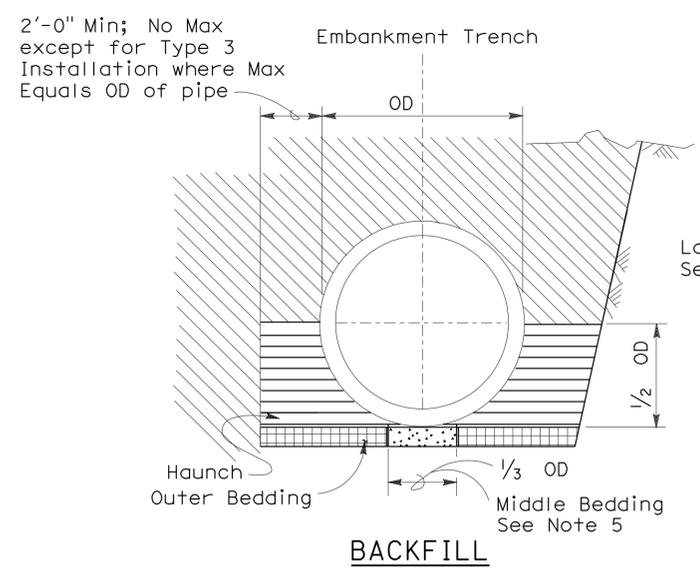
SIGNAL AND LIGHTING

SCALE: 1"=20'

E-4

LAST REVISION DATE PLOTTED => 22-APR-2009  
 TIME PLOTTED => 08:51

To accompany plans dated 4-13-09



- |  |   |  |                                |
|--|---|--|--------------------------------|
|  | Roadway Embankment                      |  | Excavation Structure (Culvert) |
|  | Structure Backfill (Culvert) See Note 6 |  |                                |
|  | Structure Backfill (Culvert) See Note 6 |  |                                |
|  | Loose Backfill                          |  |                                |

**TYPE 1 INSTALLATION:**

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 30 and the maximum percentage passing the 75 μm sieve size shall be 12.

**TYPE 2 INSTALLATION:**

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 25.

**TYPE 3 INSTALLATION:**

The haunch and outer bedding shall be compacted to a minimum 85 percent relative compaction. 90 percent relative compaction will be required where the fill over the pipe is less than 4'-0" or 1/2 OD.

**INSTALLATION TYPE 1**

MINIMUM CLASS AND D-LOAD	COVER	
	108" Dia AND SMALLER	OVER 108" Dia
Class II 1000D	14.9'	12.9'
Class III 1350D	15.0' - 20.9'	13.0' - 18.9'
Class III Special 1700D	21.0' - 26.9'	19.0' - 24.9'
Class IV 2000D	27.0' - 31.9'	25.0' - 29.9'
Class IV Special 2500D	32.0' - 40.9'	30.0' - 38.9'
Class V 3000D	41.0' - 49.9'	39.0' - 46.9'
Class V Special 3600D	50.0' - 59.0'	47.0' - 58.0'

**INSTALLATION TYPE 2**

MINIMUM CLASS AND D-LOAD	COVER
Class II 1000D	9.9'
Class III 1350D	10.0' - 14.9'
Class III Special 1700D	15.0' - 19.9'
Class IV 2000D	20.0' - 24.9'
Class IV Special 2500D	25.0' - 31.9'
Class V 3000D	32.0' - 38.9'
Class V Special 3600D	39.0' - 47.0'

**INSTALLATION TYPE 3**

MINIMUM CLASS AND D-LOAD	COVER	
	48" Dia AND SMALLER	OVER 48" Dia
Class II 1000D	7.9'	5.9'
Class III 1350D	8.0' - 10.9'	6.0' - 8.9'
Class III Special 1700D	11.0' - 14.9'	9.0' - 12.9'
Class IV 2000D	15.0' - 17.9'	13.0' - 15.9'
Class IV Special 2500D	18.0' - 21.9'	16.0' - 19.9'
Class V 3000D	22.0' - 26.9'	20.0' - 24.9'
Class V Special 3600D	30.0' - 33.0'	25.0' - 31.0'

**NOTES:**

- Unless otherwise shown on the plans or specified in the special provision, the Contractor shall have the option of selecting the class of RCP and the type of installation to be used, provided the height of cover does not exceed the value shown for the RCP selected.  
Example: 24" RCP culvert with maximum cover of 19'-0" the options are:  
a) Class III or stronger with Installation Type 1.  
b) Class III Special or stronger with Installation Type 2.  
c) Class IV Special or stronger with Installation Type 3.  
Cover is defined as the maximum vertical distance from top of the pipe to finished grade within the length of any given culvert.
- The class of RCP and Installation Type selected shall be the same throughout the length of any given culvert.
- The "length of any culvert" is defined as the culvert between:  
a) Successive drainage structure (inlets, junction boxes, headwalls, etc.).  
b) A drainage structure and the inlet or outlet end of the culvert.  
c) The inlet and outlet end of the culvert when there are no intervening drainage structures.
- Oval and arch shaped RCP shall not be used.
- 1/25 OD Min, not less than 3".
- Slurry cement backfill may be substituted for backfill in the outer bedding and haunch areas. If slurry is used the outer and middle beddings shall be omitted. Prior to installation the soil under the middle 1/3 of the outside diameter of the pipe shall be softened by scarifying or other means to a minimum depth of 1/25 OD, but not less than 3". Where slurry cement backfill is used clear distance to trench wall may be reduced as set forth in Section 19-3.062 of the Standard Specifications.
- Backfill shall be placed full width of excavation except where dimensions are shown for backfill width or thickness. Dimensions shown are minimums.
- Lower side shall be suitable material as determined by the Engineer. Otherwise it shall be considered unsuitable as set forth in Section 19-2.02 of the Standard Specifications. See Note 9.
- Where the pipe is placed in a trench, if the trench walls are sloped at 5 vertical to 1 horizontal or steeper for at least 90 percent of the trench height or up to not less than 12" from the grading plane, the firmness of the soil in the lower side need not be considered.
- Non-reinforced precast concrete pipe sizes 3'-0" or smaller may be placed under installation Types 1, 2 or 3.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**EXCAVATION AND BACKFILL  
CONCRETE PIPE CULVERTS**

NO SCALE

RSP A62DA DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A62DA DATED MAY 1, 2006 - PAGE 20 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A62DA

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	63	91

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

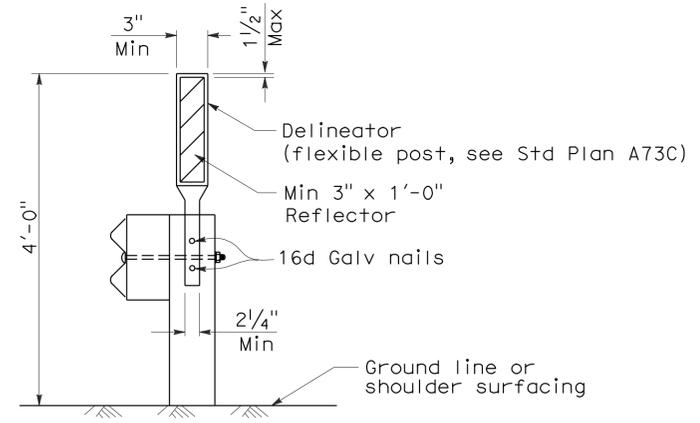
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

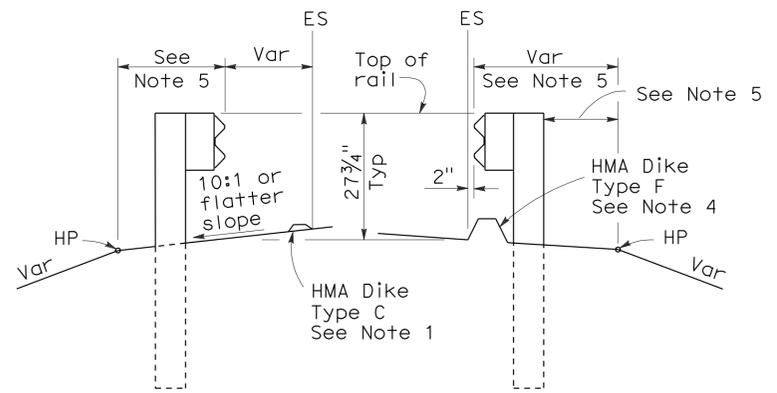
To accompany plans dated 4-13-09

**NOTES:**

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and Standard Plan A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.



**GUARD RAILING DELINEATION**  
See Note 3



**DIKE POSITIONING**  
See Note 1

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING  
TYPICAL RAILING DELINEATION  
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77C4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77C4  
DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77C4**

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	64	91

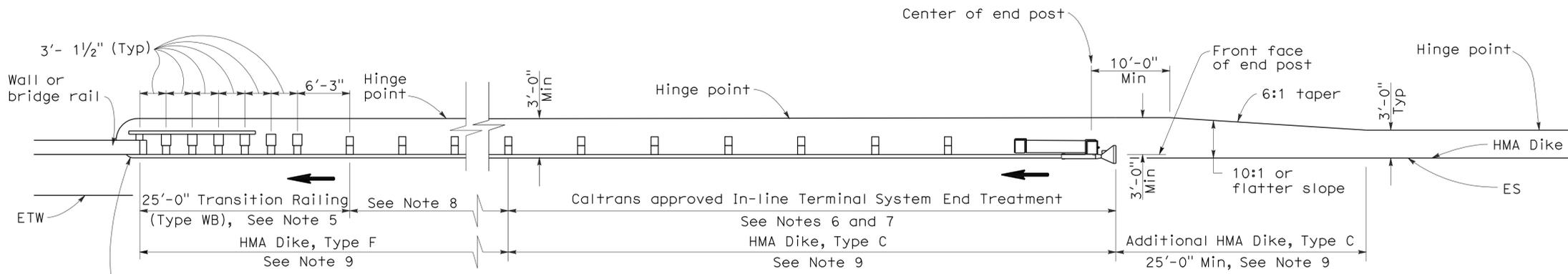
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

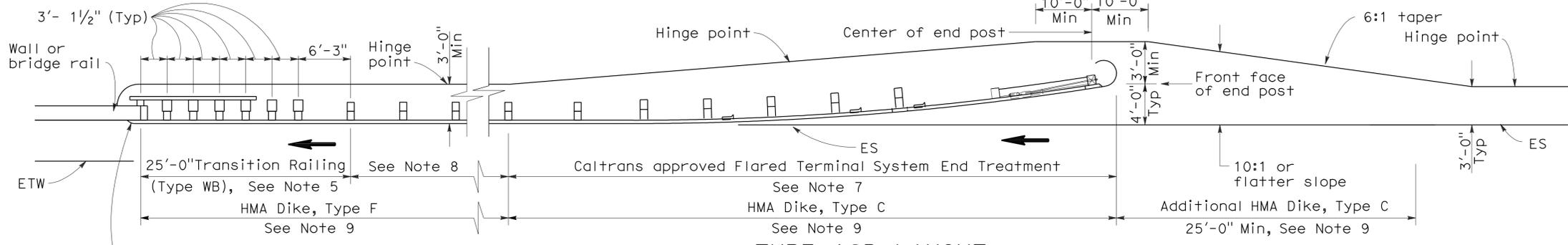
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-13-09



**TYPE 12A LAYOUT**

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)  
See Notes 10



**TYPE 12B LAYOUT**

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)  
See Notes 10

**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by  $\rightarrow$ .
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.

- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
  - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
  - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
  - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
  - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77F3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.

- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77J1 and RSP A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
- For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING  
TYPICAL LAYOUTS FOR  
STRUCTURE APPROACH**

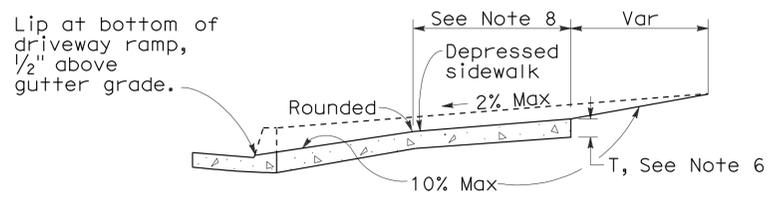
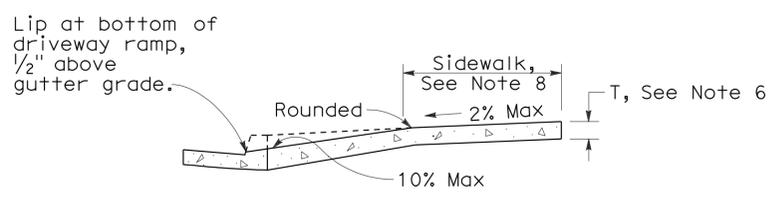
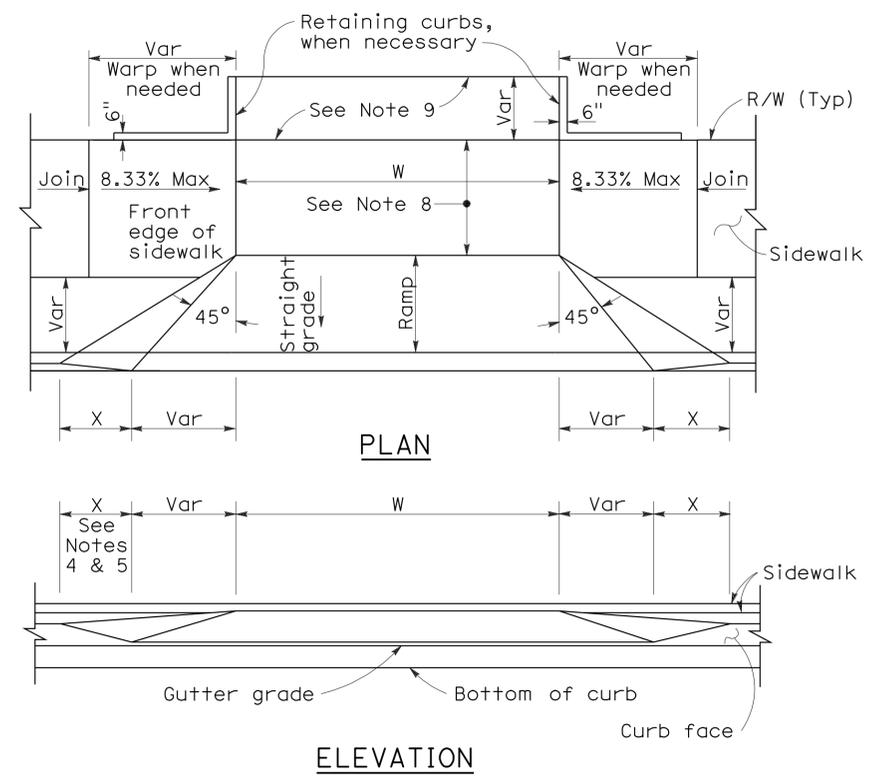
NO SCALE

RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1  
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77F1**

2006 REVISED STANDARD PLAN RSP A77F1





**CASE A**

Typical driveway, sidewalk not depressed

**CASE B**

Driveway with depressed sidewalk

**SECTIONS**

**CURB QUANTITIES**

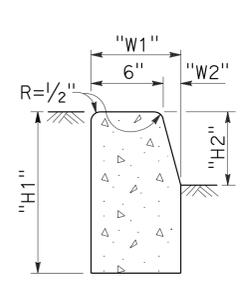
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

**TABLE A**

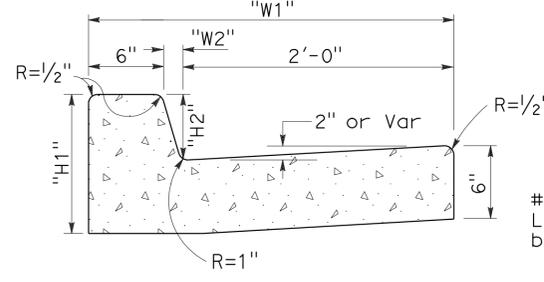
CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8 1/2"	3 1/2"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-8"

To accompany plans dated 4-13-09

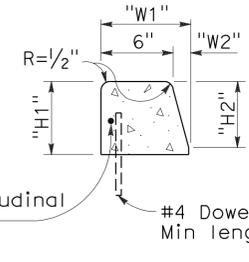
**DRIVEWAYS**



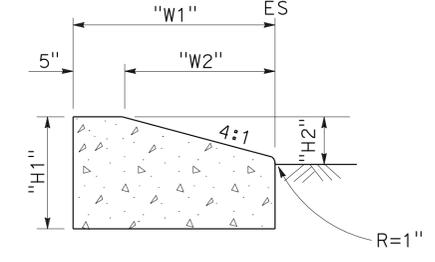
**TYPE A1 CURBS**  
See Table A



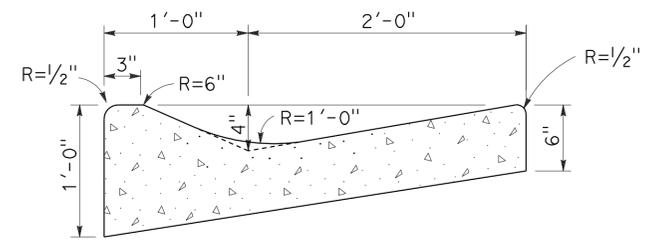
**TYPE A2 CURBS**  
See Table A



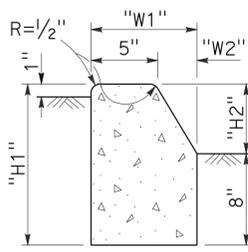
**TYPE A3 CURBS**  
Superimposed on existing pavement  
See Table A



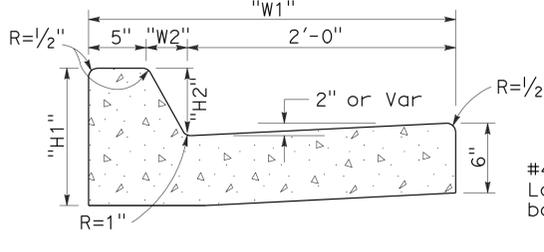
**TYPE D CURBS**  
See Table A



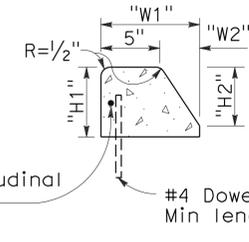
**TYPE E CURB**



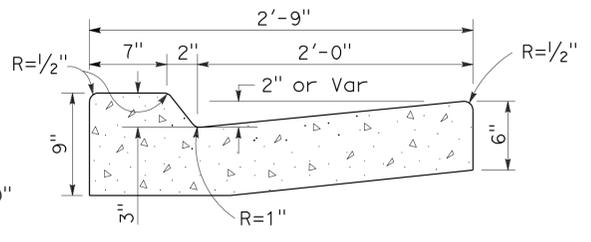
**TYPE B1 CURBS**  
See Table A



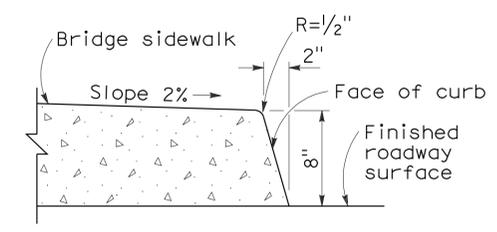
**TYPE B2 CURBS**  
See Table A



**TYPE B3 CURBS**  
Superimposed on existing pavement  
See Table A



**TYPE B4 CURBS**



**TYPE H CURB**  
On Bridges

**NOTES:**

- Case A driveway section typically applies.
- Use Case B driveway section when ramp slopes would exceed 10% in Case A.
- Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
- X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
- X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
- Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
- Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
- Minimum width of clear passageway for sidewalk shall be 4'-0".
- Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
- Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

**CURBS**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**CURBS AND DRIVEWAYS**

NO SCALE

RSP A87A DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A87A  
DATED MAY 1, 2006 - PAGE 113 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A87A**

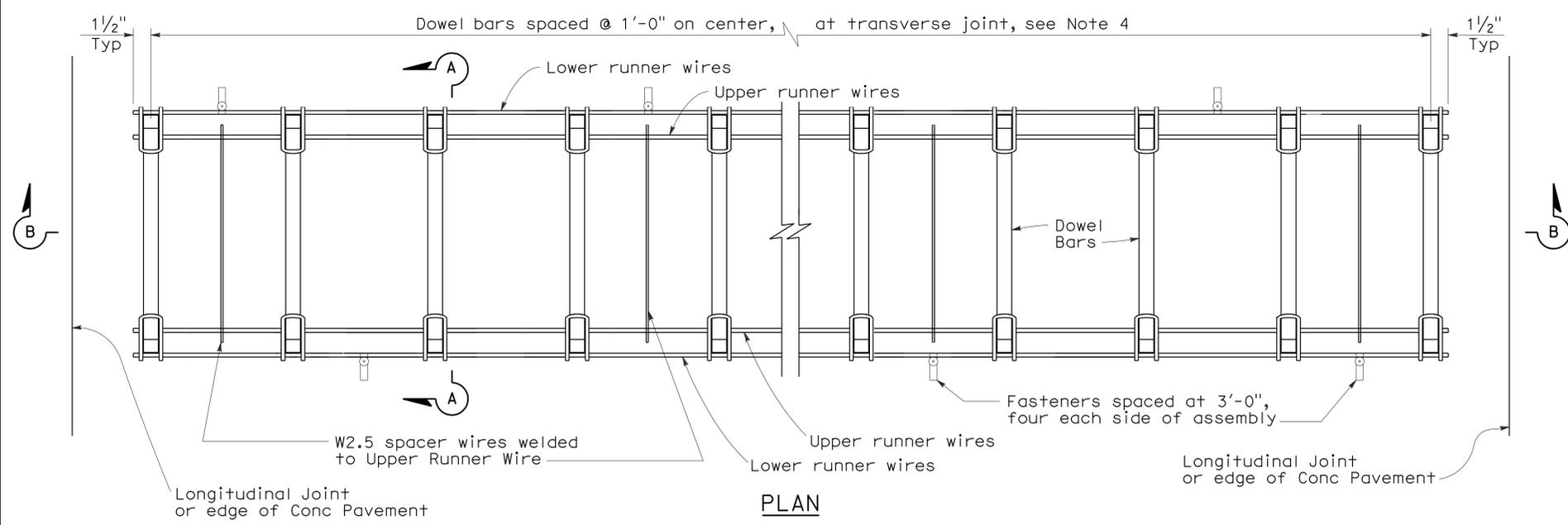
2006 REVISED STANDARD PLAN RSP A87A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	67	91

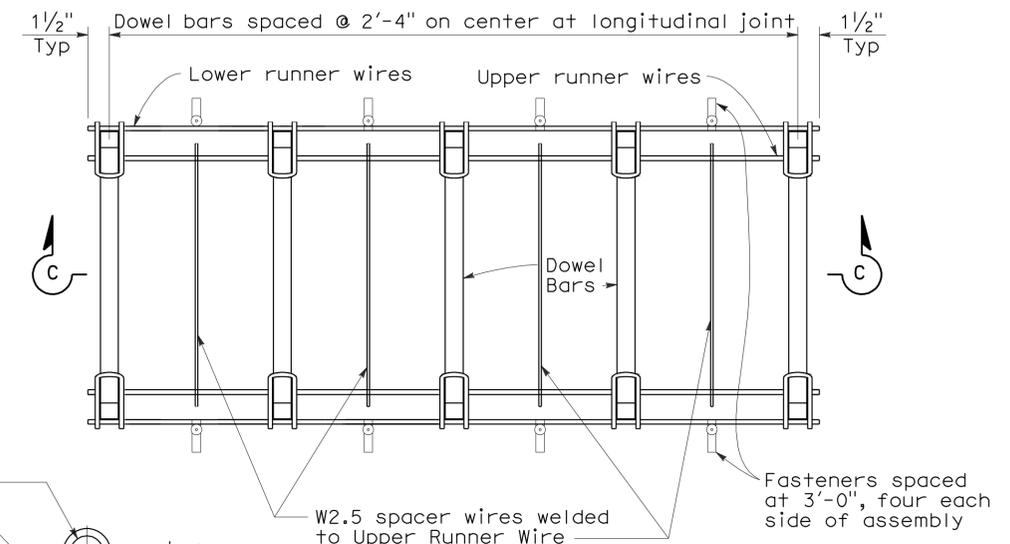
William K. Farnbach  
 REGISTERED CIVIL ENGINEER  
 November 17, 2006  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER  
 William K. Farnbach  
 No. C49042  
 Exp. 9-30-08  
 CIVIL  
 STATE OF CALIFORNIA

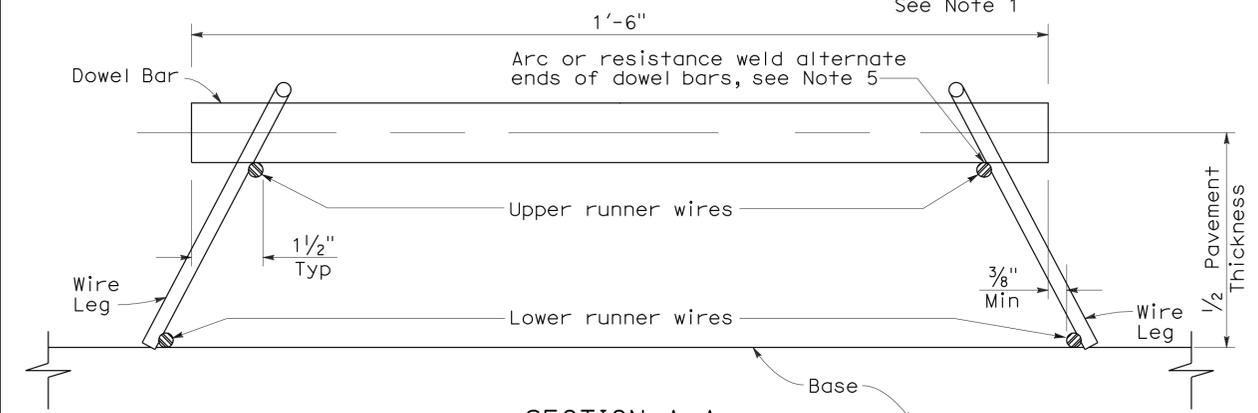
To accompany plans dated 4-13-09



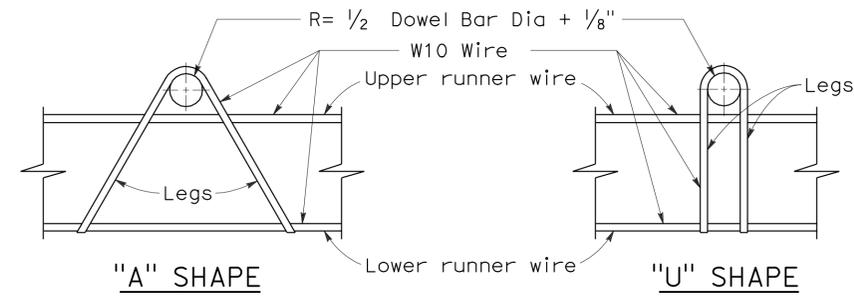
**PLAN  
DOWEL BAR BASKET  
(TRANSVERSE JOINT)**



