

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	101	151

MRAmin 04-22-15
 REGISTERED CIVIL ENGINEER DATE

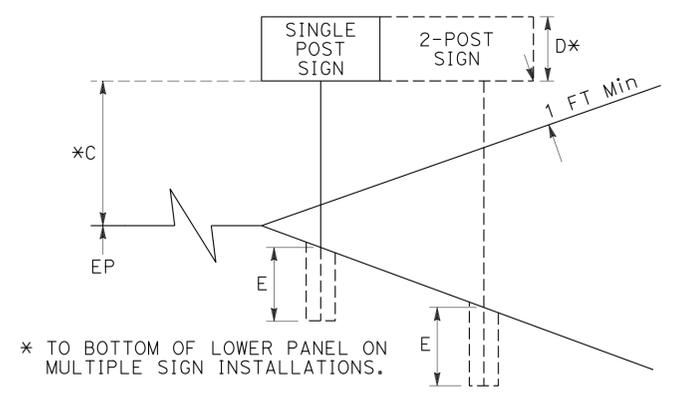
08-24-15
 PLANS APPROVAL DATE

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.

CH2M HILL
 402 W BROADWAY
 SAN DIEGO, CA 92101

NOTES:

- FEDERAL (MUTCD) SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA) INDICATING STANDARD CALIFORNIA SIGN SPECIFICATIONS.
- EXACT LOCATION OF SIGNS AND POSTS SHALL BE DETERMINED BY THE ENGINEER.
- REFER TO "FURNISH ROADSIDE SIGN PANEL" CHART FOR FURTHER INFORMATION.



* TO BOTTOM OF LOWER PANEL ON MULTIPLE SIGN INSTALLATIONS.

ROADSIDE SIGN QUANTITIES (Cont)

SIGN No.	SIGN CODE	STATION	DIRECTION	PANEL SIZE			D	C	E	Min POST LENGTH	POST SIZE				ROADSIDE SIGNS					REMARKS					
				HORIZONTAL	VERTICAL	D					C	E	Min POST LENGTH	4 x 4	4 x 6	6 x 6	6 x 8	LAMINATED	LAMINATED		ONE POST	TWO POST	REMOVE	TREATED WOOD WASTE	SIGN POST SUPPORT SYSTEM
																		(L)	(M)		EA	EA	EA	EA	EA
				INCHES			LF	LF	LF	LF	INCHES				EA	EA	EA	EA	EA	EA					
31	S30 Mod (CA)	3792+00	WB	42	x	24	2.0														REMOVE				
32	S30 Mod (CA)	3792+00	WB	42	x	24	2.0	7.0	4.5	13.5		x									INSIDE SHOULDER				
33	S30 Mod (CA)	3792+00	WB	42	x	24	2.0														REMOVE				
34	S30 Mod (CA)	3792+00	WB	42	x	24	2.0	7.0	4.5	13.5		x									REMOVE				
35	W3-4	3797+00	WB	48	x	48	4.0														REMOVE				
36	W3-4	3797+00	WB	48	x	48	4.0	7.0	5.0	16.0			x								INSIDE SHOULDER				
37	W3-4	3797+00	WB	48	x	48	4.0														REMOVE				
38	W3-4	3797+00	WB	48	x	48	4.0	7.0	5.0	16.0			x								REMOVE				
39	W3-4	3812+60	WB	48	x	48	4.0														REMOVE				
40	W3-4	3812+60	WB	48	x	48	4.0	7.0	5.0	16.0			x								INSIDE SHOULDER				
41	W3-4	3812+60	WB	48	x	48	4.0														REMOVE				
42	W3-4	3812+60	WB	48	x	48	4.0	7.0	5.0	16.0			x								REMOVE				
43	R8-4	3823+15	WB	48	x	36	3.0														REMOVE				
44	R8-4	3823+15	WB	48	x	36	3.0	7.0	4.5	14.5		x									REMOVE				
45	SW60(CA)	3833+70	WB	48	x	48	4.0														REMOVE				
46	SW60(CA)	3833+70	WB	48	x	48	4.0	7.0	5.0	16.0			x								INSIDE SHOULDER				
47	SW60(CA)	3833+70	WB	48	x	48	4.0														REMOVE				
48	SW60(CA)	3833+70	WB	48	x	48	4.0	7.0	5.0	16.0			x								REMOVE				
49	W8-4	3865+40	WB	48	x	48	4.0														REMOVE				
50	W8-4	3865+40	WB	48	x	48	4.0	7.0	5.0	16.0			x								REMOVE				
51	R4-3	3875+95	WB	36	x	48	4.0														REMOVE				
52	R4-3	3875+95	WB	36	x	48	4.0	7.0	4.5	15.5		x									INSIDE SHOULDER				
53	G27-1 (CA) (8)	3891+80	WB	24	x	24	2.0														REMOVE				
	G50 (CA)			21	x	9	0.8																		
54	G27-1 (CA) (8)	3891+80	WB	24	x	24	2.0	7.0	3.5	13.3	x														
	G50 (CA)			21	x	9	0.8																		
55	W4-1R	3906+50	WB	48	x	48	4.0														REMOVE				
56	W4-1R	3906+50	WB	48	x	48	4.0	7.0	5.0	16.0			x								1				
57	R5-10a	3918+00	WB	30	x	36	3.0														REMOVE				
58	R5-10a	3918+00	WB	30	x	36	3.0	7.0	4.5	14.5		x									REMOVE				
59	G84-3(CA) (151)	3918+50	WB	48	x	60	5.0														REMOVE				
60	G84-3(CA) (151)	3918+50	WB	48	x	60	5.0	7.0	5.0	17.0			x								1				
61	W3-1	3919+00	WB	48	x	48	4.0														REMOVE				
62	W3-1	3919+00	WB	48	x	48	4.0	7.0	5.0	16.0			x								REMOVE				
63	R44B(CA)	3930+50	WB	30	x	36	3.0														REMOVE				
64	R44B(CA)	3930+50	WB	30	x	36	3.0	7.0	4.5	14.5		x									REMOVE				
65	R8-4	3961+20	WB	48	x	36	3.0														REMOVE				
66	R8-4	3961+20	WB	48	x	36	3.0	7.0	4.5	14.5		x									REMOVE				
67, 68, 69, 70																						NOT USED			
SHEET TOTAL															18	18	2,016	2							

SIGN QUANTITIES SQ-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Et Caltrans®
 CONSULTANT - FUNCTIONAL SUPERVISOR: HANY HAROUN
 CALCULATED/DESIGNED BY: MOHAMMAD AMIN
 CHECKED BY: MARK FRICKE
 REVISIONS: 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

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MRAmin 04-22-15
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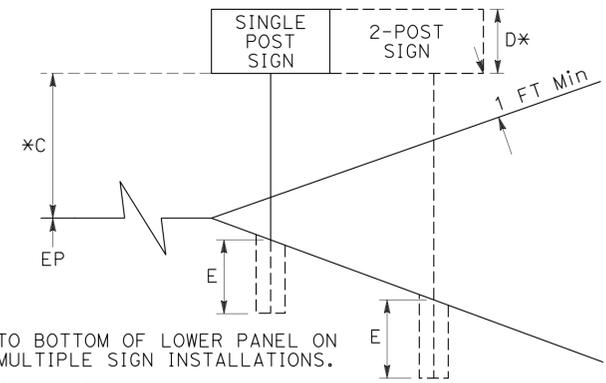
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CH2M HILL
 402 W BROADWAY
 SAN DIEGO, CA 92101

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* TO BOTTOM OF LOWER PANEL ON MULTIPLE SIGN INSTALLATIONS.

ROADSIDE SIGN QUANTITIES (Cont)

SIGN No.	SIGN CODE	STATION	DIRECTION	PANEL SIZE			D	C	E	Min POST LENGTH	POST SIZE				ROADSIDE SIGNS					REMARKS									
				HORIZONTAL		VERTICAL					4 x 4	4 x 6	6 x 6	6 x 8	LAMINATED (L)	LAMINATED (M)	ONE POST	TWO POST	REMOVE		TREATED WOOD WASTE	SIGN POST SUPPORT SYSTEM							
																							INCHES	LF	LF	LF	EA	EA	EA
71	G84-3(CA) (143)	3490+50	EB	48	x	60	5.0										1	146		REMOVE									
72	G84-3(CA) (143)	3490+50	EB	48	x	60	5.0	7.0	5.0	17.0							1		1	REMOVE									
73	W4-1R	3512+50	EB	48	x	48	4.0										1	138		REMOVE									
74	W4-1R	3512+50	EB	48	x	48	4.0	7.0	5.0	16.0							1		1	REMOVE									
75	G27-1 (CA) (8)	3521+50	EB	24	x	24	2.0										1			REMOVE									
	G49 (CA)			21	x	9	0.8																						
76	G27-1 (CA) (8)	3521+50	EB	24	x	24	2.0	7.0	3.5	13.3	x						1												
	G49 (CA)			21	x	9	0.8																						
77	R2-1(70)	3527+45	EB	48	x	60	5.0										1	159		REMOVE									
	R48-1 (CA)			36	x	18	1.5																						
78	R2-1(70)	3527+45	EB	48	x	60	5.0	7.0	5.0	18.5							1												
	R48-1 (CA)			36	x	18	1.5																						
79	R6-4(CA)	3538+00	EB	48	x	60	5.0										1	189		REMOVE									
	R48-1 (CA)			36	x	18	1.5																						
80	R6-4(CA)	3538+00	EB	48	x	60	5.0	7.0	4.5	16.5			x				1												
	R48-1 (CA)			36	x	18	1.5																						
81	R8-4	3559+15	EB	48	x	36	3.0										1	83		REMOVE									
82	R8-4	3559+15	EB	48	x	36	3.0	7.0	4.5	14.5			x				1												
83	G84-3(CA) (146)	3658+50	EB	48	x	60	5.0										1	146		REMOVE									
84	G84-3(CA) (146)	3658+50	EB	48	x	60	5.0	7.0	5.0	17.0							1		1										
85	W3-1	3659+50	EB	48	x	48	4.0										1	138		REMOVE									
86	W3-1	3659+50	EB	48	x	48	4.0	7.0	5.0	16.0							1												
87	W4-1R	3672+50	EB	48	x	48	4.0										1	138		REMOVE									
88	W4-1R	3672+50	EB	48	x	48	4.0	7.0	5.0	16.0							1		1										
89	G27-1 (CA) (8)	3685+50	EB	24	x	24	2.0										1	51		REMOVE									
	G49 (CA)			21	x	9	0.8																						
90	G27-1 (CA) (8)	3685+50	EB	24	x	24	2.0	7.0	3.5	13.3	x						1												
	G49 (CA)			21	x	9	0.8																						
91	R4-3	3717+55	EB	36	x	48	4.0										1	89		REMOVE									
92	R4-3	3717+55	EB	36	x	48	4.0	7.0	4.5	15.5			x				1			INSIDE SHOULDER REMOVE									
93	R8-4	3717+55	EB	48	x	36	3.0										1	83											
94	R8-4	3717+55	EB	48	x	36	3.0	7.0	4.5	14.5			x				1												
95	SW60(CA)	3722+80	EB	48	x	48	4.0										1	138		REMOVE									
96	SW60(CA)	3722+80	EB	48	x	48	4.0	7.0	5.0	16.0							1			INSIDE SHOULDER REMOVE									
97	SW60(CA)	3722+80	EB	48	x	48	4.0										1	138											
98	SW60(CA)	3722+80	EB	48	x	48	4.0	7.0	5.0	16.0							1												
SHEET TOTAL																													

SIGN QUANTITIES
SQ-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Et Caltrans®
 HANY HAROUN
 CONSULTANT - FUNCTIONAL SUPERVISOR
 MOHAMMAD AMIN
 MARK FRICKE
 REVISOR
 DATE
 REVISIONS
 DATE

LAST REVISION | DATE PLOTTED => 25-AUG-2015
 07-17-15 TIME PLOTTED => 08:48

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MRAmin 04-22-15
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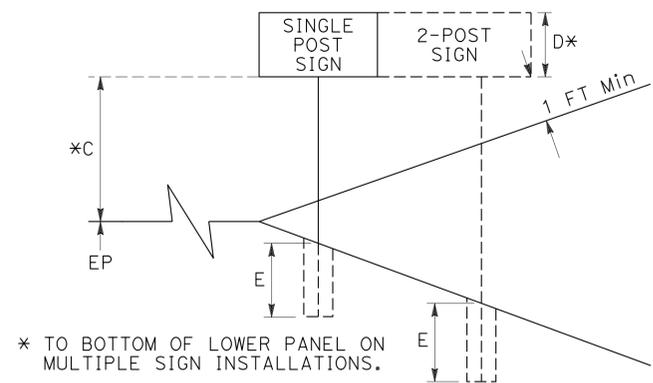
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CH2M HILL
 402 W BROADWAY
 SAN DIEGO, CA 92101

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ROADSIDE SIGN QUANTITIES (Cont)

SIGN No.	SIGN CODE	STATION	DIRECTION	PANEL SIZE			D	C	F	Min POST LENGTH	POST SIZE				ROADSIDE SIGNS					REMARKS												
				HORIZONTAL	VERTICAL	D					C	F	Min POST LENGTH	4 x 4	4 x 6	6 x 6	6 x 8	LAMINATED	LAMINATED		ONE POST	TWO POST	REMOVE	TREATED WOOD WASTE	SIGN POST SUPPORT SYSTEM							
																		(L)	(M)		EA	EA	EA	EA	EA	EA						
INCHES				LF	LF	LF	LF	INCHES				EA	EA	EA	EA	EA	EA															
99	W3-4	3743+95	EB	48	x	48	4.0														REMOVE											
100	W3-4	3743+95	EB	48	x	48	4.0	7.0	5.0	16.0			x				1				INSIDE SHOULDER											
101	W3-4	3743+95	EB	48	x	48	4.0														REMOVE											
102	W3-4	3743+95	EB	48	x	48	4.0	7.0	5.0	16.0			x				1															
103	W3-4	3765+05	EB	48	x	48	4.0														REMOVE											
104	W3-4	3765+05	EB	48	x	48	4.0	7.0	5.0	16.0			x				1				INSIDE SHOULDER											
105	W3-4	3765+05	EB	48	x	48	4.0														REMOVE											
106	W3-4	3765+05	EB	48	x	48	4.0	7.0	5.0	16.0			x				1															
107	S30 Mod (CA)	3770+35	EB	42	x	24	2.0														REMOVE											
108	S30 Mod (CA)	3770+35	EB	42	x	24	2.0	7.0	4.5	13.5			x				1				INSIDE SHOULDER											
109	S30 Mod (CA)	3770+35	EB	42	x	24	2.0														REMOVE											
110	S30 Mod (CA)	3770+35	EB	42	x	24	2.0	7.0	4.5	13.5			x				1															
111	W3-1	3775+60	EB	48	x	48	4.0														REMOVE											
112	W3-1	3775+60	EB	48	x	48	4.0	7.0	5.0	16.0			x				1				INSIDE SHOULDER											
113	W3-1	3775+60	EB	48	x	48	4.0														REMOVE											
114	W3-1	3775+60	EB	48	x	48	4.0	7.0	5.0	16.0			x				1															
115	W8-4	3812+60	EB	48	x	48	4.0														REMOVE											
116	W8-4	3812+60	EB	48	x	48	4.0	7.0	5.0	16.0			x				1															
117	G84-3(CA) (151)	3905+10	EB	48	x	60	5.0														REMOVE											
118	G84-3(CA) (151)	3905+10	EB	48	x	60	5.0	7.0	5.0	17.0			x				1				1											
119	W3-1	3905+10	EB	48	x	48	4.0														REMOVE											
120	W3-1	3905+10	EB	48	x	48	4.0	7.0	5.0	16.0			x				1															
121	W4-1R	3917+50	EB	48	x	48	4.0														REMOVE											
122	W4-1R	3917+50	EB	48	x	48	4.0	7.0	5.0	16.0			x				1				1											
123	G27-1 (CA) (8)	3932+00	EB	24	x	24	2.0														1	REMOVE										
	G49 (CA)			21	x	9	0.8																									
124	G27-1 (CA) (8)	3932+00	EB	24	x	24	2.0	7.0	3.5	13.3	x																					
	G49 (CA)			21	x	9	0.8																									
TOTAL																						13			13	1,595	2					
TOTAL FROM SHEET SQ-3																																
TOTAL FROM SHEET SQ-4																																
TOTAL FROM SHEET SQ-5																																
TOTAL																																

*SEE SHEET Q-4 FOR GRAND TOTAL.

SIGN QUANTITIES SQ-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT SUPERVISOR: HANY HAROUN

FUNCTIONAL SUPERVISOR: MOHAMMAD AMIN

MARK FRICKE

REVISOR: MOHAMMAD AMIN

DATE: 04-22-15

REVISIONS:

LAST REVISION DATE PLOTTED => 25-AUG-2015
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05-06-15
REGISTERED CIVIL ENGINEER DATE

08-24-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
MICHAEL ROBINSON
No. C 70317
Exp. 9/30/16
CIVIL
STATE OF CALIFORNIA

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CH2M HILL
402 W BROADWAY
SAN DIEGO, CA 92101

ROADWAY QUANTITIES (TRAVELED WAY AND SHOULDERS) (Cont)

ALIGNMENT	STATION		DIRECTION	LENGTH	TRAVELED WAY WIDTH (N)		SHOULDER WIDTH (N)				CONTINUOUSLY REINFORCED CONCRETE PAVEMENT	HOT MIX ASPHALT (TYPE A)	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	LEAN CONCRETE BASE	CLASS 2 AGGREGATE BASE	ASPHALTIC EMULSION (FOG SEAL COAT)	TACK COAT	ROADWAY EXCAVATION	SHOULDER RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)	SHOULDER RUMBLE STRIP (CONCRETE PAVEMENT, GROUND-IN INDENTATIONS)	REMARKS	
							INSIDE		OUTSIDE													
	BEGIN	END			LF	LF	LF	LF	LF	LF												LF
"M2"	3502+94.65	3503+91.21	EB	97	125	12	2	2	8	8		76	57			0.03	0.17	68			"M-2" RAMP TERMINAL	
"M2"	3503+91.21	3513+05.60	EB	914	12	12	2	2	8	8		292	219			0.22	0.66	261			"M-2" RAMP BODY	
"M2"	3513+05.60	3517+40.47	EB	435	12	12			8	8		127	95			0.09	0.29	113			"M-2" ON-RAMP GORE	
"M3"	3490+82.66	3493+55.35	EB	273	12	12			8	8		60	60			0.06	0.18	61			"M-3" OFF-RAMP GORE	
"M3"	3493+55.35	3501+68.74	EB	813	12	12	2	2	8	8		195	195			0.19	0.58	199			"M-3" RAMP BODY	
"M3"	3501+68.74	3503+22.74	EB	154	12	106	2	2	8	8		59	59			0.03	0.18	60			"M-3" RAMP TERMINAL	
"M4"	3492+37.06	3496+59.79	WB	423	12	12			8	8		92	92			0.08	0.28	94			"M-4" ON-RAMP GORE	
"M4"	3496+59.79	3503+67.57	WB	708	12	12	2	2	8	8		170	170			0.17	0.51	174			"M-4" RAMP BODY	
"M4"	3503+67.57	3504+68.42	WB	101	12	101	2	2	8	8		48	48			0.02	0.15	49			"M-4" RAMP TERMINAL	
TOTAL												1,119	995				0.89	3.00	1,079			
TOTAL FROM SHEET Q-1											127,058	70,083	720	784	84,611	0.93	0.96	248,499	20	1,911		
TOTAL FROM REPLACE ASPHALT DIKE (RAMPS)																0.23						
TOTAL FROM SHEET Q-4																1.10						
TOTAL FROM SHEET SCQ-6												32,849			33,308			87,757				
GRAND TOTAL											127,058	104,051	1,715	784	117,919	3.15	3.96	337,335	20	1,911		

REPLACE ASPHALT DIKE (RAMPS)

ALIGNMENT	DIRECTION	SHOULDER	LOCATION		REMOVE AC DIKE LENGTH LF (N)	PLACE HMA DIKE LF		MINOR HMA TON	ASPHALTIC EMULSION (FOG SEAL COAT) TON	REMARKS
			STATION BEGIN	STATION END		TYPE				
						D	E			
"M1"	WB	OUTSIDE	3504+64	3505+34	115		115	2.93	0.01	CURB RETURN
"M1"	WB	OUTSIDE	3505+34	3512+87	754		754	19.17	0.03	
"M1"	WB	INSIDE	3504+58	3504+98	53		53	1.35	0.01	CURB RETURN
"M1"	WB	INSIDE	3504+98	3505+07	9		9	0.23	0.01	
"M2"	EB	OUTSIDE	3502+95	3503+88	124		124	3.16	0.01	CURB RETURN
"M2"	EB	OUTSIDE	3503+88	3511+52	764		764	19.44	0.03	
"M2"	EB	OUTSIDE	3511+52	3512+52	100	100		5.74	0.01	100' BEFORE OVERSIDE DRAIN
"M2"	EB	INSIDE	3503+40	3503+39	77		77	1.96	0.01	CURB RETURN
"M3"	EB	OUTSIDE	3494+45	3502+34	789		789	20.08	0.03	
"M3"	EB	OUTSIDE	3502+34	3502+93	98		98	2.50	0.01	CURB RETURN
"M3"	EB	INSIDE	3502+51	3502+66	16		16	0.39	0.01	
"M3"	EB	INSIDE	3502+66	3503+00	46		46	1.18	0.01	CURB RETURN
"M4"	WB	OUTSIDE	3497+60	3504+03	643		643	16.37	0.02	
"M4"	WB	OUTSIDE	3504+03	3504+67	78		78	1.99	0.01	CURB RETURN
"M4"	WB	INSIDE	3503+68	3504+08	41		41	1.03	0.01	
"M4"	WB	INSIDE	3504+08	3504+18	76		76	1.94	0.01	CURB RETURN
TOTAL					3,783	100	3,683	99.46	0.23	
TOTAL FROM SHEET Q-4								18.88		
GRAND TOTAL					3,783	100	3,683	118.34	0.23 *	

* SEE ROADWAY QUANTITIES FOR GRAND TOTAL

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

SUMMARY OF QUANTITIES Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT: HANY HAROUN
DESIGNED BY: RYAN MITRY
CHECKED BY: MIKE ROBINSON
REVISIONS: 07-17-15 TIME PLOTTED => 08:49

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: HANY HAROUN
 SUPERVISOR: HANY HAROUN
 DESIGNED BY: RYAN MITRY
 CHECKED BY: MIKE ROBINSON
 REVISED BY: RYAN MITRY
 DATE REVISED: MIKE ROBINSON

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	106	151

05-06-15
 REGISTERED CIVIL ENGINEER DATE

08-24-15
 PLANS APPROVAL DATE

MICHAEL ROBINSON
 No. C 70317
 Exp. 9/30/16
 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.

CH2M HILL
 402 W BROADWAY
 SAN DIEGO, CA 92101

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT TERMINAL JOINTS

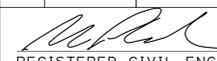
ALIGNMENT	DIRECTION	STATION	OFFSET		TERMINAL JOINT TYPE	JOINT SEAL (TYPE A)	JOINT SEAL (MR 2")	REMARKS
			BEGIN	END				
"IMP-8"	WB	3466+00	45	84	WF	39	39	BEGIN PROJECT (WEST LIMIT)
"IMP-8"	EB	3466+00	45	84	WF	39	39	BEGIN PROJECT (WEST LIMIT)
"IMP-8"	WB	3485+37	74	84	A			WB ON-RAMP FROM Rte 98 ("M-4"), WEST LIMIT (MERGE AREA)
"IMP-8"	EB	3489+18	74	84	A			EB OFF-RAMP TO Rte 98 ("M-3"), WEST LIMIT (TAPER AREA)
"IMP-8"	EB	3493+54	74	84	A			EB OFF-RAMP TO Rte 98 ("M-3"), EAST LIMIT (GORE AREA)
"IMP-8"	WB	3496+59	74	84	A			WB ON-RAMP FROM Rte 98 ("M-4"), EAST LIMIT (GORE AREA)
"IMP-8"	EB	3513+06	74	84	A			EB ON-RAMP FROM Rte 98 ("M-2"), WEST LIMIT (GORE AREA)
"IMP-8"	WB	3513+85	74	84	A			WB OFF-RAMP TO Rte 98 ("M-1"), WEST LIMIT (GORE AREA)
"IMP-8"	WB	3518+50	74	84	A			WB OFF-RAMP TO Rte 98 ("M-1"), EAST LIMIT (TAPER AREA)
"IMP-8"	EB	3524+37	74	84	A			EB ON-RAMP FROM Rte 98 ("M-2"), EAST LIMIT (MERGE AREA)
"IMP-8"	WB	3648+24	74	84	A			WB ON-RAMP FROM BROCK, WEST LIMIT (MERGE AREA)
"IMP-8"	EB	3653+83	74	84	A			EB OFF-RAMP TO BROCK, WEST LIMIT (TAPER AREA)
"IMP-8"	EB	3658+32	74	84	A			EB OFF-RAMP TO BROCK, EAST LIMIT (GORE AREA)
"IMP-8"	WB	3659+52	74	84	A			WB ON-RAMP FROM BROCK, EAST LIMIT (GORE AREA)
"IMP-8"	EB	3672+57	74	84	A			EB ON-RAMP FROM BROCK, WEST LIMIT (GORE AREA)
"IMP-8"	WB	3673+80	74	84	A			WB OFF-RAMP TO BROCK, WEST LIMIT (GORE AREA)
"IMP-8"	WB	3678+41	74	84	A			WB OFF-RAMP TO BROCK, EAST LIMIT (TAPER AREA)
"IMP-8"	EB	3683+99	74	84	A			EB ON-RAMP FROM BROCK, WEST LIMIT (MERGE AREA)
"IMP-8"	WB	3894+49	74	84	A			WB ON-RAMP FROM GORDONS, WEST LIMIT (MERGE AREA)
"IMP-8"	EB	3900+28	74	84	A			EB OFF-RAMP TO GORDONS, WEST LIMIT (TAPER AREA)
"IMP-8"	EB	3904+87	74	84	A			EB OFF-RAMP TO GORDONS, EAST LIMIT (GORE AREA)
"IMP-8"	WB	3905+74	74	84	A			WB ON-RAMP FROM GORDONS, EAST LIMIT (GORE AREA)
"IMP-8"	EB	3917+78	74	84	A			EB ON-RAMP FROM GORDONS, WEST LIMIT (GORE AREA)
"IMP-8"	WB	3918+65	74	84	A			WB OFF-RAMP TO GORDONS, WEST LIMIT (GORE AREA)
"IMP-8"	WB	3923+11	74	84	A			WB OFF-RAMP TO GORDONS, EAST LIMIT (TAPER AREA)
"IMP-8"	EB	3929+01	74	84	A			EB ON-RAMP FROM GORDONS, EAST LIMIT (MERGE AREA)
"IMP-8"	EB	3934+00	45	84	WF	39	39	EB CANAL BRIDGE, WEST LIMIT
"IMP-8"	WB	3934+95	45	84	WF	39	39	WB CANAL BRIDGE, WEST LIMIT
"IMP-8"	EB	3937+00	45	84	WF	39	39	EB CANAL BRIDGE, EAST LIMIT
"IMP-8"	WB	3937+90	45	84	WF	39	39	WB CANAL BRIDGE, EAST LIMIT
"IMP-8"	EB	3966+00	13	52	WF	39	39	END PROJECT (EAST LIMIT)
"IMP-8"	WB	3967+50	13	52	WF	39	39	END PROJECT (EAST LIMIT)
TOTAL						312	312	

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

SUMMARY OF QUANTITIES
Q-3

LAST REVISION | DATE PLOTTED => 25-AUG-2015 07-17-15 | TIME PLOTTED => 08:49

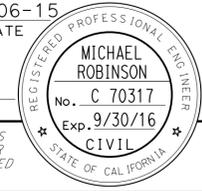
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	107	151

 05-06-15
 REGISTERED CIVIL ENGINEER DATE

08-24-15
 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.

CH2M HILL
 402 W BROADWAY
 SAN DIEGO, CA 92101



OVERSIDE DRAIN

ALIGNMENT	STATION	PLACE HMA (Misc AREA)	MINOR HMA	ASPHALTIC EMULSION (FOG SEAL COAT)	REMOVE AC OVERSIDE DRAIN
		SQYD	TON	TON	EA
"M1"	3512+74	23	6.20	0.4	1
"M2"	3512+32	20	5.37	0.3	1
"M3"	3494+58	13	3.56	0.2	1
"M4"	3497+75	13	3.75	0.2	1
TOTAL		69	18.88 *	1.1 *	4

* SEE QUANTITIES ON Q-2 FOR GRAND TOTAL

MIDWEST GUARDRAIL SYSTEM AND TREATED WOOD WASTE

ALIGNMENT	DIRECTION	PLACEMENT OF MGS STATION		LAYOUT TYPE	MIDWEST GUARDRAIL SYSTEM	DOUBLE MIDWEST GUARDRAIL SYSTEM (WOOD POST)	END ANCHOR ASSEMBLY (TYPE SFT)	ALTERNATIVE MEDIAN CRASH CUSHION SYSTEM	RAIL TENSIONING ASSEMBLY	REMOVE GUARDRAIL	TREATED WOOD WASTE	REMARKS
		BEGIN	END		LF	LF	EA	EA	EA	LF	LB	
"IMP-8"	EB	3503+21	3503+90	14A	37.50	25	1	1	1	80	913	REMOVAL INCLUDES TERMINAL SECTION
"IMP-8"	WB	3503+68	3504+37	14A	37.50	25	1	1	1	80	913	REMOVAL INCLUDES TERMINAL SECTION
"IMP-8"	EB	3665+63	3666+26	14A	31.25	25	1	1	1	104	1,187	REMOVAL INCLUDES TERMINAL SECTION
"IMP-8"	WB	3666+09	3666+72	14A	31.25	25	1	1	1	104	1,187	REMOVAL INCLUDES TERMINAL SECTION
"IMP-8"	EB	3911+15	3911+78	14A	31.25	25	1	1	1	104	1,187	REMOVAL INCLUDES TERMINAL SECTION
"IMP-8"	WB	3911+61	3912+24	14A	31.25	25	1	1	1	104	1,187	REMOVAL INCLUDES TERMINAL SECTION
TOTAL					200	150	6	6	6	576	6,574	
TOTAL FROM SHEET SQ-6											7,280	
GRAND TOTAL					200	150	6	6	6	576	13,854	

SUMMARY OF QUANTITIES Q-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Et Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: HANY HAROUN
 CALCULATED/DESIGNED BY: RYAN MITRY
 CHECKED BY: MIKE ROBINSON
 REVISED BY: []
 DATE REVISED: []

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	108	151

Hector A. Santamaria 05-06-15
REGISTERED ELECTRICAL ENGINEER DATE

08-24-15
PLANS APPROVAL DATE

HECTOR A. SANTAMARIA
No. 18207
Exp. 12-31-15
ELECTRICAL

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.

CONDUIT NOTES (TSO):

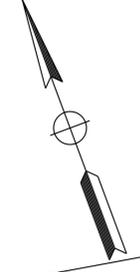
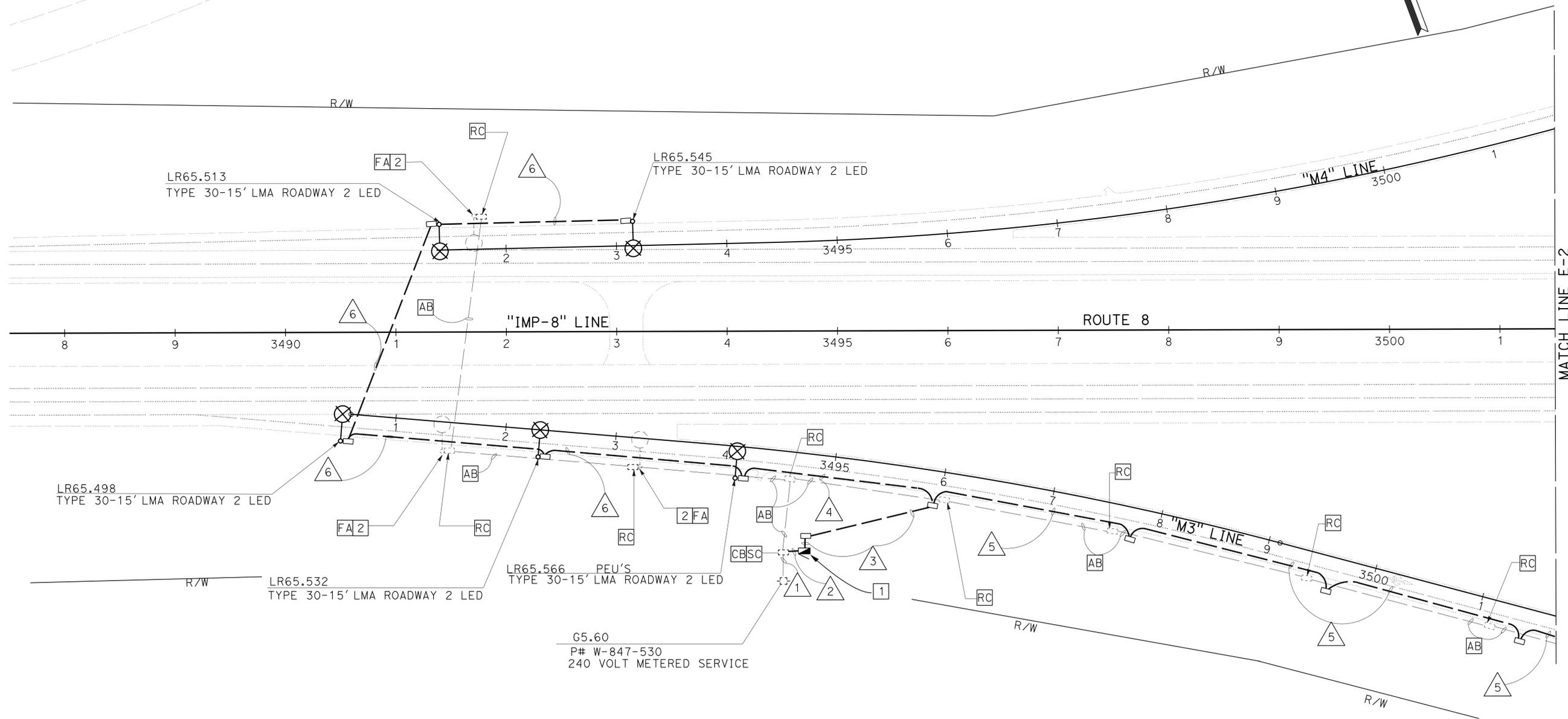
- △1 - Exist 1" C, 4 #8 (CONDUCTORS BY IID).
RC 2 #8
- △2 - 2" C, 2 #8 (POWER)
- △3 - 2" C, 2 #8 (Ltg1), 2 #8 (Ltg2), 4 #14 PEU'S.
- △4 - 2" C, 2 #8 (Ltg1), 2 #8 (Ltg2), 2 DLC, 4 #14 PEU'S.
- △5 - 2" C, 2 #8 (Ltg2), 2 DLC
- △6 - 2" C, 2 #8 (Ltg1), 1 DLC

NOTES (TSO):

- 1 - TYPE III SERVICE DISCONNECT SEE WIRING DIAGRAM DETAIL "LTG" ON E-3.
- 2 - RS EXISTING ELECTROLIER.
- 3 - FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

- IID = IMPERIAL IRRIGATION DISTRICT.
- N/C = NO CHANGE
- TSO = THIS SHEET ONLY.



REVISIONS: x x x x x
 REVISOR: HECTOR SANTAMARIA
 DATE: 08-24-15
 CHECKED BY: DANNY MCCLURE
 DESIGNED BY: RAJPREET SINGH
 SUPERVISOR: RAJPREET SINGH
 DEPARTMENT OF TRANSPORTATION
TRAFFIC ELECTRICAL
Caltrans

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

LIGHTING
E-1

LAST REVISION DATE PLOTTED => 25-AUG-2015
 07-17-15 TIME PLOTTED => 08:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	109	151

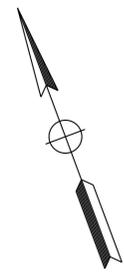
Hector A. Santamaria 05-06-15
 REGISTERED ELECTRICAL ENGINEER DATE

08-24-15
 PLANS APPROVAL DATE

HECTOR A. SANTAMARIA
 No. 18207
 Exp. 12-31-15
 ELECTRICAL

REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA

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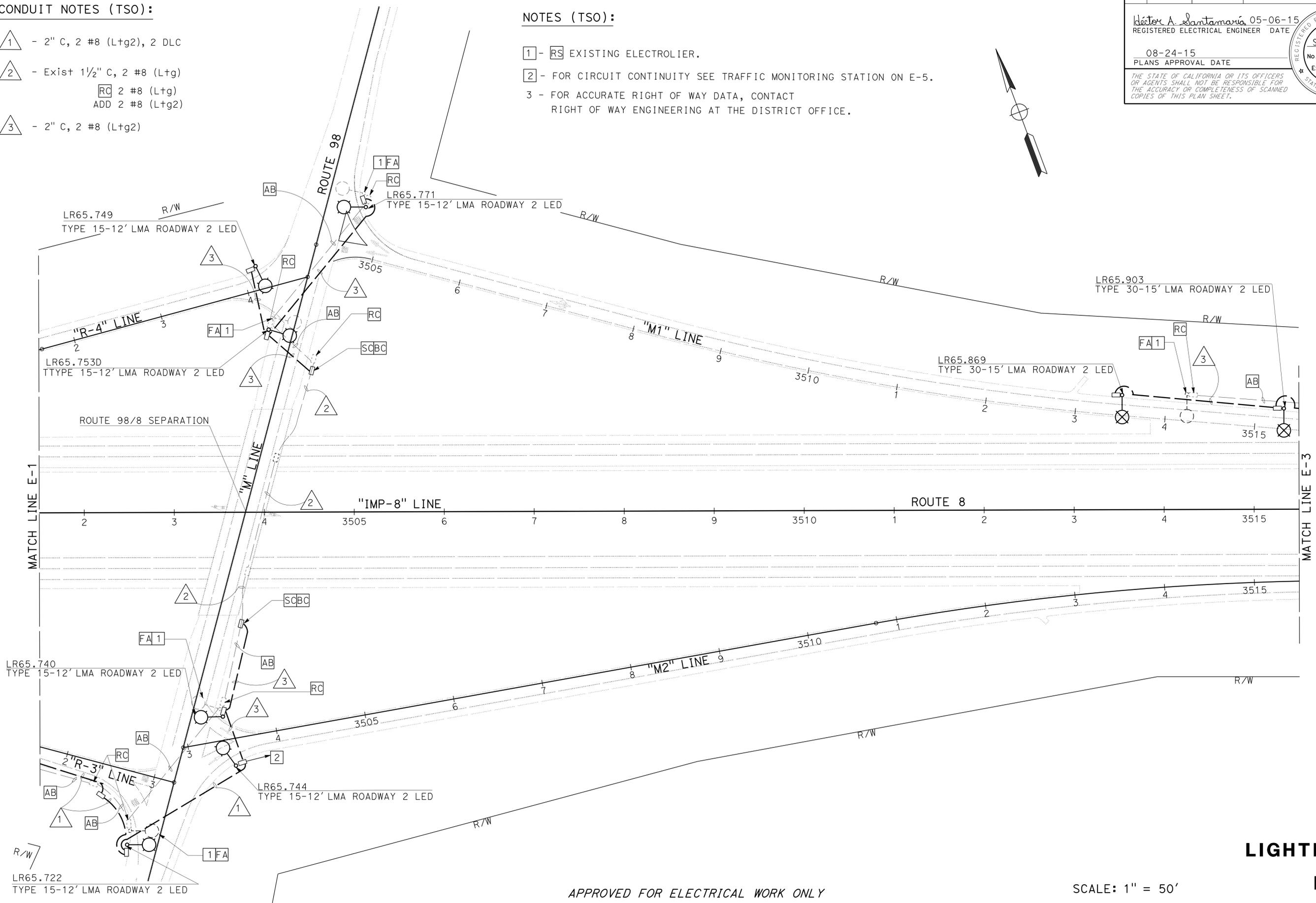


CONDUIT NOTES (TSO):

- 1 - 2" C, 2 #8 (Ltg2), 2 DLC
- 2 - Exist 1 1/2" C, 2 #8 (Ltg)
 RC 2 #8 (Ltg)
 ADD 2 #8 (Ltg2)
- 3 - 2" C, 2 #8 (Ltg2)

NOTES (TSO):

- 1 - RS EXISTING ELECTROLIER.
- 2 - FOR CIRCUIT CONTINUITY SEE TRAFFIC MONITORING STATION ON E-5.
- 3 - FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



**LIGHTING
E-2**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC ELECTRICAL

HECTOR SANTAMARIA
 DANNY MCCLURE

RAJPREET SINGH

FUNCTIONAL SUPERVISOR
 RAJPREET SINGH

BORDER LAST REVISED 7/2/2010

USERNAME => s127400
 DGN FILE => 1114000112u0002.dgn

RELATIVE BORDER SCALE
 15" IN INCHES

UNIT 2833

PROJECT NUMBER & PHASE

1114000112

LAST REVISION DATE PLOTTED => 25-AUG-2015
 07-17-15 TIME PLOTTED => 08:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	110	151

Hector A. Santamaria 05-06-15
REGISTERED ELECTRICAL ENGINEER DATE
08-24-15
PLANS APPROVAL DATE

HECTOR A. SANTAMARIA
No. 18207
Exp. 12-31-15
ELECTRICAL
STATE OF CALIFORNIA

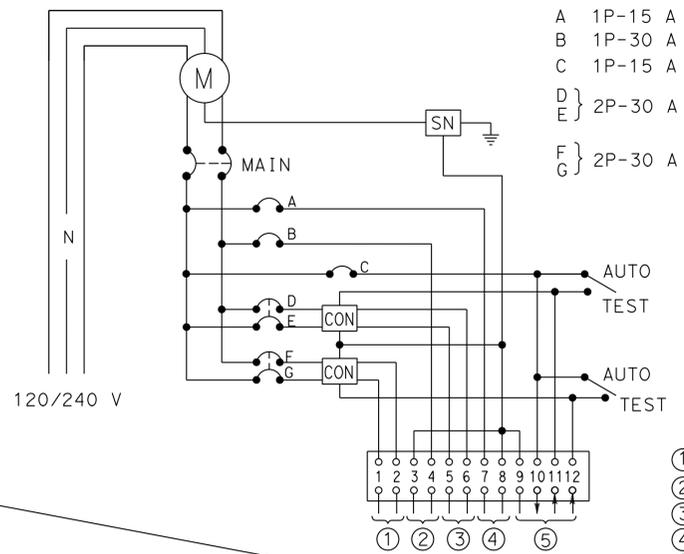
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC ELECTRICAL

FUNCTIONAL SUPERVISOR: RAJPREET SINGH
DESIGNED BY: HECTOR SANTAMARIA
CHECKED BY: DANNY MCCLURE
REVISOR: HECTOR SANTAMARIA
DATE: 08-24-15

CIRCUIT BREAKERS
MAIN-2P-100 A

- A 1P-15 A SPARE
- B 1P-30 A SPARE
- C 1P-15 A
- D } 2P-30 A
- E }
- F } 2P-30 A
- G }

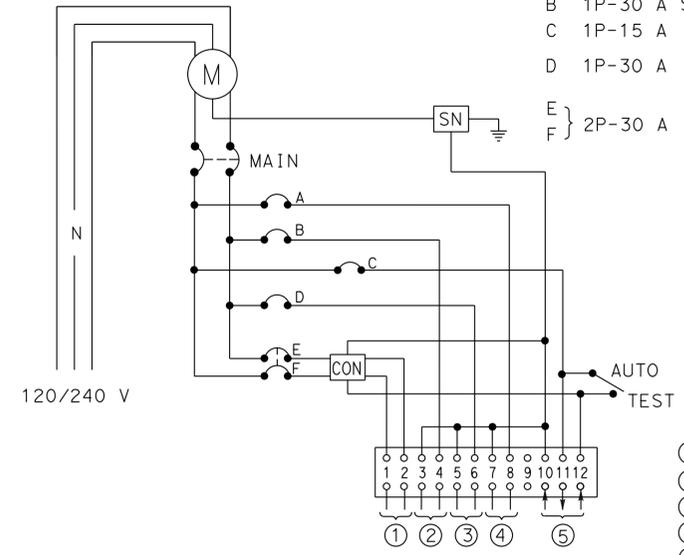


- ① - LIGHTING1
- ② - TMS
- ③ - LIGHTING2
- ④ - SPARE
- ⑤ - PEU

WIRING DIAGRAM
(TYPE III-BF EQUIPMENT ENCLOSURE
SEE ES-2C & ES-2E)
DETAIL "LTG"

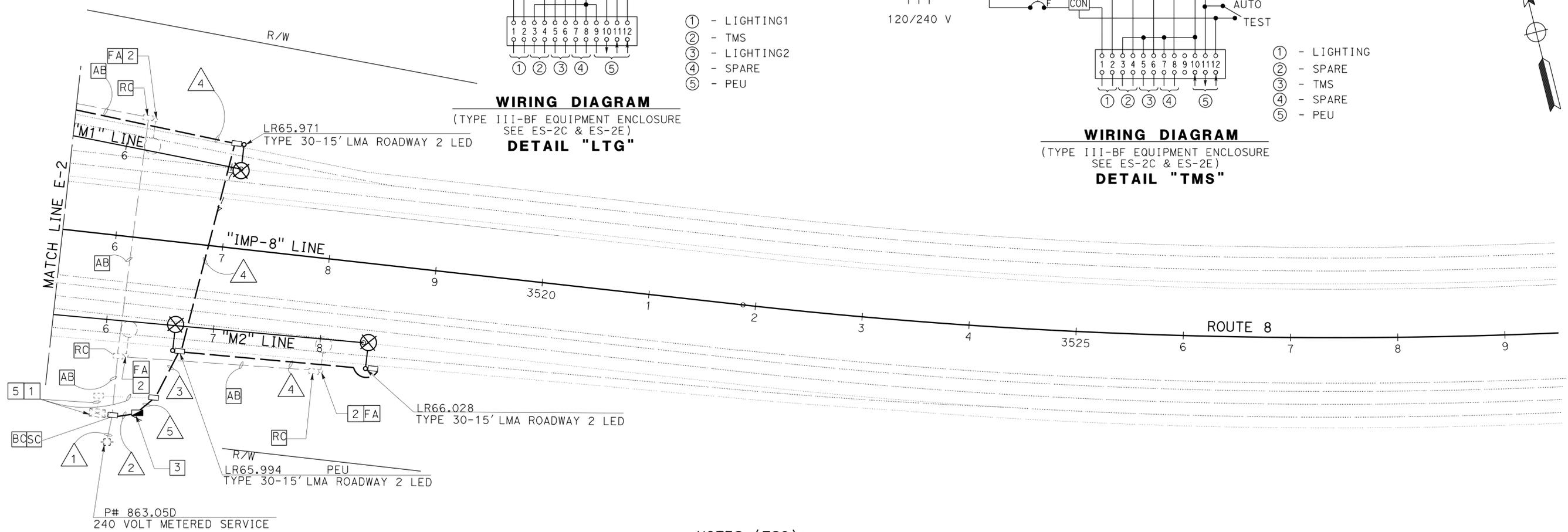
CIRCUIT BREAKERS
MAIN-2P-100 A

- A 1P-15 A SPARE
- B 1P-30 A SPARE
- C 1P-15 A
- D 1P-30 A
- E } 2P-30 A
- F }



- ① - LIGHTING
- ② - SPARE
- ③ - TMS
- ④ - SPARE
- ⑤ - PEU

WIRING DIAGRAM
(TYPE III-BF EQUIPMENT ENCLOSURE
SEE ES-2C & ES-2E)
DETAIL "TMS"

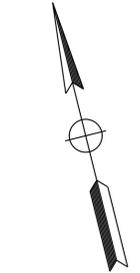


CONDUIT NOTES (TSO):

- ① - Exist 1 1/2" C, 2 #8 (SERVICE CONDUCTORS).
- ② - 2" C, 2 #8 (POWER)
- ③ - 2" C, 2 #8 (Ltg), 3 #14 (PEU)
- ④ - 2" C, 2 #8 (Ltg)
- ⑤ - 2" C, 2 #8 (Ltg), 2 #8 (TMS), 3 #14 (PEU)

NOTES (TSO):

- ① - FOR CIRCUIT CONTINUITY SEE TRAFFIC MONITORING STATION ON E-5.
- ② - **RS** EXISTING ELECTROLIER.
- ③ - TYPE III SERVICE DISCONNECT SEE WIRING DIAGRAM DETAIL "TMS" ON THIS SHEET.
- ④ - FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ⑤ - INSTALLED BY PLAN SHEET E-5.



LIGHTING
E-3

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	111	151

Hector A. Santamaria 05-06-15
 REGISTERED ELECTRICAL ENGINEER DATE



08-24-15
 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.