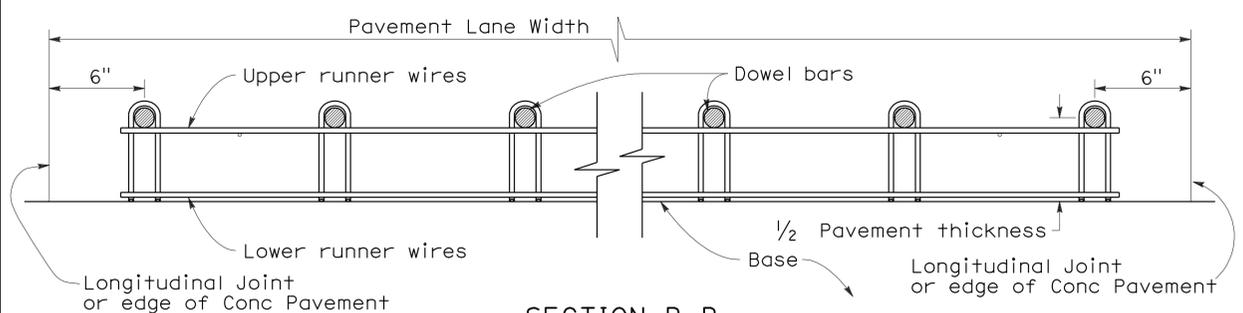
**PLAN  
DOWEL BAR BASKET  
(LONGITUDINAL JOINT)**



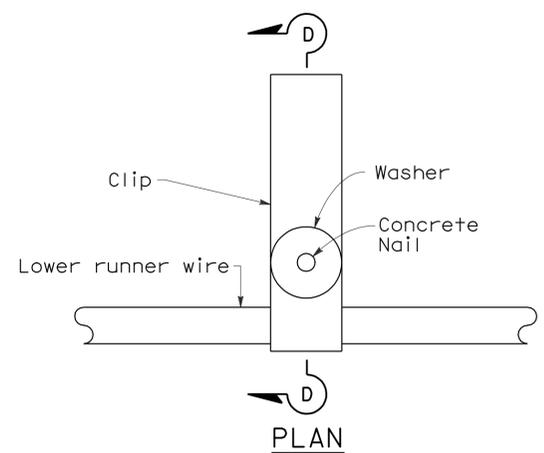
**SECTION A-A**



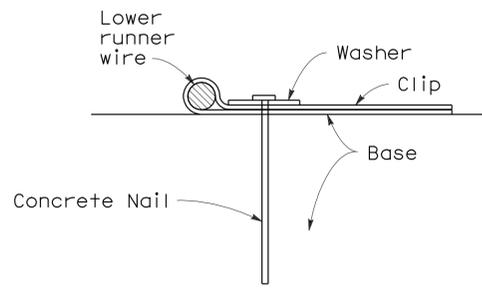
**ASSEMBLY FRAME DETAILS**



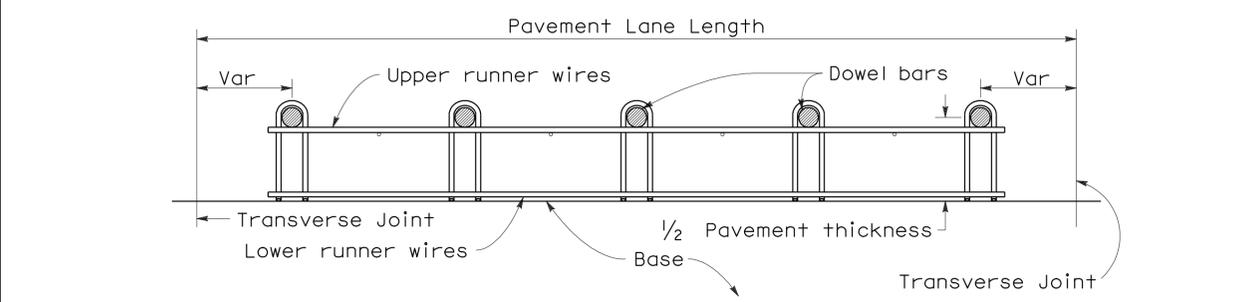
**SECTION B-B**



**FASTENER DETAIL**



**SECTION D-D**



**SECTION C-C**

**NOTES:**

- "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
- Wire sizes shown are minimum required.
- All wire intersections are to be resistance welded.
- Use tie bar spacing for longitudinal dowel bar locations. See Std Plans P1 and P2, and Revised Std Plan RSP P3 for tie bar requirements.
- Weld may be at top or bottom of dowel bar.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**CONCRETE PAVEMENT-  
DOWEL BAR BASKET  
DETAILS**

NO SCALE

RSP P12 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN P12  
DATED MAY 1, 2006 - PAGE 125 OF THE STANDARD PLANS BOOK DATED MAY 2006.

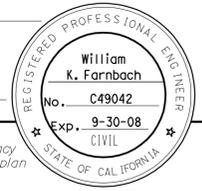
**REVISED STANDARD PLAN RSP P12**

2006 REVISED STANDARD PLAN RSP P12

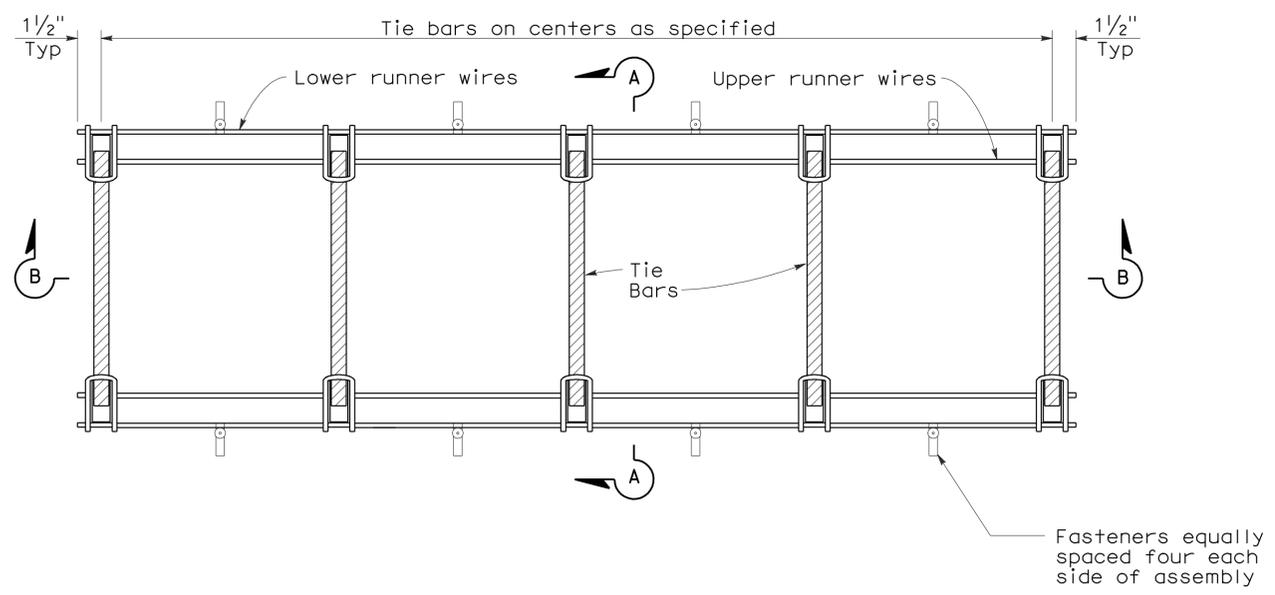
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	68	91

*William K. Farnbach*  
 REGISTERED CIVIL ENGINEER  
 November 17, 2006  
 PLANS APPROVAL DATE

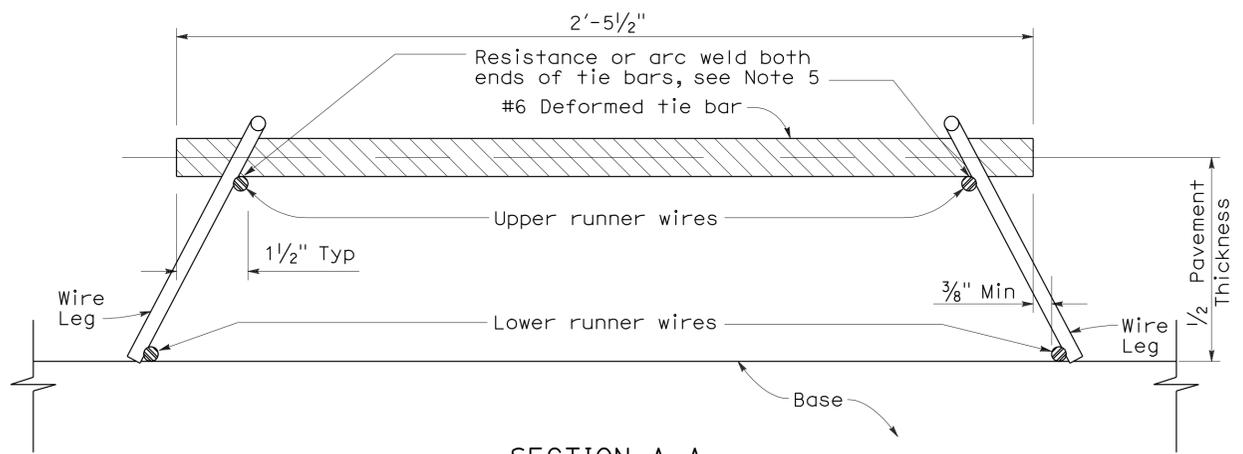
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



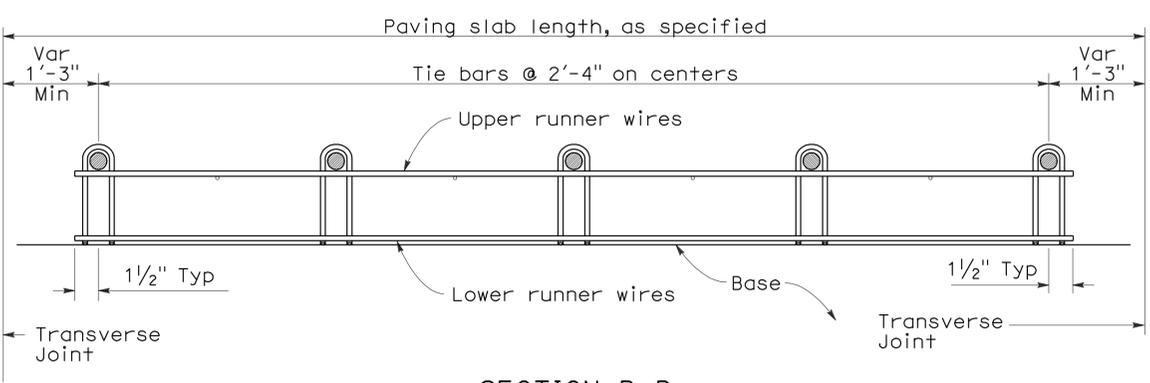
To accompany plans dated 4-13-09



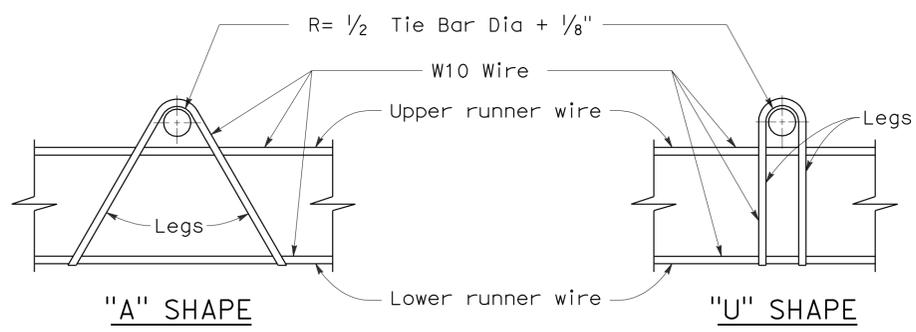
**PLAN**  
**TIE BAR BASKET**  
 (TIE BARS AT LONGITUDINAL JOINT)  
 See Note 1



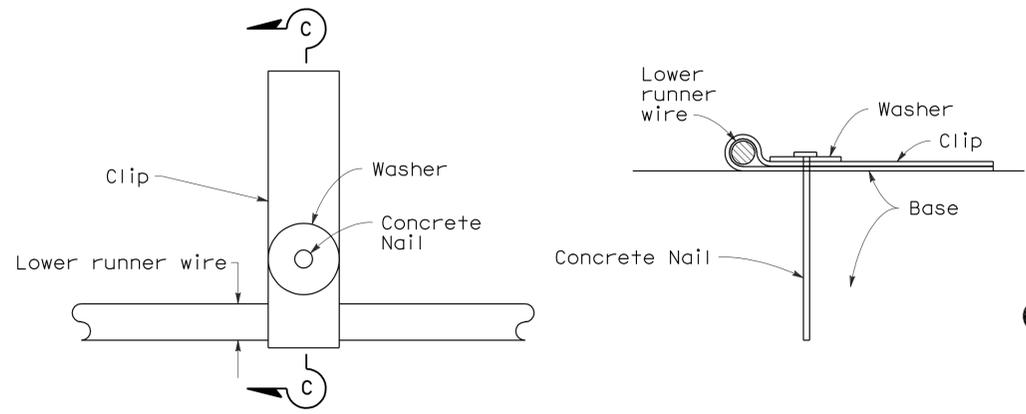
**SECTION A-A**



**SECTION B-B**  
 See Note 1



**ASSEMBLY FRAME DETAILS**



**FASTENER DETAIL**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**CONCRETE PAVEMENT -  
 TIE BAR BASKET  
 DETAILS**

NO SCALE

RSP P17 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN P17  
 DATED MAY 1, 2006 - PAGE 126 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP P17**

2006 REVISED STANDARD PLAN RSP P17

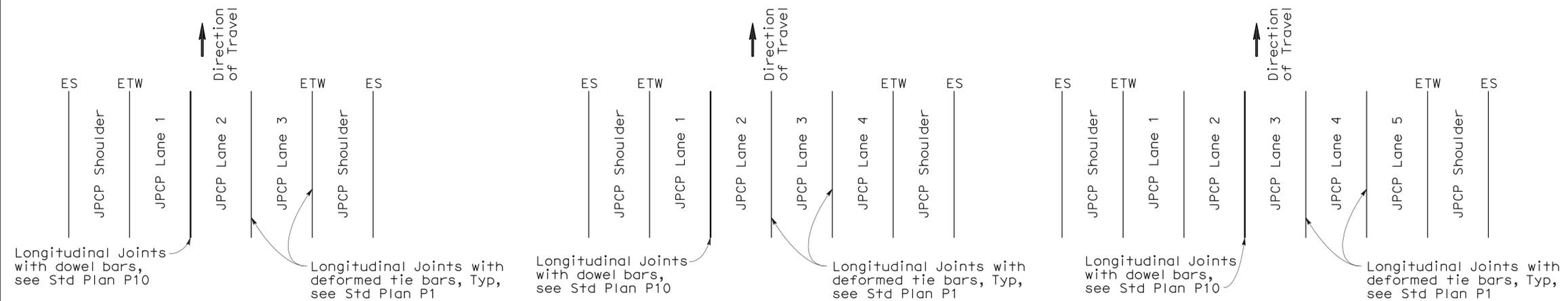
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	69	91

William K. Farnbach  
 REGISTERED CIVIL ENGINEER  
 November 17, 2006  
 PLANS APPROVAL DATE

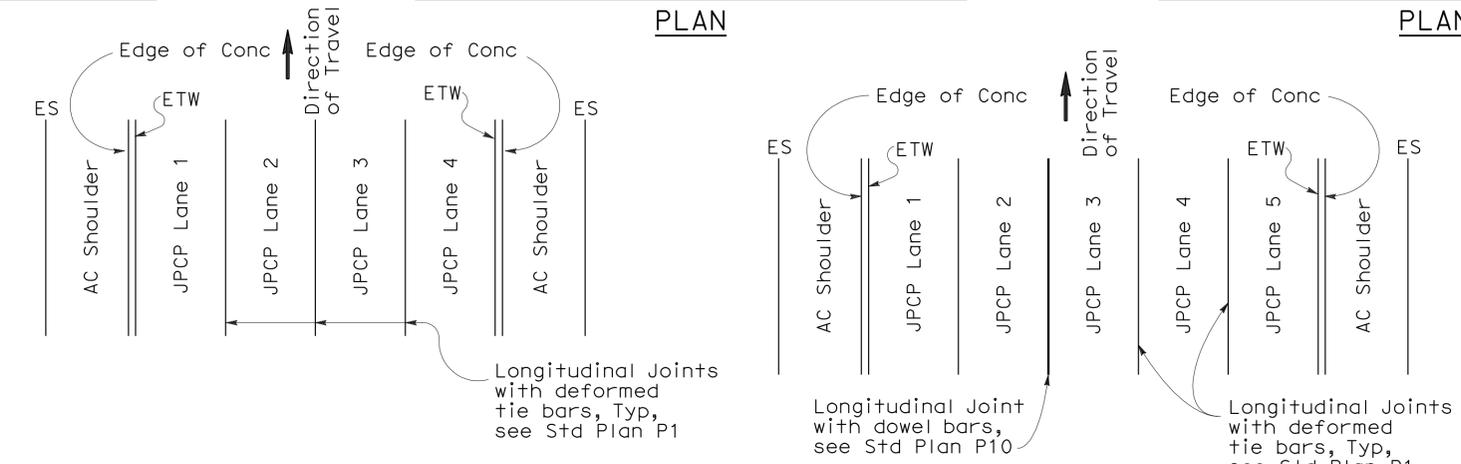
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER  
 William K. Farnbach  
 No. C49042  
 Exp. 9-30-08  
 CIVIL  
 STATE OF CALIFORNIA

To accompany plans dated 4-13-09

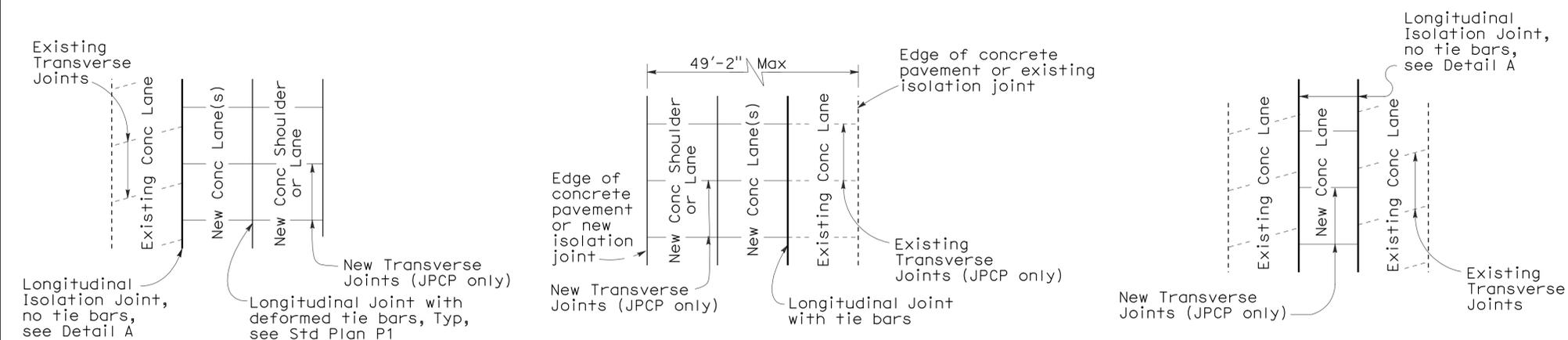


**3 LANES WITH CONCRETE SHOULDERS PLAN**      **4 LANES WITH CONCRETE SHOULDERS PLAN**      **5 LANES WITH CONCRETE SHOULDERS PLAN**



**4 LANES OR LESS WITH AC SHOULDERS PLAN**      **5 LANES WITH AC SHOULDERS PLAN**

**NEW CONSTRUCTION**  
 Location of Longitudinal Joints  
 Jointed Plain Concrete Pavement only

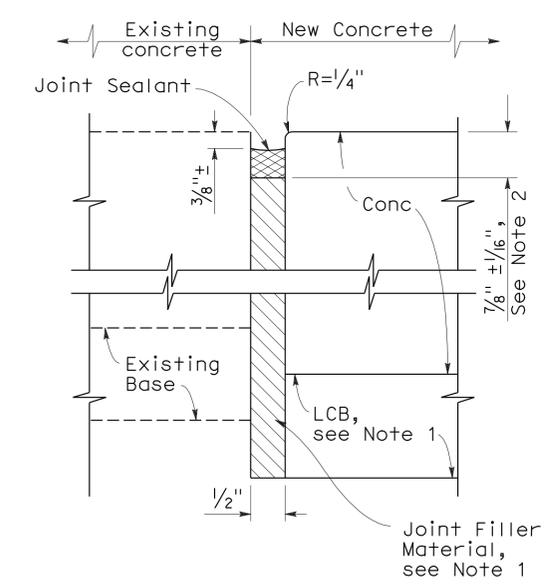


**CASE 1 PLAN**      **CASE 2 PLAN**      **CASE 3 (INTERIOR LANE REPLACEMENT) PLAN**

Transverse Joints do not align between new and existing      Transverse Joints align between new and existing      Transverse Joints do not align between new and existing

**LANE/SHOULDER ADDITION OR RECONSTRUCTION**  
 For JPCP and CRCP

- NOTES:**
- Where Lean Concrete Base is not used as base material, the joint filler material used for the longitudinal isolation joint shall only extend to the bottom of the new concrete slab. See Detail A.
  - Use  $5/8" \pm 1/16"$  dimension for silicone sealant.
  - See Standard Plan P10 for longitudinal joint with dowel bars.



**DETAIL A**  
**ISOLATION JOINT**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**CONCRETE PAVEMENT-  
 LANE SCHEMATICS  
 AND ISOLATION JOINT DETAIL**

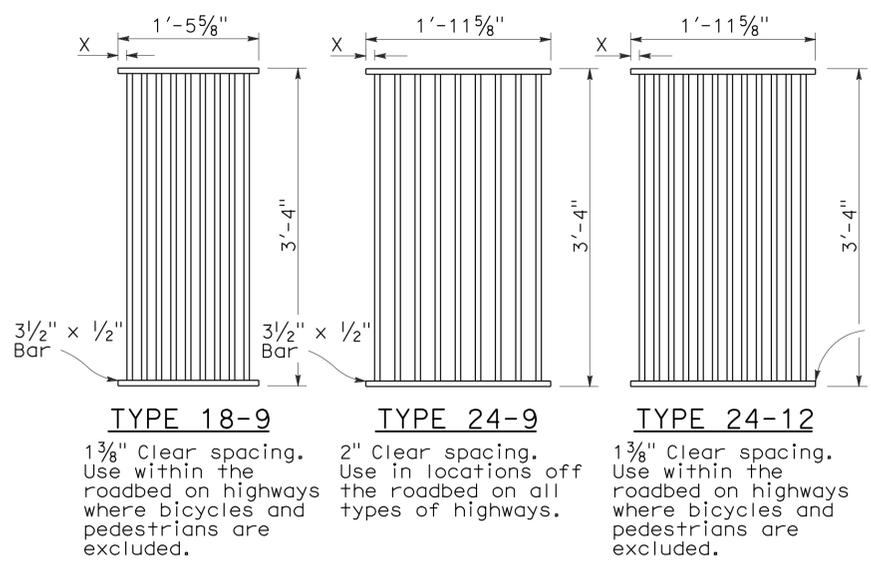
NO SCALE

RSP P18 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN P18  
 DATED MAY 1, 2006 - PAGE 127 OF THE STANDARD PLANS BOOK DATED MAY 2006.

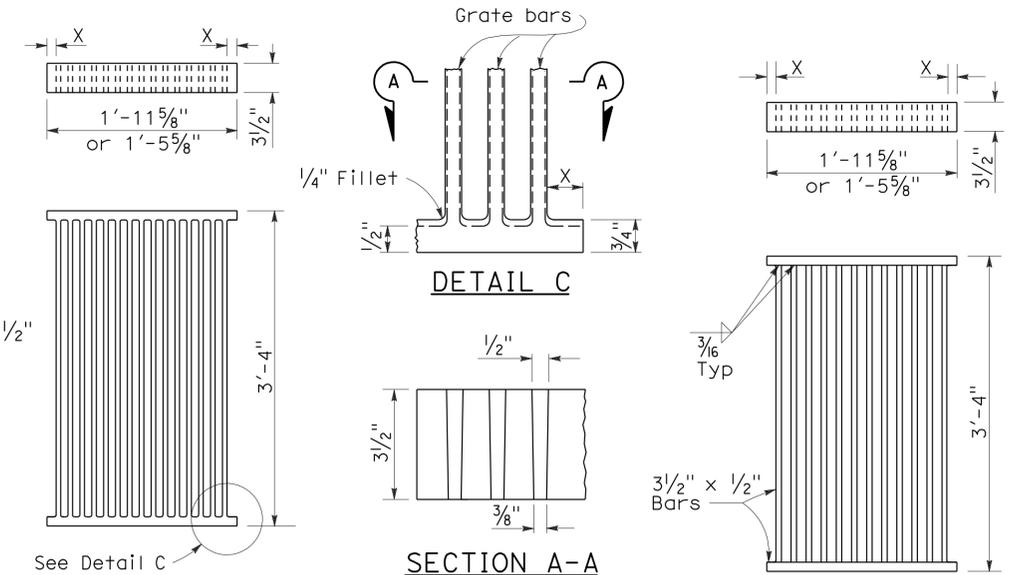
**REVISED STANDARD PLAN RSP P18**

2006 REVISED STANDARD PLAN RSP P18

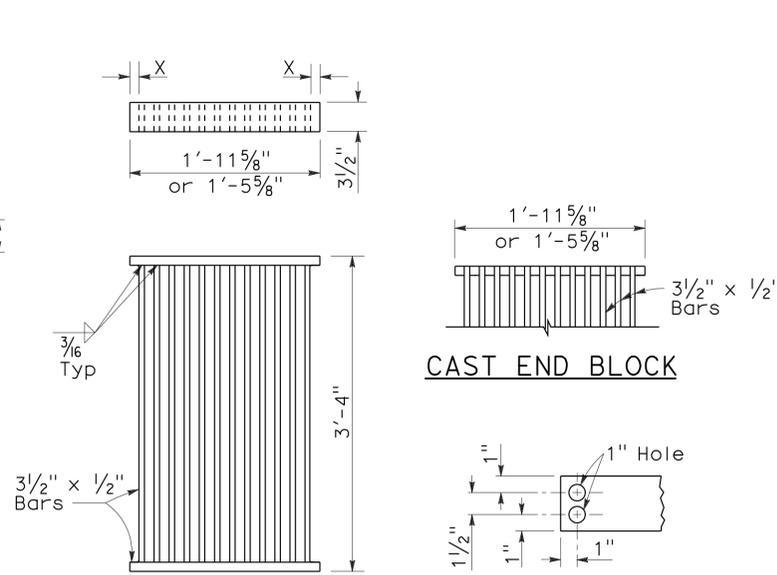
To accompany plans dated 4-13-09



**RECTANGULAR GRATE DETAILS**  
(See table below)



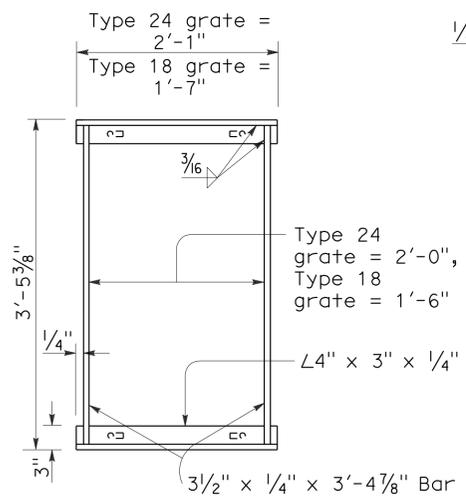
**ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE**



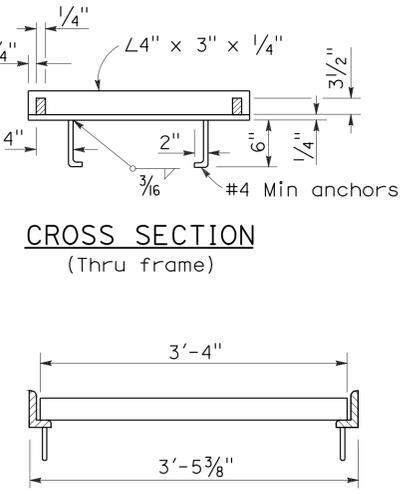
**ALTERNATIVE WELDED GRATE**

**NOTES:**

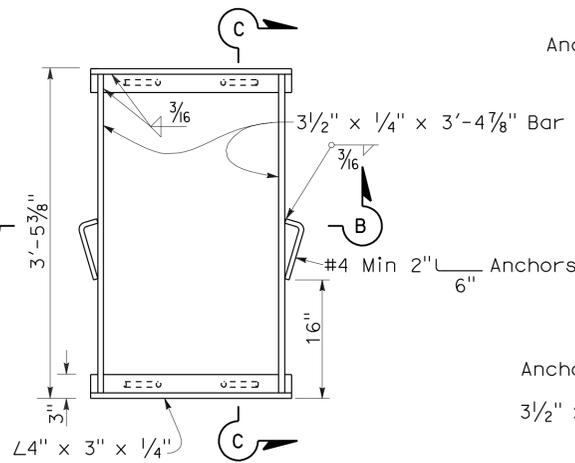
1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
2. Contractor has the option of using cast nodular iron, cast steel, welded, bolted, or cast end block grate.
3. See Special Provisions for requirements pertaining to galvanizing or asphalt dipping of grates and frames.
4. Rounded top of bars optional on all grates.
5. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
6. Full penetration butt welds may be substituted for the fillet welds on all anchors.
7. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
8. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).



**TYPICAL FRAME**

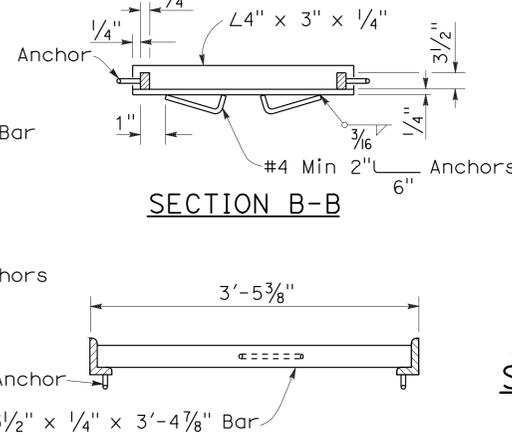


**LONGITUDINAL SECTION**  
(Thru frame and grate)



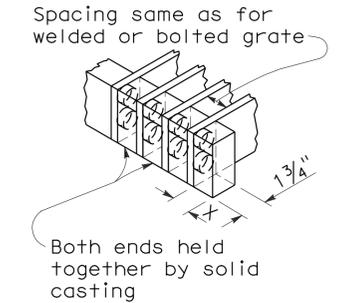
**ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME**

(For details not shown, See Rectangular Frame Details)



**SECTION B-B**

**SECTION C-C**



**ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE**

**RECTANGULAR FRAME DETAILS**

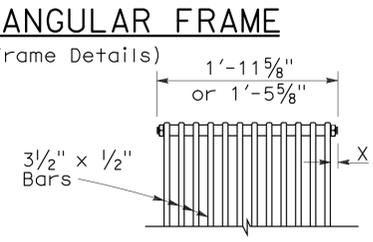
(For all rectangular grates)

**GRATE BAR SPACING TABLE**

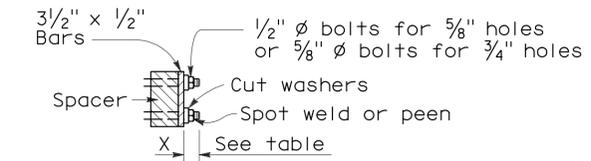
TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	NO. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
G0,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22

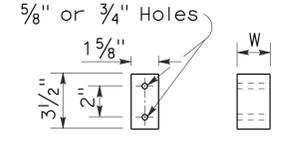


**BOLTED END BLOCK**

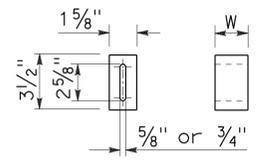


**BOLTING DETAIL**

**ALTERNATIVE BOLTED GRATE**



**BAR SPACER**



**ALTERNATIVE SPACER**

W = 1 3/8" or 2"

**BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS**

(See General Notes, No 8)

2006 REVISED STANDARD PLAN RSP D77A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	71	91

  
 LICENSED LANDSCAPE ARCHITECT  
 March 7, 2008  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

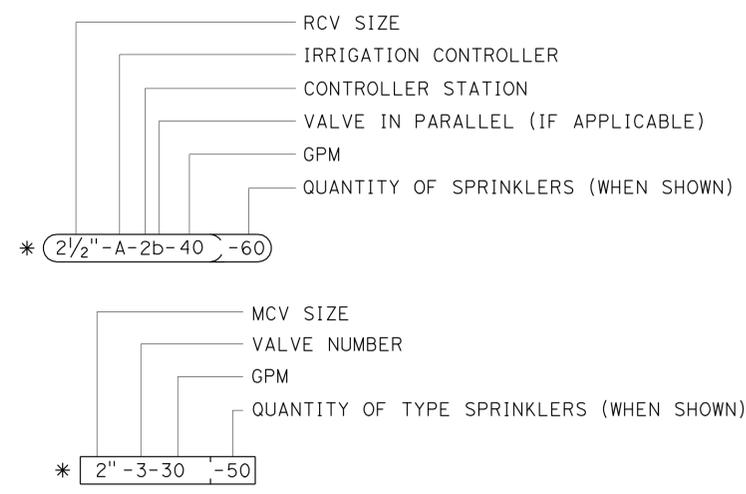


To accompany plans dated 4-13-09

EXISTING	PROPOSED	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (BPAE)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC) / IRRIGATION CONTROLLER (IC) (BATTERY)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		SPRINKLER CONTROL CONDUIT (SCC)
		CONDUIT (COND)
		IRRIGATION SLEEVE
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (LATERAL)
		PLASTIC PIPE (IRRIGATION LINE)
		REMOTE CONTROL VALVE (RCV) / REMOTE CONTROL VALVE (MASTER) (RCVM)
		MANUAL CONTROL VALVE (MCV)
		VALVE ASSEMBLY UNIT (VAU)
		WYE STRAINER (WS)
		FILTER ASSEMBLY UNIT (FAU)
		GATE VALVE (GV)
		BALL VALVE (BV)

EXISTING	PROPOSED	ITEM DESCRIPTION
		QUICK COUPLER VALVE (QCV)
		CAM COUPLING ASSEMBLY (CCA)
		PRESSURE REDUCING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		NOZZLE LINE W/TURNING UNION
		IRRIGATION SYSTEM
		IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

**VALVE CODE**



\* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PLANTING AND IRRIGATION SYMBOLS**  
NO SCALE

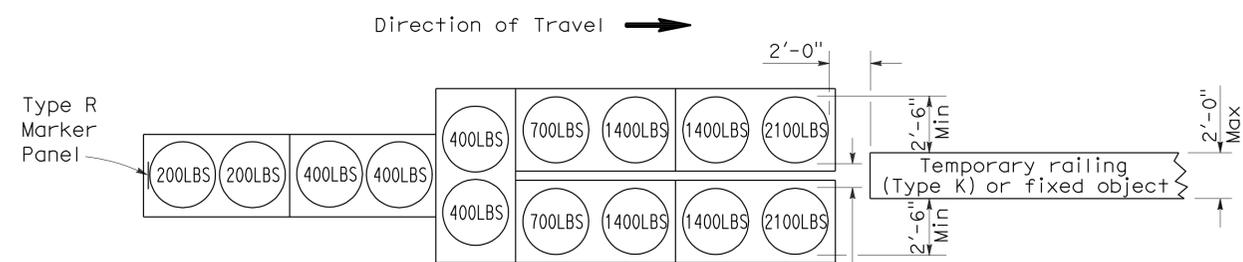
RSP H2 DATED MARCH 7, 2008 SUPERSEDES STANDARD PLAN H2 DATED MAY 1, 2006 - PAGE 202 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP H2**

2006 REVISED STANDARD PLAN RSP H2

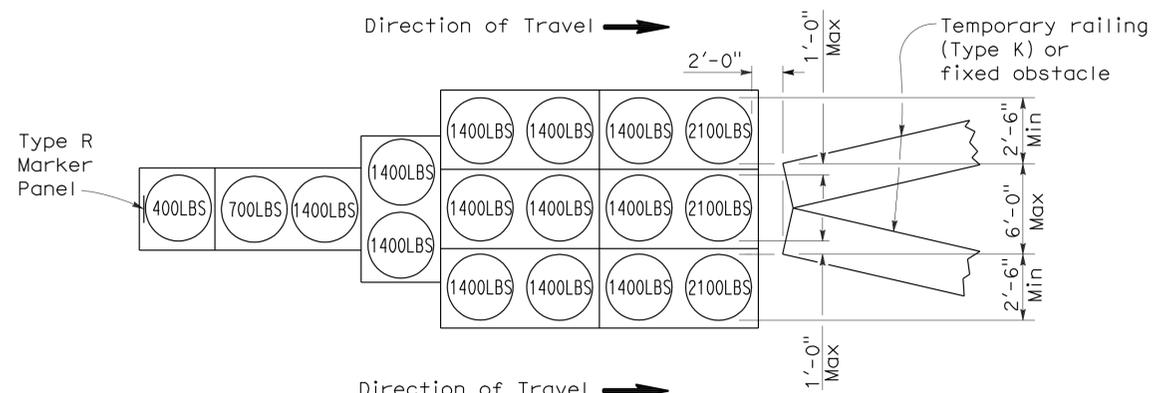
To accompany plans dated 4-13-09

2006 REVISED STANDARD PLAN RSP T1A



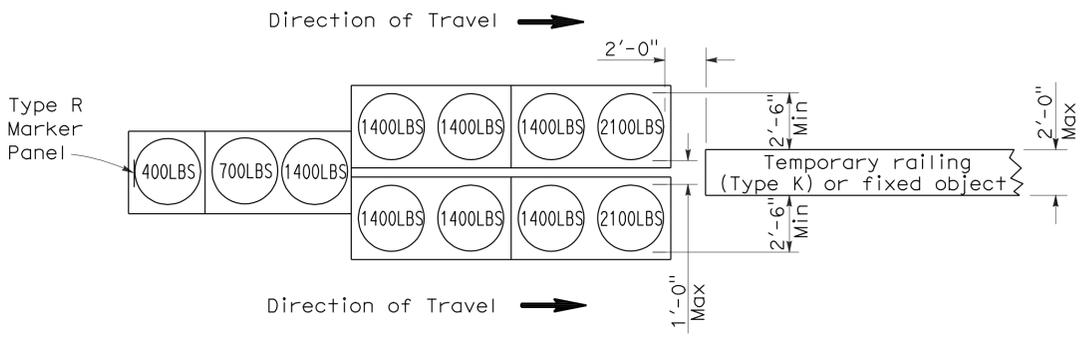
**ARRAY 'TU14'**

Approach speed 45 mph or more



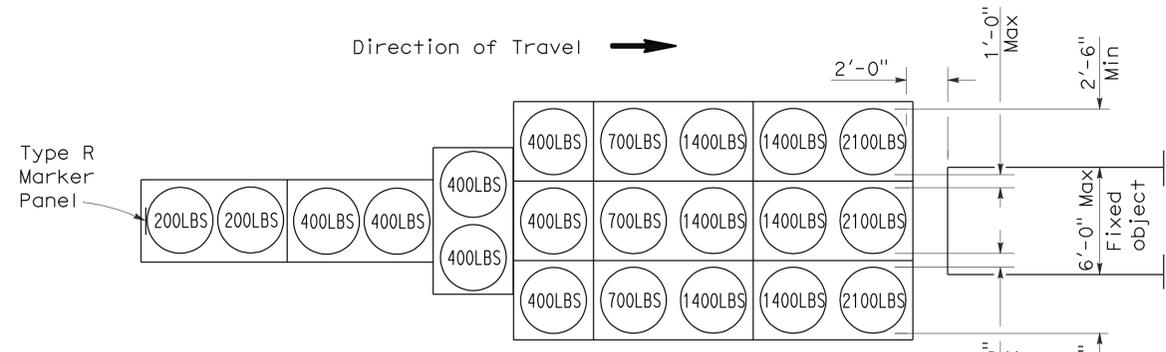
**ARRAY 'TU17'**

Approach speed less than 45 mph



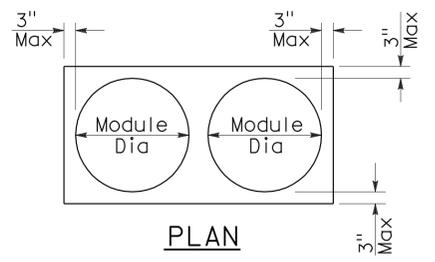
**ARRAY 'TU11'**

Approach speed less than 45 mph

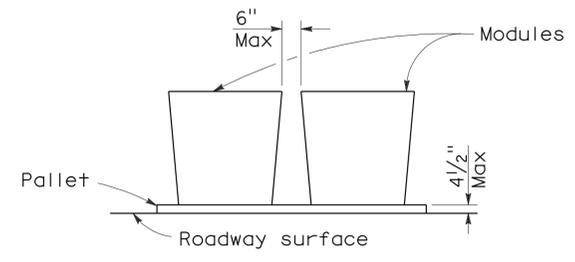


**ARRAY 'TU21'**

Approach speed 45 mph or more



**PLAN**



**ELEVATION**

**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(UNIDIRECTIONAL)**

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A  
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP T1A**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	73	91

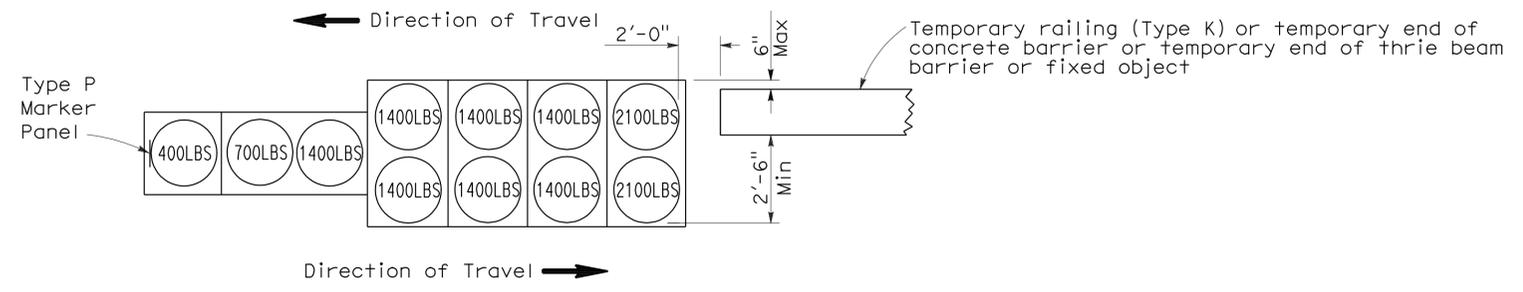
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

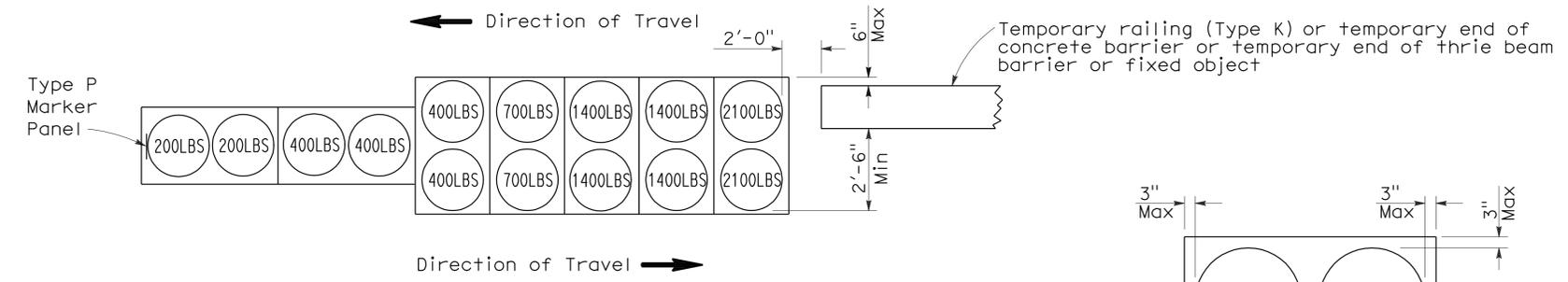
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 4-13-09



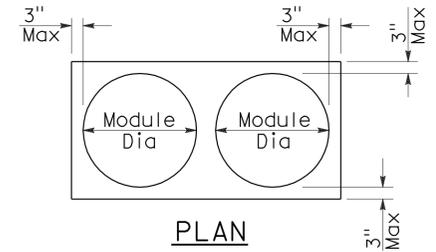
**ARRAY 'TB11'**

Approach speed less than 45 mph

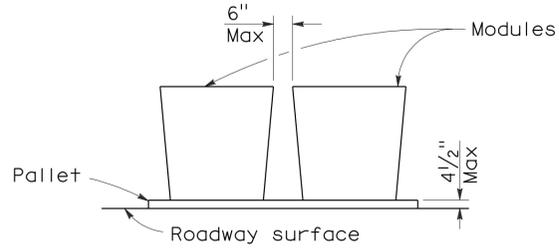


**ARRAY 'TB14'**

Approach speed 45 mph or more



PLAN



ELEVATION

**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(BIDIRECTIONAL)**

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B  
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP T1B**

212

2006 REVISED STANDARD PLAN RSP T1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	74	91

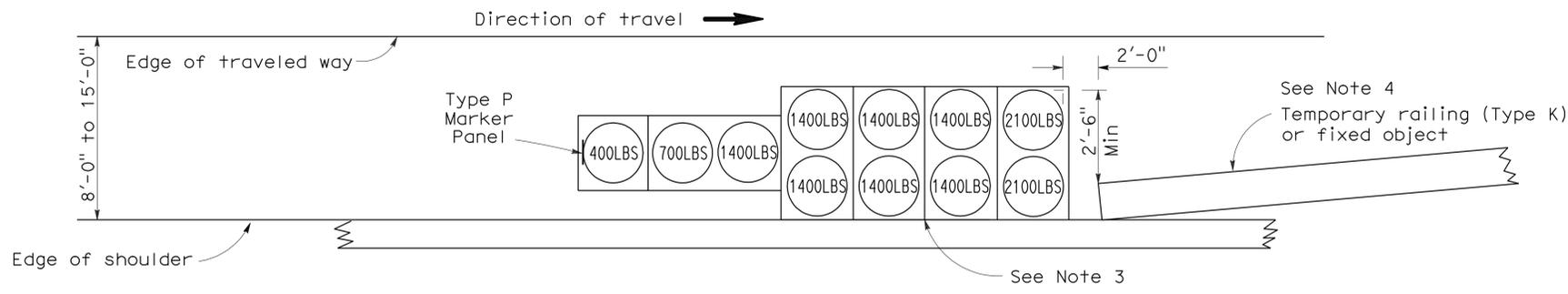
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

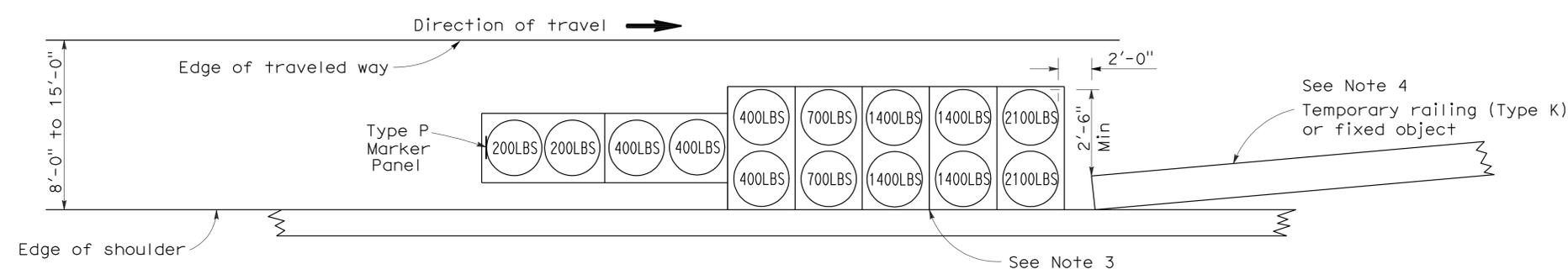
*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-13-09



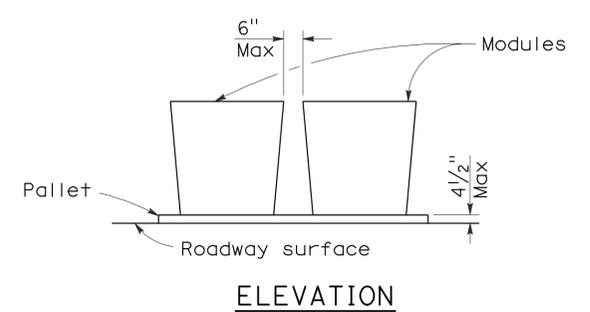
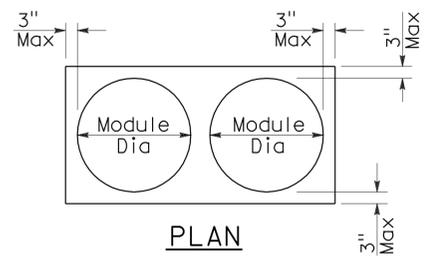
**ARRAY 'TS11'**  
Approach speed less than 45 mph  
See Note 9



**ARRAY 'TS14'**  
Approach speed 45 mph or more  
See Note 9

**NOTES:**

- (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
- All sand weights are nominal.
- The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
- If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
- Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
- Refer to Standard Plan A73B for marker details.
- For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
- Approach speeds indicated conform to NCHRP 350 Report criteria.
- Use of pallets is optional.