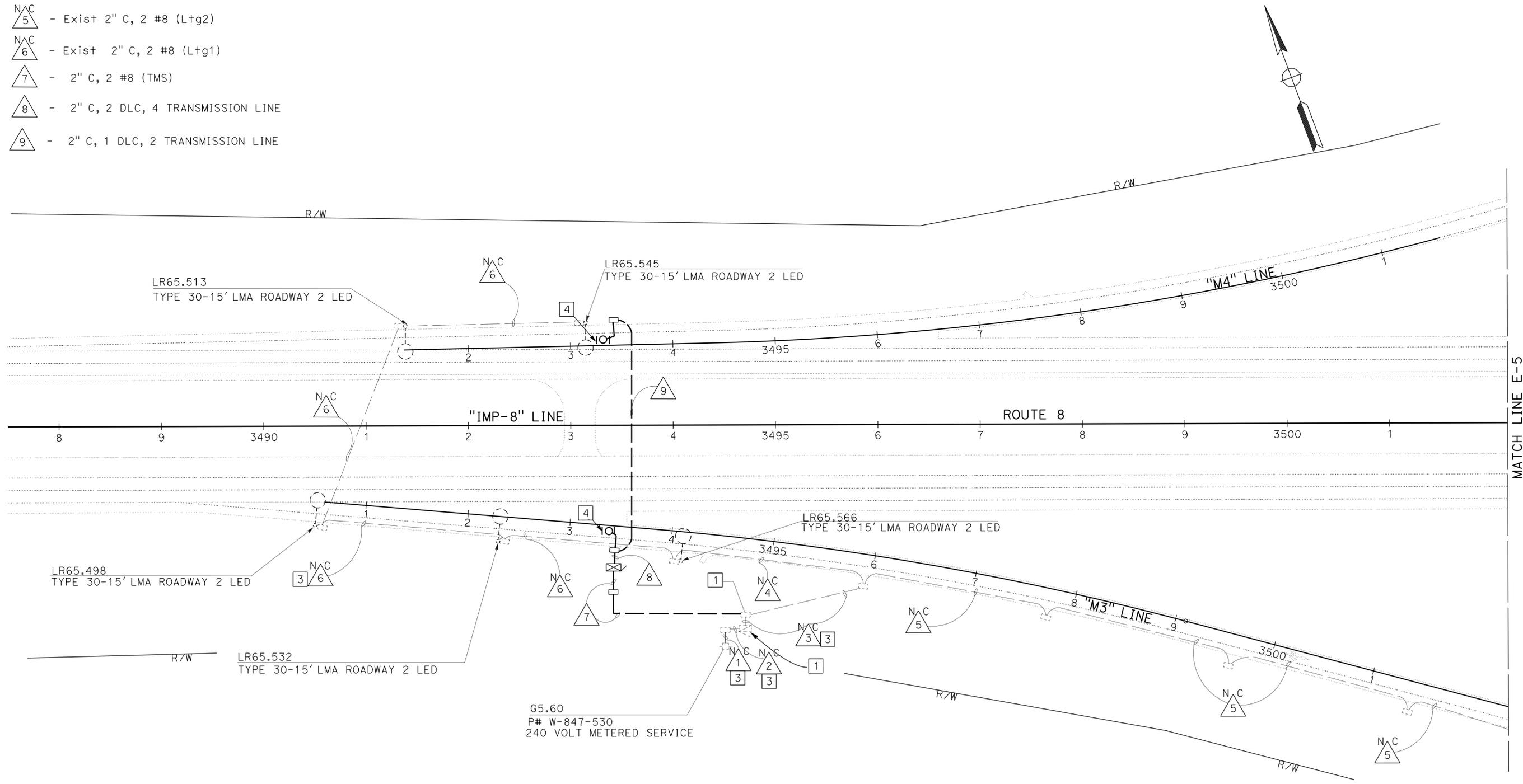
CONDUIT NOTES (TSO):

- N/C 1 - Exist 1" C, 2 #8 (CONDUCTORS BY IID).
- N/C 2 - Exist 2" C, 2 #8 (POWER)
- N/C 3 - Exist 2" C, 2 #8 (Ltg1), 2 #8 (Ltg2), 4 #14 pu.
- N/C 4 - Exist 2" C, 2 #8 (Ltg1), 3 #14 pu
- N/C 5 - Exist 2" C, 2 #8 (Ltg2)
- N/C 6 - Exist 2" C, 2 #8 (Ltg1)
- 7 - 2" C, 2 #8 (TMS)
- 8 - 2" C, 2 DLC, 4 TRANSMISSION LINE
- 9 - 2" C, 1 DLC, 2 TRANSMISSION LINE

NOTES (TSO):

- 1 - FOR CIRCUIT CONTINUITY SEE LIGHTING ON E-1.
- 2 - FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- 3 - INSTALLED BY SHEET E-1
- 4 - INSTALL PIEZO ELECTRIC AXLE SENSOR UNIT. SEE INSTALLATION DETAILS ON SHEET E-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC ELECTRICAL
 FUNCTIONAL SUPERVISOR RAJPREET SINGH
 CALCULATED/DESIGNED BY CHECKED BY
 HECTOR SANTAMARIA DANNY MCCLURE
 REVISED BY DATE REVISED



TRAFFIC MONITORING STATION

SCALE: 1" = 50'

E-4

APPROVED FOR ELECTRICAL WORK ONLY

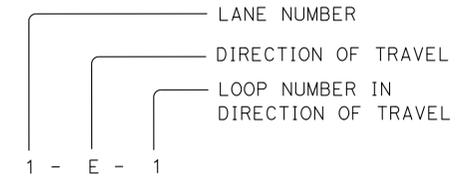
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	112	151

HECTOR A. Santamaria 05-06-15
 REGISTERED ELECTRICAL ENGINEER DATE
 08-24-15
 PLANS APPROVAL DATE
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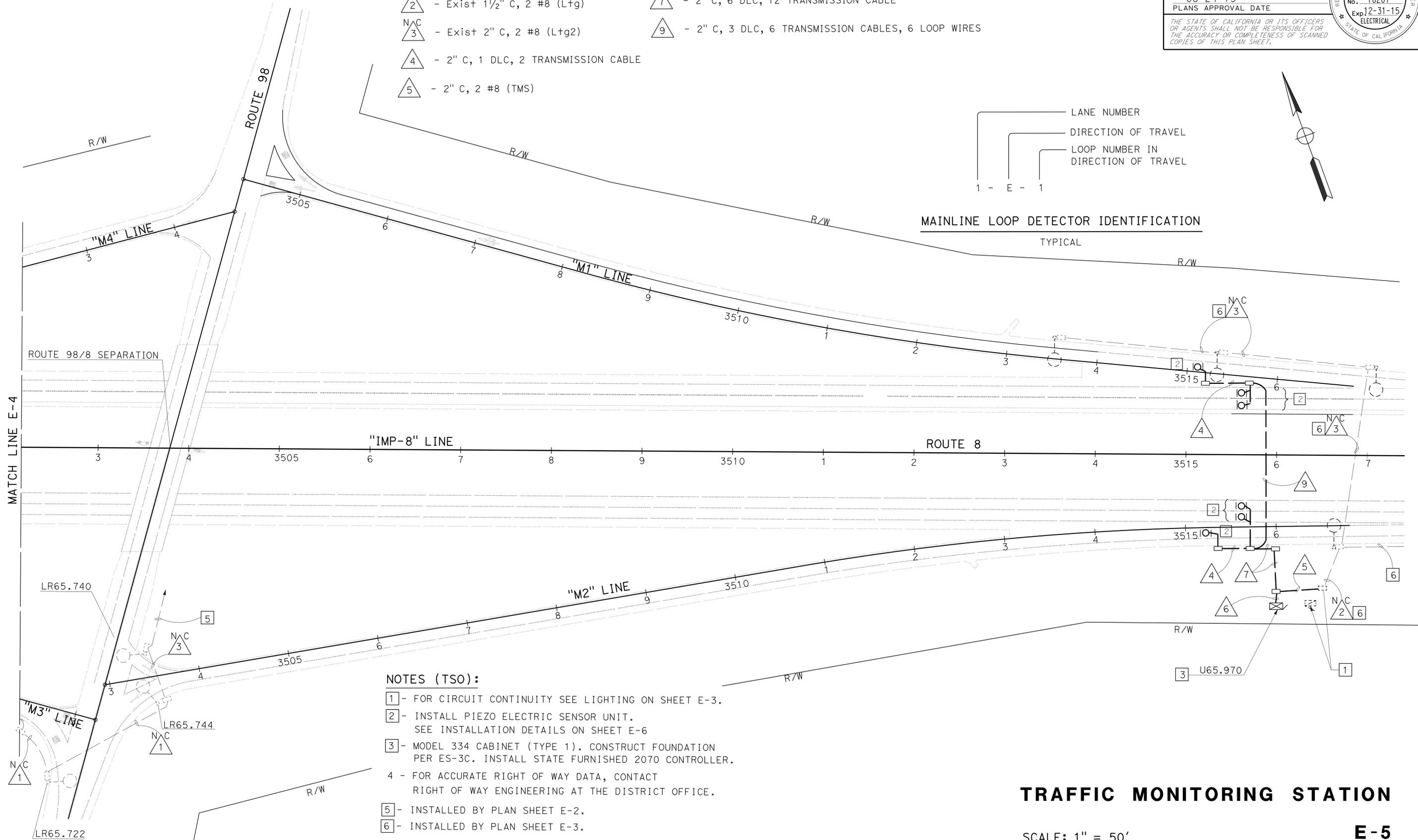
REGISTERED PROFESSIONAL ENGINEER
HECTOR A. SANTAMARIA
 No. 18207
 Exp. 12-31-15
 ELECTRICAL
 STATE OF CALIFORNIA

CONDUIT NOTES (TSO):

- | | |
|---|--|
| N/C
1 - Exist 2" C, 2 #8 (Ltg2), 2 DLC | 6 - 3" C, 2 #8 (TMS), 6 DLC, 12 TRANSMISSION CABLE |
| N/C
2 - Exist 1 1/2" C, 2 #8 (Ltg) | 7 - 2" C, 6 DLC, 12 TRANSMISSION CABLE |
| N/C
3 - Exist 2" C, 2 #8 (Ltg2) | 9 - 2" C, 3 DLC, 6 TRANSMISSION CABLES, 6 LOOP WIRES |
| 4 - 2" C, 1 DLC, 2 TRANSMISSION CABLE | |
| 5 - 2" C, 2 #8 (TMS) | |



MAINLINE LOOP DETECTOR IDENTIFICATION



NOTES (TSO):

- 1 - FOR CIRCUIT CONTINUITY SEE LIGHTING ON SHEET E-3.
- 2 - INSTALL PIEZO ELECTRIC SENSOR UNIT. SEE INSTALLATION DETAILS ON SHEET E-6
- 3 - MODEL 334 CABINET (TYPE 1). CONSTRUCT FOUNDATION PER ES-3C. INSTALL STATE FURNISHED 2070 CONTROLLER.
- 4 - FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- 5 - INSTALLED BY PLAN SHEET E-2.
- 6 - INSTALLED BY PLAN SHEET E-3.

TRAFFIC MONITORING STATION

SCALE: 1" = 50'

E-5

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC ELECTRICAL
 FUNCTIONAL SUPERVISOR: RAJPREET SINGH
 CALCULATED/DESIGNED BY: HECTOR SANTAMARIA
 CHECKED BY: DANNY MCCLURE
 REVISOR: HECTOR SANTAMARIA
 DATE: 05-06-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	113	151

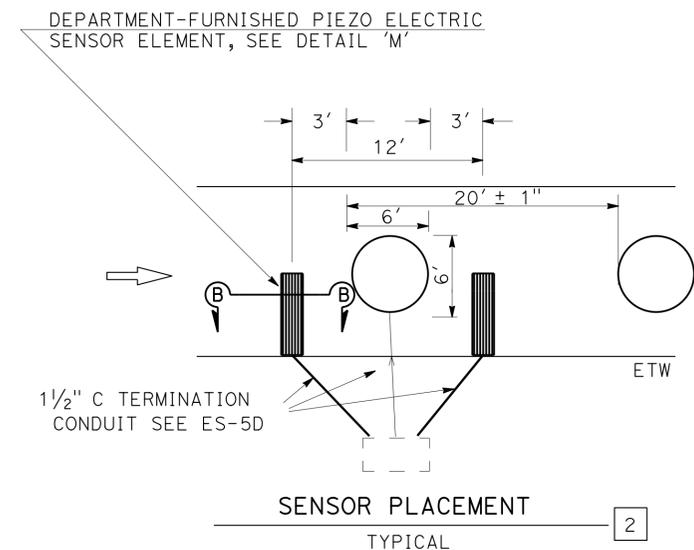
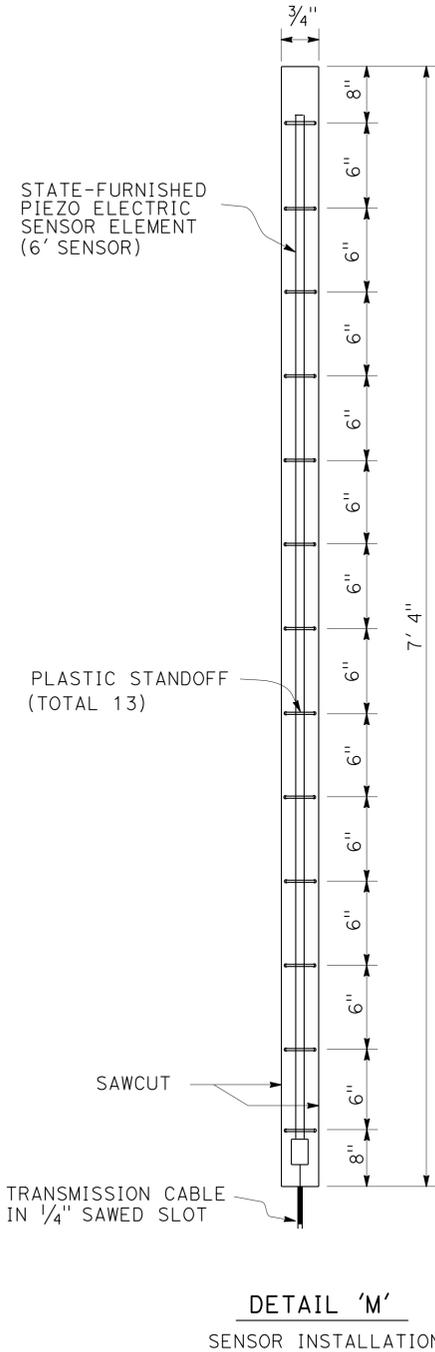
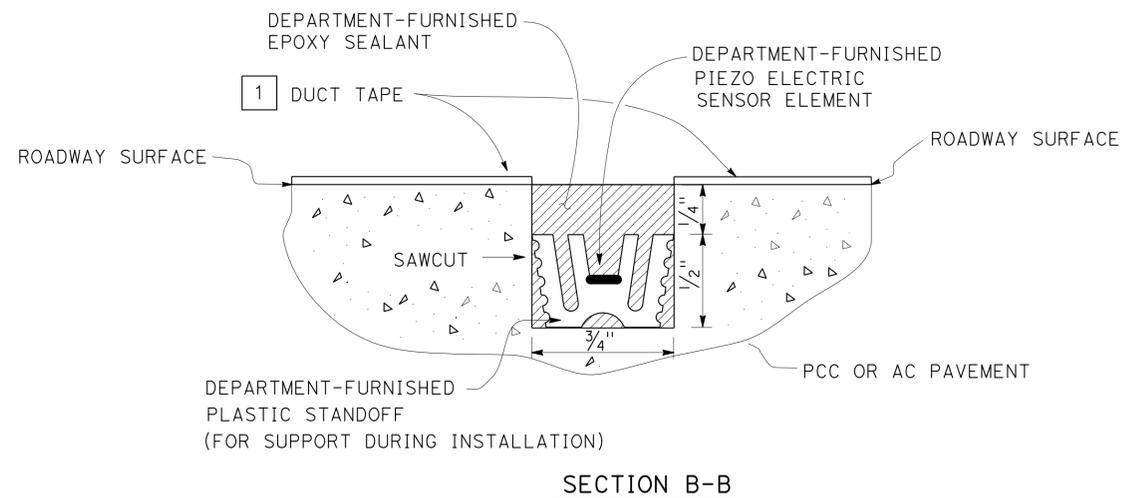
HECTOR A. Santamaria 05-06-15	
REGISTERED ELECTRICAL ENGINEER	DATE
08-24-15	
PLANS APPROVAL DATE	

HECTOR A. SANTAMARIA	
No. 18207	Exp 12-31-15
ELECTRICAL	

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 - PLACE 2" DUCT TAPE ALONG THE EDGE OF SAW CUT BEFORE POURING EPOXY SEALANT. LEVEL EPOXY SEALANT TO FINISHED ROAD SURFACE AND REMOVE DUCT TAPE WHEN EPOXY IS CURED.
- 2 - SECOND LOOP WHEN SHOWN ON THE PLAN



PIEZO ELECTRIC SENSOR INSTALLATION DETAILS

TRAFFIC MONITORING STATION (ELECTRICAL DETAIL)

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

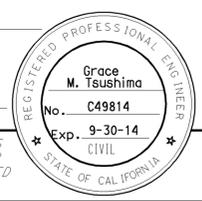
E-6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	114	151

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 08-24-15

UNIT OF MEASUREMENT SYMBOLS:

Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft ³ , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
∅	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A10B

2010 REVISED STANDARD PLAN RSP A10B

Maint	MAINTENANCE
Max	MAXIMUM
MB	METAL BEAM
MBB	METAL BEAM BARRIER
MBGR	METAL BEAM GUARD RAILING
Med	MEDIAN
MGS	MIDWEST GUARDRAIL SYSTEM
MH	MANHOLE
Min	MINIMUM
Misc	MISCELLANEOUS
Misc I & S	MISCELLANEOUS IRON AND STEEL
Mkr	MARKER
Mod	MODIFIED, MODIFY
Mon	MONUMENT
MP	METAL PLATE
MPGR	METAL PLATE GUARD RAILING
MR	MOVEMENT RATING
MSE	MECHANICALLY STABILIZED EMBANKMENT
Mt	MOUNTAIN, MOUNT
MtI	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT
N	
N	NORTH
NB	NORTHBOUND
No.	NUMBER (MUST HAVE PERIOD)
Nos.	NUMBERS (MUST HAVE PERIOD)
NPS	NOMINAL PIPE SIZE
NS	NEAR SIDE
NSP	NEW STANDARD PLAN
NTS	NOT TO SCALE
O	
Obir	OBLITERATE
OC	OVERCROSSING
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OG	ORIGINAL GROUND
OGAC	OPEN GRADED ASPHALT CONCRETE
OGFC	OPEN GRADED FRICTION COURSE
OH	OVERHEAD
OHWM	ORDINARY HIGH WATER MARK
O-O	OUT TO OUT
Opp	OPPOSITE
OSD	OVERSIDE DRAIN
P	
p	PAGE
PAP	PERFORATED ALUMINUM PIPE
PB	PULL BOX
PC	POINT OF CURVATURE, PRECAST
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PEC	PERMIT TO ENTER AND CONSTRUCT
Ped	PEDESTRIAN
Ped OC	PEDESTRIAN OVERCROSSING
Ped UC	PEDESTRIAN UNDERCROSSING
Perm MtI	PERMEABLE MATERIAL

P continued	
PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
Pkwy	PARKWAY
PL, PL	PLATE
P/L	PROPERTY LINE
PM	POST MILE, TIME FROM NOON TO MIDNIGHT
PN	PAVING NOTCH
POC	POINT OF HORIZONTAL CURVE
POT	POINT OF TANGENT
POVC	POINT OF VERTICAL CURVE
PP	PIPE PILE, PLASTIC PIPE, POWER POLE
PPL	PREFORMED PERMEABLE LINER
PPP	PERFORATED PLASTIC PIPE
PRC	POINT OF REVERSE CURVE
PRF	PAVEMENT REINFORCING FABRIC
PRVC	POINT OF REVERSE VERTICAL CURVE
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES
PS, P/S	PRESTRESSED
PSP	PERFORATED STEEL PIPE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
Pvmt	PAVEMENT
Q	
Qty	QUANTITY
R	
R	RADIUS
R & D	REMOVE AND DISPOSE
R & S	REMOVE AND SALVAGE
R/C	RATE OF CHANGE
RCA	REINFORCED CONCRETE ARCH
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
Rd	ROAD
Reinf	REINFORCED, REINFORCEMENT, REINFORCING
Rel	RELOCATE
Repl	REPLACEMENT
Ret	RETAINING
Rev	REVISED, REVISION
Rdwy	ROADWAY
RHMA	RUBBERIZED HOT MIX ASPHALT
Riv	RIVER
RM	ROAD-MIXED
RP	RADIUS POINT, REFERENCE POINT
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN
Rt	RIGHT
Rte	ROUTE
RW	REDWOOD, RETAINING WALL
R/W	RIGHT OF WAY
Rwy	RAILWAY

S	
S	SOUTH, SUPPLEMENT
SAE	STRUCTURE APPROACH EMBANKMENT
Salv	SALVAGE
SAPP	STRUCTURAL ALUMINUM PLATE PIPE
SB	SOUTHBOUND
SC	SAND CUSHION
SCSP	SLOTTED CORRUGATED STEEL PIPE
SD	STORM DRAIN
Sec	SECOND, SECTION
Sep	SEPARATION
SG	SUBGRADE
Shld	SHOULDER
Sht	SHEET
Sim	SIMILAR
ℒ	STATION LINE
SM	SELECTED MATERIAL
Spec	SPECIAL, SPECIFICATIONS
SPP	SLOTTED PLASTIC PIPE
SS	SLOPE STAKE
SSBM	STRAP AND SADDLE BRACKET METHOD
SSD	STRUCTURAL SECTION DRAIN
SSPA	STRUCTURAL STEEL PLATE ARCH
SSPP	STRUCTURAL STEEL PLATE PIPE
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH
SSRP	STEEL SPIRAL RIB PIPE
St	STREET
Sta	STATION
STBB	SINGLE THRIE BEAM BARRIER
Std	STANDARD
Str	STRUCTURE
Surf	SURFACING
SW	SIDEWALK, SOUND WALL
Swr	SEWER
Sym	SYMMETRICAL
S4S	SURFACE 4 SIDES
T	
T	SEMI-TANGENT
Tan	TANGENT
TBB	THRIE BEAM BARRIER
Tbr	TIMBER
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TCE	TEMPORARY CONSTRUCTION EASEMENT
TeI	TELEPHONE
Temp	TEMPORARY
TG	TOP OF GRADE
Tot	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
Trans	TRANSITION

T continued	
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
Typ	TYPICAL
U	
UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS
V	
V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME
W	
W	WEST, WIDTH
WB	WESTBOUND
WH	WEEP HOLE
WM	WIRE MESH
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
Wt	WEIGHT
WV	WATER VALVE
WW	WINGWALL
WWLOL	WINGWALL LAYOUT LINE
X	
X Sec	CROSS SECTION
Xing	CROSSING
Y	
Yr	YEAR
Yrs	YEARS

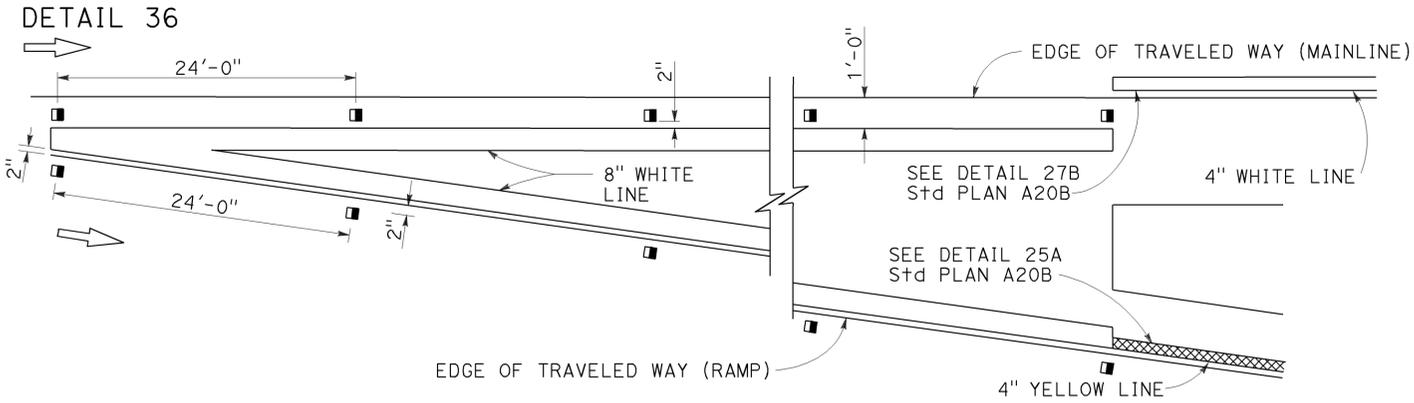
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	115	151

REGISTERED CIVIL ENGINEER
 Roberto L. McLaughlin
 No. C40375
 Exp. 3-31-15
 CIVIL
 STATE OF CALIFORNIA

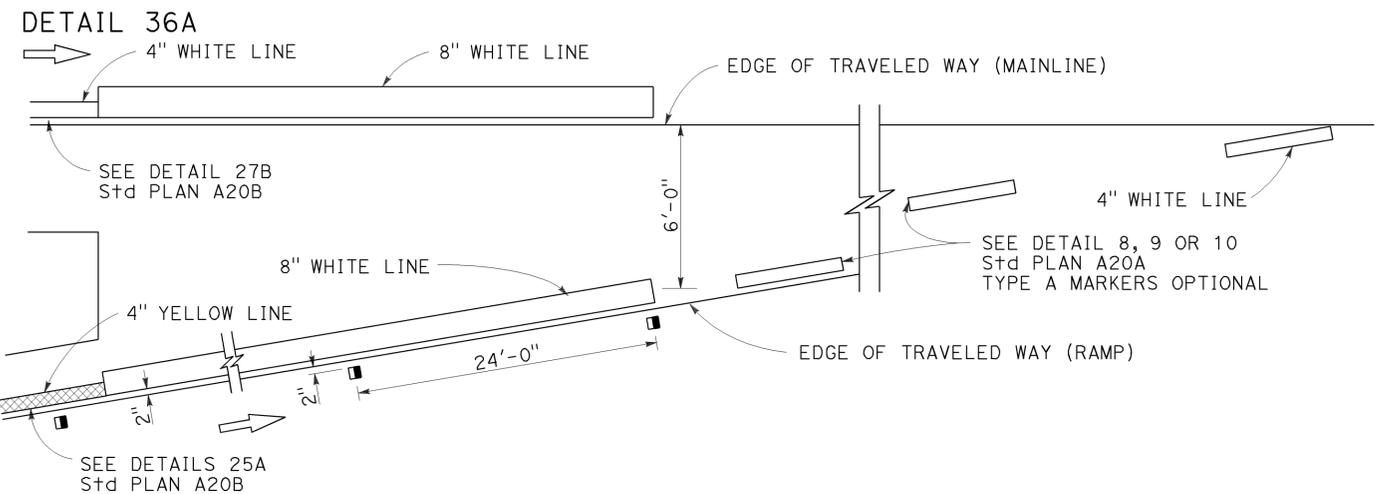
July 19, 2013
 PLANS APPROVAL DATE

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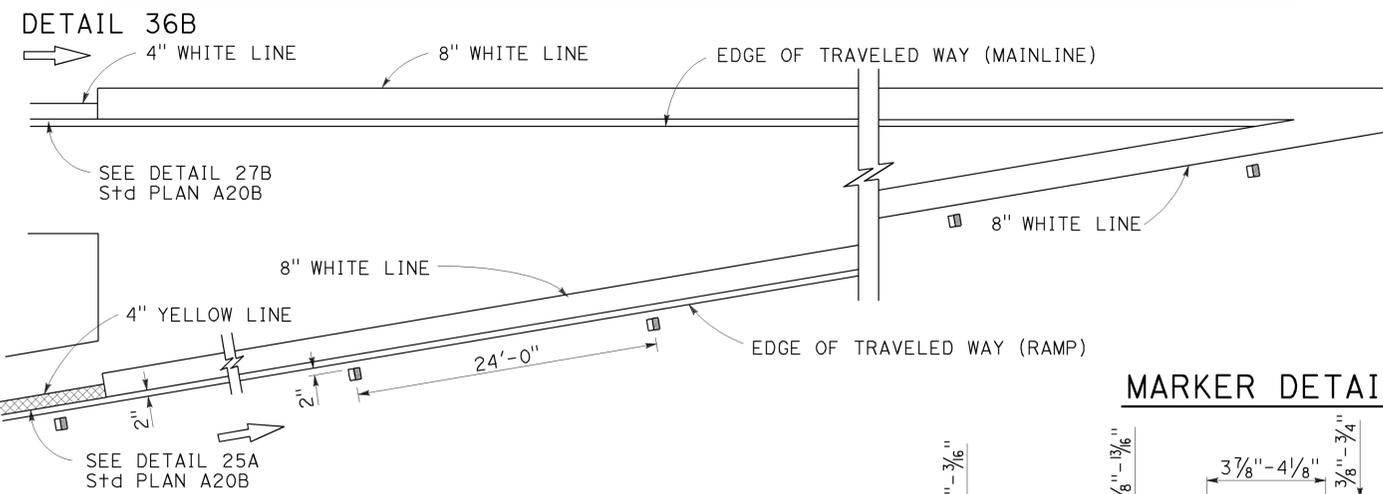
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT

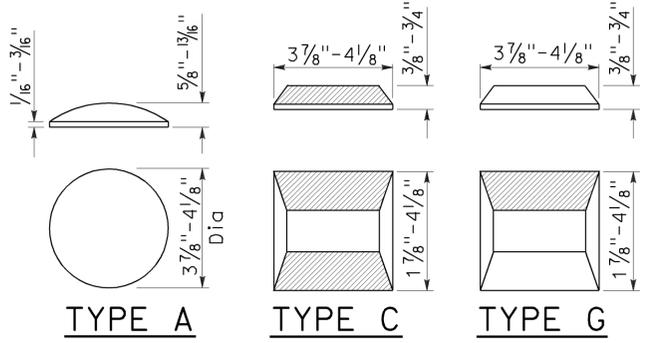


ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

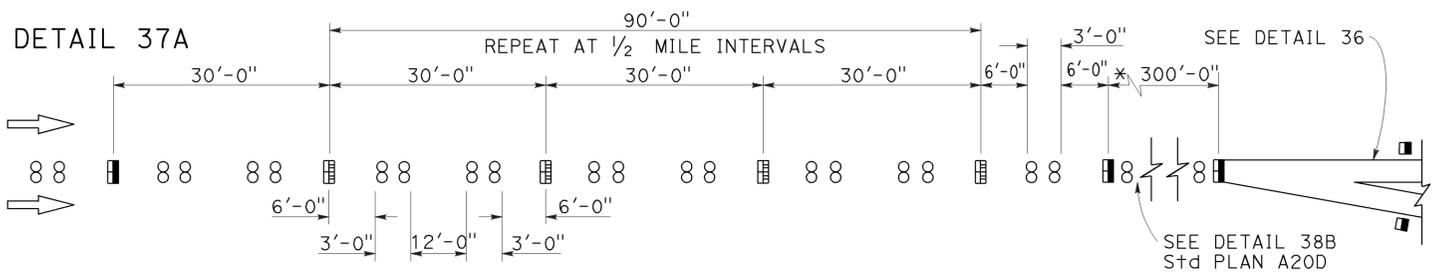
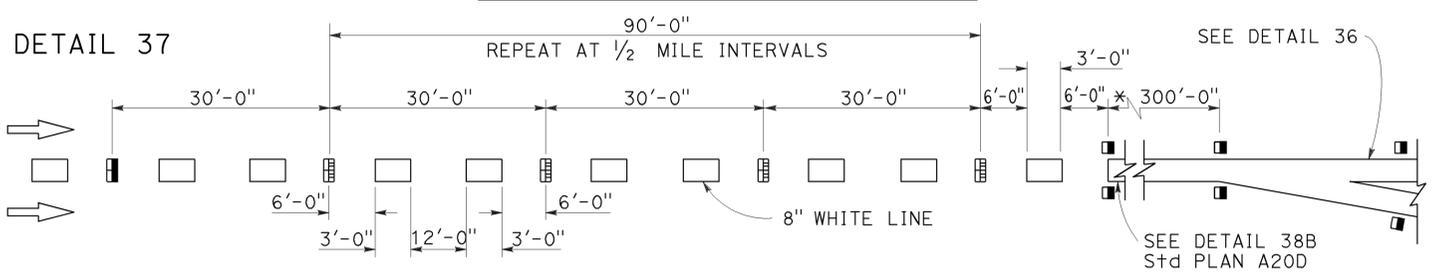


MARKER DETAILS

- LEGEND:**
- MARKERS
- TYPE A WHITE NON-REFLECTIVE
 - ◻ TYPE C RED-CLEAR RETROREFLECTIVE
 - TYPE G ONE-WAY CLEAR RETROREFLECTIVE

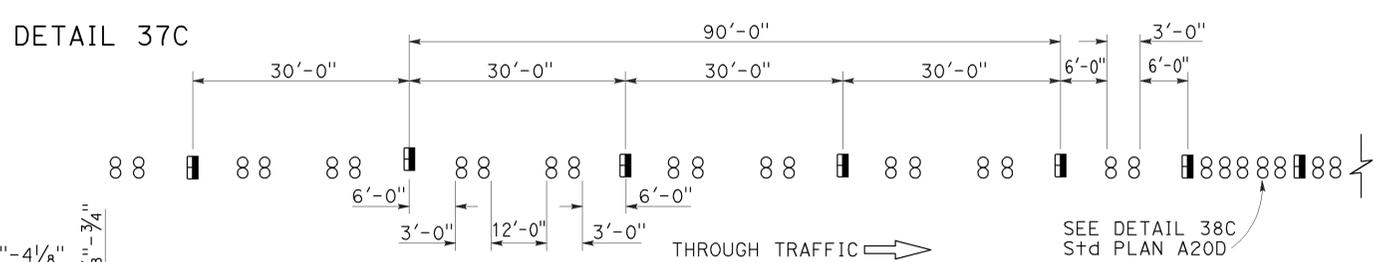
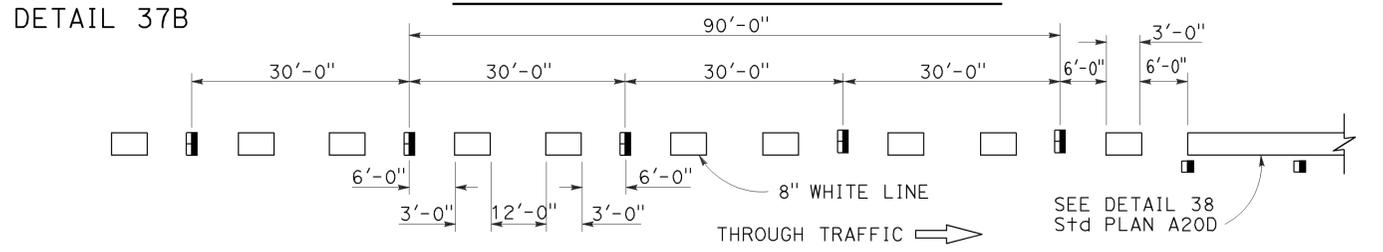


LANE DROP AT EXIT RAMP



* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A20C

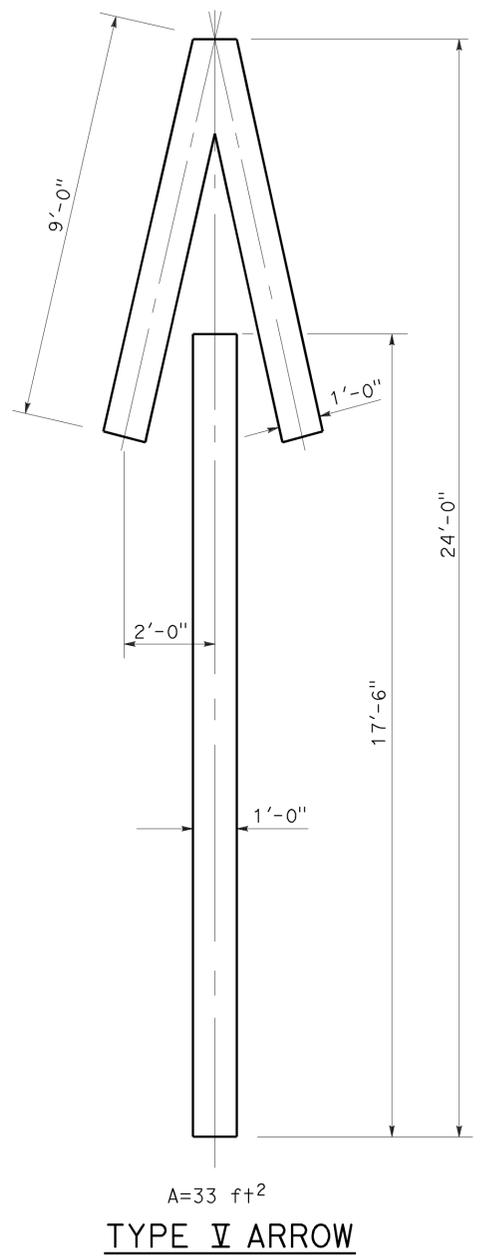
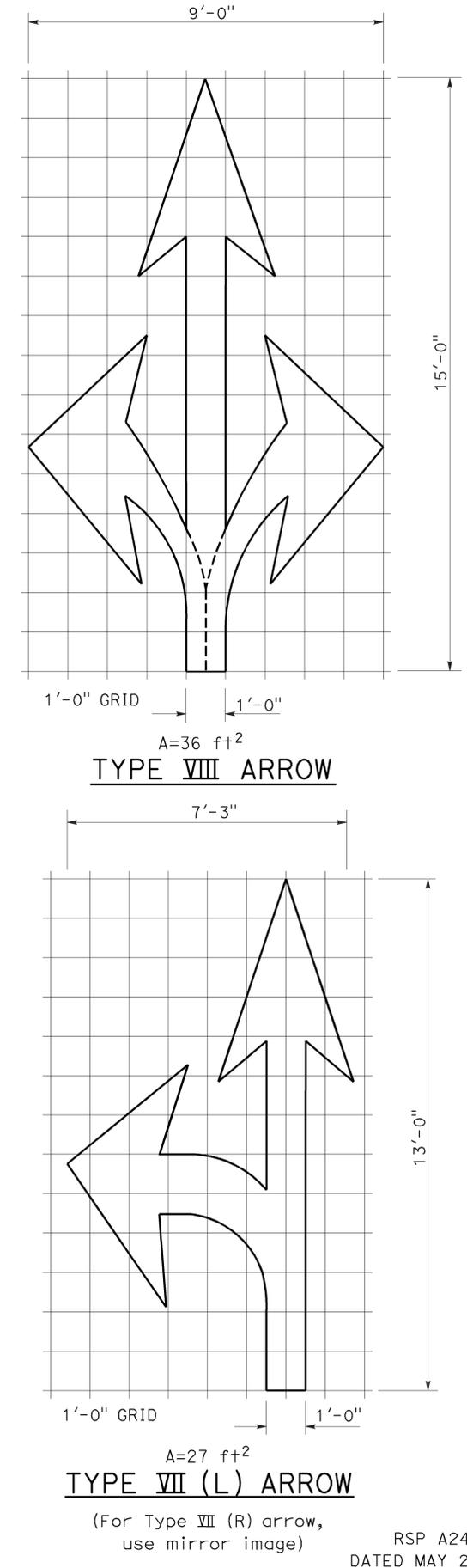
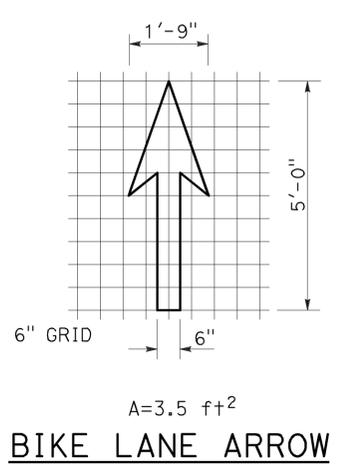
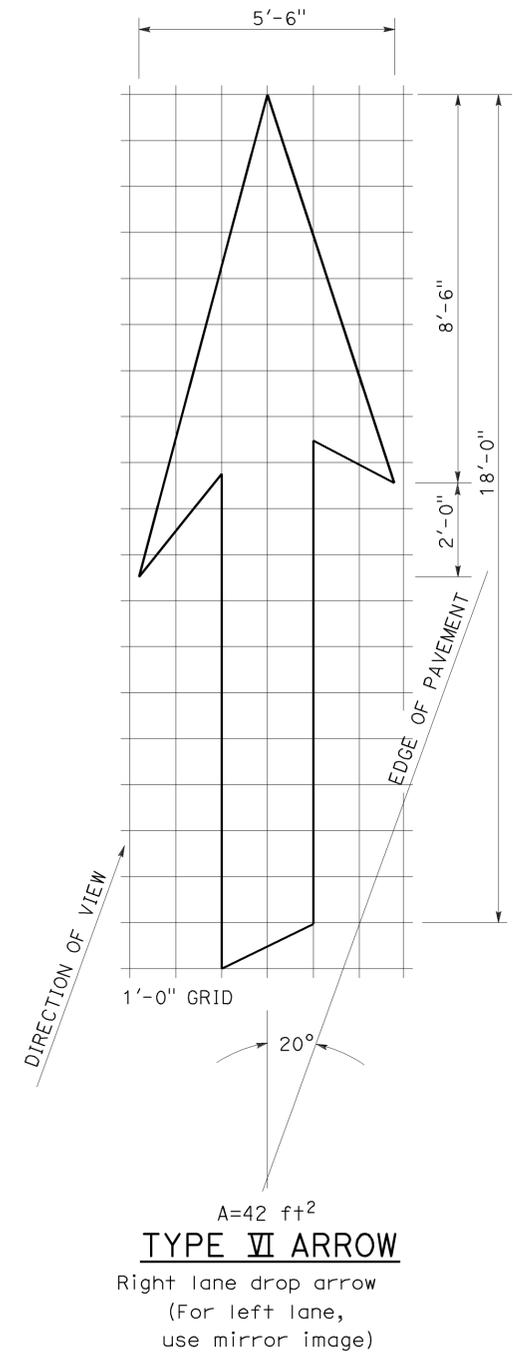
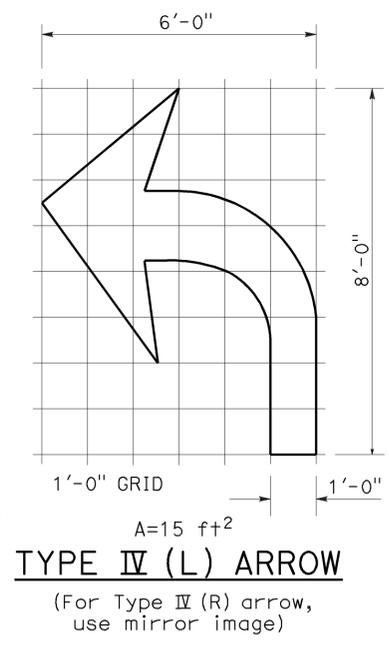
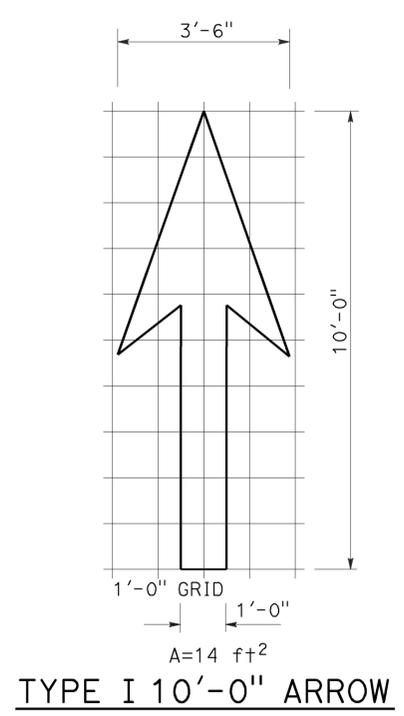
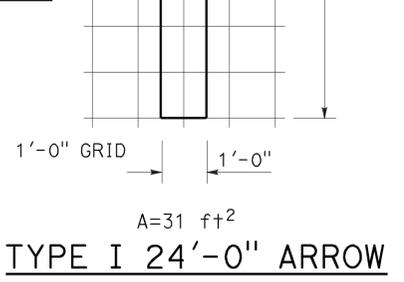
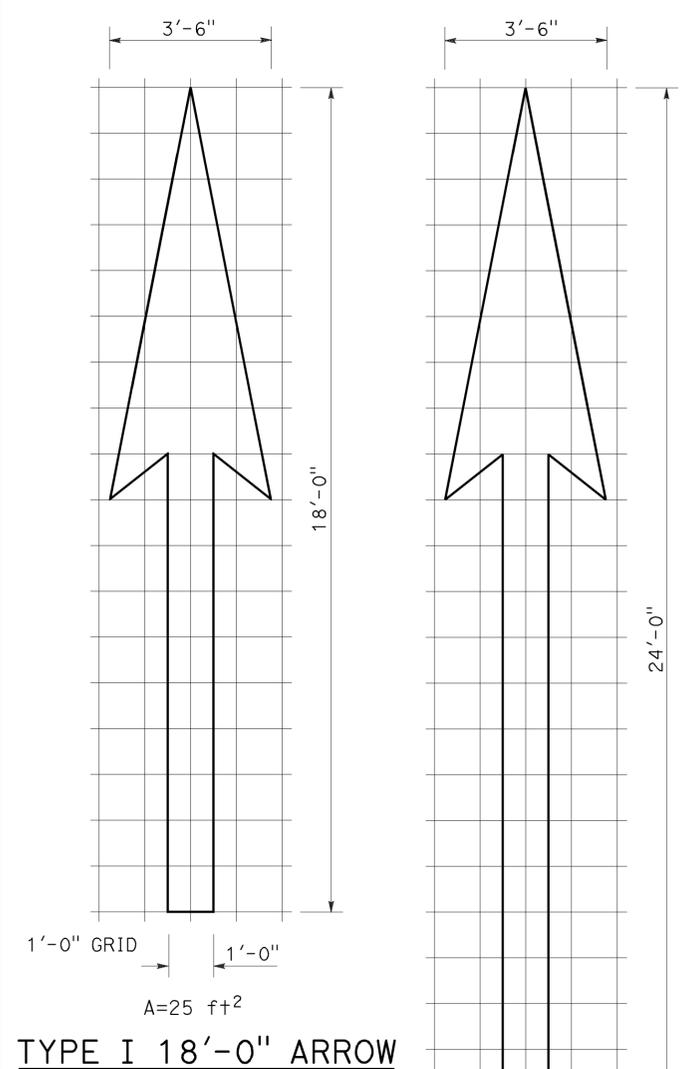
2010 REVISED STANDARD PLAN RSP A20C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	116	151

Robert L. McLaughlin
 REGISTERED CIVIL ENGINEER
 April 20, 2012
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Roberta L. McLaughlin
 No. C40375
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-24-15



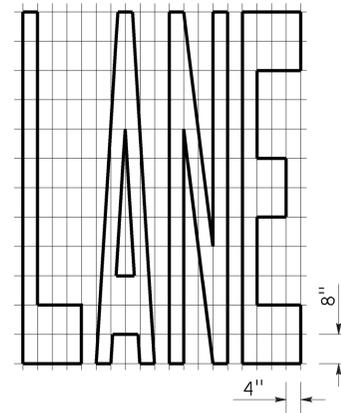
NOTE:
 Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
 ARROWS**
 NO SCALE

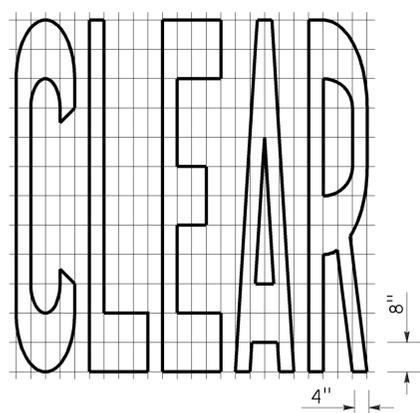
RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.



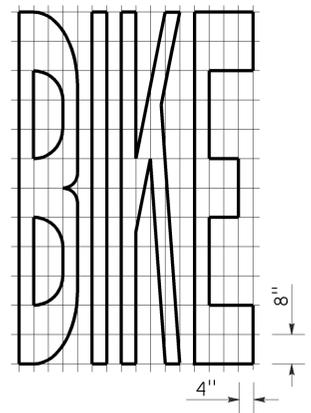
TO ACCOMPANY PLANS DATED 08-24-15



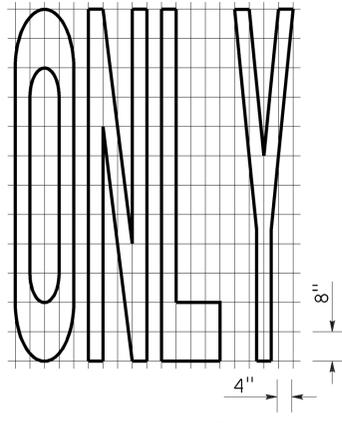
A=24 ft²



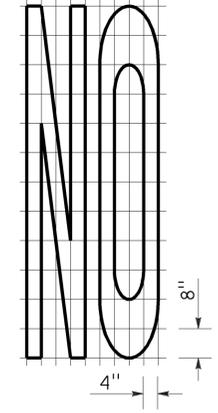
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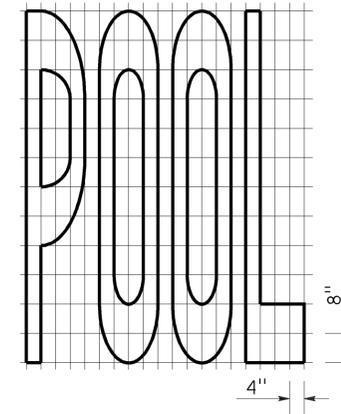
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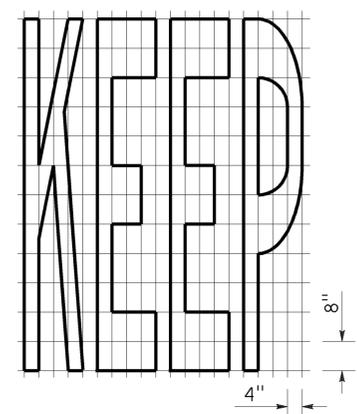
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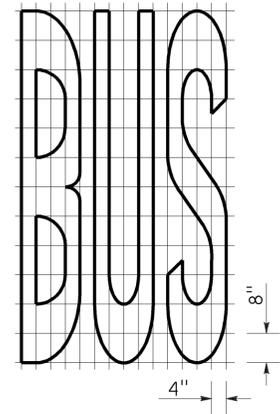
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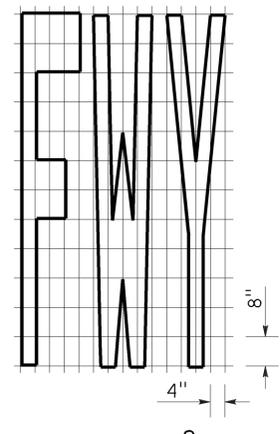
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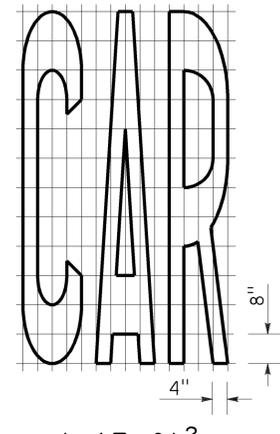
A=24 ft²



A=20 ft²

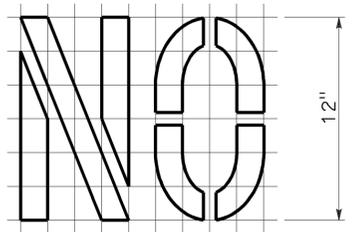


A=16 ft²



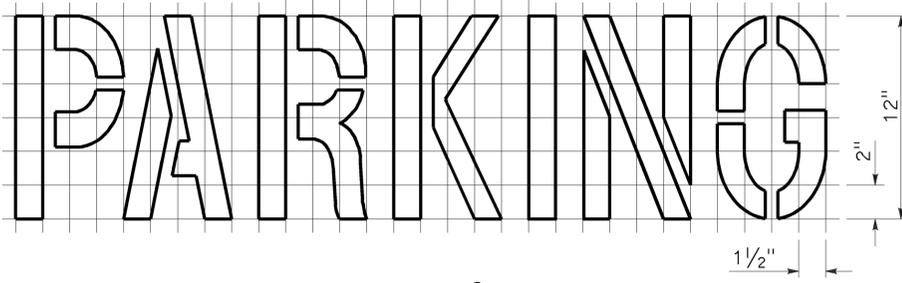
A=17 ft²

WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



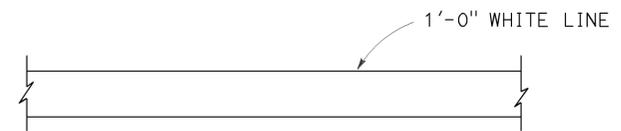
A=2 ft²

See Notes 6 and 7



A=2 ft²

See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES
 NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
 DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A24E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	118	151