**CRASH CUSHION PALLET DETAIL**  
See Note 11

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(SHOULDER INSTALLATIONS)**  
NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2  
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP T2**

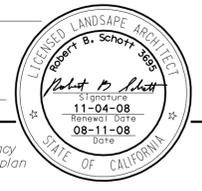
2006 REVISED STANDARD PLAN RSP T2

213

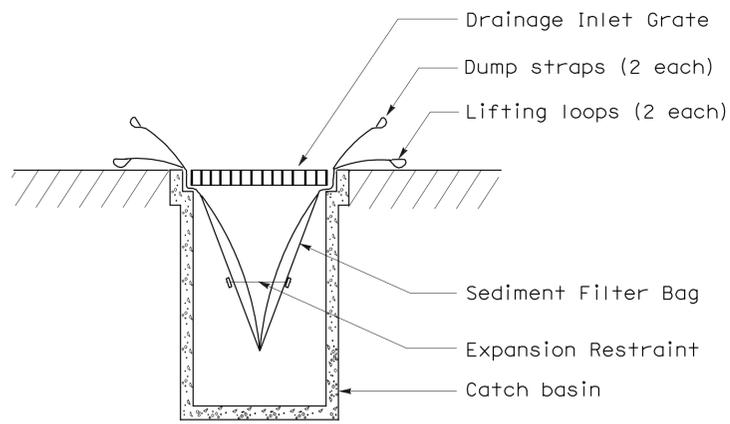


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	76	91

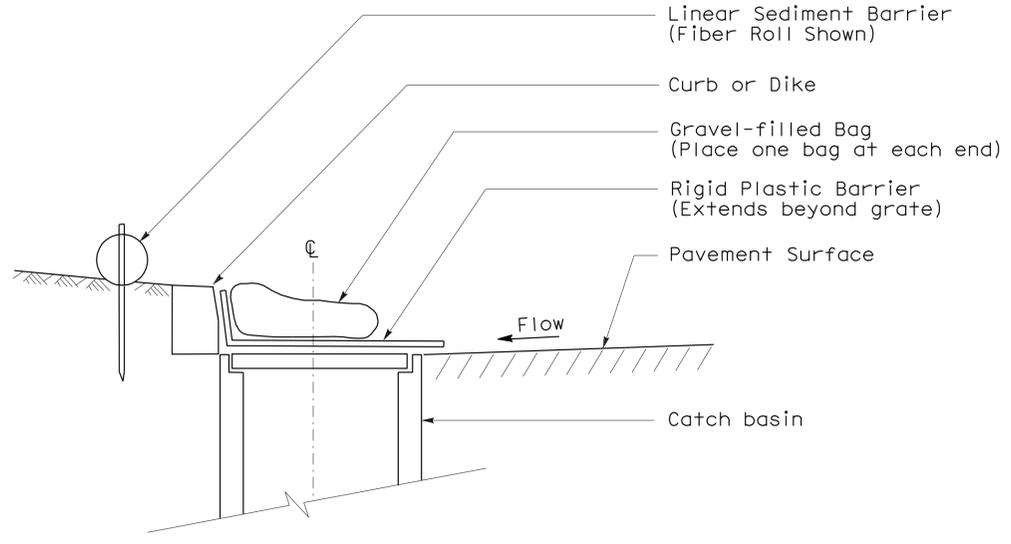
*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 August 15, 2008  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



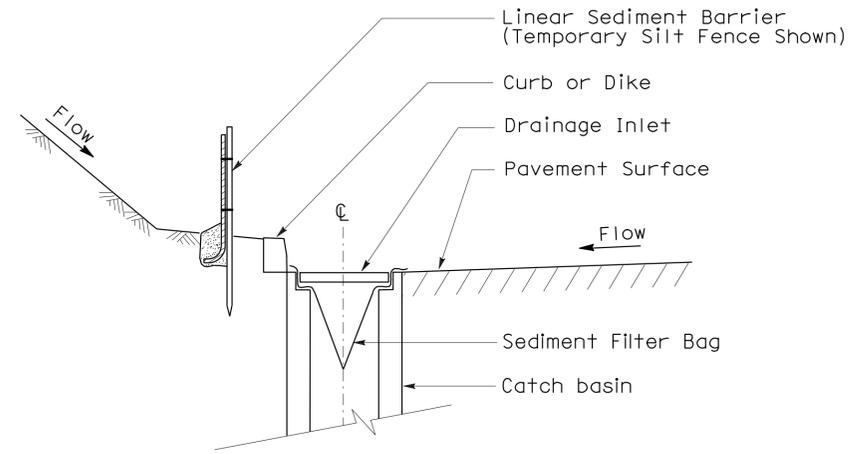
To accompany plans dated 4-13-09



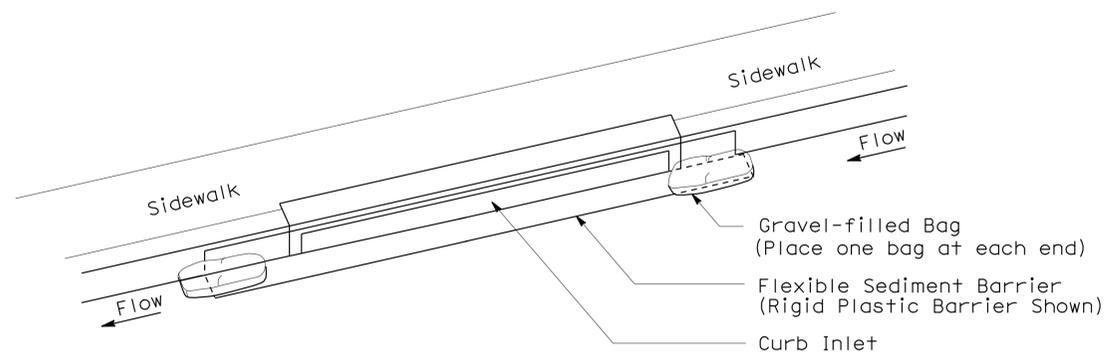
**SECTION B-B**  
**SEDIMENT FILTER BAG DETAIL**



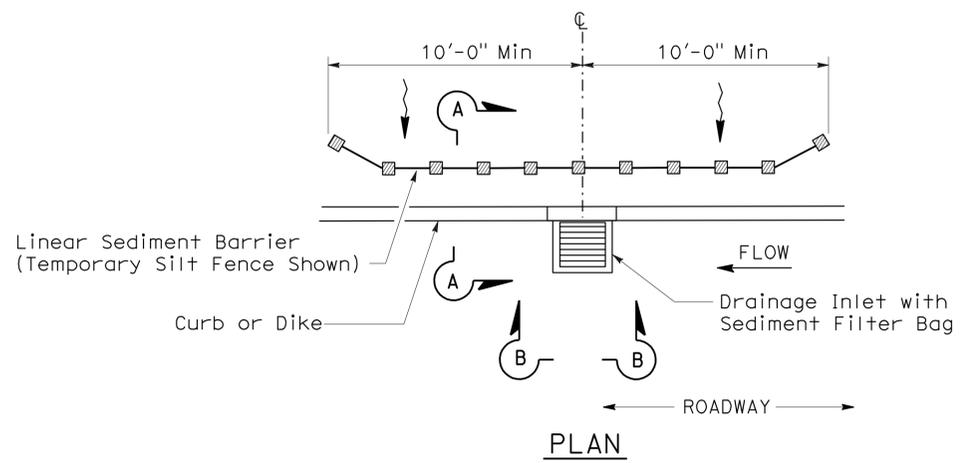
**SECTION**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 6A)**  
**(CATCH BASIN WITH GRATE)**



**SECTION A-A**



**PERSPECTIVE**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 6B)**  
**(CURB INLET WITHOUT GRATE)**



**PLAN**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 5)**  
**(SEDIMENT FILTER BAG)**

**NOTES:**

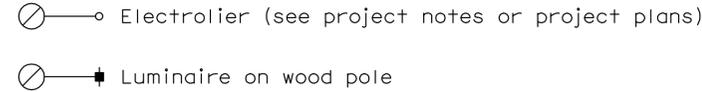
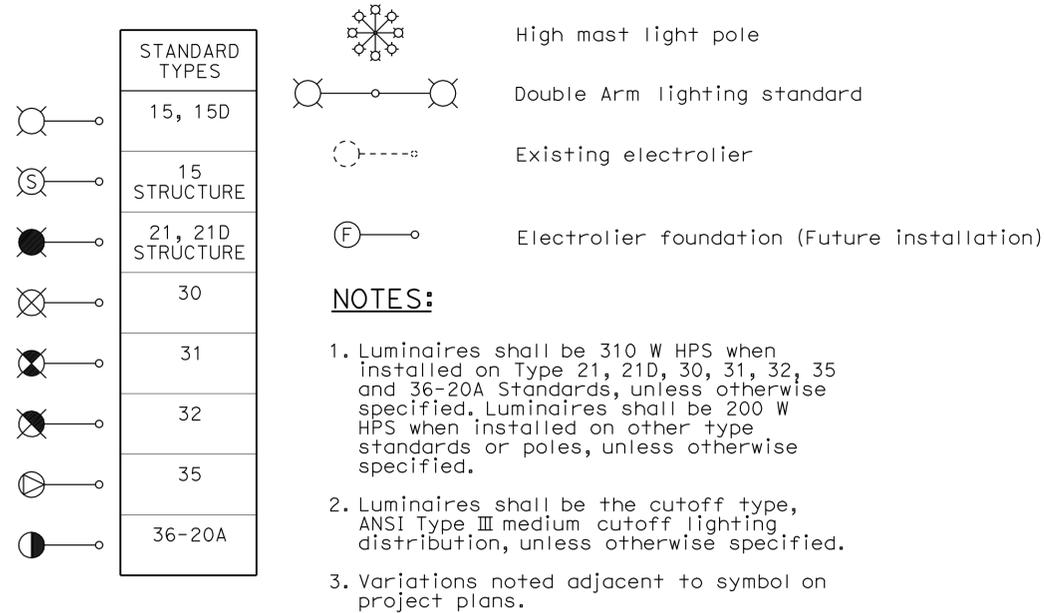
1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)**  
NO SCALE

NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T64

# ELECTROLIERS



## STANDARD NOTES:

- AB** Abandon. If applied to conduit, remove conductors.
- BC** Install pull box in existing conduit run.
- BP** Pedestrian barricade, type as indicated on plan.
- CB** Install conduit into existing pull box.
- CC** Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
- CF** Conduit to remain for future use. Remove conductors. Install pull wire or rope.
- DH** Detector handhole.
- FA** Foundation to be abandoned.
- IS** Install sign on signal mast arm.
- NS** No slip base on standard.
- PEC** Photoelectric control.
- PEU** Photoelectric unit.
- RC** Equipment or material to be removed and become the property of the Contractor.
- RE** Remove electrolier, fuses and ballast. Tape ends of conductors.
- RL** Relocate equipment.
- RR** Remove and reuse equipment.
- RS** Remove and salvage equipment.
- SC** Splice new to existing conductors.
- SD** Service disconnect.
- SF** Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
- TSP** Telephone service point.

# ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

## PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbs	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	GFCI	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISNS	iisns	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4B	mas-4B	
MAS-4C	mas-4C	
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL		Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	77	91

*Jeffery G. McRae*  
REGISTERED ELECTRICAL ENGINEER

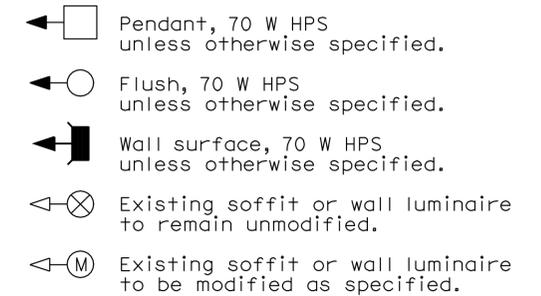
October 5, 2007  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
Jeffery G. McRae  
No. E14512  
Exp. 6-30-08  
ELECTRICAL  
STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-13-09

## SOFFIT AND WALL MOUNTED LUMINAIRES



### NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-1A**

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	78	91

Jeffrey G. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-13-09

### CONDUIT

PROPOSED	EXISTING	
---	---	Lighting Conduit, unless otherwise indicated or noted
---	---	Traffic signal conduit
-C-	-c-	Communication conduit
-T-	-t-	Telephone conduit
-F-	-f-	Fire alarm conduit
-FO-	-fo-	Fiber optic conduit
---	---	Conduit termination
		Conduit riser in/on structure or service pole

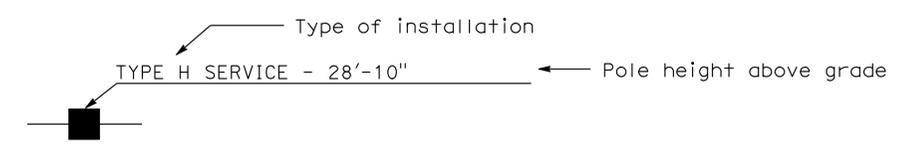
### SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" indicates all non-arrow sections louvered "LG" indicates louvered green section only "PV" indicates 12" programmed visibility sections "8" indicates all 8" sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
		Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
		Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet

### SERVICE EQUIPMENT

PROPOSED	EXISTING	
---OH---	---oh---	Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy with anchor
		Utility transformer - ground mounted
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

### POLE-MOUNTED SERVICE DESIGNATION



### ILLUMINATED OVERHEAD SIGN

PROPOSED	EXISTING	
		Overhead sign - Single post
		Overhead sign - Two post
		Overhead sign - Mounted on structure
		Overhead sign with electrolier

### SIGNAL EQUIPMENT Cont

PROPOSED	EXISTING	
		Guard post
		Type 1 Standard with "Meter On" sign
		Emergency Vehicle detector

### NOTES:

- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.
- Signal indication shall be LED.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(SYMBOLS AND ABBREVIATIONS)**  
 NO SCALE

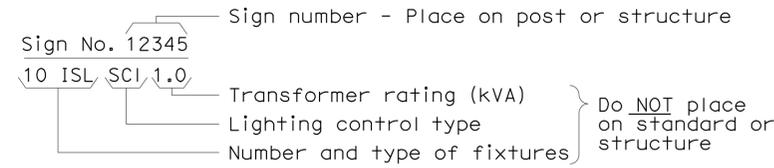
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B  
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-1B**

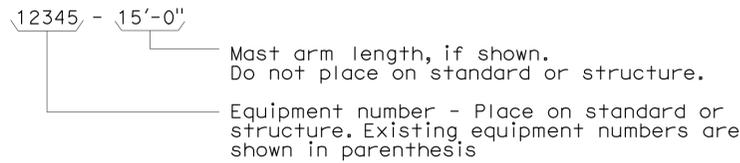
2006 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

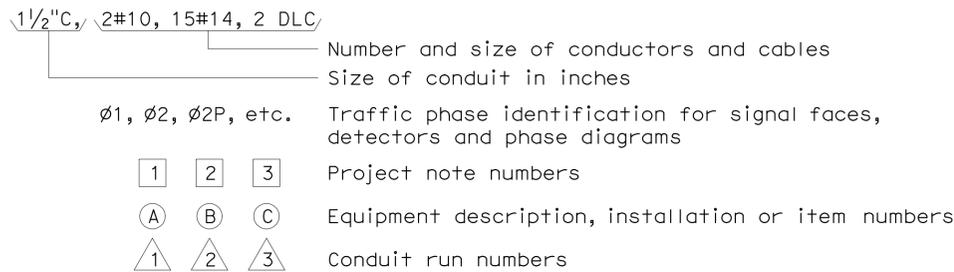
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



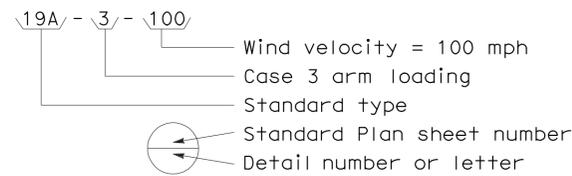
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



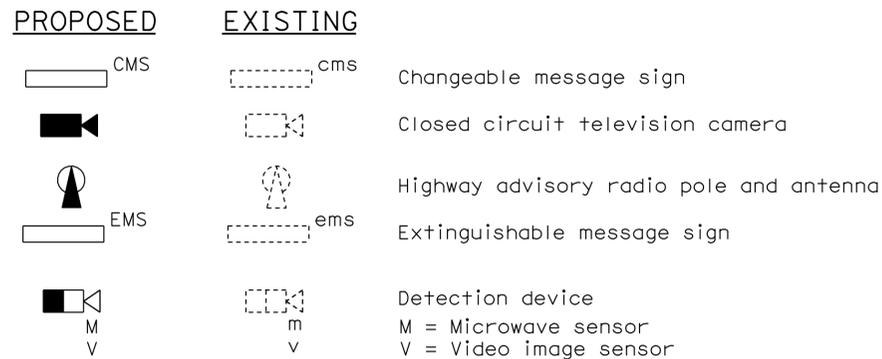
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



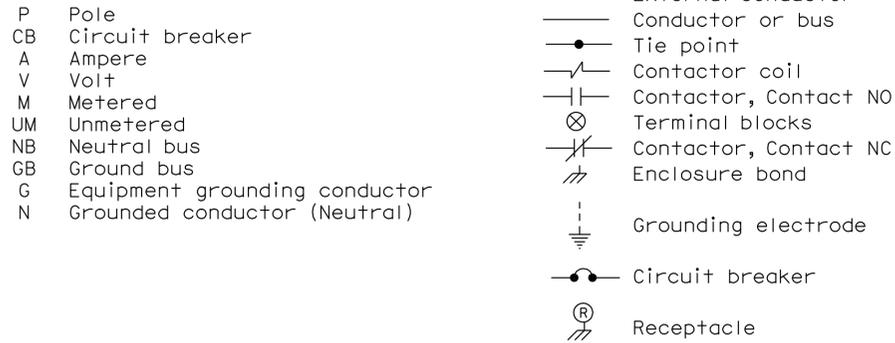
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



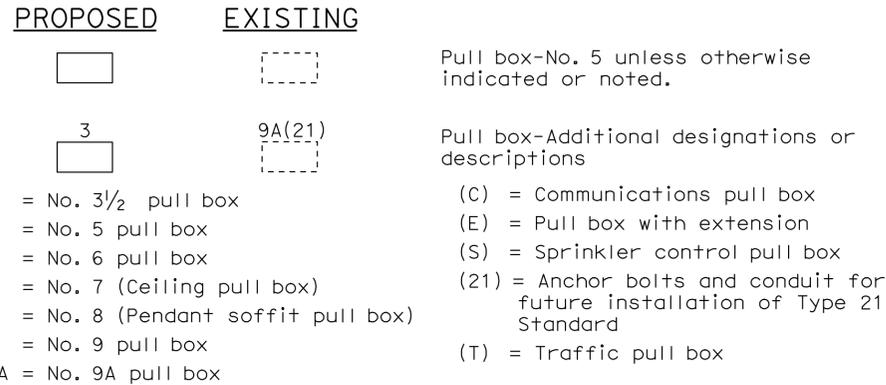
### MISCELLANEOUS EQUIPMENT



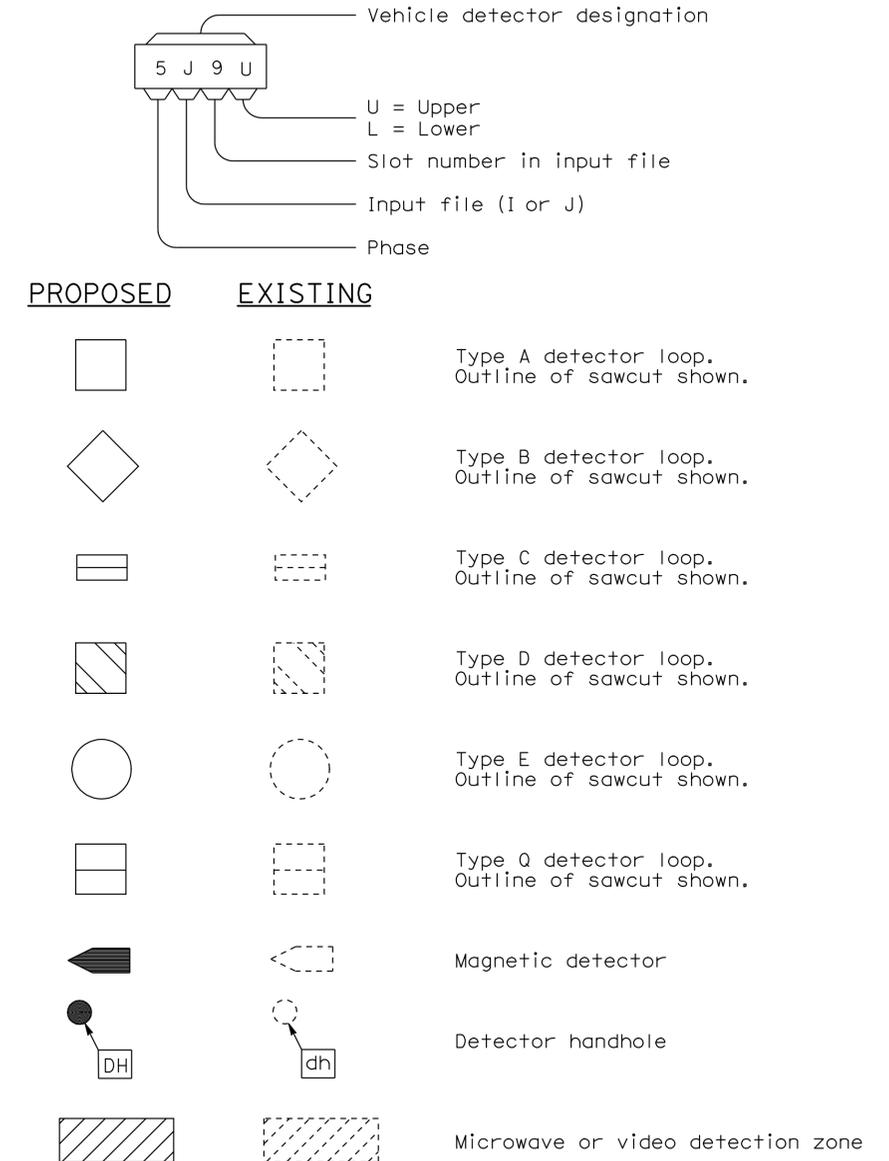
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(SYMBOLS AND ABBREVIATIONS)**  
 NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C  
 DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-1C**

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	80	91

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER

October 5, 2007  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Jeffery G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

**NOTES-TYPE III SERVICE EQUIPMENT ENCLOSURES:**

1. Service equipment enclosure and metering equipment shall meet the requirements of the service utility. The meter area shall have a sealable, lockable, weathertight cover that can be removed without the use of tools.
2. Service equipment enclosures shall be factory wired and conform to NEMA standards.
3. Dimensions of service equipment enclosures shall meet the requirements of the service utility.
4. The dead front panels on Type III service equipment enclosures shall have a continuous stainless steel or aluminum piano hinge. The panel in front of the breakers shall be secured with a latch or captive screws. No live parts shall be mounted on the dead front panel.
5. The exterior door shall have provisions for padlocking. The padlock hole shall be a minimum diameter of  $\frac{1}{16}$ ".
6. Enclosures housing transformers of more than one kVA shall have effective screened ventilation louver of not less than 50 square inches. Screen shall be stainless steel No. 304, with a No. 10 size mesh. Framed screen shall be secured with at least four bolts.
7. Fasteners on the exterior of the enclosure shall be vandal-resistant and shall not be removable from the exterior. Exterior screws, nuts, bolts and washers shall be stainless steel.
8. Landing lugs for incoming service conductors shall be compatible with either copper or aluminum conductors sized to suit the conductors shown on the plan. Landing lugs shall be copper or tin-plated aluminum. Neutral bus shall be rated for 125 A and be suitable for copper or aluminum conductors unless otherwise specified. The terminal shall include but not be limited to:
  - a) Incoming terminals (landing lugs)
  - b) Neutral lugs
  - c) Solid neutral terminal strip
9. At least 6 standard single pole circuit breaker spaces,  $\frac{3}{4}$ " nominal, shall be provided for branch circuits. Circuit breaker interiors shall be copper. Interiors of enclosure shall accept plug-in or cable-in/cable-out circuit breakers.
10. Control wiring shall be 600 V, 14 stranded machine tool wire. Where subject to flexing, 19 strand wire shall be used.
11. Main bus shall be rated for 125 A and shall be tin-plated copper.
12. A plastic laminated wiring diagram shall be provided with brass mounting eyelets and attached to the inside of the enclosure and the wiring diagram shall be affixed to the interior with a UL or ETL approved method.

13. An engraved phenolic nameplate on the dead front panel indicating the function of each circuit or device shall be installed with stainless steel rivets or stainless steel screws:
  - a) Adjacent to the breaker or device with character size a minimum of  $\frac{1}{8}$ ".
  - b) At the top of the exterior door panel indicating State system number, voltage level and number of phases with character size a minimum of  $\frac{3}{16}$ ".
14. The plan shows the approximate location of devices within the enclosure. Components may be rearranged, however, the "working" clearances within the service equipment enclosure shall be maintained.
15. In unpaved areas a raised portland cement concrete pad 2'-0" x 4" x width of foundation shall be constructed in front of new service equipment enclosure installation. Pad shall be set to elevation of foundation.
16. Foundation shall extend 2" minimum beyond edge of service equipment enclosure.
17. Internal bus, where shown, is typical only. Alternative design of proposed service equipment enclosure shall be submitted to the Engineer for approval.
18. Plug-in circuit breakers may be mounted in the vertical or horizontal position. Cable-in/cable-out circuit breakers shall be mounted in the vertical position.
19. Type III-AF and Type III-BF service equipment enclosures shall have the meter viewing windows located on the front side of the service equipment enclosures.
20. Type III-AR and Type III-BR service equipment enclosures shall be similarly constructed as Type III-AF and Type III-BF respectively, except the meter viewing windows shall be located on the back side of the service equipment enclosures.
21. Minimum clearance shall be required for front and back of service equipment enclosure per National Electrical Code, Article 110.26, "Spaces About Electric Equipment (600 Volts, Nominal, or Less)."

To accompany plans dated 4-13-09

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

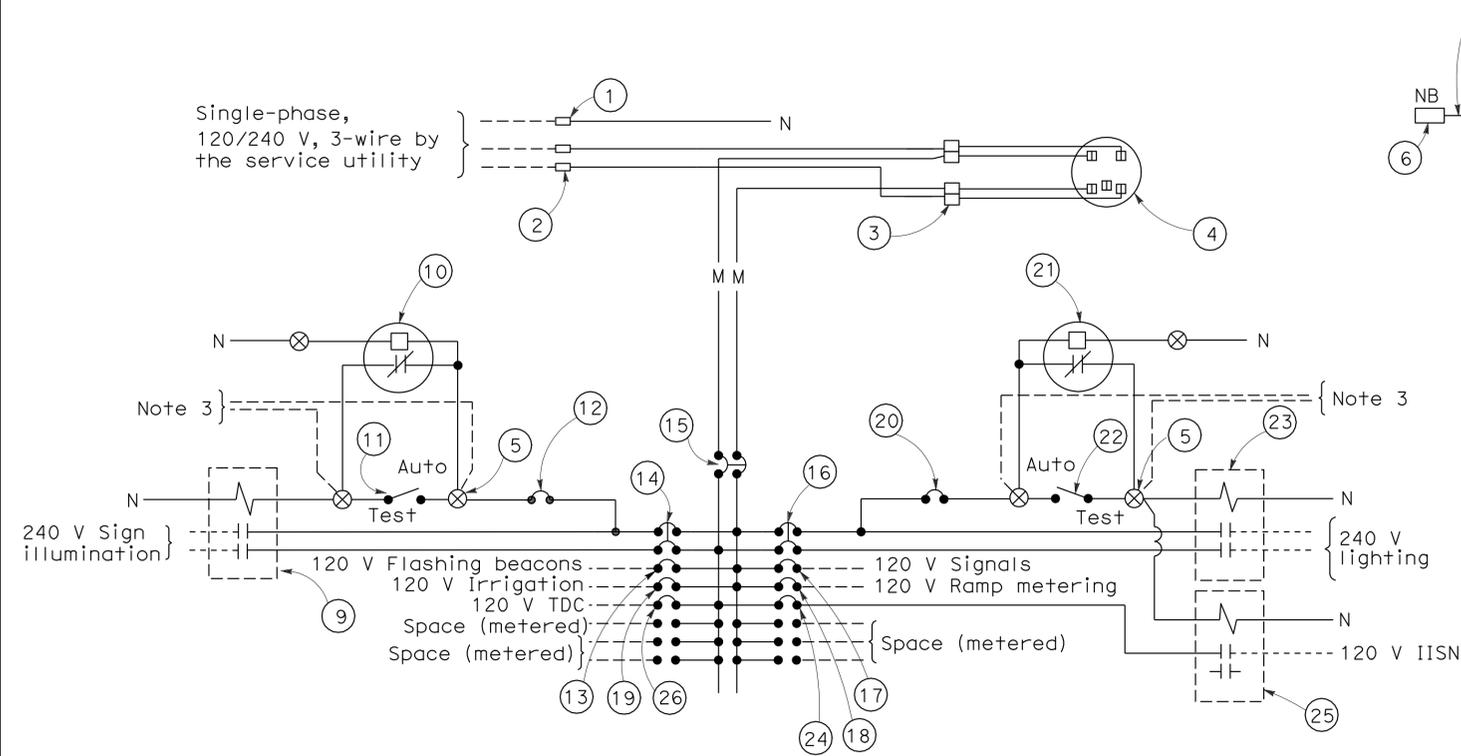
**ELECTRICAL SYSTEMS  
 (SERVICE EQUIPMENT NOTES  
 TYPE III SERIES)**

NO SCALE

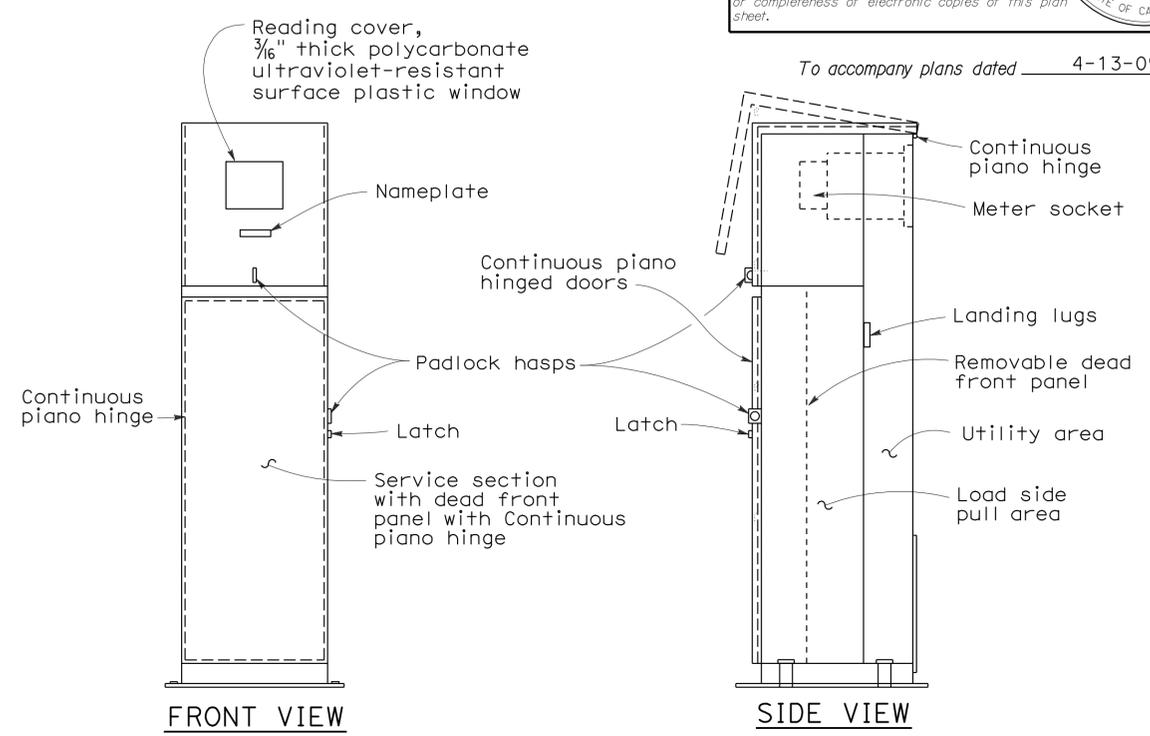
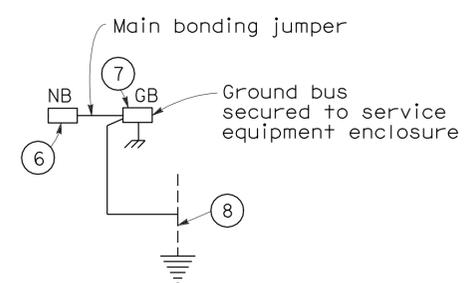
RSP ES-2C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2C  
 DATED MAY 1, 2006 - PAGE 405 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-2C**

2006 REVISED STANDARD PLAN RSP ES-2C



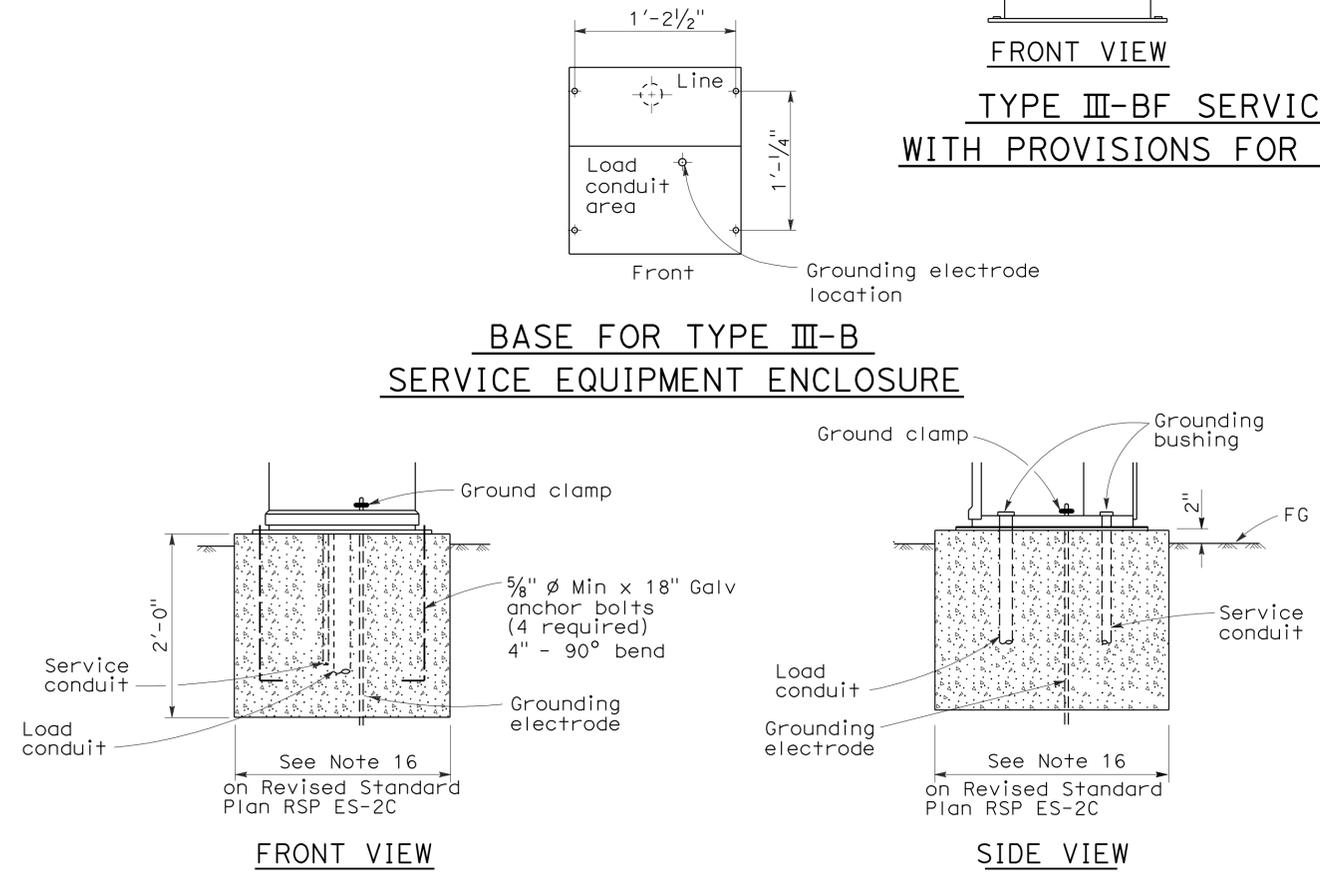
**120/240 V SERVICE WIRING DIAGRAM (TYPICAL)**



**TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH PROVISIONS FOR ONE 100 A METER (TYPICAL)**

TYPE III-B SERVICE (120/240 V) EQUIPMENT LEGEND		
ITEM No.	COMPONENT	NAME PLATE DESCRIPTION
①	Neutral lug	
②	Landing lug (Note 6)	
③	Test bypass facility	
④	Meter socket and support	
⑤	Terminal blocks	
⑥	Neutral bus	
⑦	Ground bus	
⑧	Grounding electrode	
⑨	30 A, 2PNO Contactor	Sign Illumination
⑩	Photoelectric unit (Note 7)	
⑪	15 A, 1P, Test switch	Sign Illumination Test Switch
⑫	15 A, 120 V, 1P, CB	Sign Illumination Control
⑬	15 A, 120 V, 1P, CB	Flashing Beacon
⑭	30 A, 240 V, 2P, CB	Sign Illumination
⑮	100 A, 240 V, 2P, CB	Main Breaker
⑯	30 A, 240 V, 2P, CB	Lighting
⑰	50 A, 120 V, 1P, CB	Signals
⑱	30 A, 120 V, 1P, CB	Ramp Metering
⑲	20 A, 120 V, 1P, CB	Irrigation
⑳	15 A, 120 V, 1P, CB	Lighting Control
㉑	Photoelectric unit (Note 7)	
㉒	15 A, 1P, Test switch	Lighting Test Switch
㉓	60 A, 2PNO Contactor	Lighting
㉔	15 A, 120 V, 1P, CB	IISNS
㉕	30 A, 2PNO Contactor	IISNS
㉖	20 A, 120 V, 1P, CB	Telephone Demarcation Cabinet

**BASE FOR TYPE III-B SERVICE EQUIPMENT ENCLOSURE**



**TYPE III-B SERVICE EQUIPMENT ENCLOSURE FOUNDATION DETAILS**

- NOTES: (FOR SERVICE EQUIPMENT ENCLOSURE)**
- Voltage ratings of service equipment shall conform to the service voltages indicated on the plans.
  - Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
  - Connect to remote test switch mounted on lighting standards, sign post or structure when required.
  - Items No. ① and ⑥ shall be isolated from the service equipment enclosure.
  - Meter sockets shall be 5 clip type.
  - The landing lug shall be suitable for multiple conductors.
  - Type I photoelectric control shall be used unless otherwise indicated on the plans.

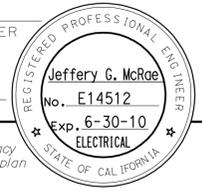
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS (SERVICE EQUIPMENT AND TYPICAL WIRING DIAGRAM, TYPE III-B SERIES)**  
 NO SCALE

RSP ES-2E DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2E DATED MAY 1, 2006 - PAGE 407 OF THE STANDARD PLANS BOOK DATED MAY 2006.

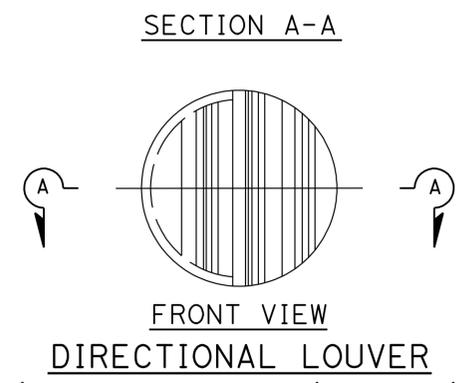
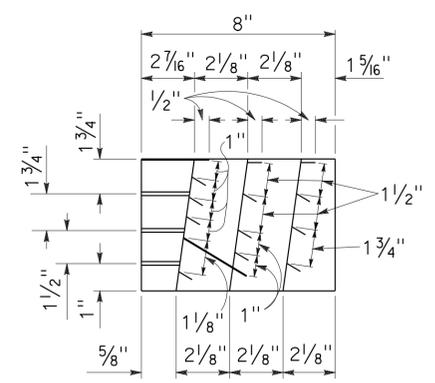
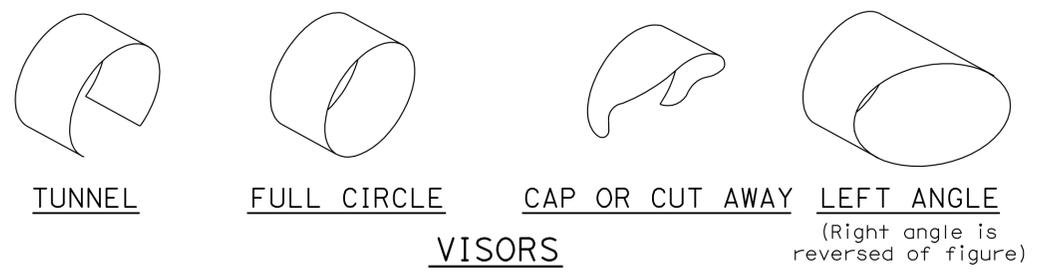
2006 REVISED STANDARD PLAN RSP ES-2E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	82	91

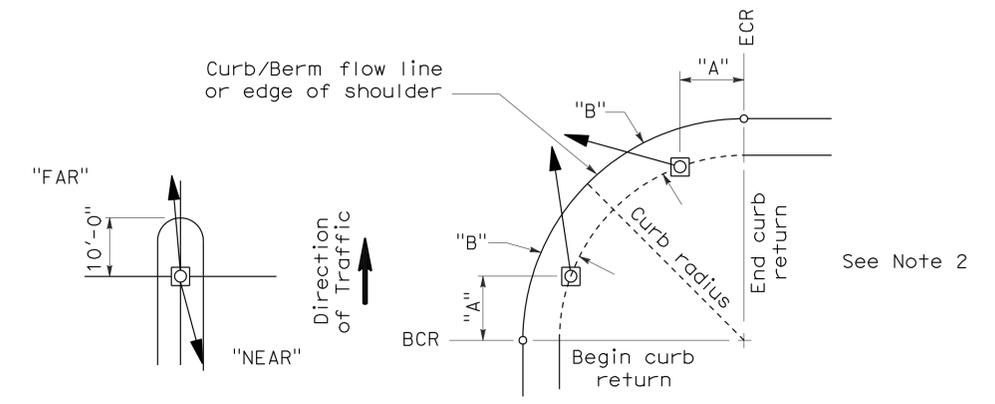
*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 June 6, 2008  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



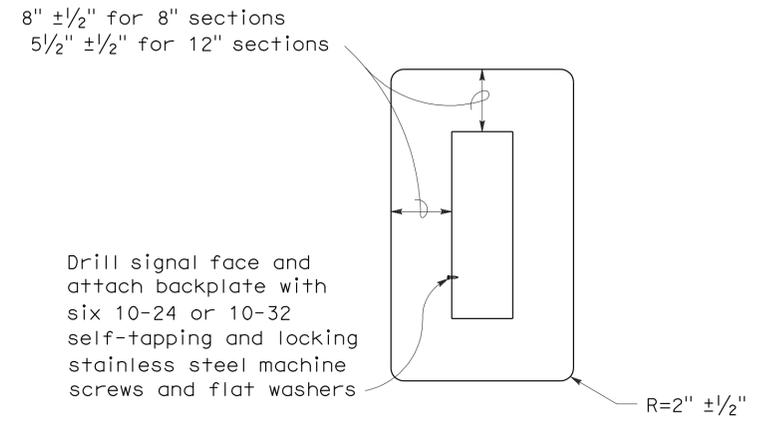
To accompany plans dated 4-13-09



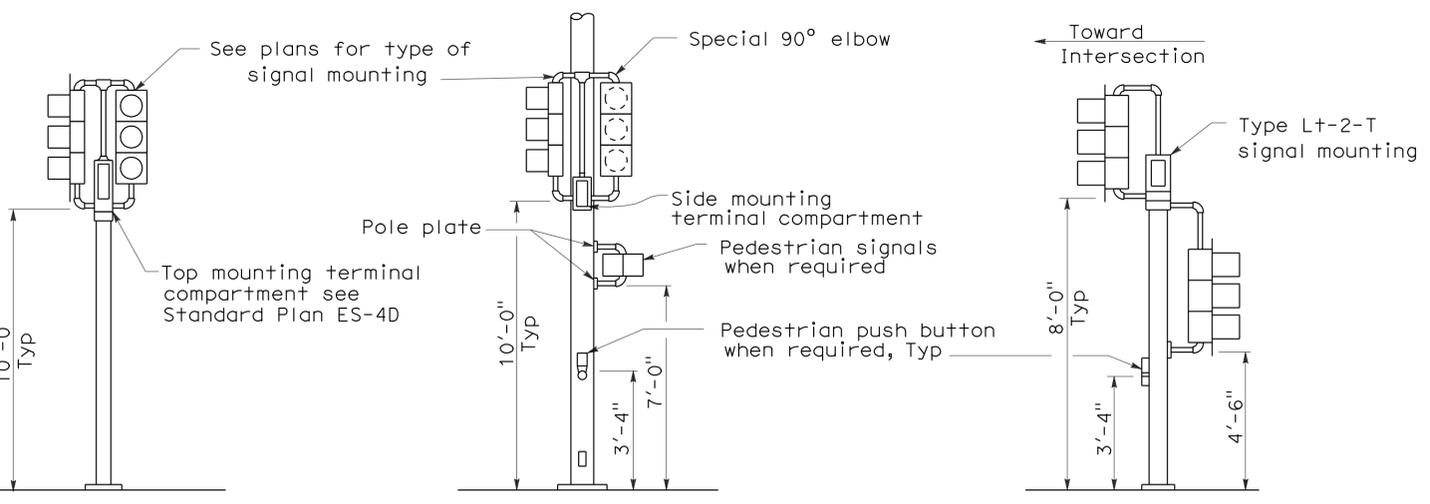
**DIRECTIONAL LOUVER**  
 Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.



- NOTES:**
1. Typical signal pole placement unless dimensioned on plans.
  2. For "A" and "B" dimensions, see Pole Schedule, or as directed by the Engineer.



**8" AND 12" SECTIONS**  
**BACKPLATE**  
 1/16" minimum thickness  
 3001-14 aluminum, or plastic when specified



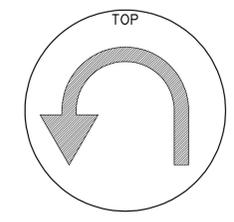
**TOP MOUNTED SIGNALS (TV)**  
 Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

**SIDE MOUNTED SIGNALS (SV AND SP)**  
 Normally used on standards with luminaire or signal mast arm

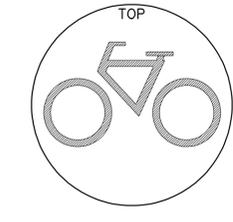
**LEFT TURN LANE SIGNAL**  
 Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans

**TYPICAL SIGNAL INSTALLATIONS**

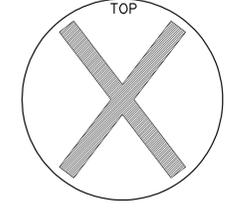
**SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS**



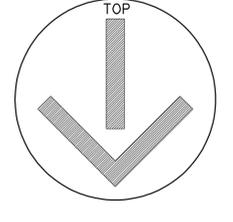
**U-TURN SIGNAL FACE**



**BICYCLE SIGNAL FACE**



**LANE CONTROL SIGNAL FACE**



**LANE CONTROL SIGNAL FACE**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)**

NO SCALE

RSP ES-4C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN ES-4C DATED MAY 1, 2006 - PAGE 420 OF THE STANDARD PLANS BOOK DATED MAY 2006.

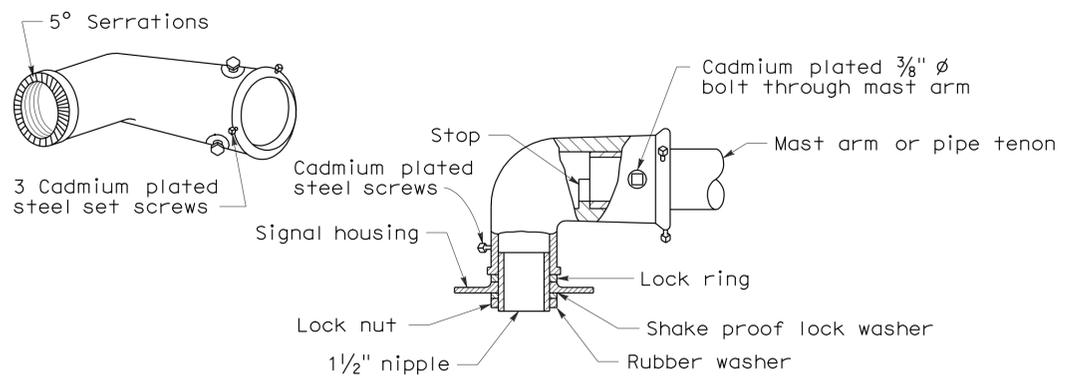
**REVISED STANDARD PLAN RSP ES-4C**

2006 REVISED STANDARD PLAN RSP ES-4C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	83	91

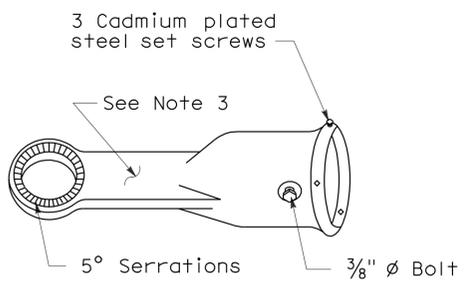
Jeffrey G. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 June 6, 2008  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.  
 REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-10  
 ELECTRICAL  
 STATE OF CALIFORNIA

To accompany plans dated 4-13-09



**MAST ARM MOUNTING - TYPE "MAT"**

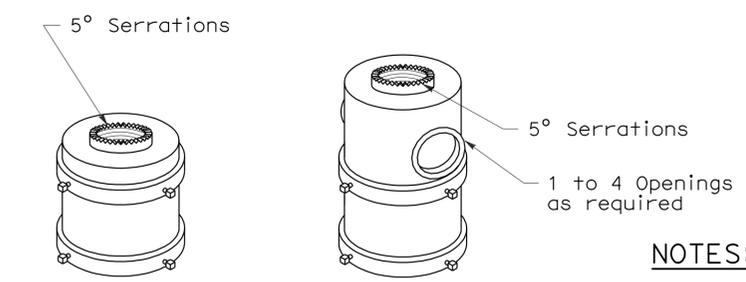
For 2 NPS pipe, see Note 1.



**MAST ARM MOUNTING - TYPE "MAS"**

For 2 NPS pipe. See Note 1.

**SIGNAL SLIP FITTERS**



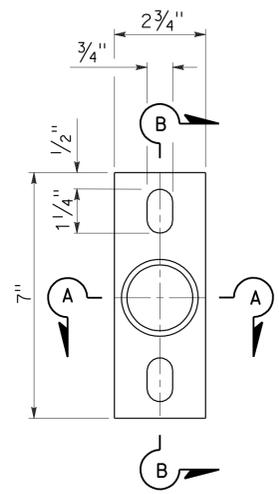
For one mounting For multiple mountings

**TOP MOUNTINGS**

For 4 NPS pipe, see Note 2.

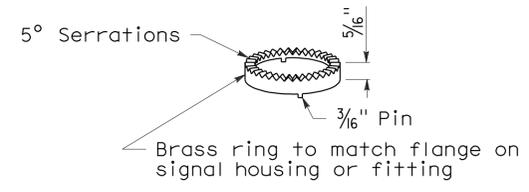
**NOTES:**

- After mast arm signal has been plumbed and secured, drill 1/16" hole through mast arm tenon in line with slip fitter hole. Place a cadmium plated 3/8" ø galvanized bolt with washer under bolt head through hole and secure with washer, nut, and locknut. Seal openings between mast arm mountings and mast arm with mastic.
- (a) Threaded top mounted slip fitter openings shall be 1/2" NPS.  
 (b) Serrations in fittings shall match those on bottom of signal heads or in lock ring.  
 (c) Top opening shall be offset when backplate is used.
- Wireway shall have a cross section area of 0.95 square inch minimum. Minimum width of 1/2".



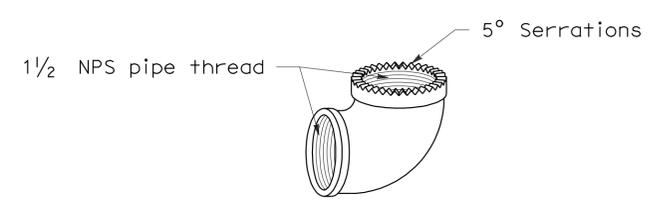
**POLE PLATE**

For side mountings



**LOCK RING**

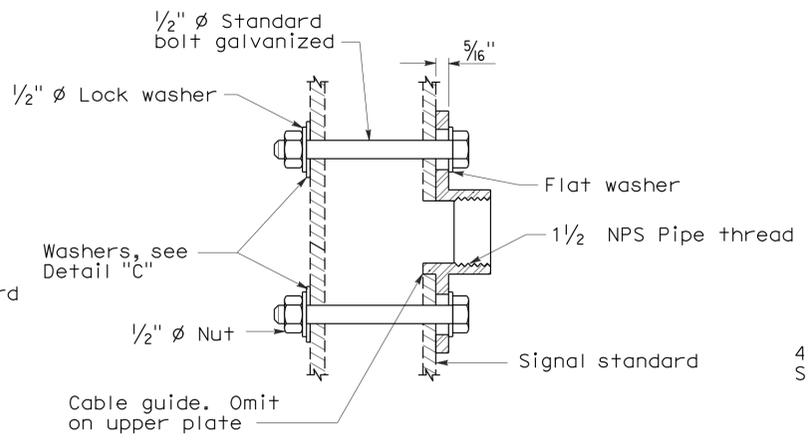
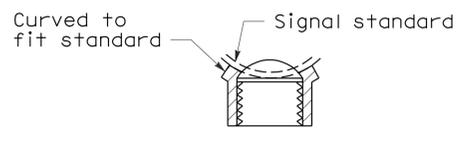
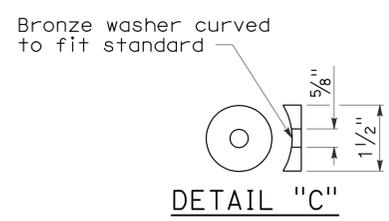
Use where locking ring is not integral with signal housing or fitting.