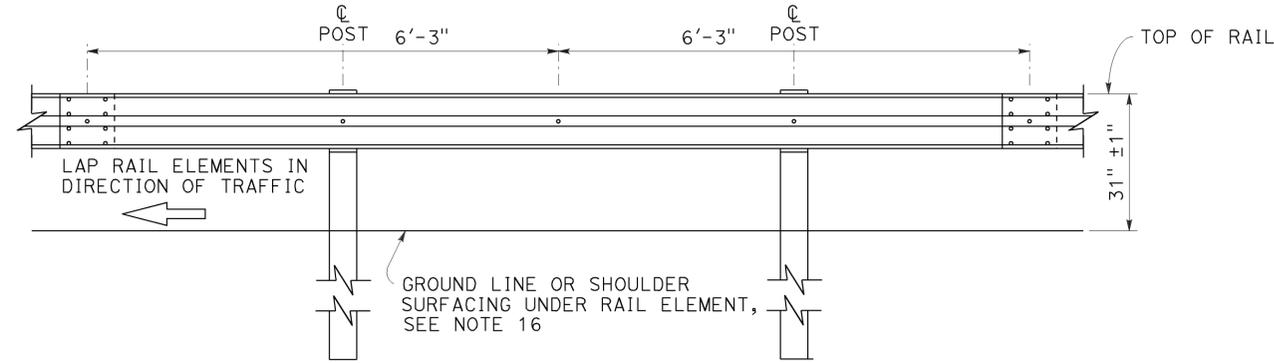
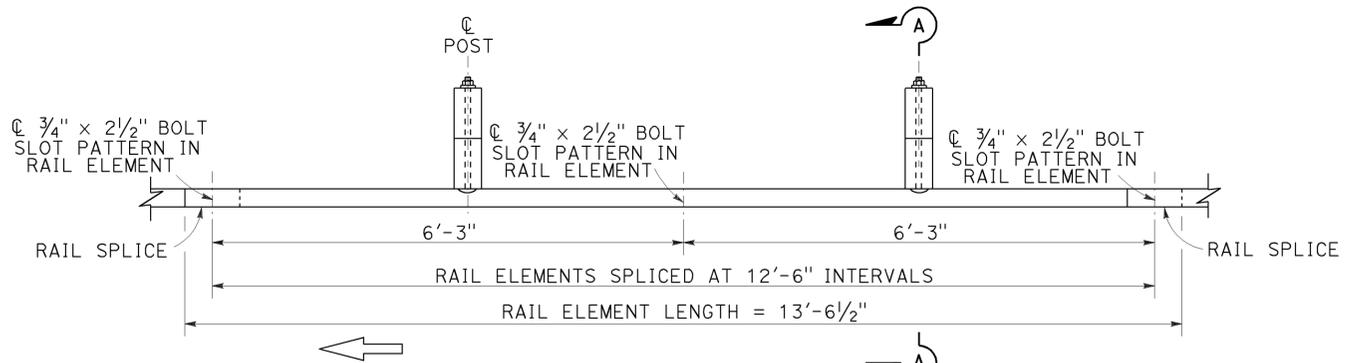
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

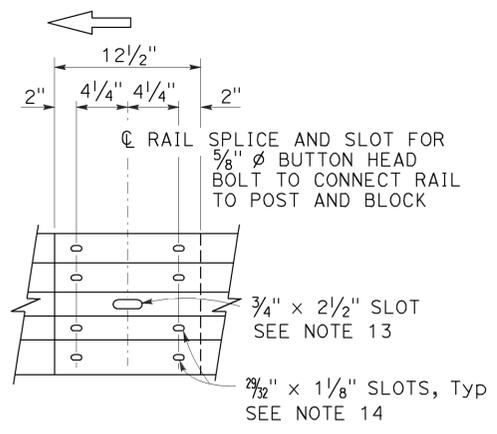
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

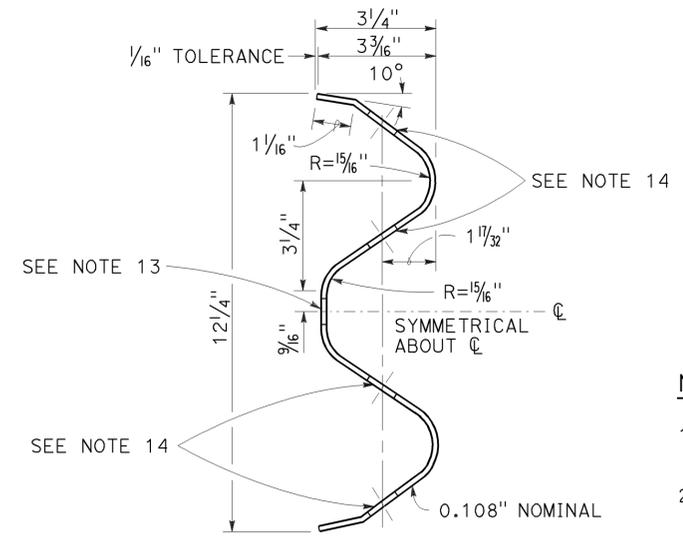
TO ACCOMPANY PLANS DATED 08-24-15



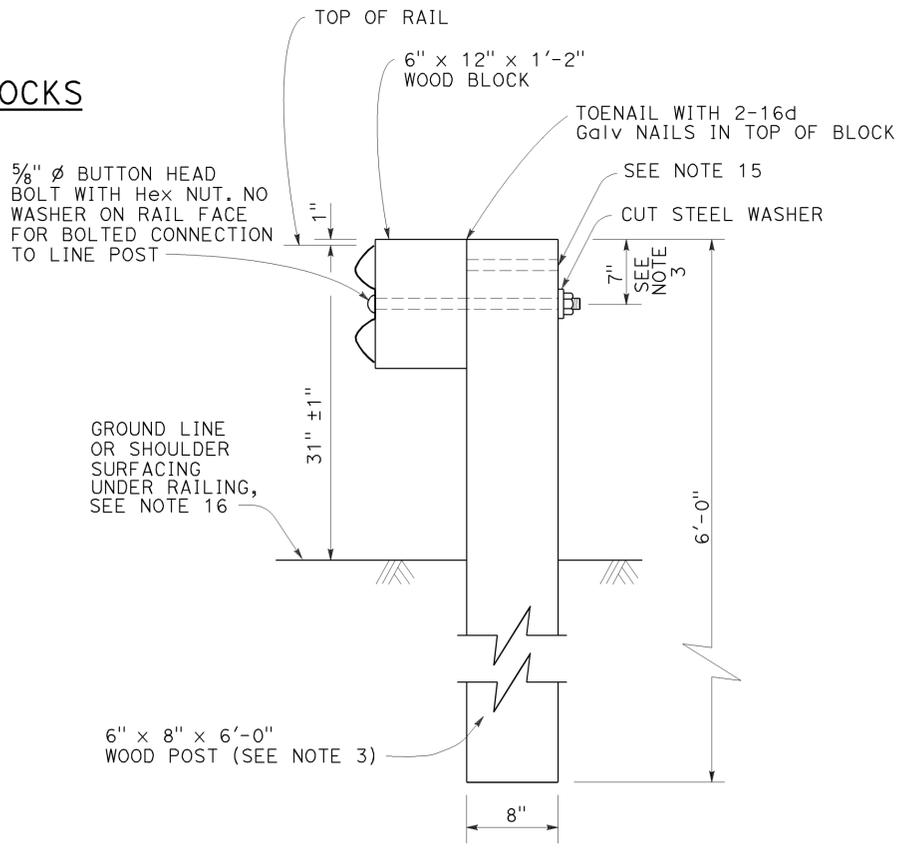
MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS



- Connect the over lapped end of the rail elements with 5/8" Ø x 1 3/8" button head oval shoulder splice bolts inserted into the 2 3/32" x 1 1/8" slots and bolted together with 5/8" Ø recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



SECTION A-A TYPICAL WOOD LINE POST INSTALLATION

See Note 4

NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

NO SCALE

RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	119	151

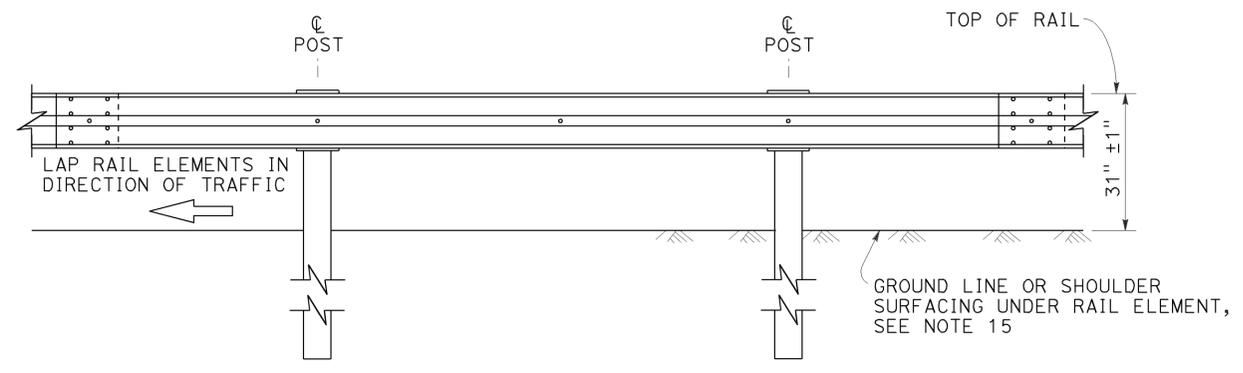
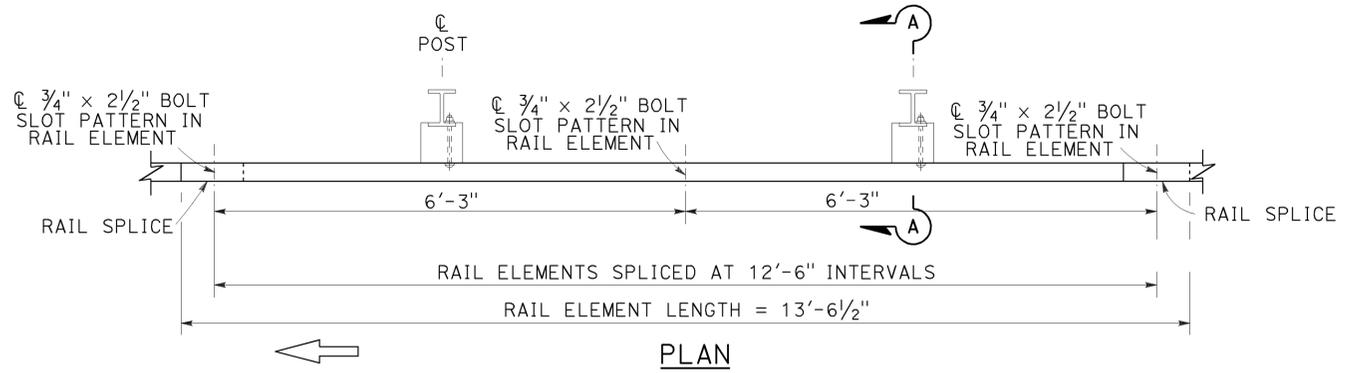
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

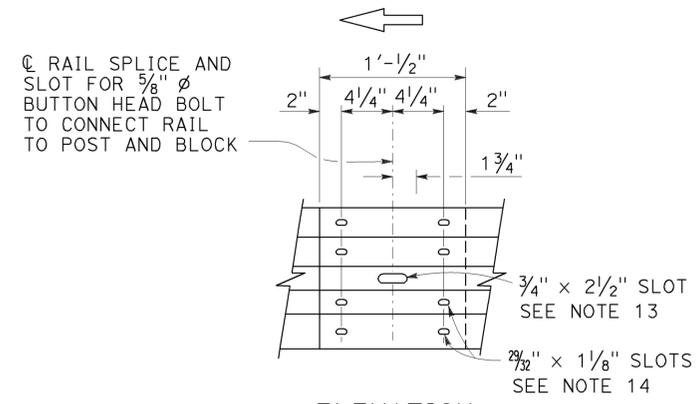
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

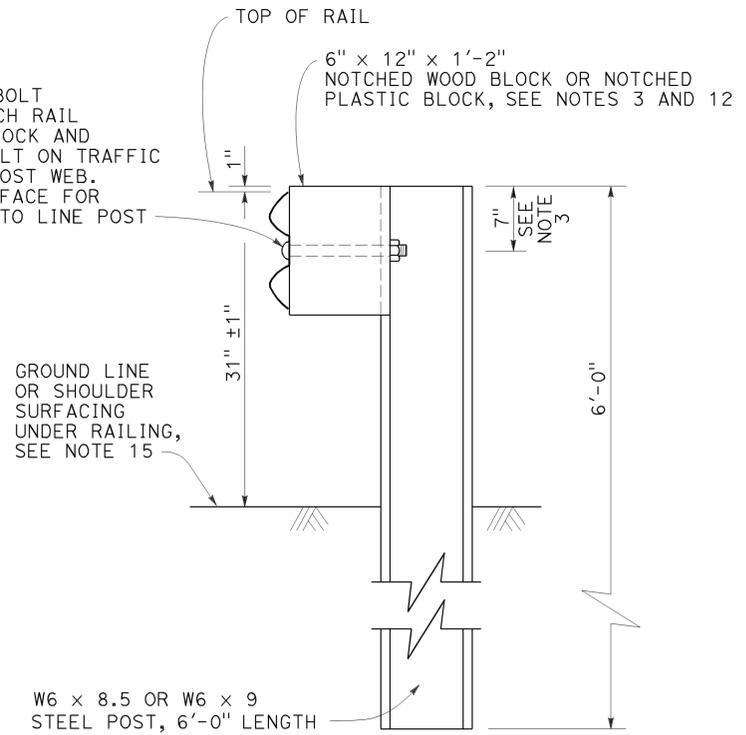
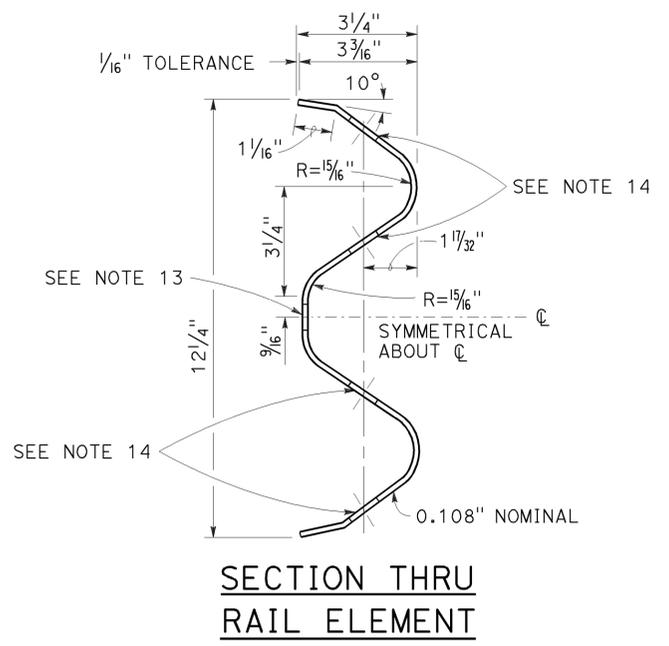
TO ACCOMPANY PLANS DATED 08-24-15



MIDWEST GUARDRAIL SYSTEM WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



- Connect the overlapped end of the rail elements with 5/8" ϕ x 1 3/8" button head oval shoulder splice bolts inserted into the 7/32" x 1 1/8" slots and bolted together with 5/8" ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION A-A
TYPICAL STEEL LINE POST INSTALLATION
See Note 4

NOTES:

- For details of wood post installations, see Revised Standard Plan RSP A77L1.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of steel posts and notched wood blocks used to construct MGS, see Revised Standard Plan RSP A77N2.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railings, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For dike positioning and MGS delineation details, see Revised Standard Plan RSP A77N4.
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.

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MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)

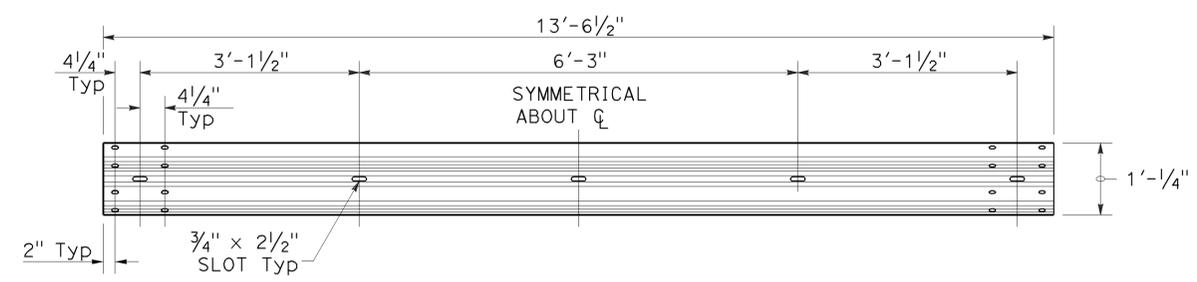
NO SCALE

RSP A77L2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L2

2010 REVISED STANDARD PLAN RSP A77L2

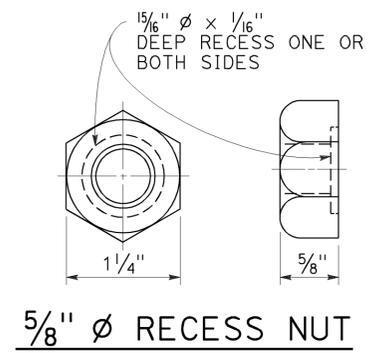
TO ACCOMPANY PLANS DATED 08-24-15



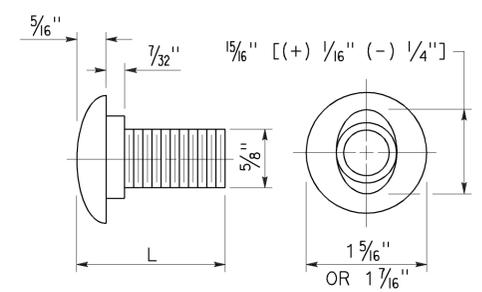
TYPICAL RAIL ELEMENT

NOTE:

1. Slotted holes for splice bolts to overlap ends of rail element.



5/8" Ø RECESS NUT

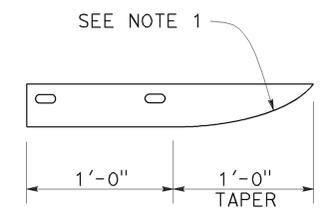


5/8" Ø BUTTON HEAD BOLT

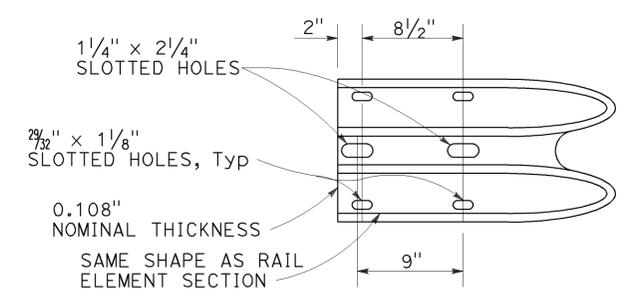
BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



PLAN



**ELEVATION
END CAP
(TYPE A)**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	121	151

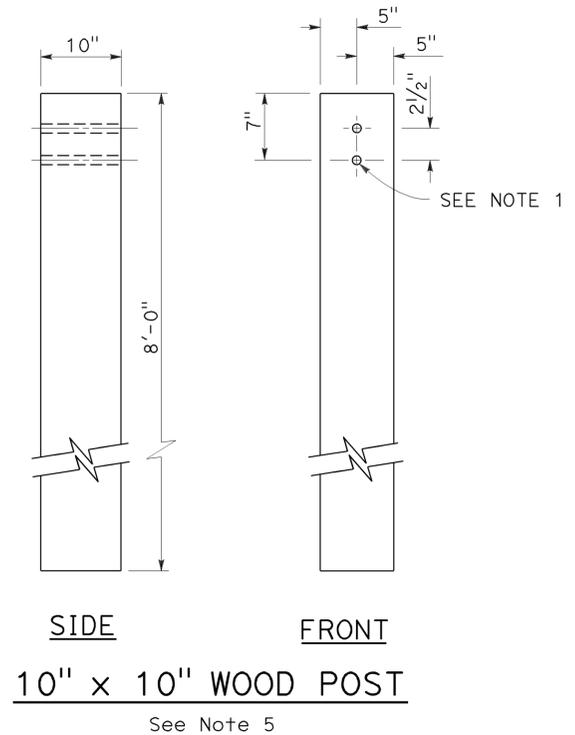
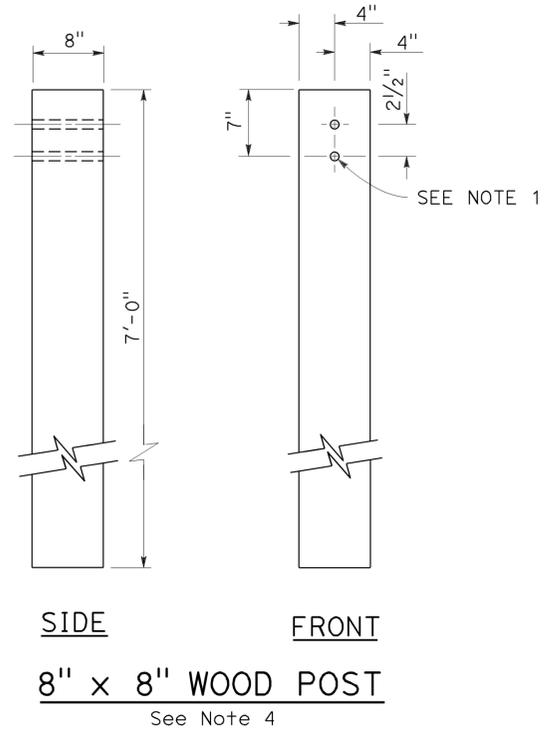
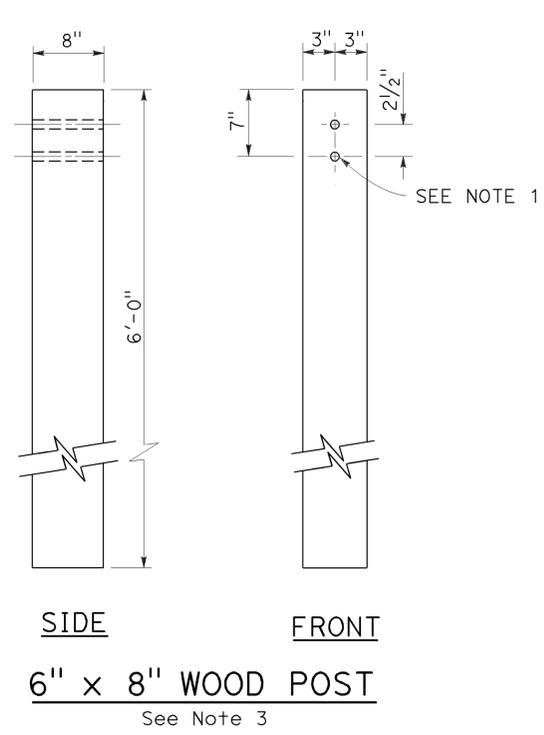
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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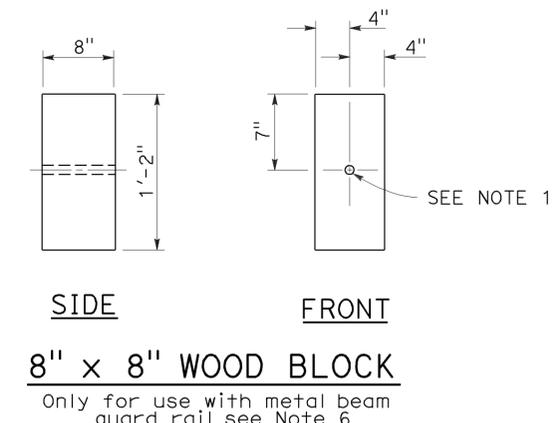
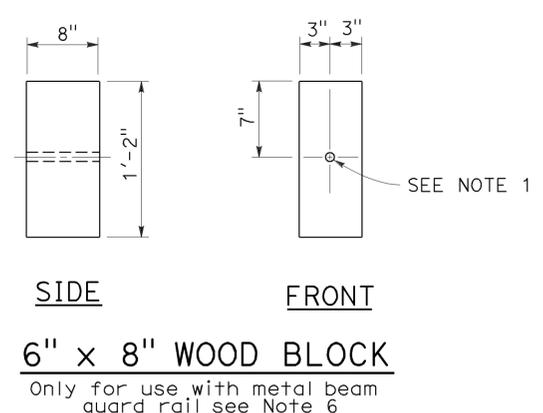
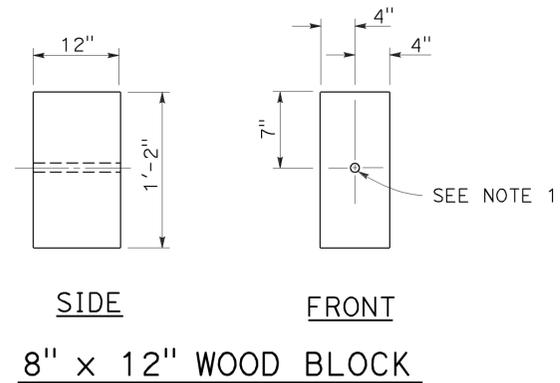
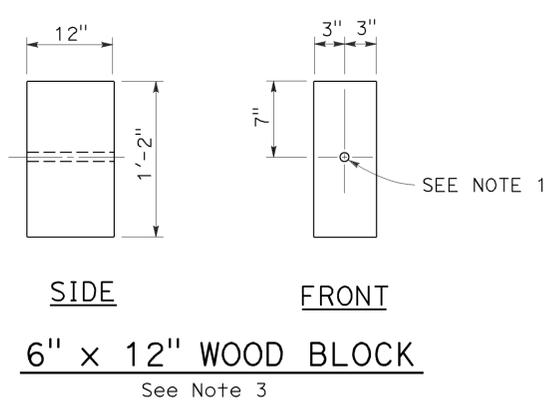
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Randell D. Hiatt
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Exp. 6-30-15
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STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-24-15



NOTES:

1. All holes in wood posts and blocks shall be 3/4" Dia ± 1/16".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



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**MIDWEST GUARDRAIL SYSTEM
WOOD POST AND
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N1

2010 REVISED STANDARD PLAN RSP A77N1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	122	151

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

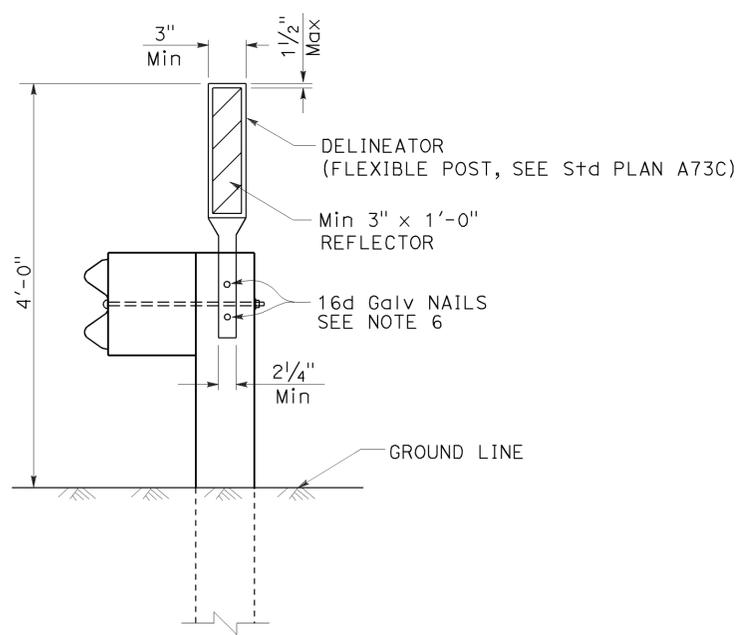
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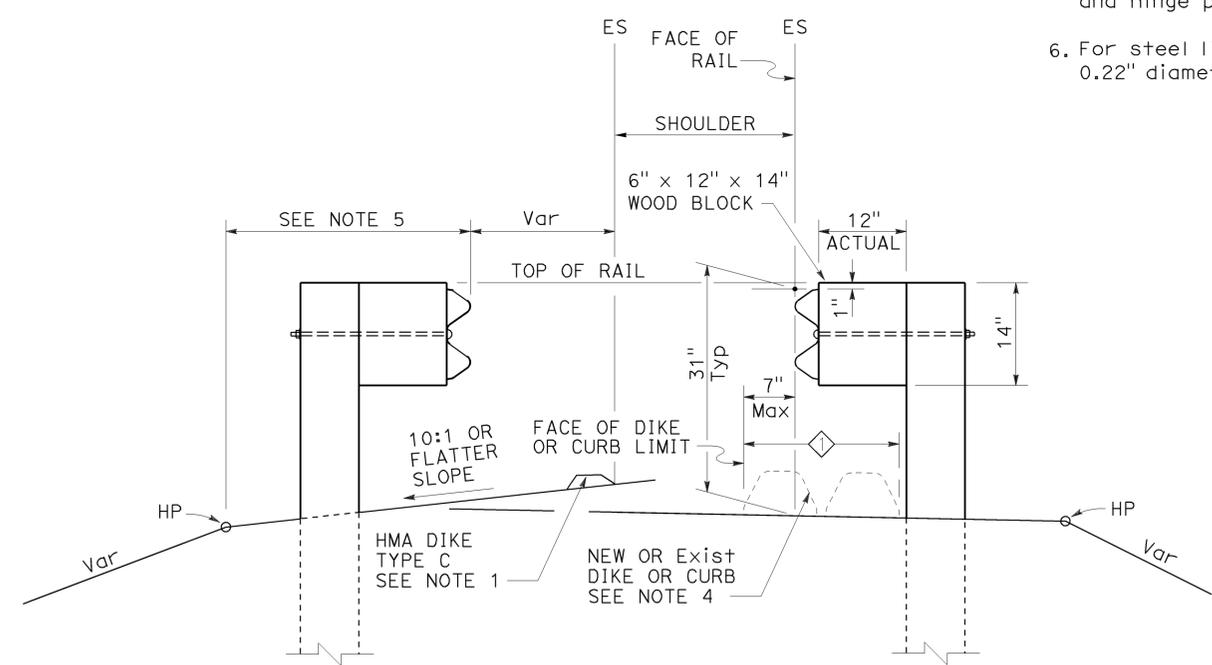
TO ACCOMPANY PLANS DATED 08-24-15

NOTES:

1. When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
6. For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	123	151

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August 14, 2015
PLANS APPROVAL DATE

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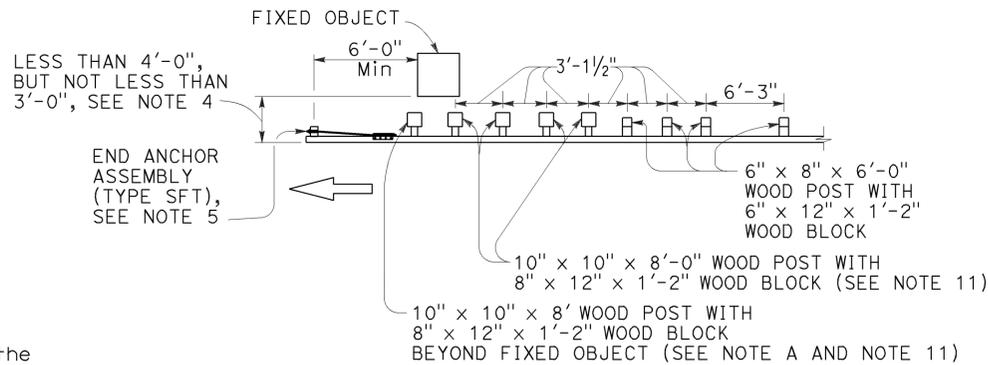
TO ACCOMPANY PLANS DATED 08-24-15

5/8" Ø BUTTON HEAD BOLT WITH Hex NUT OR 5/8" Ø ROD, THREADED BOTH ENDS, WITH Hex NUTS. 1/2" Max EXPOSED THREADS AFTER Hex NUT(S) TIGHTENED. NO WASHER ON RAIL FACES FOR BOLTED CONNECTION TO LINE POST

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Exp. 6-30-17
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STATE OF CALIFORNIA

NOTES:

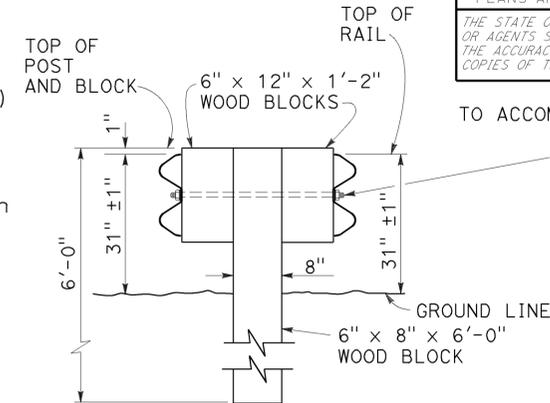
- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1, and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks, W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind MGS sections with post spacing of 6'-3". Construct MGS as shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 3'-0". Where the clearance is less than 3'-0", a concrete wall or barrier should be constructed to shield the fixed object(s).
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- For details of Rail Tensioning Assembly, see Revised Standard Plan RSP A77S2.
- The type of crash cushion to be used will be shown on the Project Plans.
- Type 14A layout is typically used on multilane freeways or expressways to shield fixed objects where a median type barrier is not constructed between the separated roadbeds.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.
- The 15:1 or flatter flare is measured off of the edge of traveled way.
- W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood block shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object".



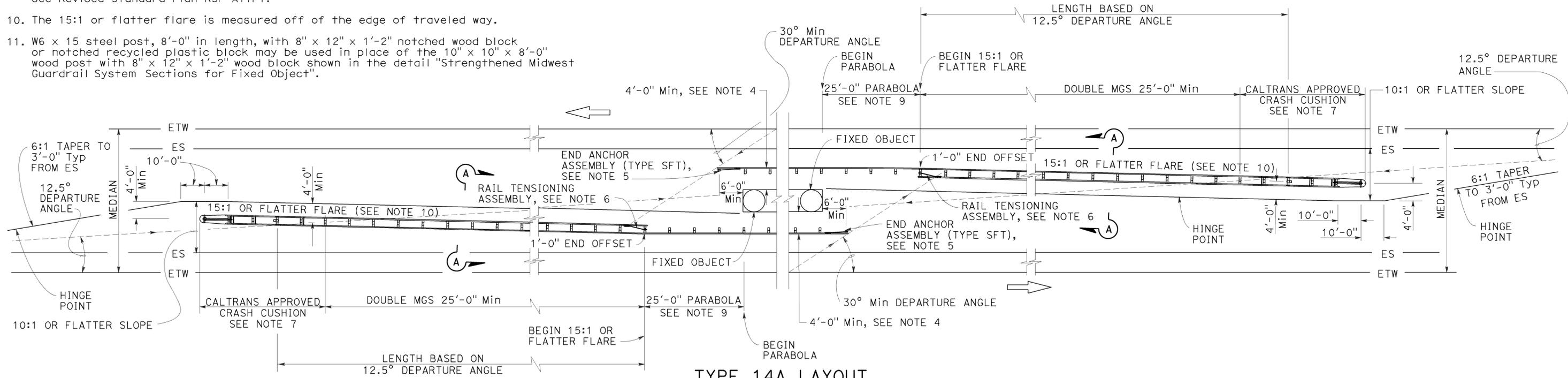
NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED MIDWEST GUARDRAIL SYSTEM SECTIONS FOR FIXED OBJECT

Use strengthened MGS sections with Type 14A layout where minimum clearance between the face of the railing and fixed object(s) is less than 4'-0", but not less than 3'-0", See Note 4.

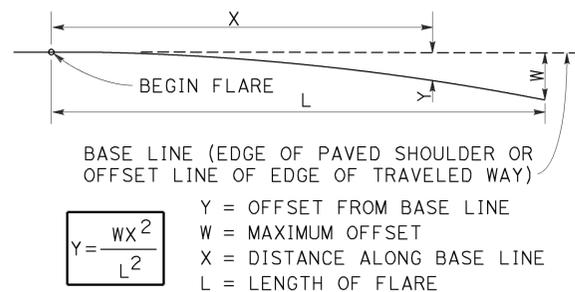


**SECTION A-A
TYPICAL DOUBLE MIDWEST GUARDRAIL SYSTEM**



TYPE 14A LAYOUT

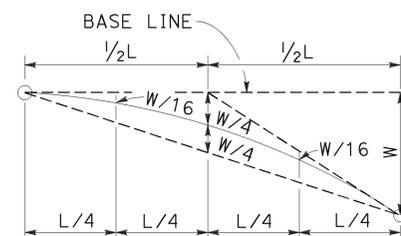
See Note 8



PARABOLIC FLARE OFFSETS

$$Y = \frac{WX^2}{L^2}$$

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE



TYPICAL PARABOLIC LAYOUT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
FIXED OBJECTS
BETWEEN SEPARATE ROADBEDS
(TWO-WAY TRAFFIC)**

NO SCALE

RSP A77R1 DATED AUGUST 14, 2015 SUPERSEDES RSP A77R1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77R1

2010 REVISED STANDARD PLAN RSP A77R1

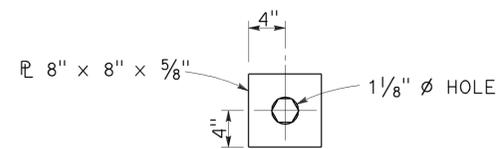
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	124	151

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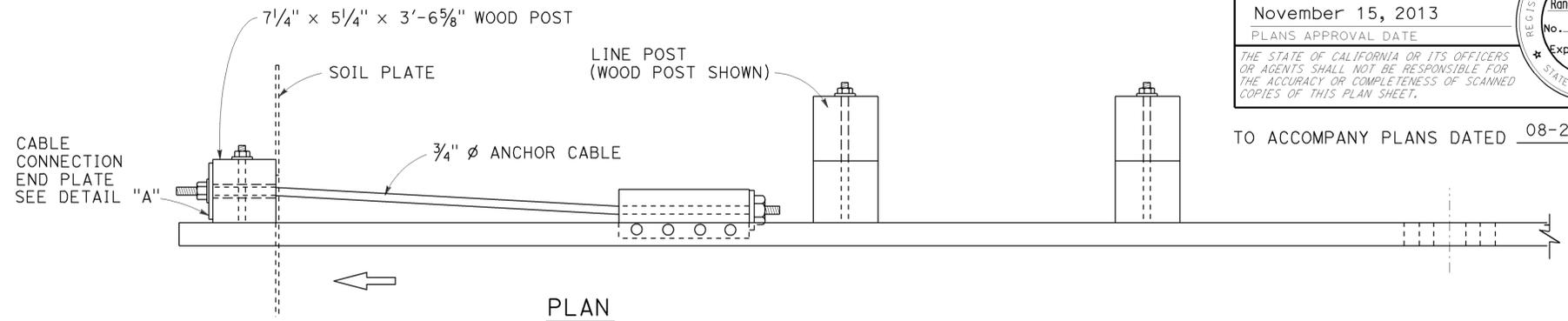
November 15, 2013
PLANS APPROVAL DATE

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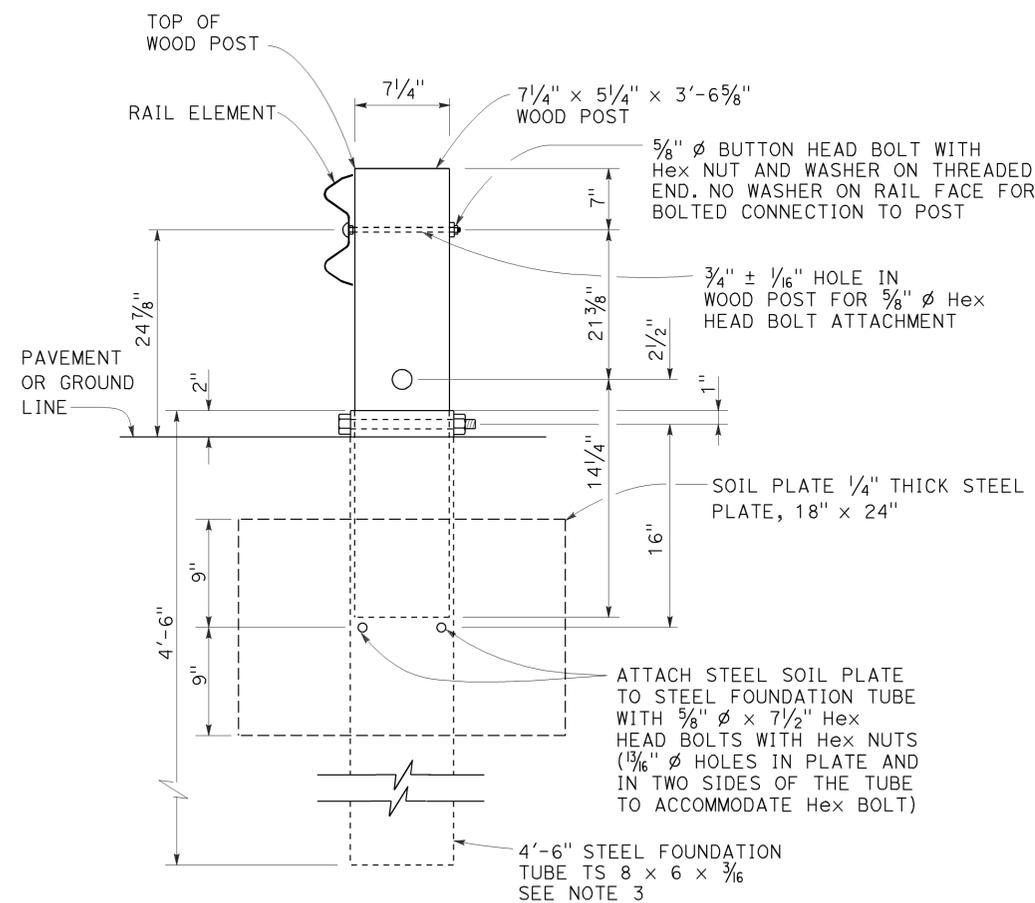
TO ACCOMPANY PLANS DATED 08-24-15



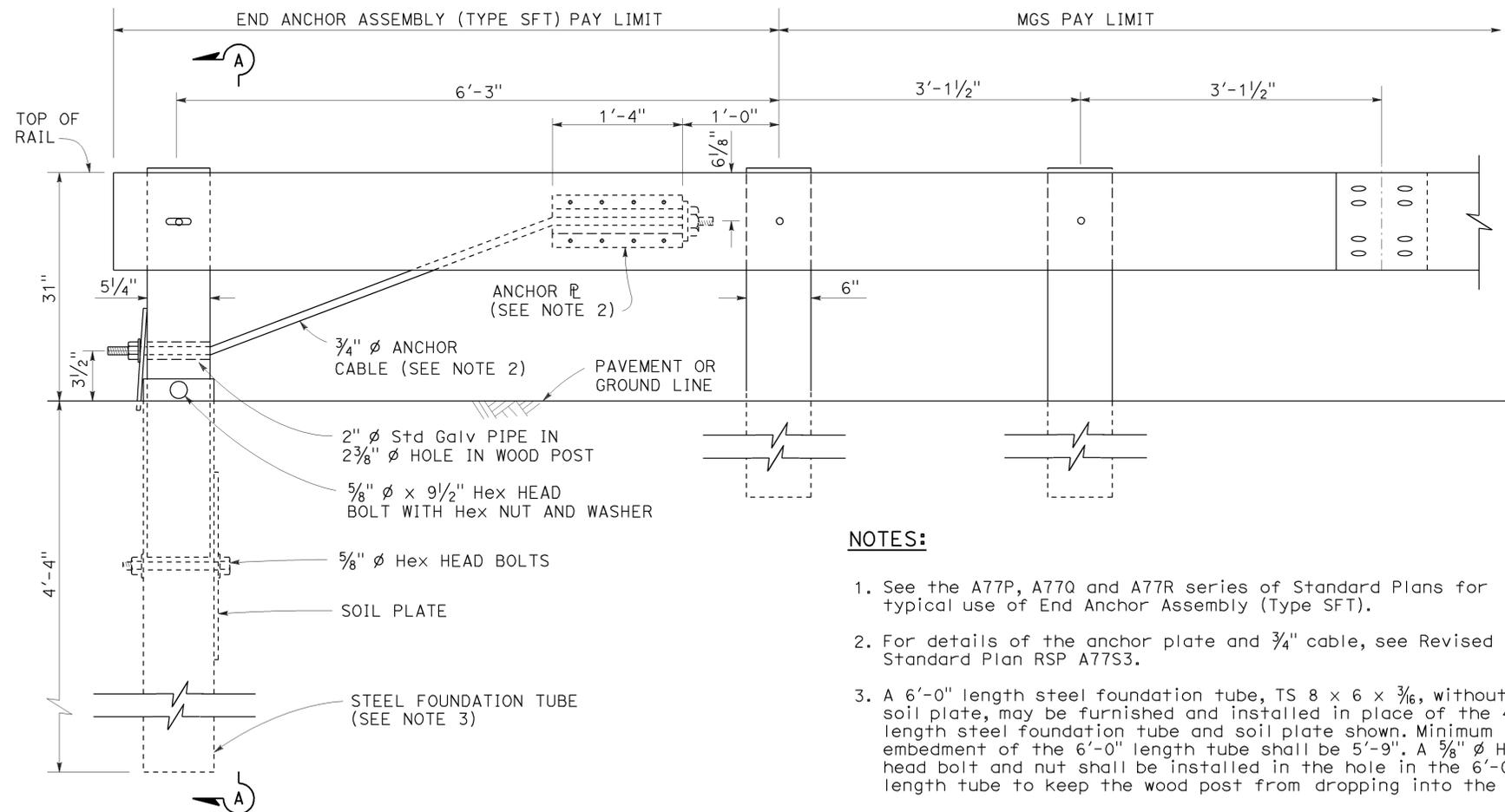
DETAIL "A"
CABLE CONNECTION
END PLATE



PLAN



SECTION A-A



ELEVATION

END ANCHOR
ASSEMBLY (TYPE SFT)

See Note 1

NOTES:

1. See the A77P, A77Q and A77R series of Standard Plans for typical use of End Anchor Assembly (Type SFT).
2. For details of the anchor plate and 3/4" cable, see Revised Standard Plan RSP A77S3.
3. A 6'-0" length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" diameter hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
4. Install line post, steel foundation tube and soil plate in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
END ANCHOR ASSEMBLY
(TYPE SFT)

NO SCALE

RSP A77S1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S1
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77S1

2010 REVISED STANDARD PLAN RSP A77S1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	125	151

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July 19, 2013
PLANS APPROVAL DATE

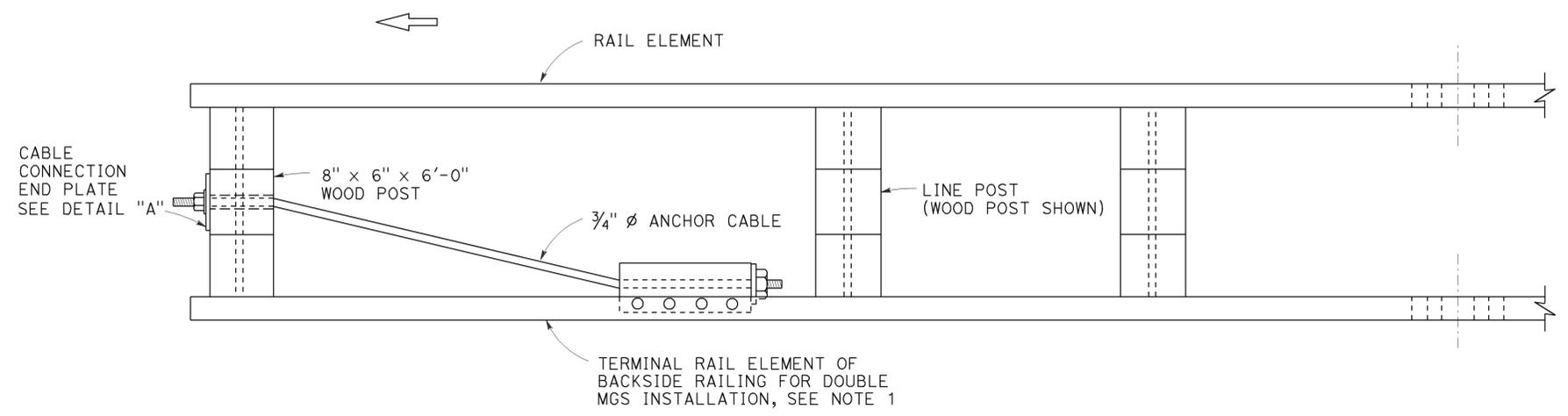
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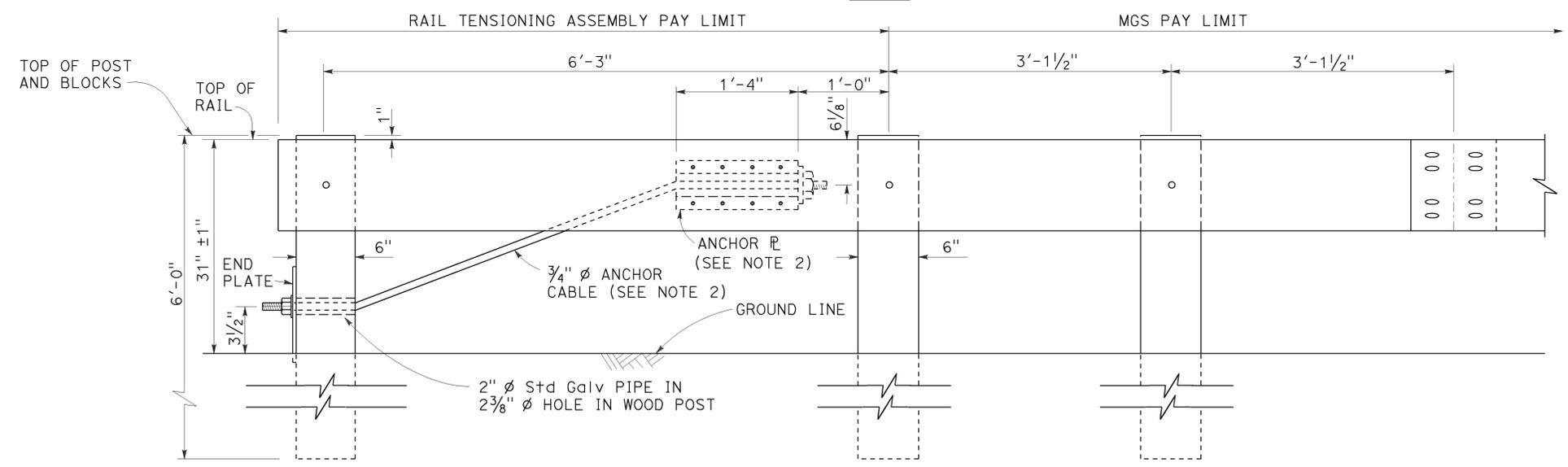
TO ACCOMPANY PLANS DATED 08-24-15

NOTES:

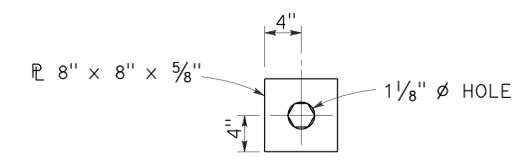
1. See Revised Standard Plans RSP A77Q3 and RSP A77R1 for typical use of rail tensioning assembly.
2. For details of the anchor plate and 3/4" cable, see Revised Standard Plan RSP A77S3.