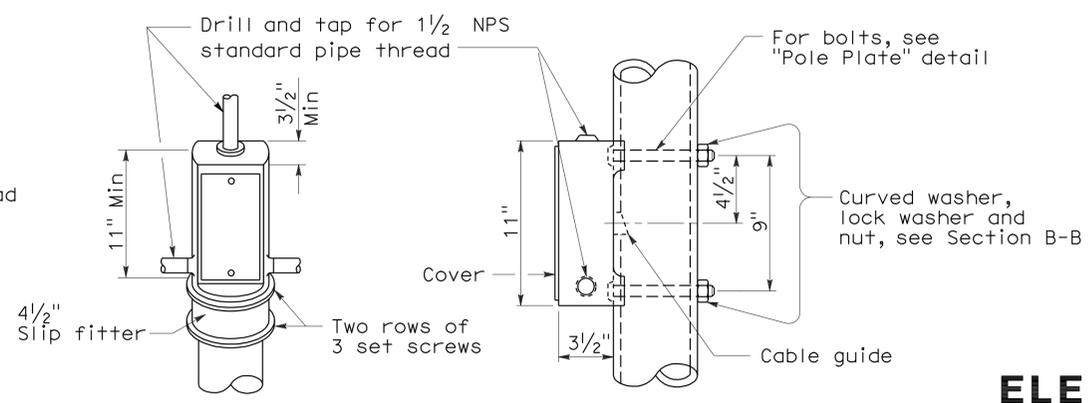
**SPECIAL 90° ELBOW**

One for each signal head, except those with special slip fitter mounting

**MISCELLANEOUS MOUNTING HARDWARE**



**SECTION B-B**



**TOP MOUNTING**

**SIDE MOUNTING**

**TERMINAL COMPARTMENTS**

**ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)**

NO SCALE

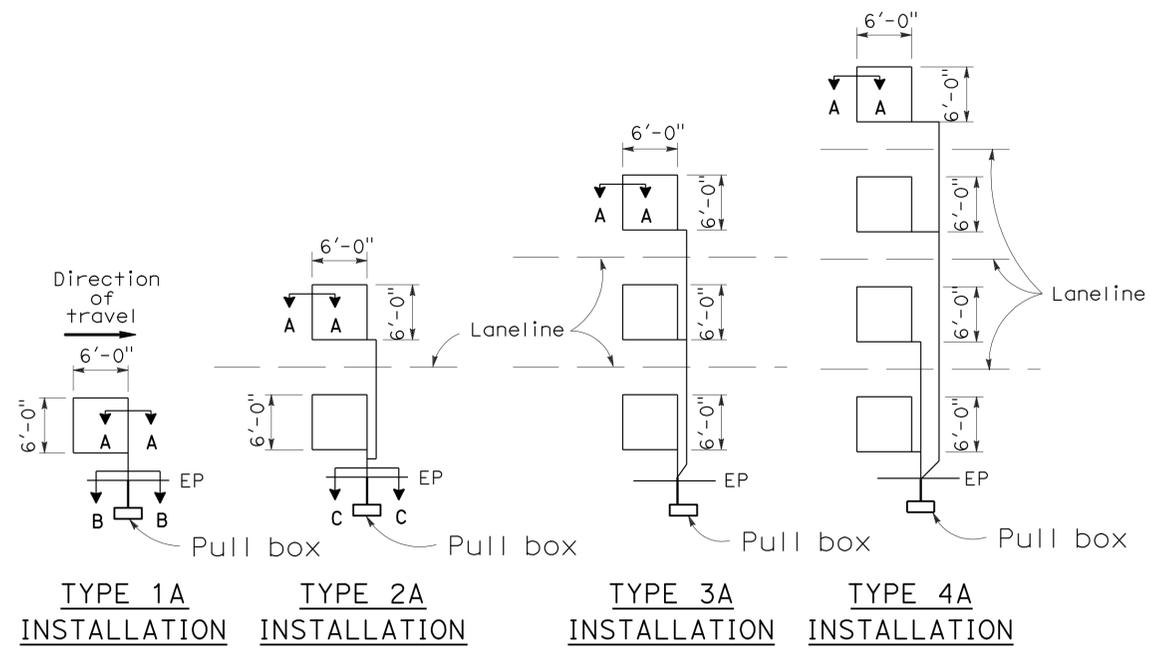
RSP ES-4D DATED June 6, 2008 SUPERSEDES STANDARD PLAN ES-4D DATED MAY 1, 2006 - PAGE 421 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-4D**

2006 REVISED STANDARD PLAN RSP ES-4D

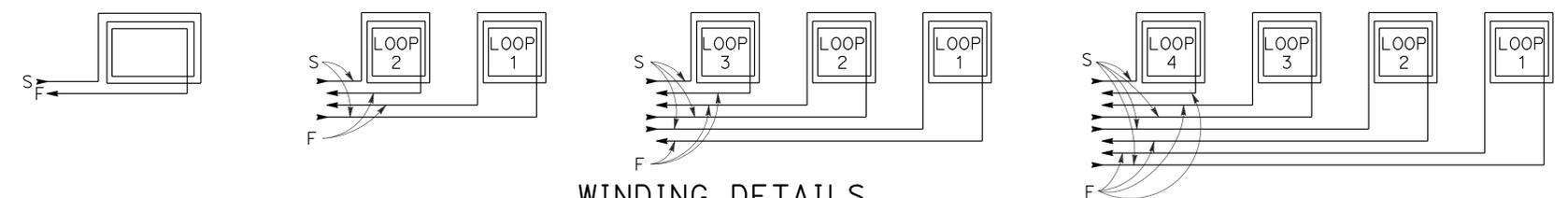
# LOOP INSTALLATION PROCEDURE

- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no sharp edges.
- Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
- Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
- Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
- Install loop conductor in slot using a 3/16" to 1/4" thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
- No more than 2 twisted pairs shall be installed in one sawed slot.
- Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
- The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per 3'-4" minimum) before being placed in the slot and conduit leading to pull box.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
- Fill slots as shown in details.
- Splice loop conductors to lead-in-cable. Splices shall be soldered.
- End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
- Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
- Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.



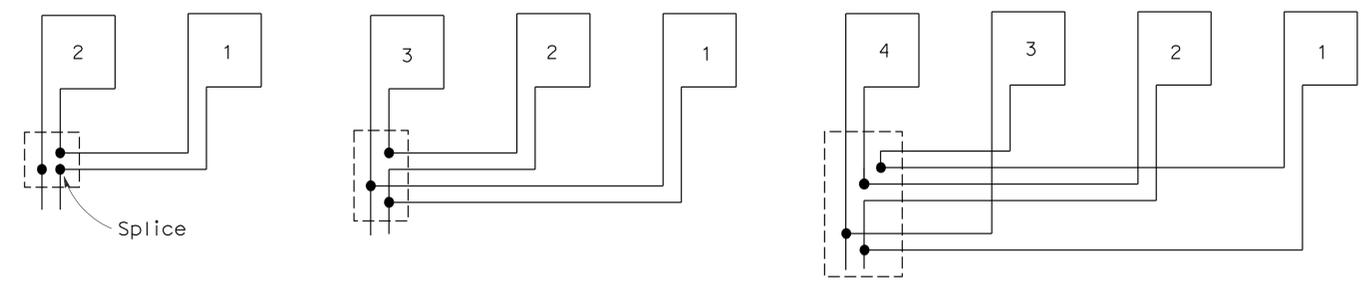
## SAWCUT DETAILS

- (Type A loop detector configurations illustrated)
- 1A thru 4A = 1 Type A loop configuration in each lane.
  - 1B thru 4B = 1 Type B loop configuration in each lane.
  - 1C = 1 Type C loop configuration entering lanes as required.
  - 1D thru 4D = 1 Type D loop configuration in each lane.
  - 1E thru 4E = 1 Type E loop configuration in each lane.
  - 1Q thru 4Q = 1 Type Q loop configuration in each lane.
- (Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)



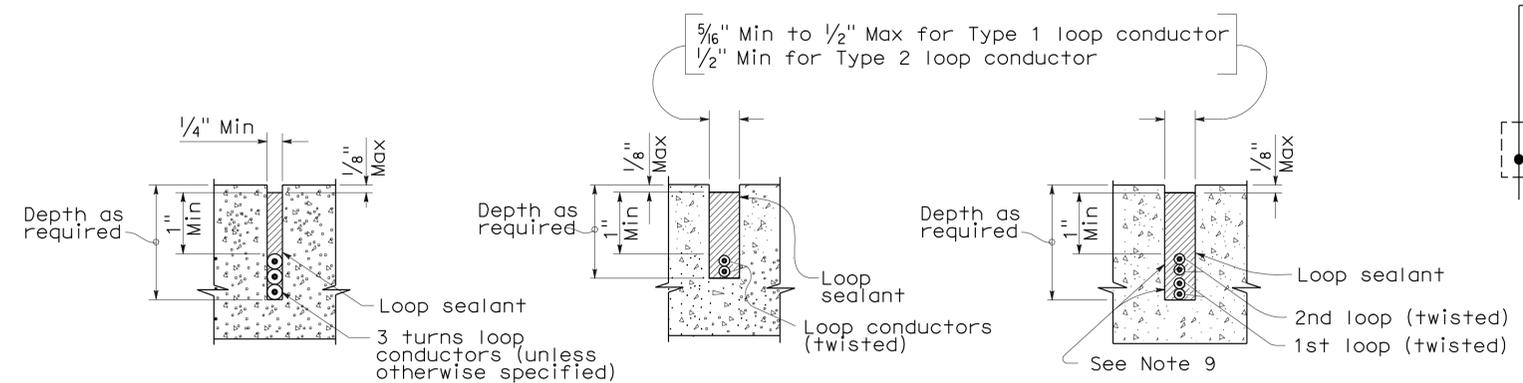
## WINDING DETAILS

See Notes 6 and 7



## TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)



SECTION A-A  
 SECTION B-B  
 SECTION C-C  
 SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR

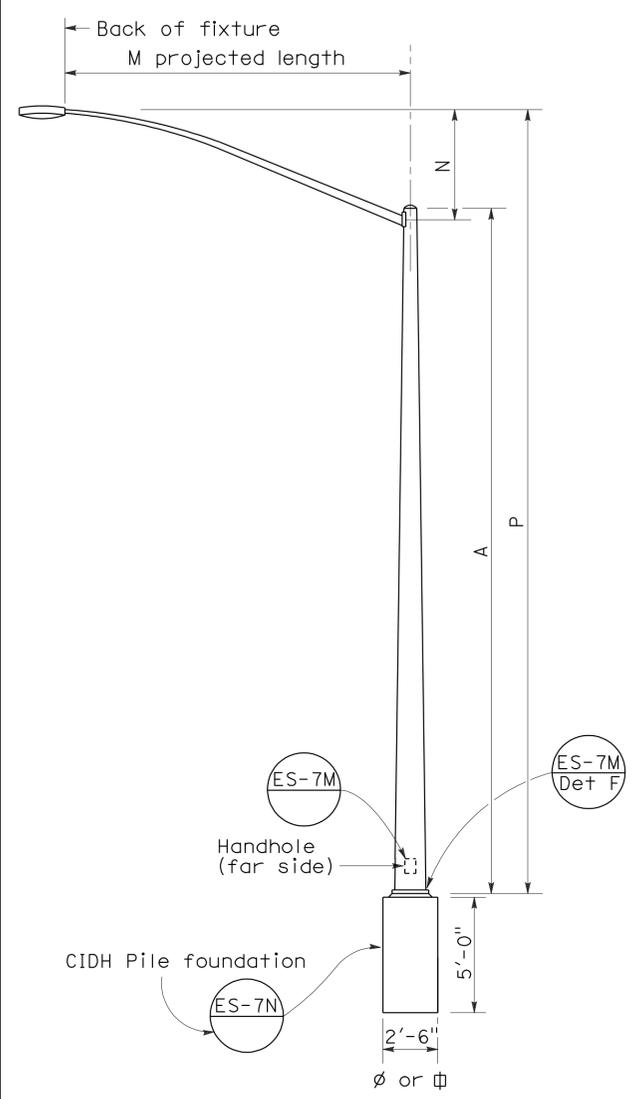
# ELECTRICAL SYSTEMS (DETECTORS)

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

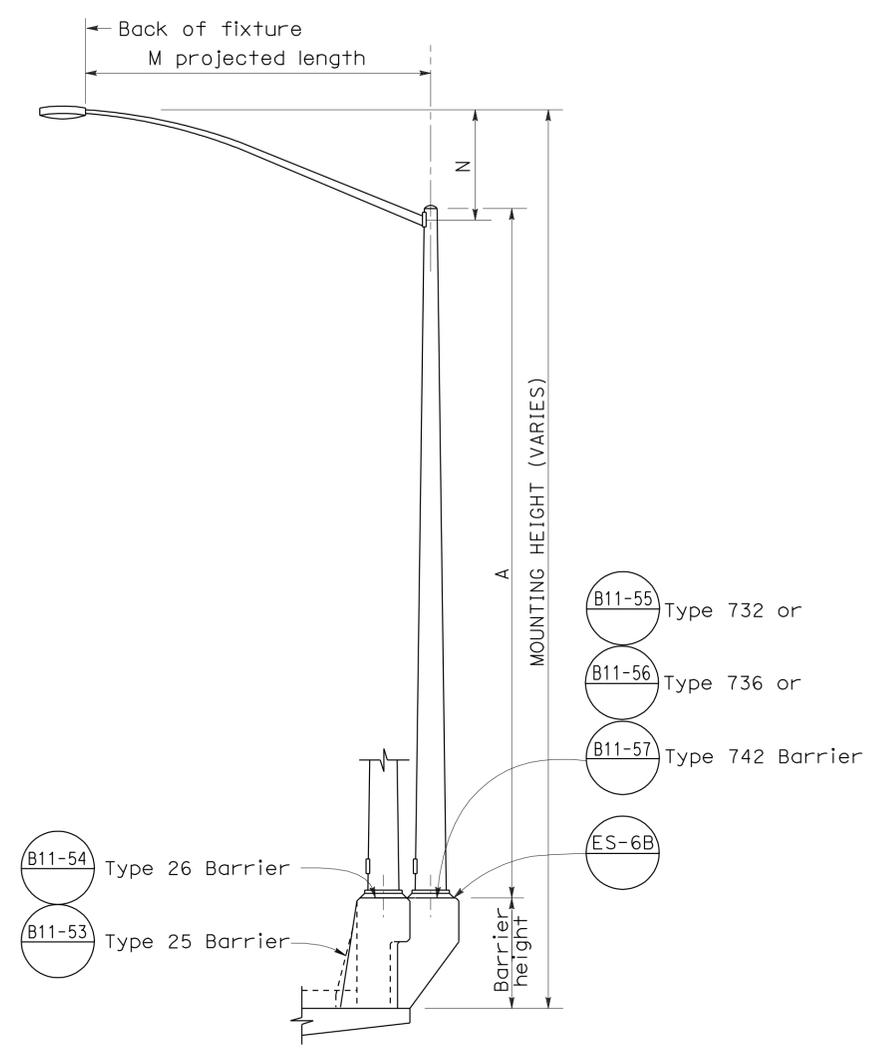
NO SCALE

RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

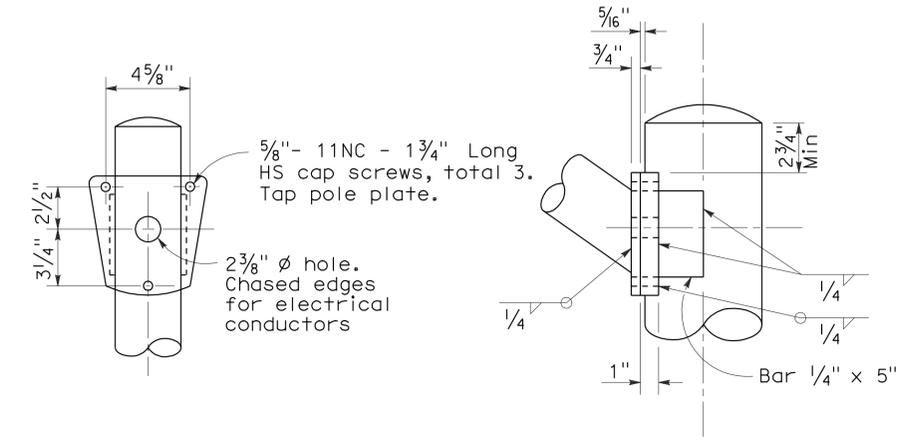
To accompany plans dated 4-13-09



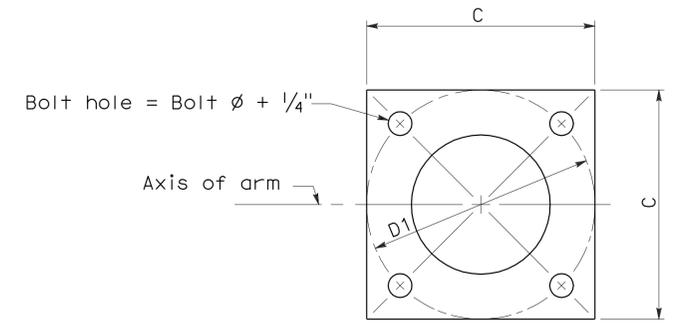
**ELEVATION**  
**TYPE 15 AND TYPE 21**



**ELEVATION**  
**TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED**



**DETAIL R**  
**LUMINAIRE ARM CONNECTION**



**BASE PLATE**

POLE TYPE	POLE DATA				BASE PLATE DATA				LUMINAIRE ARM
	A Height	Min OD		Wall Thickness	C	D1 Bolt Circle	Thick-ness	Anchor Bolts Size	
		Base	Top						
15	30'	8"	3 7/8"	0.1196"	1'-0"	1'-0"	1"	1" ø x 3'-0" x 4"*	6' - 15' 12'
21	35'	8 5/8"	3 7/8"	0.1196"	1'-0"	1'-0"	1"	1 1/4" ø x 3'-0" x 4"*	6' - 15' 12'

\* For barrier rail bolts, see Standard Plan ES-6B.

M Projected Length	N Rise	Min OD At Pole	Nominal Thickness	LUMINAIRE ARM DATA	
				P	
				Type 15	Type 21
6'-0"	2'-0"±	3/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3/2"	0.1196"	32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"	0.1196"	32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"	0.1196"	33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"	0.1196"	34'-3"±	39'-3"±

**NOTES:**

- Indicates arm length to be used unless otherwise noted on the plans.
- For Type 15-SB, use Type 15 standard with Type 30 slip base plate details, see Standard Plan ES-6F.
- For additional notes, see Standard Plan ES-7M and ES-7N.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(LIGHTING STANDARD**  
**TYPES 15 AND 21)**

NO SCALE

RSP ES-6A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-6A DATED MAY 1, 2006 - PAGE 427 OF THE STANDARD PLANS BOOK DATED MAY 2006.

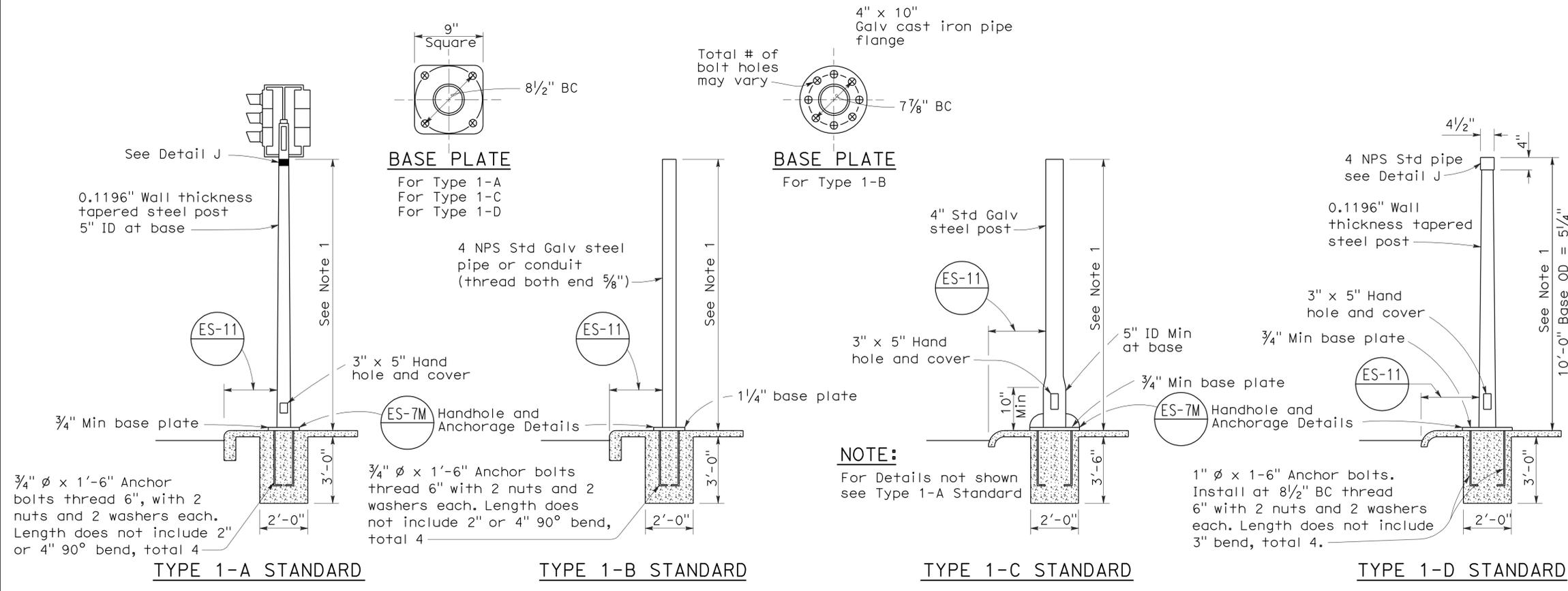
**REVISED STANDARD PLAN RSP ES-6A**

2006 REVISED STANDARD PLAN RSP ES-6A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	86	91

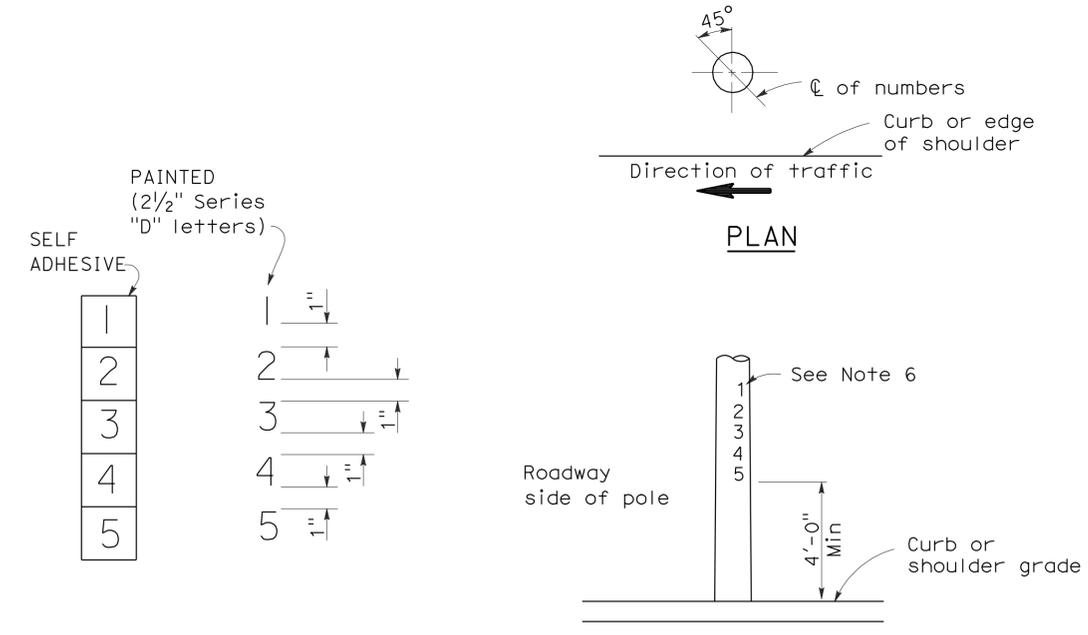
Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.  
 REGISTERED PROFESSIONAL ENGINEER  
 Stanley P. Johnson  
 No. C57793  
 Exp. 3-31-08  
 CIVIL  
 STATE OF CALIFORNIA

To accompany plans dated 4-13-09

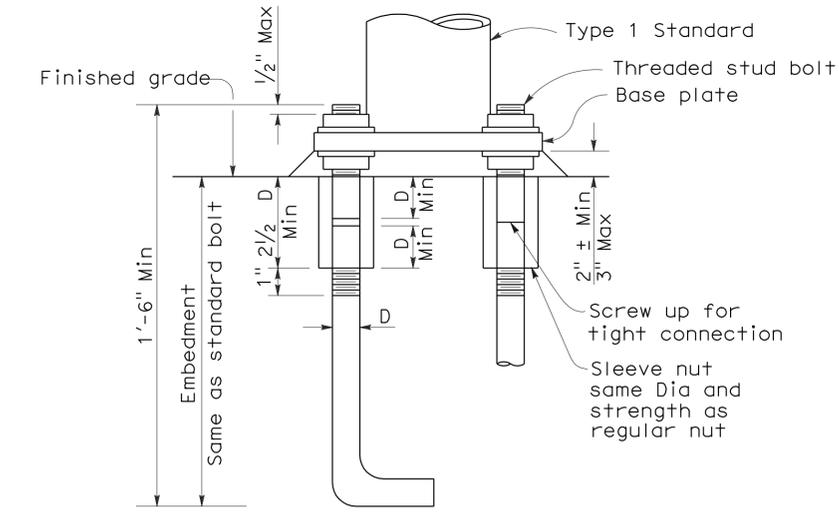


- NOTES:**
- Standards shall be 10'-0" ± 2" for vehicle signals and 7'-0" ± 2" for pedestrian signals unless otherwise noted on plans.
  - Top of standards shall be 4 1/2" OD.
  - Conduits shall extend 2" maximum above finished surface of foundation and for Types 1-A, 1-C and 1-D shall be sloped toward handhole.
  - Anchor bolts shall be bonded to conduit or grounding conductor.
  - Conduit between standard and adjacent pull box shall be 2" minimum.
  - Paint numbers on roadway side facing traffic when electrolier or post is left of direction of traffic.

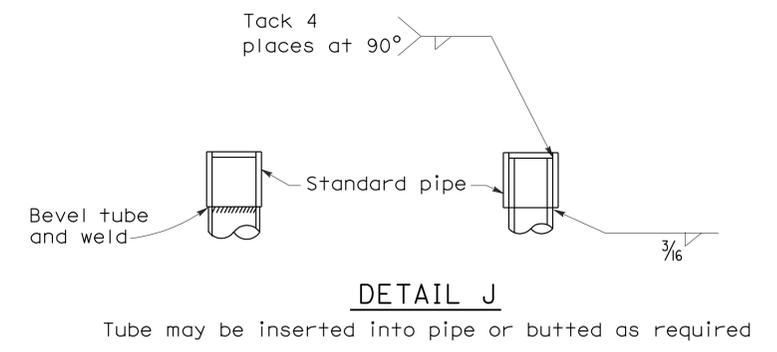
**TYPE 1 SIGNAL STANDARDS**



**LOCATION OF EQUIPMENT NUMBERS ON STANDARDS AND POSTS**



**ANCHOR BOLTS WITH SLEEVE NUTS**  
 Sleeve nuts to be used only when shown or specified on Project Plans  
 D = Diameter of anchor bolt



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD TYPE 1 STANDARD AND EQUIPMENT NUMBERING)**  
 NO SCALE

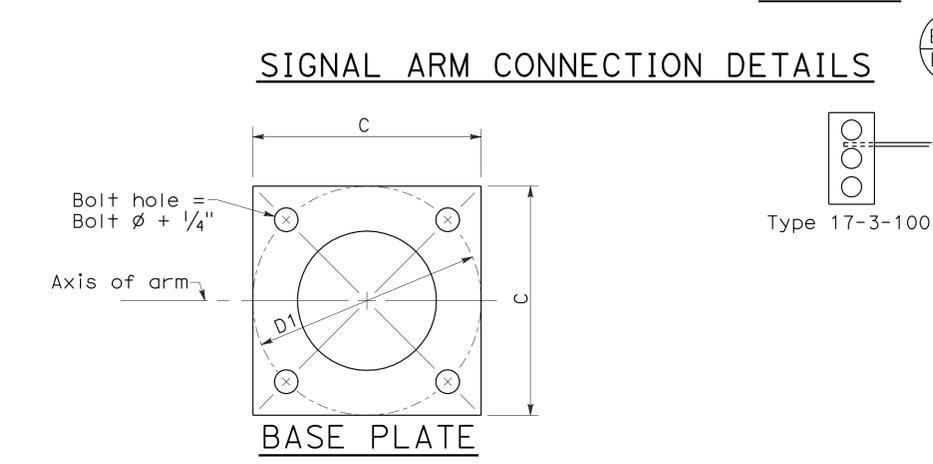
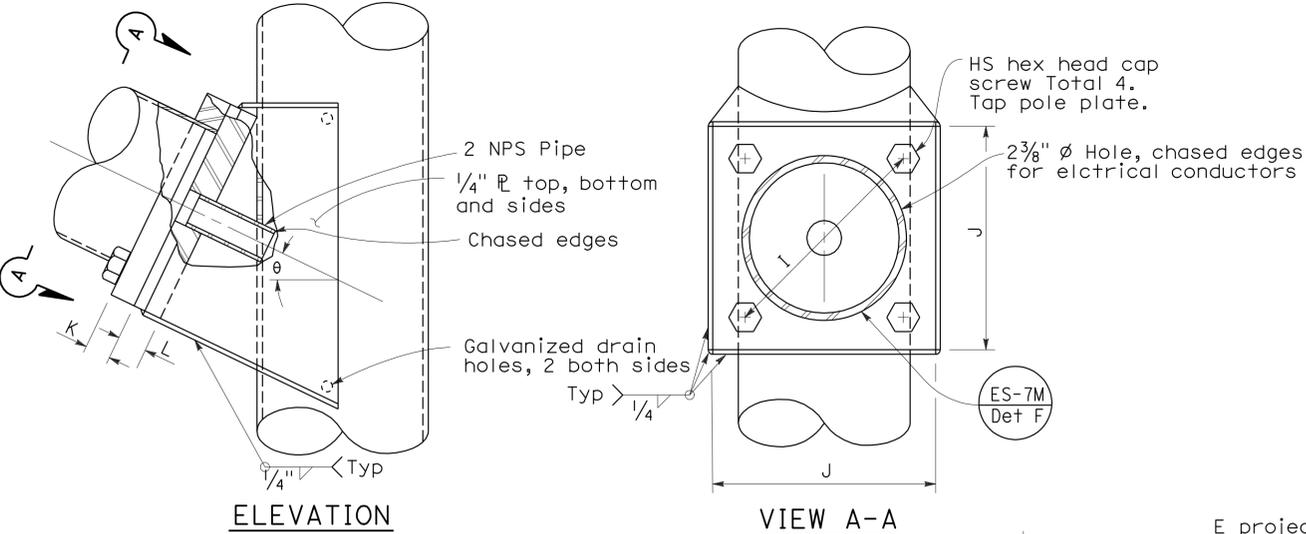
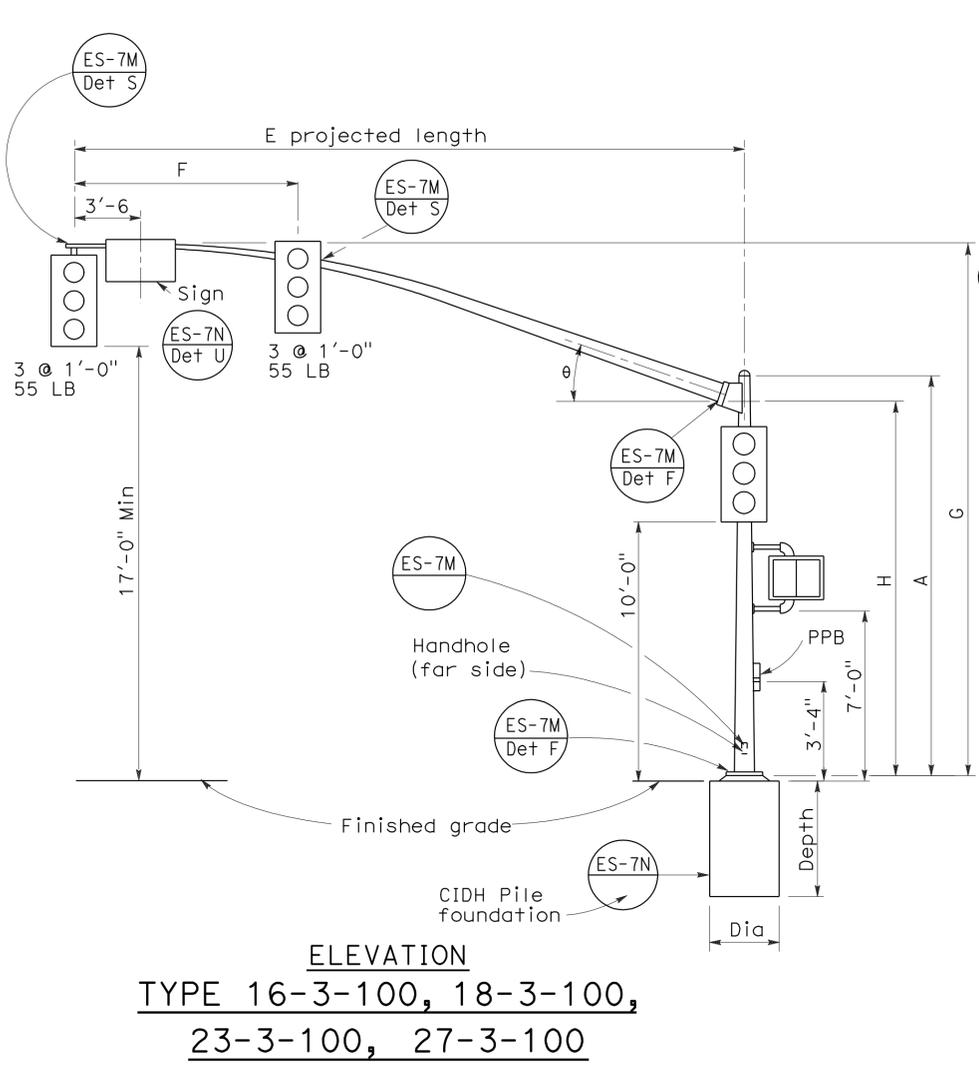
RSP ES-7B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-7B DATED MAY 1, 2006 - PAGE 438 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**2006 REVISED STANDARD PLAN RSP ES-7B**

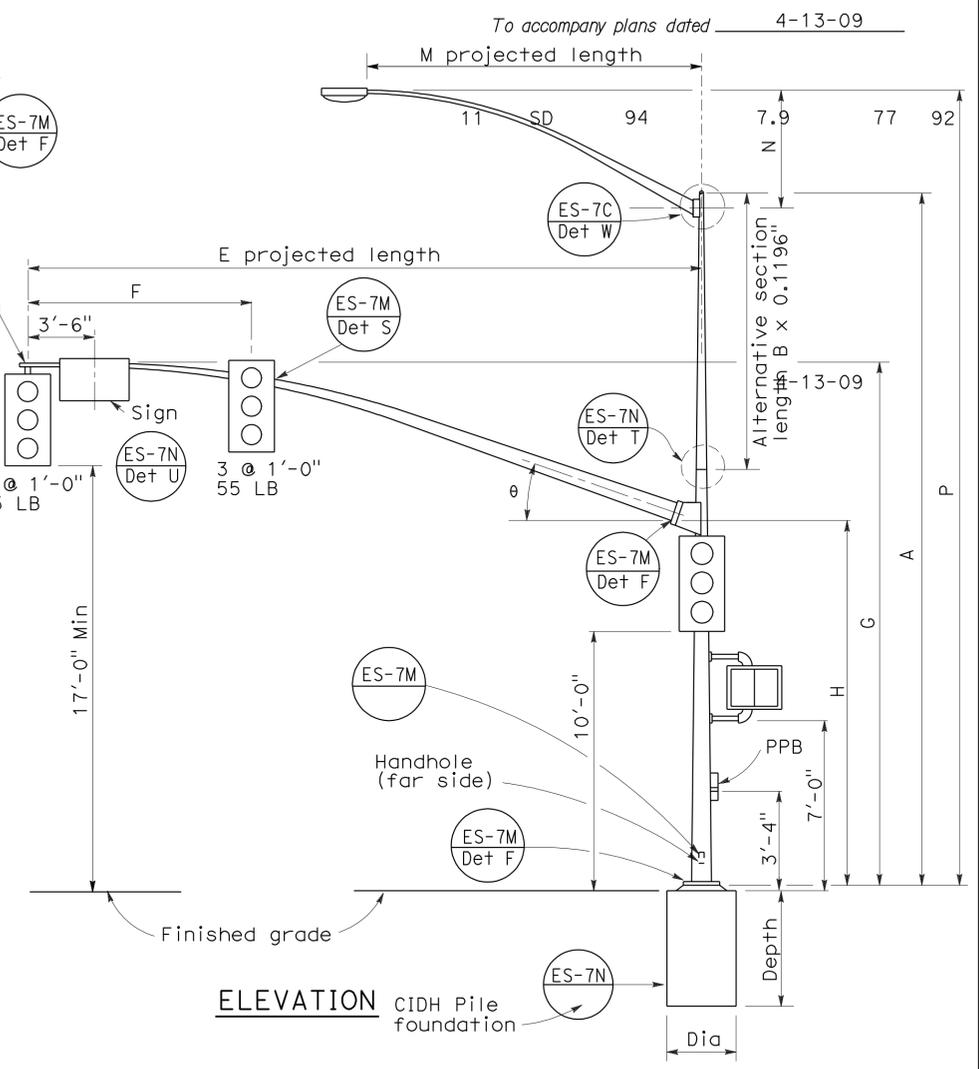
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	87	91

REGISTERED CIVIL ENGINEER  
 June 30, 2006  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey B. Woody  
 No. C41260  
 Exp. 3-31-07  
 CIVIL  
 STATE OF CALIFORNIA



**ELEVATION**  
**TYPE 16-3-100, 18-3-100,**  
**23-3-100, 27-3-100**



**ELEVATION**  
**TYPE 17-3-100, 24A-3-100,**  
**19-3-100, 26-3-100,**  
**19A-3-100, 26A-3-100, 24-3-100**

E Projected Length	F Min Spacing	G Mounting Height	H	Min OD at Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate Size	K Arm Thickness	L Pole Thickness	θ
15'-0"	8'-0"	21'-8"±	17'-6"	6 5/8"	0.1793"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°
20'-0"		21'-8"±		7"							
25'-0"		22'-8"±		7 5/8"							
30'-0"	12'-0"			8"							
35'-0"	14'-0"	23'-0"±	16'-0"	8 3/4"	0.2391"	13"	1'-1"	1 1/2"	1 3/4"	21°	
40'-0"				9 3/8"							
45'-0"	15'-0"	23'-8"±		10 1/16"							

M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height Pole
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±
10'-0"	3'-3"±	3 7/8"	0.1196"	32'-9"±
12'-0"	4'-3"±			33'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±

Pole Type	Load Case	Wind Velocity mph	POLE DATA				BASE PLATE DATA				Luminaire Arm	Signal Arm	CIDH PILE FOUNDATION					
			A Height	Min OD		Thickness	Alternative Section			C			D1 Bolt Circle	Thickness	Anchor Bolts Size	Diameter	Depth	Reinforced
				Base	Top		B Length	Bottom	Top									
16-3-100	3	100	18'-6"	10 3/4"	8 1/4"	0.1793"	None	8"	7 5/8"	1'-6"	1'-5 1/2"	1 1/2"	2"φ x 42" x 6"	3'-0"	9'-0"	Yes		
17-3-100			30'-0"		6 5/8"		10'-0"		7 5/8"									
18-3-100			17'-0"	8 7/16"	None													
19-3-100			30'-0"	7 7/8"	10'-0"	9 1/4"	7 7/8"											
19A-3-100			35'-0"	7 3/16"	15'-0"	7 3/16"												
23-3-100			17'-0"	9 5/8"	None													
24-3-100			30'-0"	7 7/8"	10'-0"	9 1/4"	7 7/8"											
24A-3-100			35'-0"	7 3/16"	15'-0"	7 3/16"												
26-3-100			30'-0"	8"	10'-0"	9 3/8"	8"											
26A-3-100			35'-0"	7 5/16"	15'-0"	7 5/16"												
27-3-100			17'-0"	9 3/4"	None													

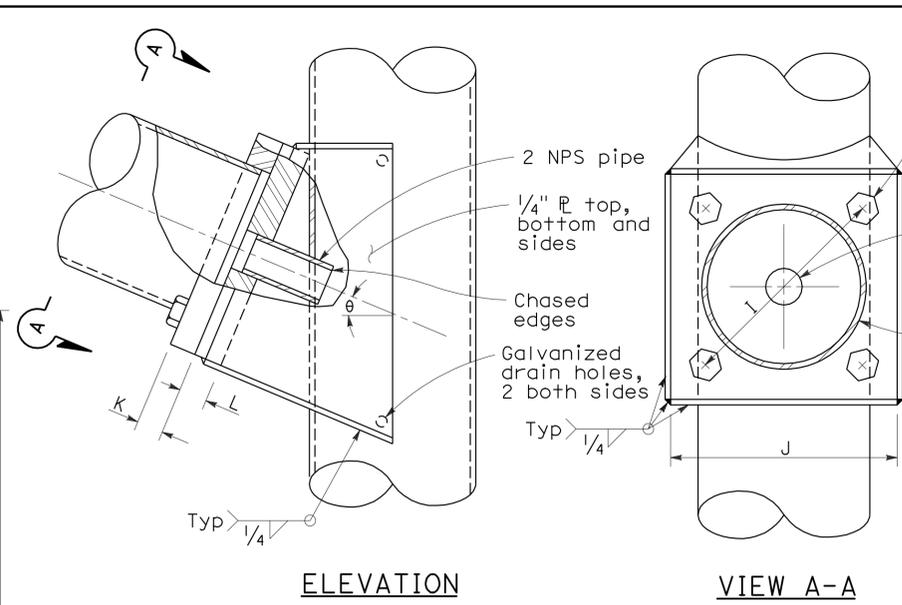
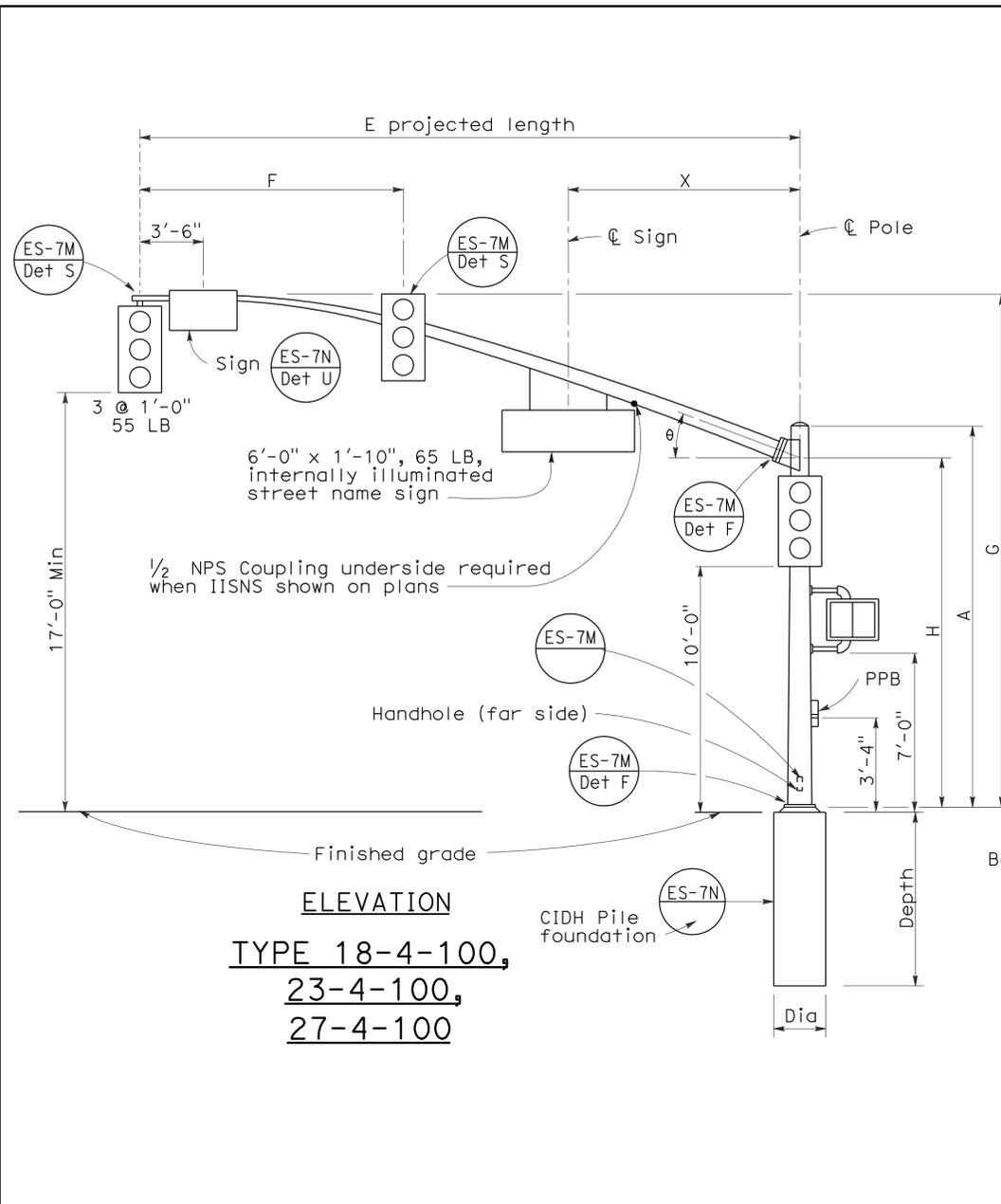
□ Indicates arm length to be used unless otherwise noted on plans.

**REVISED STANDARD PLAN RSP ES-7E**

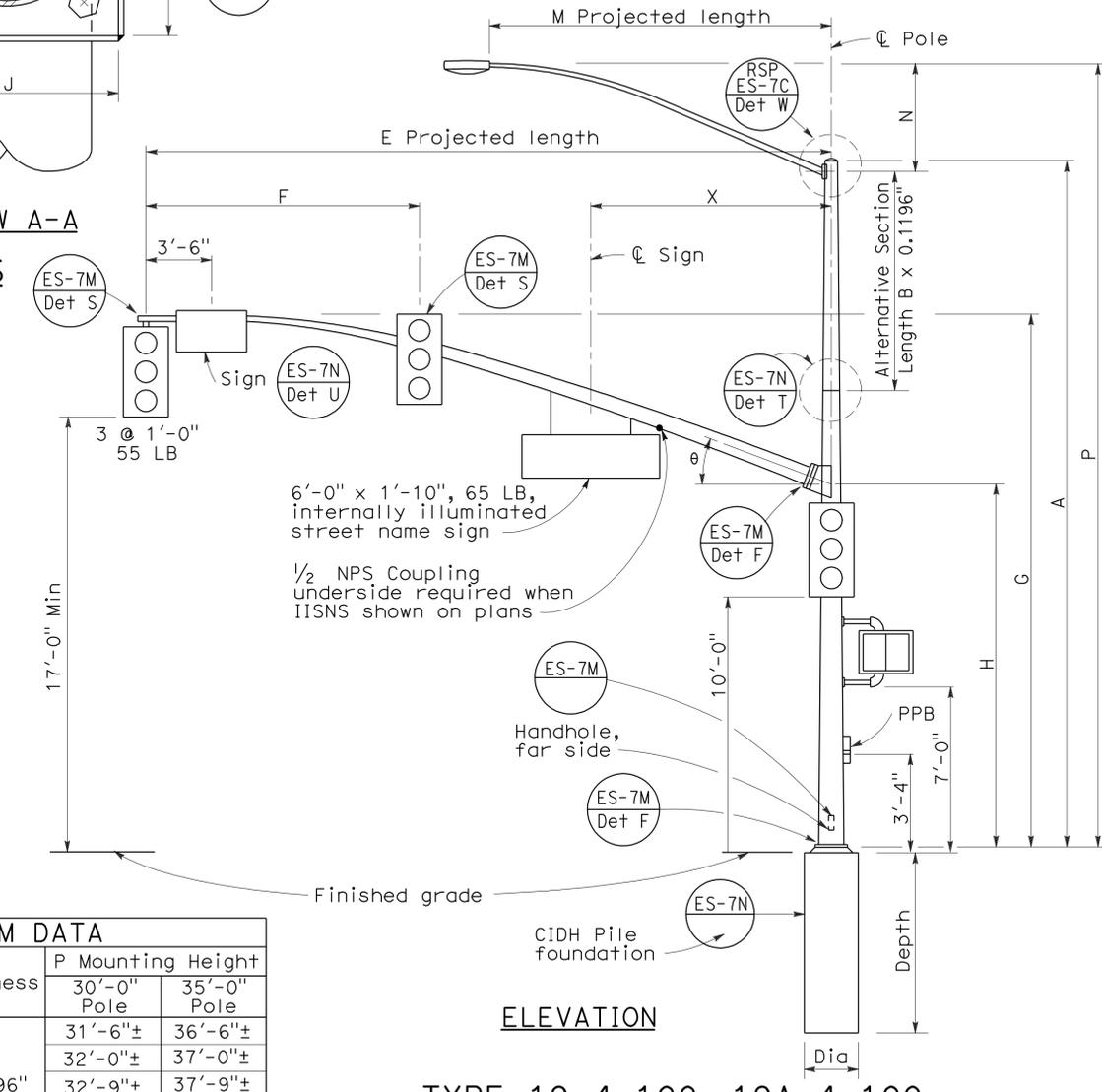
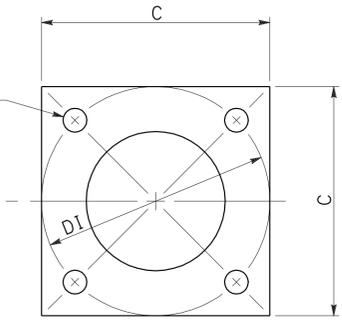
RSP ES-7E DATED JUNE 30, 2006 SUPERSEDES STANDARD PLAN DATED MAY 1, 2006 - PAGE 441 OF THE STANDARD PLANS BOOK DATED MAY 2006.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(SIGNAL AND LIGHTING STANDARD**  
**CASE 3 ARM LOADING**  
**WIND VELOCITY=100 MPH**  
**ARM LENGTHS 15' TO 45')**  
 NO SCALE

2006 REVISED STANDARD PLAN RSP ES-7E



**SIGNAL ARM CONNECTION DETAILS**



**ELEVATION**

TYPE 19-4-100, 19A-4-100,  
 24-4-100, 24A-4-100,  
 26-4-100, 26A-4-100

E Projected Length	F Min Spacing	G Mounting Height	H	Min OD at Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate Size	K Arm $\phi$ Thickness	L Pole $\phi$ Thickness	$\theta$	X Max
25'-0"	10'-0"	22'-8"±	16'-0"	7 5/16"	0.2391"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°	10'-6"
30'-0"	12'-0"	30'-0"		8"								
35'-0"	14'-0"	23'-0"±		8 1/16"								
40'-0"	15'-0"	40'-0"		9 3/8"								
45'-0"		23'-8"±	10 1/4"									

M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height	
				30'-0" Pole	35'-0" Pole
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	4"		33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

Pole Type	Load Case	Wind Velocity mph	POLE DATA						BASE PLATE DATA				Luminaire Arm	Signal Arm	CIDH PILE FOUNDATION				
			A Height	Min OD		Thickness	Alternative Section			C	DI Bolt Circle	Thickness			Anchor Bolts Size	Dia	Depth	Reinforced	
				Base	Top		B Length	Bottom	Top										
18-4-100	4	100	17'-0"	12"	0.2391"	None	9 3/8"	8"	1'-6"	1'-6"	1 1/2"	2" $\phi$ x 42" x 6"	None	25'-0", 30'-0"	3'-0"	9'-0"	Yes		
19-4-100			30'-0"			8"												None	8"
19A-4-100			35'-0"			7 5/16"												15'-0"	7 5/16"
23-4-100			17'-0"			9"												None	
24-4-100			30'-0"	12 1/2"	0.3125"	10'-0"	9 3/8"	8"	1'-6"	1'-6"	1 1/2"	2" $\phi$ x 42" x 6"	None	35'-0"	3'-0"	9'-0"	Yes		
24A-4-100			35'-0"			7 5/16"												15'-0"	7 5/16"
26-4-100			30'-0"	8"	10'-0"	8 3/8"													
26A-4-100			35'-0"	7 5/16"	15'-0"	7 1/16"													
27-4-100			17'-0"	9 3/4"	None														

□ Indicates arm length to be used unless otherwise noted on plans.