PLAN



ELEVATION
RAIL TENSIONING
ASSEMBLY
See Note 1



DETAIL "A"
CABLE CONNECTION
END PLATE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
RAIL TENSIONING ASSEMBLY

NO SCALE

RSP A77S2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77S2

2010 REVISED STANDARD PLAN RSP A77S2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	126	151

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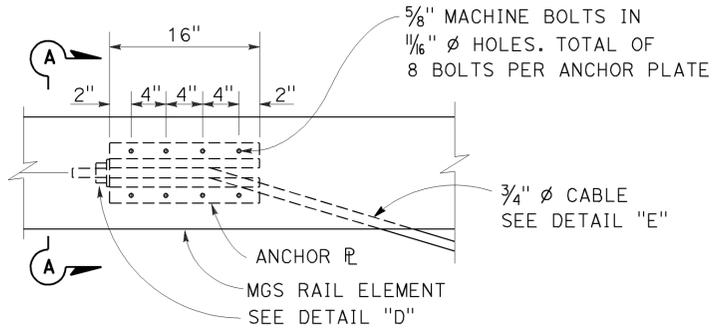
November 15, 2013
PLANS APPROVAL DATE

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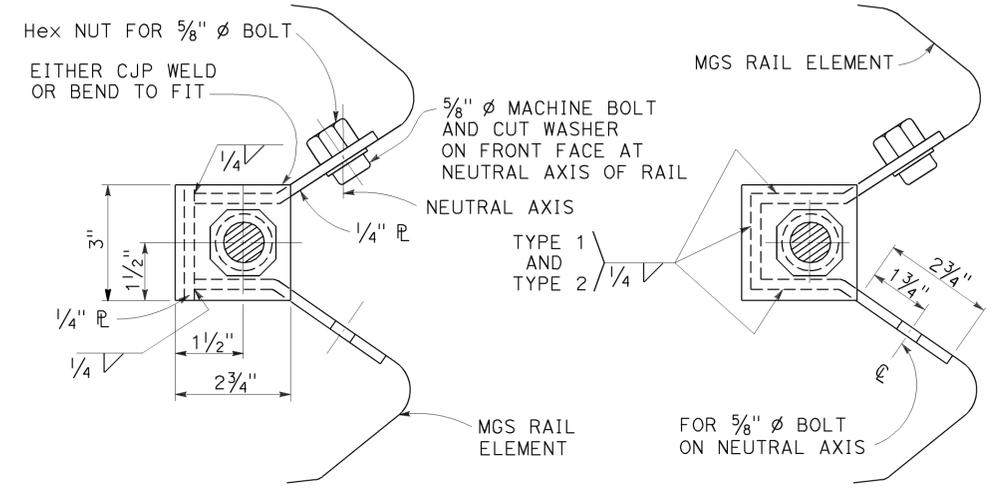
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TO ACCOMPANY PLANS DATED 08-24-15

NOTE:
See Revised Standard Plans RSP A77S1, RSP A77S2 and RSP A77T1 for typical use of anchor cable and anchor plate.



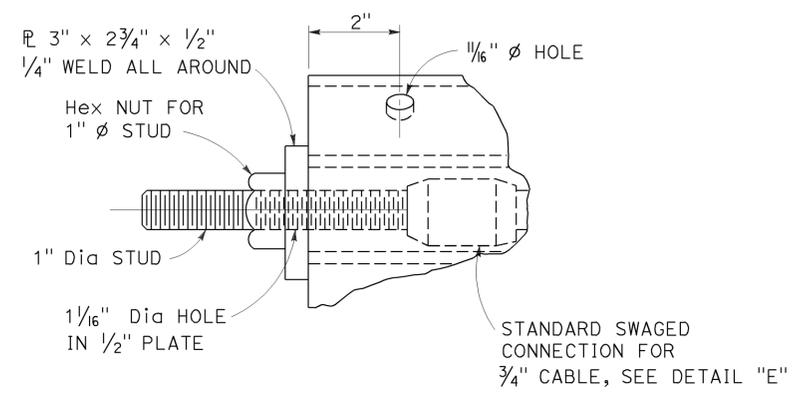
ANCHOR PLATE DETAIL
(MGS shown, TBB similar)



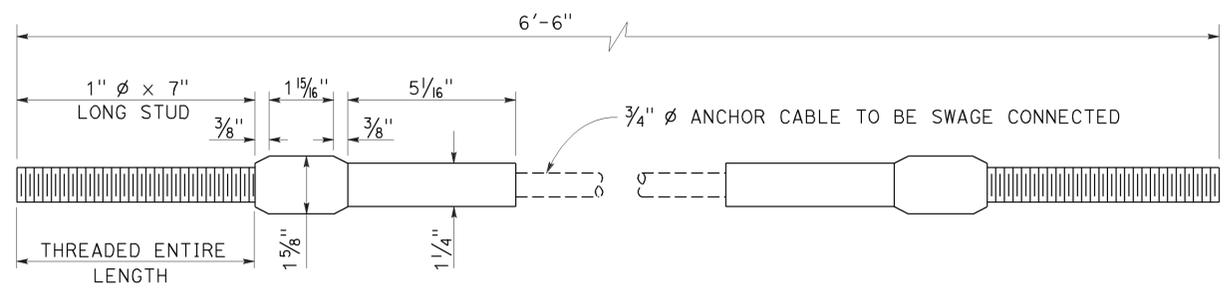
SECTION A-A
(ALTERNATIVE TYPE 1)

SECTION A-A
(ALTERNATIVE TYPE 2)

NOTE:
Dimensioning applies to both types.



DETAIL "D"



**ANCHOR CABLE WITH
SWAGED FITTING AND STUD**
DETAIL "E"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL RAILING
ANCHOR CABLE AND
ANCHOR PLATE DETAILS**

NO SCALE
RSP A77S3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A77S3

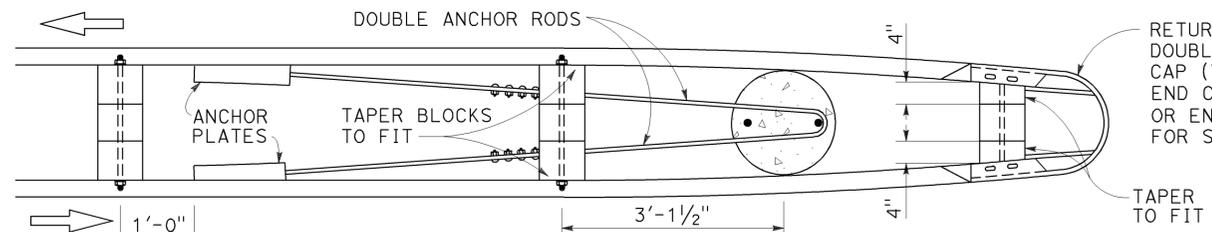
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	127	151

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

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Randell D. Hiatt
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Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

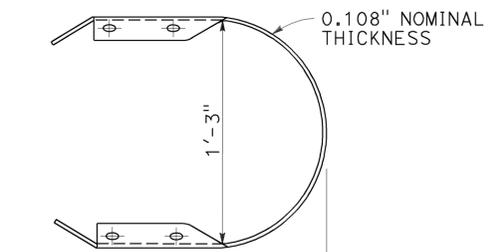


PLAN

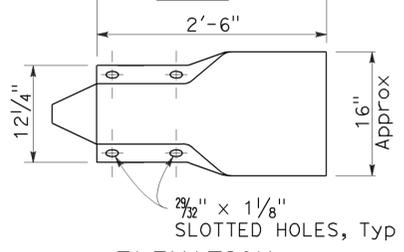
See Note 4

RETURN CAP (TYPE TA) FOR DOUBLE THRIE BEAM OR RETURN CAP (TYPE A) FOR DOUBLE MGS.
END CAP (TYPE A) FOR SINGLE MGS OR END CAP (TYPE TC) FOR SINGLE THRIE BEAM

TAPER TO FIT



PLAN



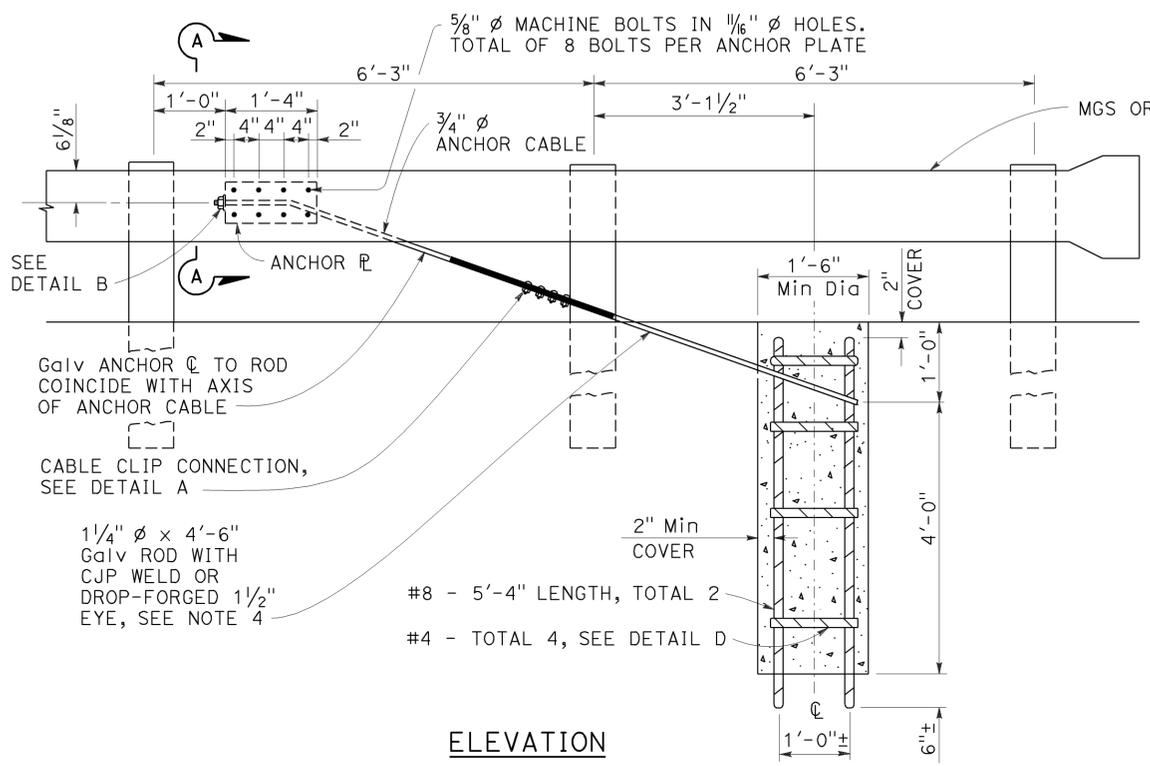
ELEVATION

RETURN CAP (TYPE A)

TO ACCOMPANY PLANS DATED 08-24-15

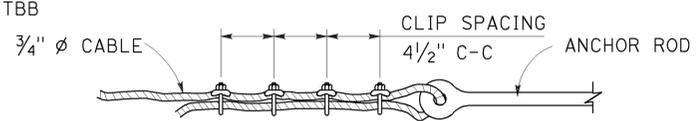
NOTES:

- For typical use of this type of end anchor, see Revised Standard Plan RSP A78E2.
- Anchor cable to be parallel to railing for straight runs of rail. Anchor cable may have angle point at anchor plate if railing is curved.
- Anchor rod hooks to be in contact with anchor reinforcement when concrete is placed. Wire ties may be used to position anchor rods.
- Single sided railing installations require only one anchor plate, anchor rod and anchor cable. Single sided railing will not have a rail element or blockouts on backside of line posts as shown in the plan view.



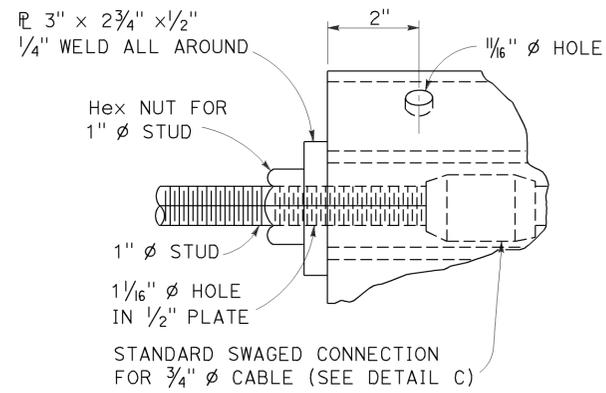
ELEVATION
END ANCHOR ASSEMBLY (TYPE CA)

(Wood post, MGS shown, details similar for Thrie Beam Barrier.)



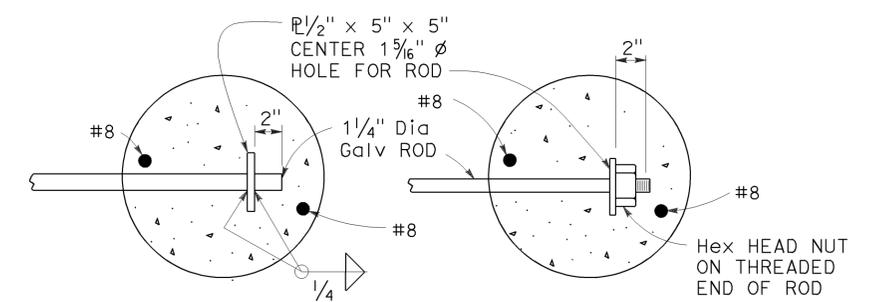
DETAIL A
CABLE CLIP CONNECTION

"U" bolts of clip on short end of cable only
"U" bolts tightened to 50 ft/lb torque



DETAIL B

STANDARD SWAGED CONNECTION FOR 3/4" ϕ CABLE (SEE DETAIL C)

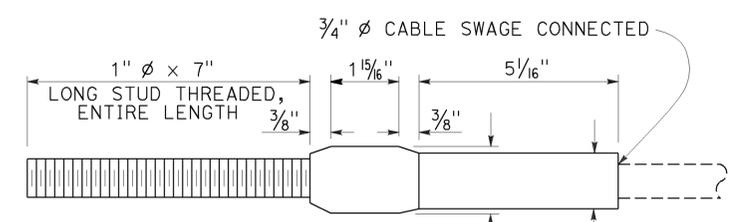


OPTIONAL ENDS ON SINGLE ANCHOR ROD

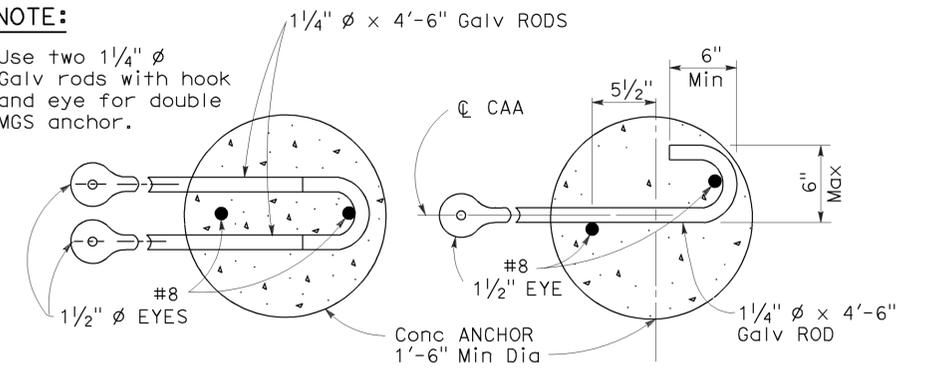
(Not to be used for double anchors)

NOTE:

Use two 1/4" ϕ Galv rods with hook and eye for double MGS anchor.



DETAIL C
ANCHOR CABLE WITH SWAGED FITTING AND STUD



DOUBLE ANCHOR ANCHOR RODS
SINGLE ANCHOR ANCHOR RODS

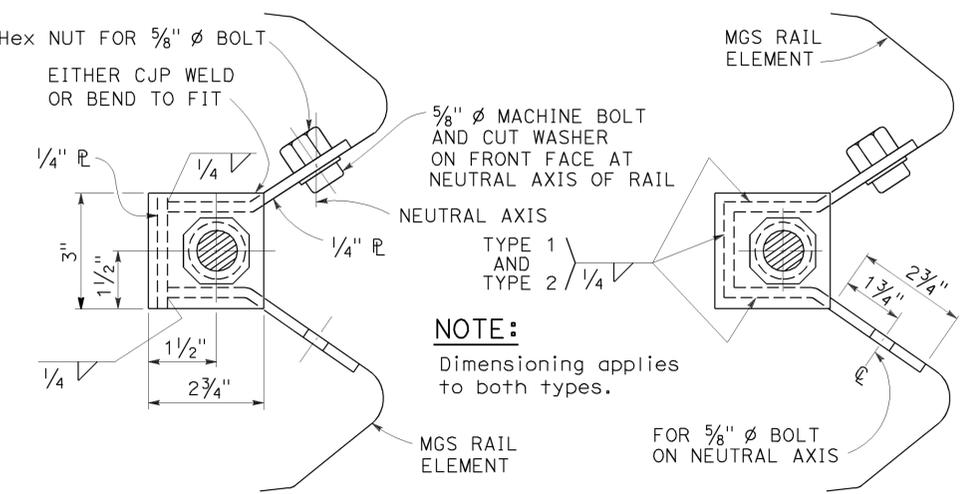
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL RAILING END ANCHOR ASSEMBLY (TYPE CA)

NO SCALE

RSP A77T1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77T1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77T1

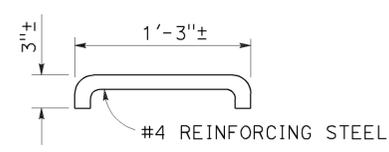


SECTION A-A
(Alternative Type 1)

SECTION A-A
(Alternative Type 2)

ANCHOR PLATE DETAILS

NOTE:
Dimensioning applies to both types.



DETAIL D

2010 REVISED STANDARD PLAN RSP A77T1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	128	151

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

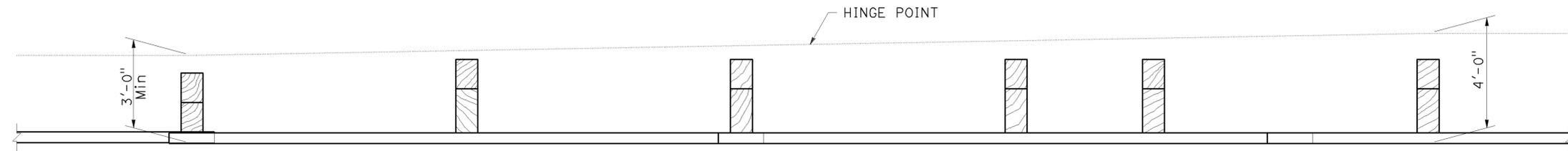
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

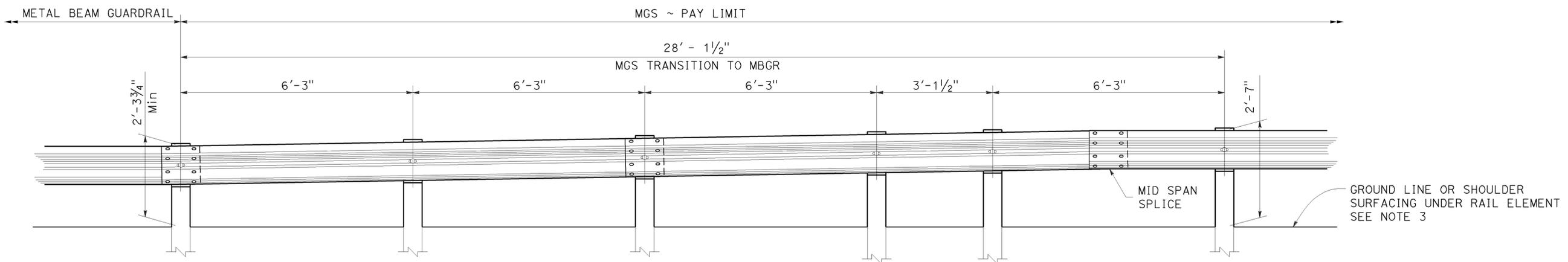
TO ACCOMPANY PLANS DATED 08-24-15

NOTES:

1. Refer to Revised Standard Plans RSP A77L1 and RSP A77L2 for component details for MGS not shown on this plan.
2. All posts for any standard barrier run shall be of the same type: Wood or Steel.
3. Install posts in soil.



PLAN



ELEVATION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TRANSITION TO METAL BEAM GUARDRAIL**

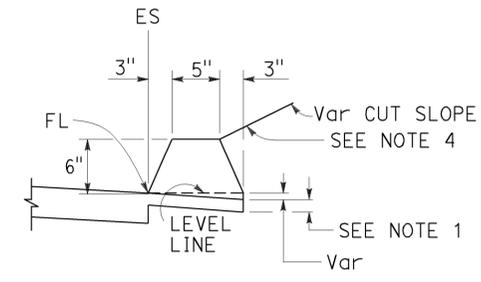
NO SCALE

RSP A77U5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

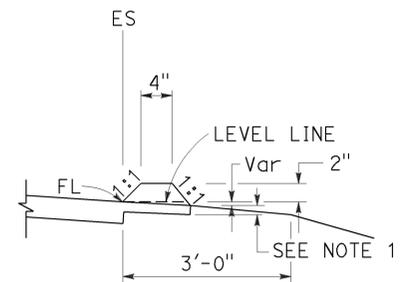
REVISED STANDARD PLAN RSP A77U5

2010 REVISED STANDARD PLAN RSP A77U5

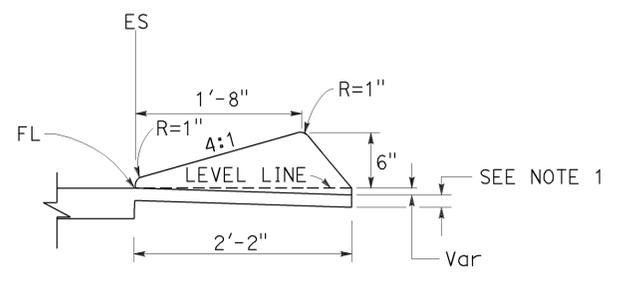
TO ACCOMPANY PLANS DATED 08-24-15



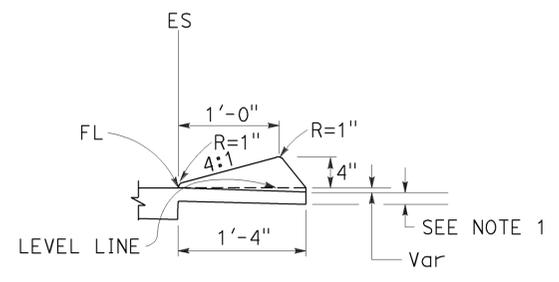
TYPE A
See Note 3



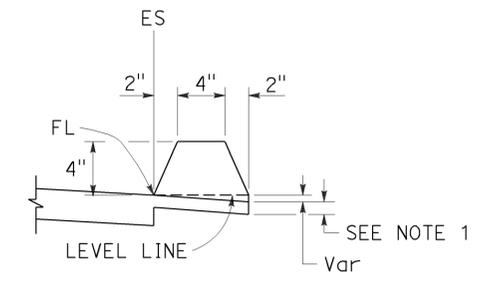
TYPE C



TYPE D

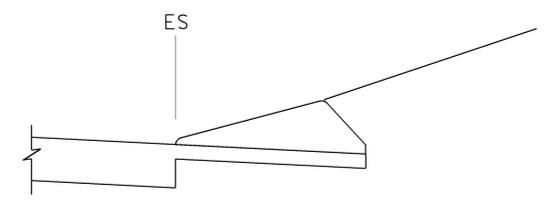


TYPE E

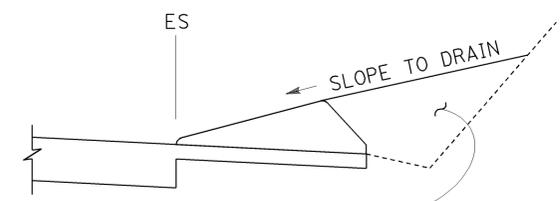


TYPE F
See Note 5

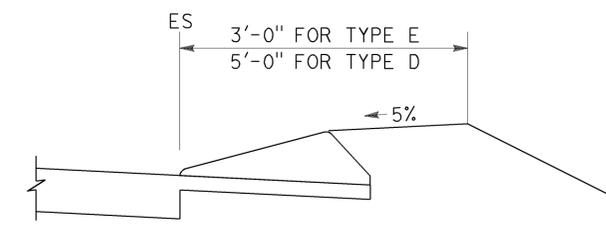
DIKES



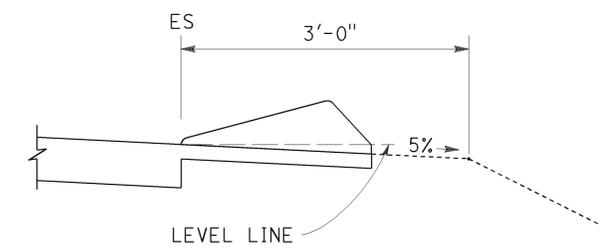
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

- For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
- Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
- Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
- Fill and compact with excavated material to top of dike.
- Use Type F dike, where dike is required with guard railing installations. See Revised Standard Plan RSP A77N4 for dike positioning details.