**REVISED STANDARD PLAN RSP ES-7F**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(SIGNAL AND LIGHTING STANDARD**  
**CASE 4 ARM LOADING**  
**WIND VELOCITY=100 MPH**  
**ARM LENGTHS 25' TO 45')**  
 NO SCALE

RSP ES-7F DATED OCTOBER 5, 2007 SUPERCEDES RSP ES-7F DATED  
 NOVEMBER 17, 2006 AND STANDARD PLAN ES-7F DATED MAY 1, 2006 -  
 PAGE 442 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-7F

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	89	91

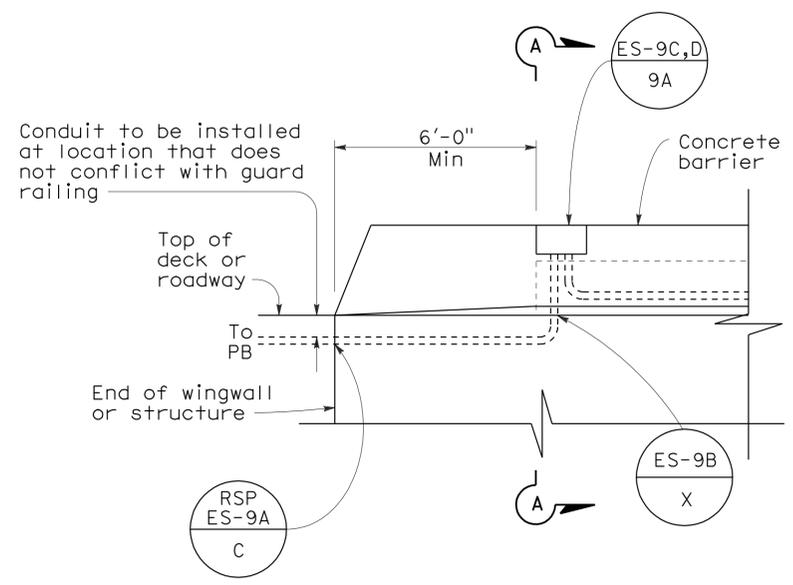
Jeffrey G. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

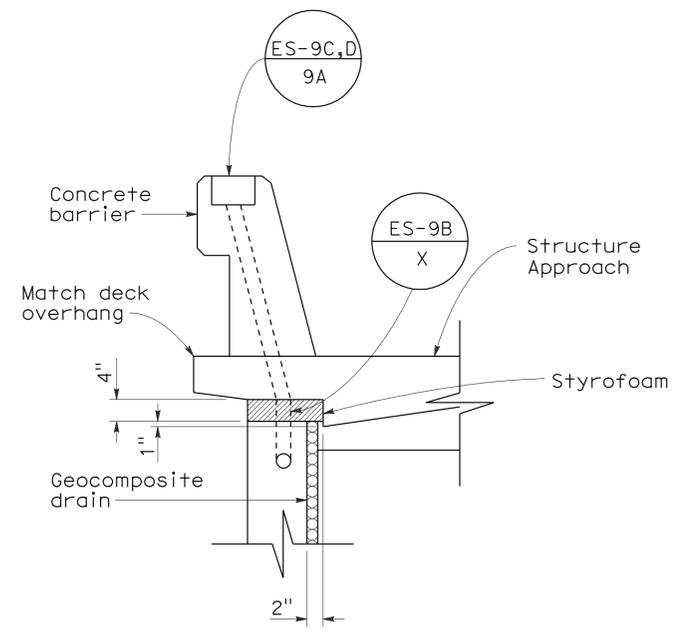
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-13-09

2006 REVISED STANDARD PLAN RSP ES-9A

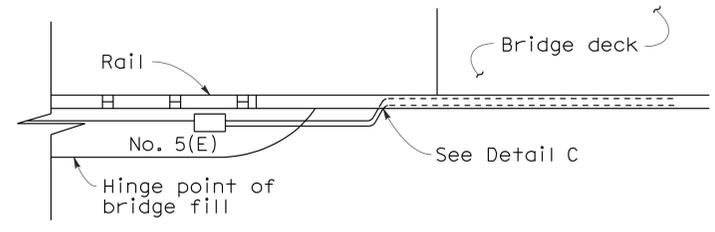


**SIDEVIEW**

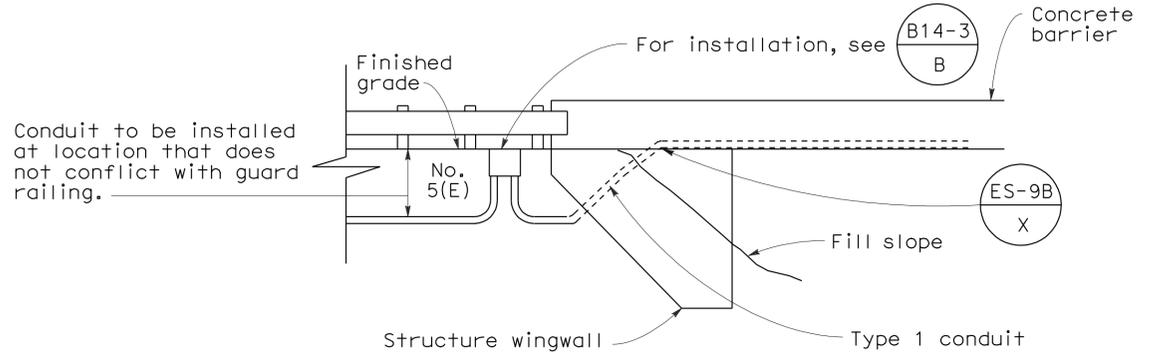


**SECTION A-A**

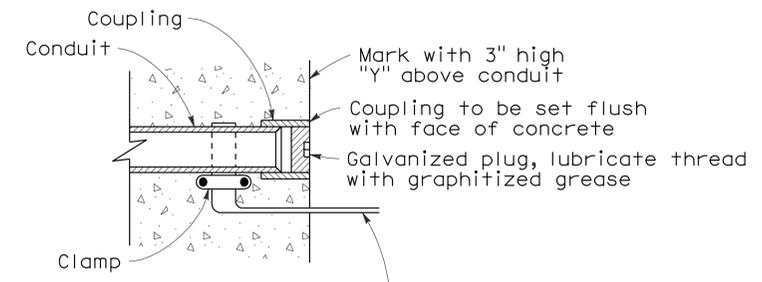
**DETAIL A  
CONDUIT TERMINATION**



**TOP VIEW**



**SIDE VIEW  
DETAIL I  
CONDUIT TERMINATION**



**DETAIL C  
CONDUIT TERMINATION**

Copper bonding strap install only at structure construction joint, extend at least 6" from face of concrete

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(ELECTRICAL DETAILS  
STRUCTURE INSTALLATIONS)**

NO SCALE

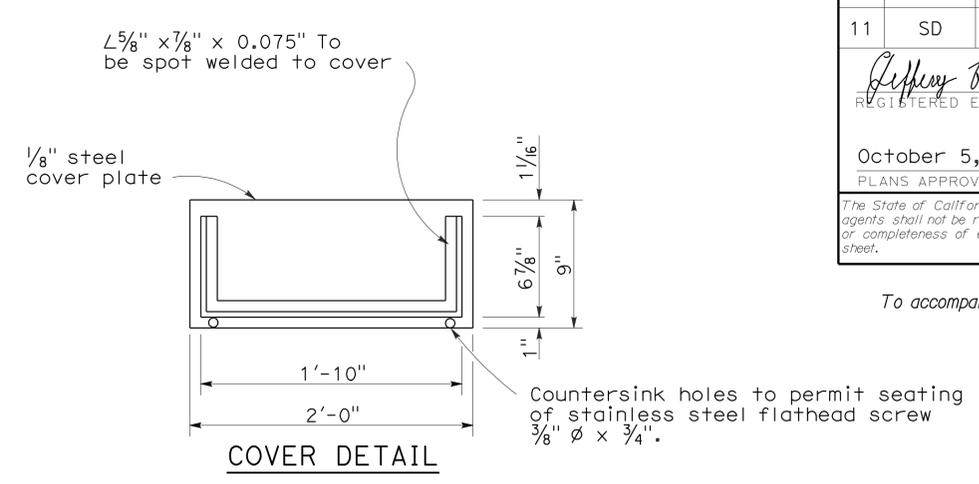
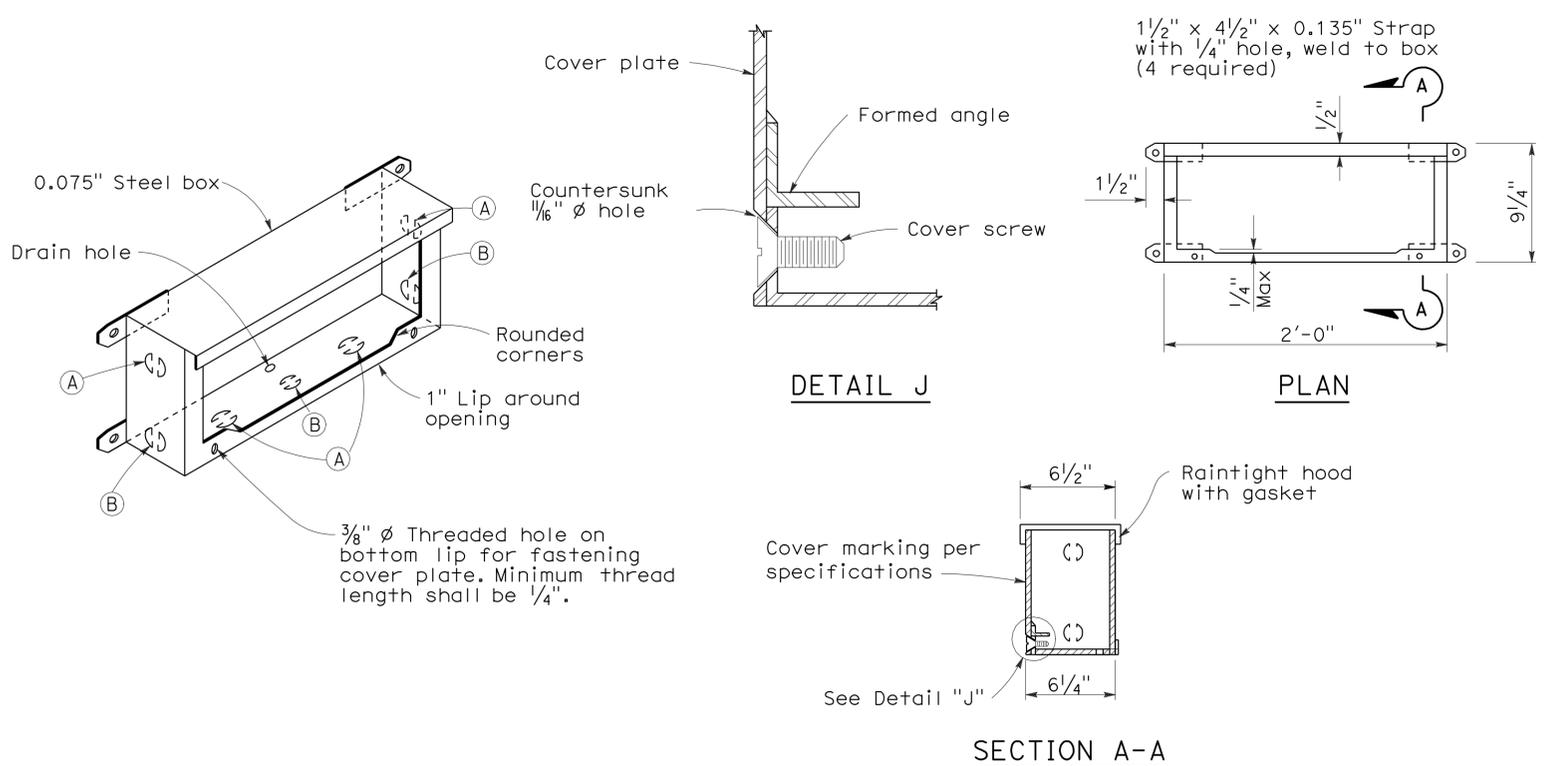
RSP ES-9A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9A DATED MAY 1, 2006 - PAGE 454 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-9A**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	90	91

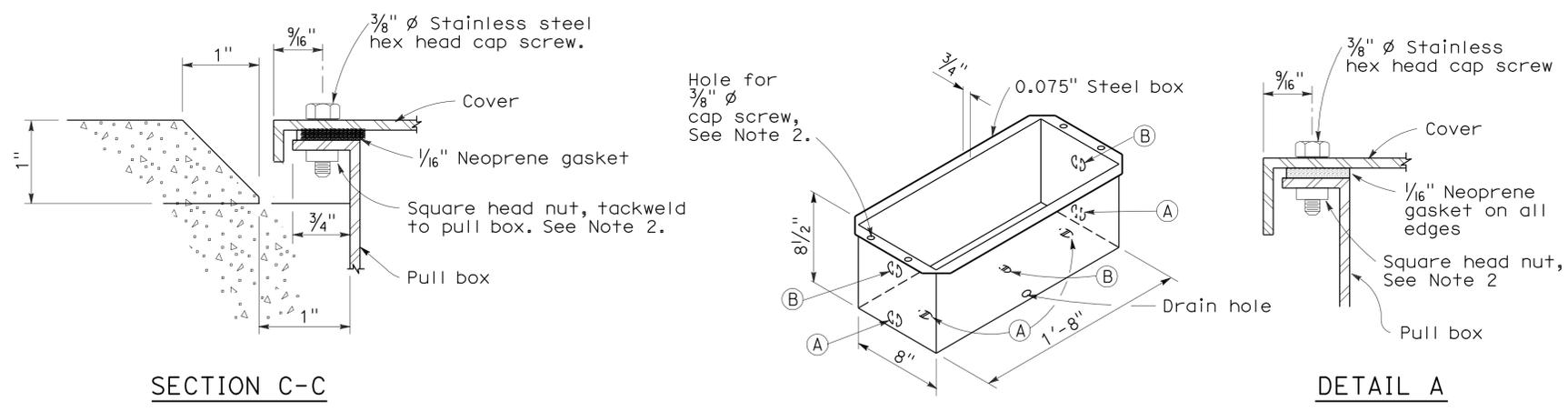
REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA



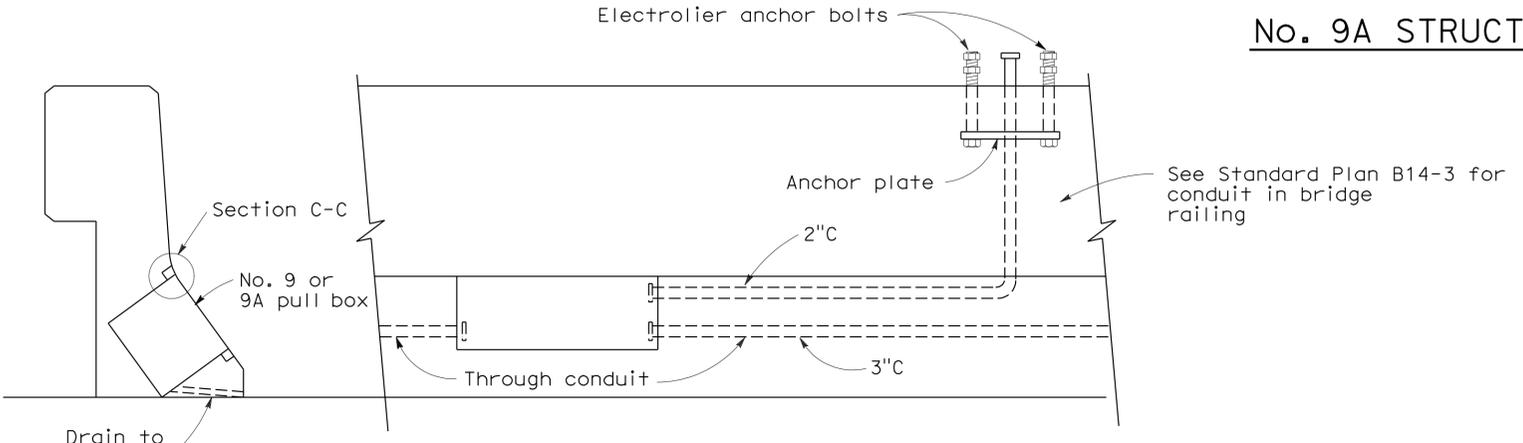
**INSTALLATION NOTE:**  
 Box shall be parallel to top of railing. Close cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

**No. 9 STRUCTURE PULL BOX**



- NOTES:** No. 9 and 9A Pull Box
- Corner joints shall be lapped and secured by spot welding or riveting.
  - Where cap screws are used to attach cover to box, either of the following methods of providing adequate threading may be used:
    - Tack weld square nut to bottom of flange (Total 4), or
    - Tack weld a 1/4" x 5/8" x 8" bar beneath flange (Total 2).
  - Pound knockouts flat after punching.
  - Multiple size knockouts shall not be permitted.
  - Pull box covers shall be marked as shown on Standard Plan ES-8.

**No. 9A STRUCTURE PULL BOX**



**INSTALLATION IN SLOPING PARAPETS**

For reinforcement in area of electrolier, see railing sheets. For electrolier anchor bolts, see Standard Plan ES-6B.

- KNOCKOUT SCHEDULE**  
**No. 9 AND 9A PULL BOX**
- (A) 2"C, 1 each end, 2 on bottom.
  - (B) 3"C, 1 each end, 1 on bottom.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(ELECTRICAL DETAILS**  
**STRUCTURE INSTALLATIONS)**

NO SCALE  
 RSP ES-9C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9C  
 DATED MAY 1, 2006 - PAGE 456 OF THE STANDARD PLANS BOOK DATED MAY 2006.  
**REVISED STANDARD PLAN RSP ES-9C**

2006 REVISED STANDARD PLAN RSP ES-9C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	94	7.9	91	91

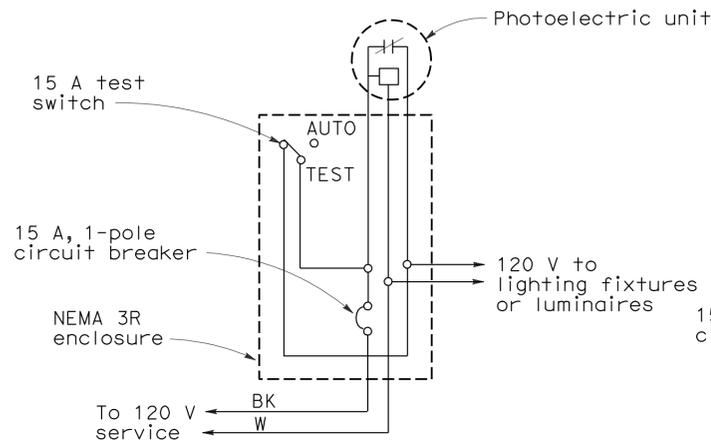
*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER  
 Jeffery G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

**NOTES:** (FOR LIGHTING AND SIGN ILLUMINATION CONTROL)

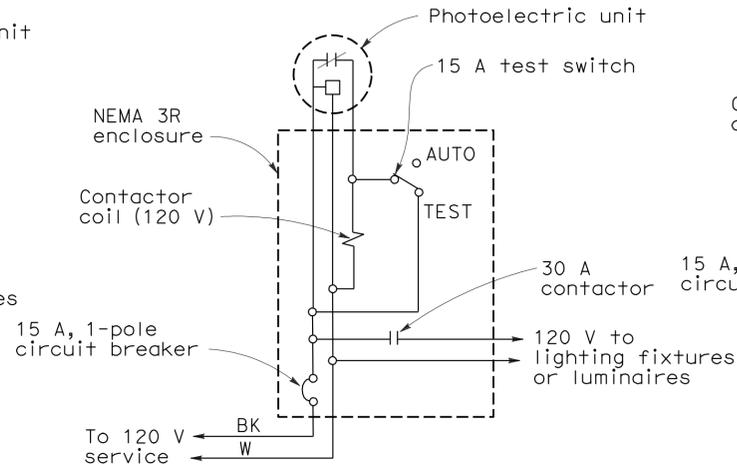
1. The ballast voltages of lighting fixtures and luminaires shall match line service voltages.
2. Voltage rating of photoelectric controls shall conform to the service voltage indicated on the plans.
3. Terminal strip shall be provided for wiring to fixtures.
4. Type SC1A, SC2A, SC3A controls are similar to Types SC1, SC2 and SC3 controls respectively except test switch and wiring are not required.

To accompany plans dated 4-13-09



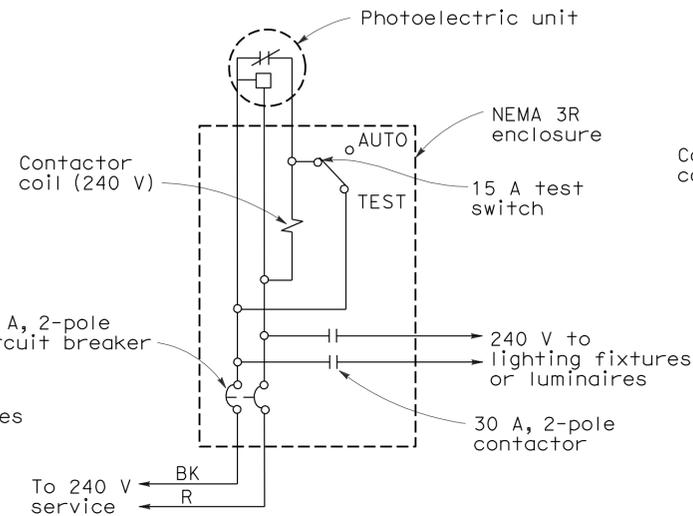
**TYPE LC1 CONTROL**

For 120 V unswitched circuit with no more than 800 W load.



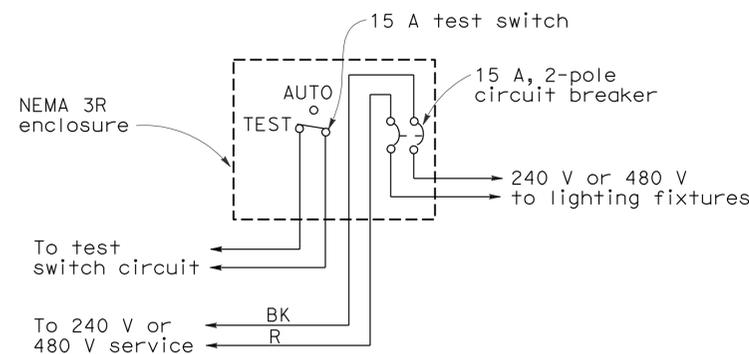
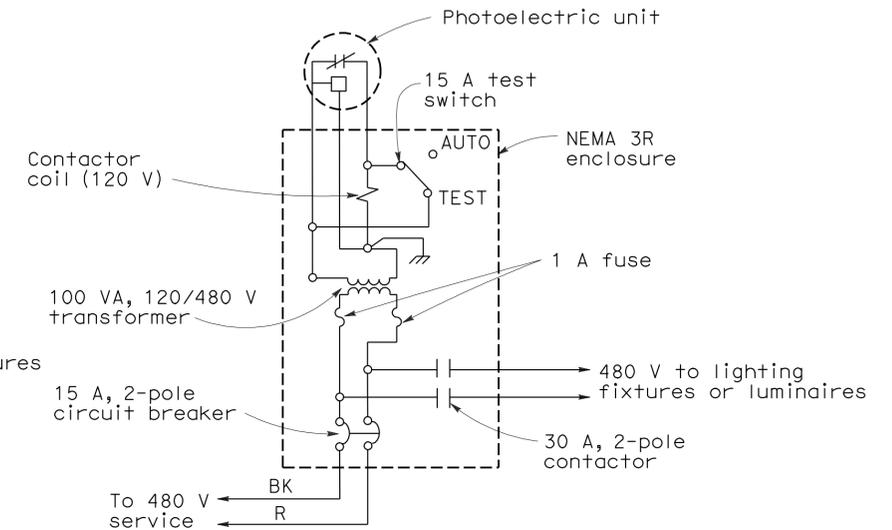
**TYPE LC2 CONTROL**

For 120 V unswitched circuit



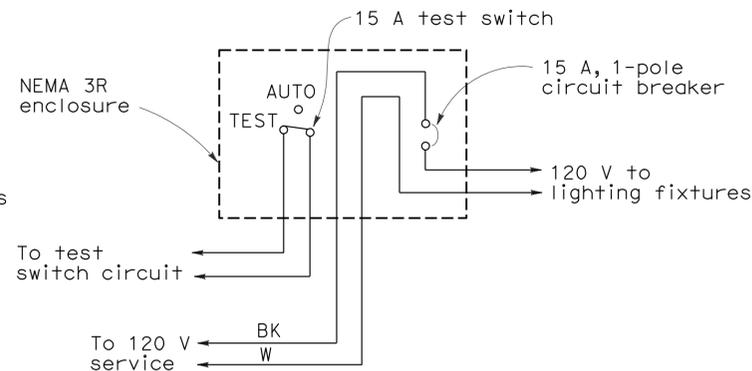
**TYPE LC3 CONTROL**

For 240 V and 480 V unswitched circuits



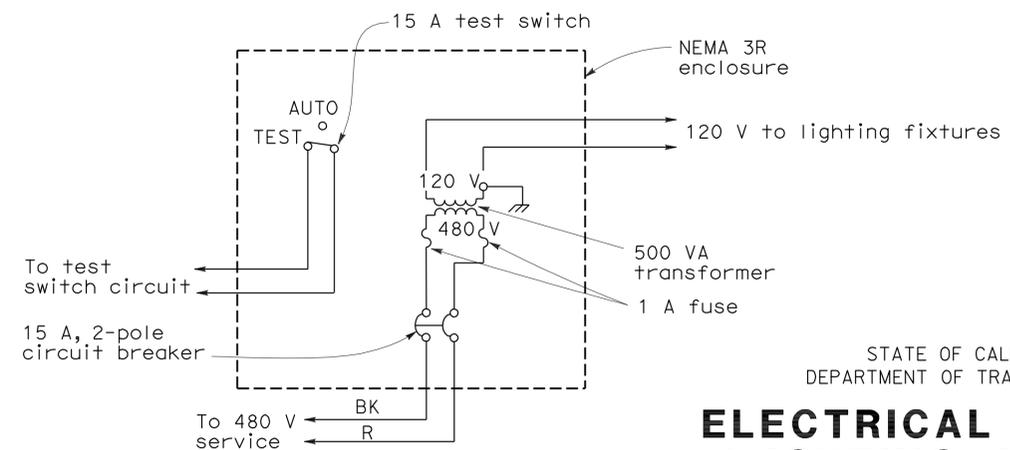
**TYPE SC1 CONTROL**

For 240 V or 480 V switched circuit, see Note 4 for Type SC1A



**TYPE SC2 CONTROL**

For 120 V switched circuit, see Note 4 for Type SC2A



**TYPE SC3 CONTROL**

For 480 V switched sign circuit, see Note 4 for Type SC3A

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (LIGHTING AND SIGN  
 ILLUMINATION CONTROL)**

NO SCALE

RSP ES-15D DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-15D DATED MAY 1, 2006 - PAGE 472 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-15D**

2006 REVISED STANDARD PLAN RSP ES-15D