DIKE QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

RSP A87B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87B
DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87B

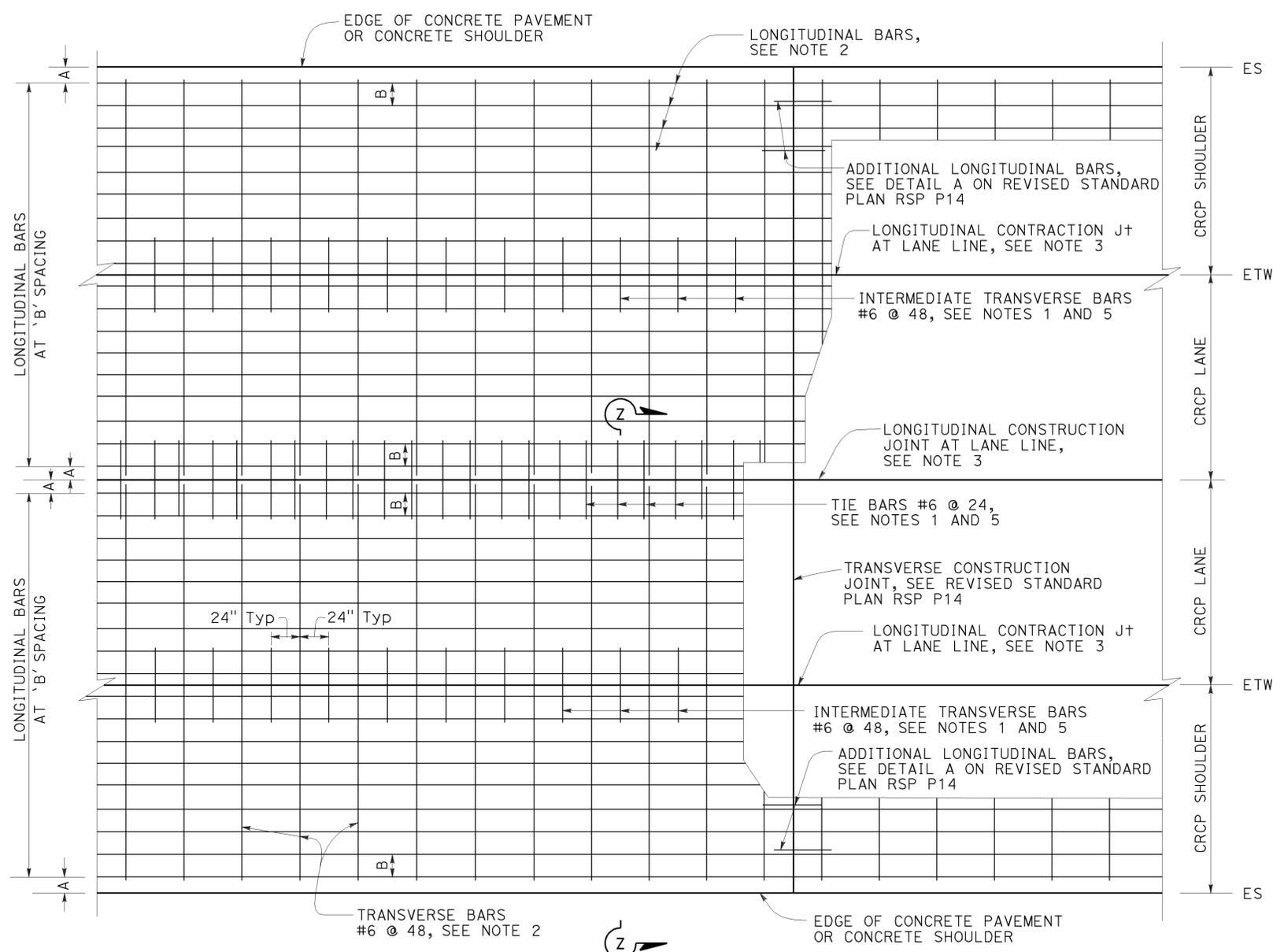
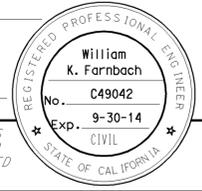
2010 REVISED STANDARD PLAN RSP A87B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	130	151

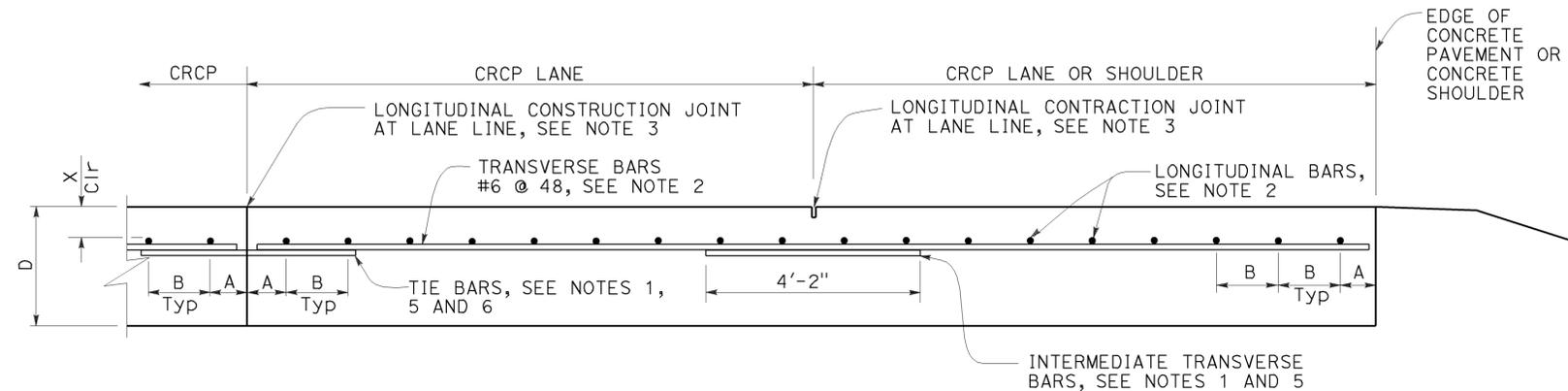
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 08-24-15



PLAN
See Note 4



SECTION Z-Z

TABLE No. 1 LONGITUDINAL BAR REINFORCEMENT

SLAB THICKNESS AND BAR SIZE		FIRST SPACING AT EDGE OR JOINT	REGULAR BARS	ADDITIONAL BARS AT TRANSVERSE CONSTRUCTION JOINT	Cir
D	BAR SIZE	SPACING A	SPACING B	SPACING 2 x B	X
.75'	#6	3" TO 4"	8.0"	16"	4"
.80'	#6	3" TO 4"	7.5"	15"	4"
.85'	#6	3" TO 4"	7.0"	14"	4"
.90'	#6	3" TO 4"	6.5"	13"	4"
.95'	#6	3" TO 4"	6.25"	12.5"	4"
1.00'	#6	3" TO 4"	6.0"	12"	5"
1.05'	#6	3" TO 4"	5.75"	11.5"	5"
1.10'	#6	3" TO 4"	5.5"	11"	5.5"

NOTES:

1. Place transverse tie bars and intermediate transverse bars parallel to and in the same plane as transverse bars.
2. The length of lap splices for bar reinforcement must be at least 25".
3. For longitudinal contraction and construction joint details, see Revised Standard Plan RSP P16.
4. For curved lane layout see Revised Standard Plan RSP P16.
5. For tie bar and intermediate transverse bar details see Revised Standard Plan RSP P16.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
CONCRETE PAVEMENT**

NO SCALE

RSP P4 DATED JULY 19, 2013 SUPERSEDES RSP P4 DATED APRIL 20, 2012 AND STANDARD PLAN P4 DATED MAY 20, 2011 - PAGE 128 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P4

2010 REVISED STANDARD PLAN RSP P4

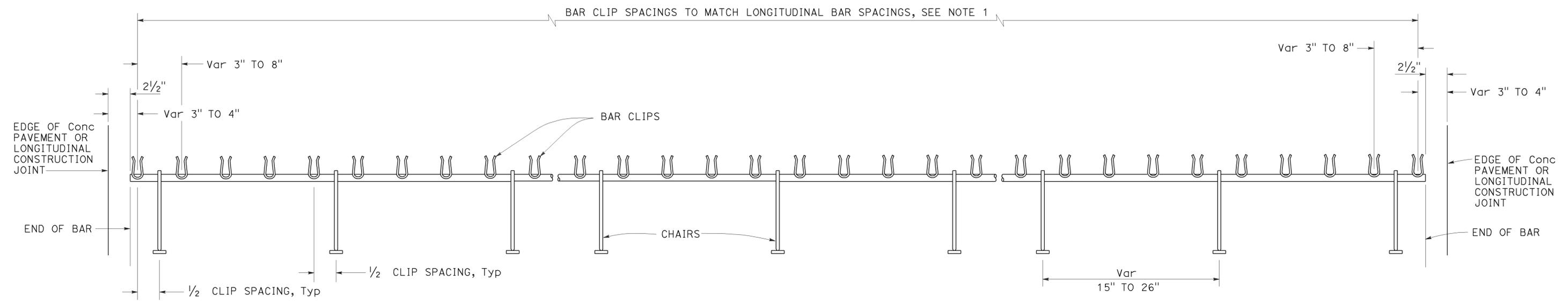
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	131	151

William K. Farnbach
 REGISTERED CIVIL ENGINEER
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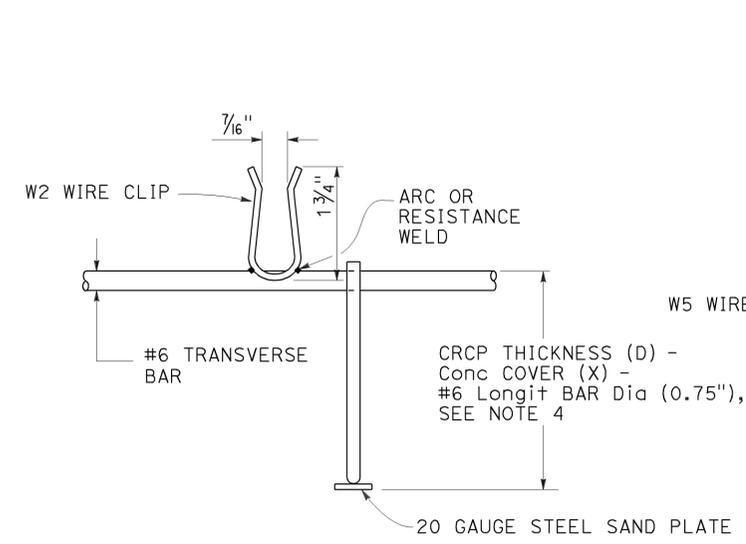
REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-24-15

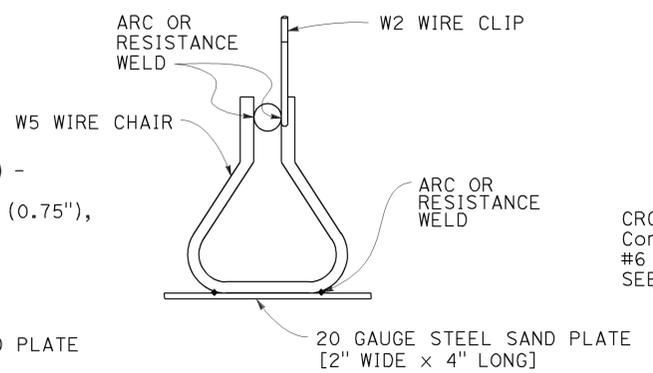


TRANSVERSE BAR ASSEMBLY

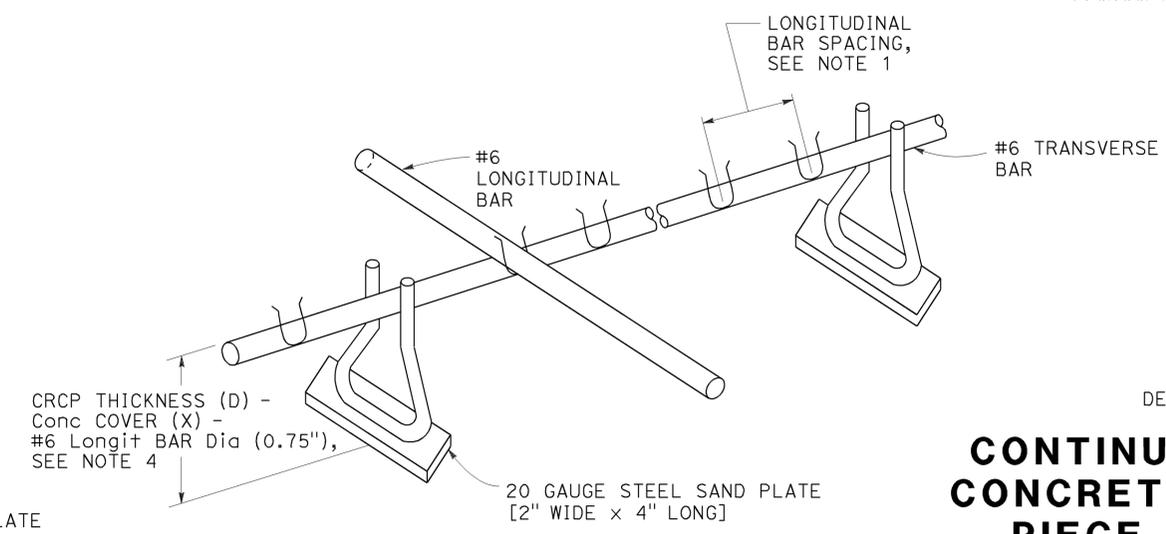
- NOTES:**
1. See Revised Standard Plan RSP P4 for spacing of longitudinal bars.
 2. Tensile strength of chair shall be at least 50,000 psi.
 3. Wire sizes shown are minimum required.
 4. For concrete cover (X), see Table 1 in Revised Standard Plan RSP P4.



#6 BAR CLIP DETAIL



CHAIR DETAIL



ISOMETRIC VIEW OF CHAIR ASSEMBLY

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CONTINUOUSLY REINFORCED CONCRETE PAVEMENT-SINGLE PIECE TRANSVERSE BAR ASSEMBLY
 NO SCALE

RSP P13 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN P13 DATED MAY 20, 2011 - PAGE 133 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P13

2010 REVISED STANDARD PLAN RSP P13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	132	151

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

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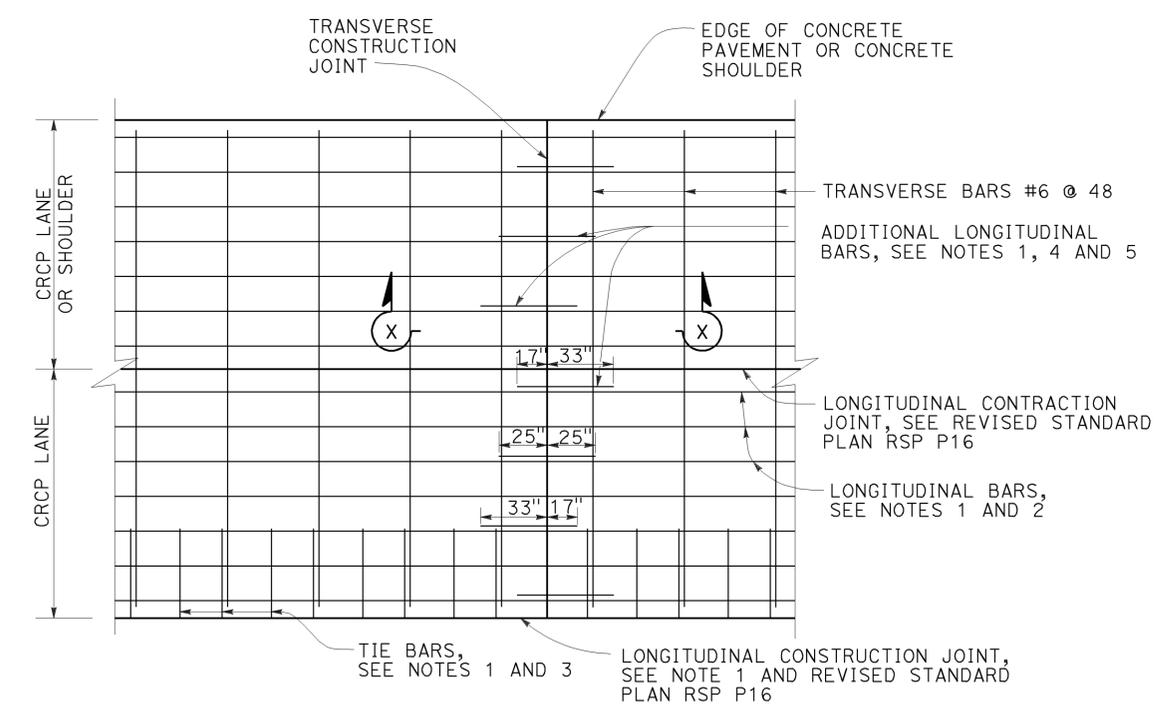
TO ACCOMPANY PLANS DATED 08-24-15

NOTES:

1. For longitudinal bar size, spacing and clearances, see Table 1 on Revised Standard Plan RSP P4.
2. The length of lap splices for bar reinforcement must be at least 25".
3. For tie bars in longitudinal construction joint, see Revised Standard Plan RSP P16.
4. Place additional longitudinal bars parallel to and in the same plane as the longitudinal bars.
5. Place additional longitudinal bars symmetrically about longitudinal construction joint.

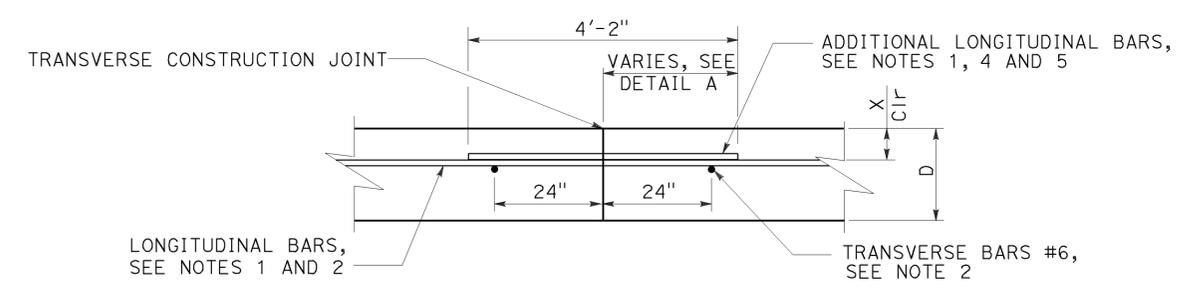
ABBREVIATION

D = Thickness of CRCP



DETAIL A

Additional longitudinal bars at transverse construction joint



SECTION X-X
TRANSVERSE CONSTRUCTION JOINT

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
 CONCRETE PAVEMENT
 TRANSVERSE CONSTRUCTION JOINT**

NO SCALE

RSP P14 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P14

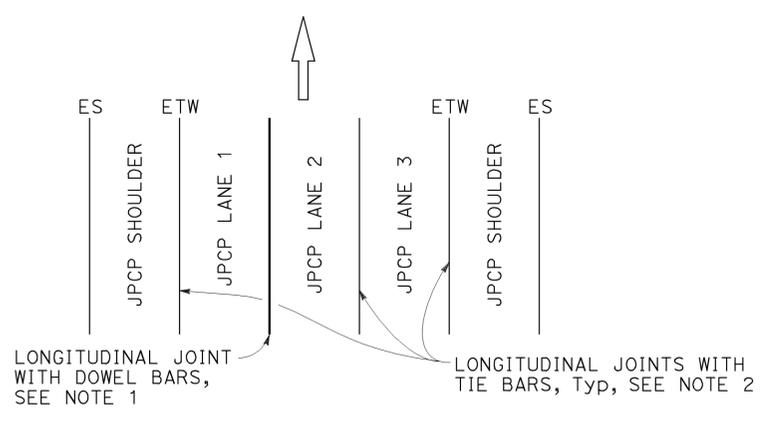
2010 REVISED STANDARD PLAN RSP P14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	133	151

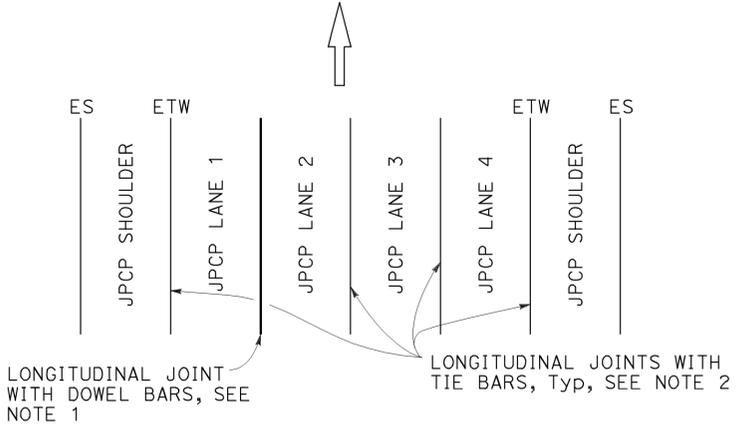
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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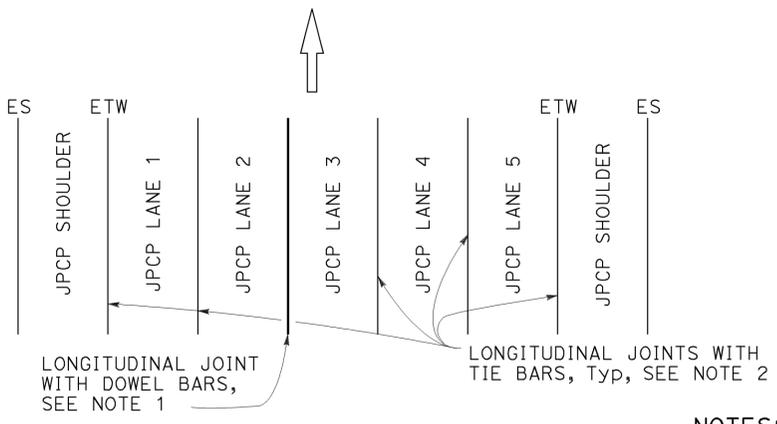
TO ACCOMPANY PLANS DATED 08-24-15



3 LANES WITH CONCRETE SHOULDERS
PLAN



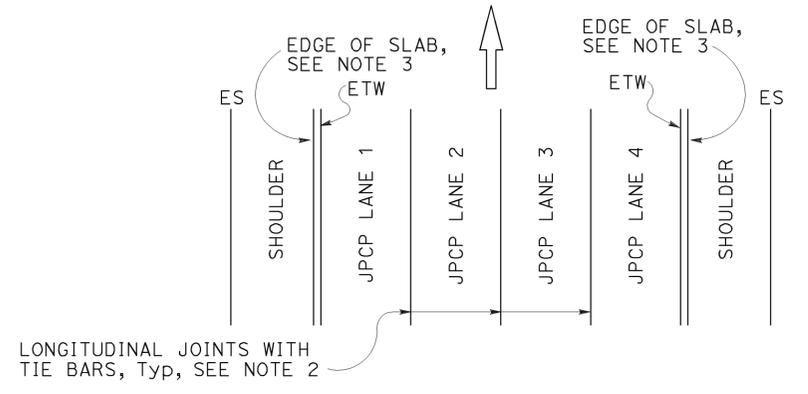
4 LANES WITH CONCRETE SHOULDERS
PLAN



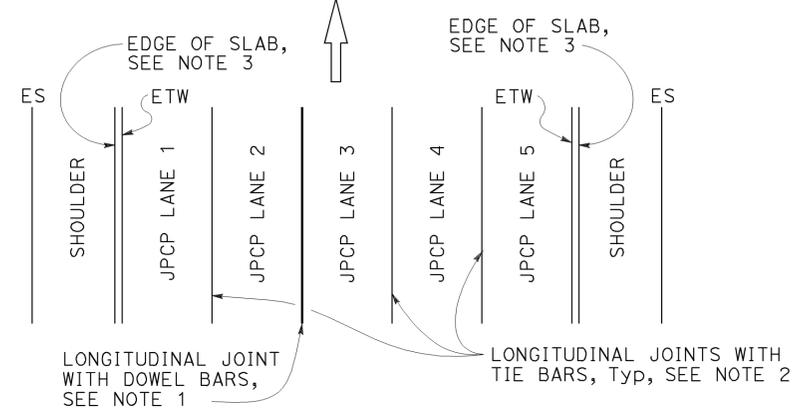
5 LANES WITH CONCRETE SHOULDERS
PLAN

NOTES:

1. See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
2. See Revised Standard Plan RSP P15 for longitudinal joint with tie bars.
3. S = Reservoir depth.
 $S = \frac{7}{8}'' \pm \frac{1}{16}''$ for asphalt rubber seals
 $S = \frac{9}{16}'' \pm \frac{1}{16}''$ for silicone seals
 Preformed compression seals must be $\frac{13}{16}''$ wide and $S = 1\frac{1}{16}'' \pm \frac{1}{16}''$

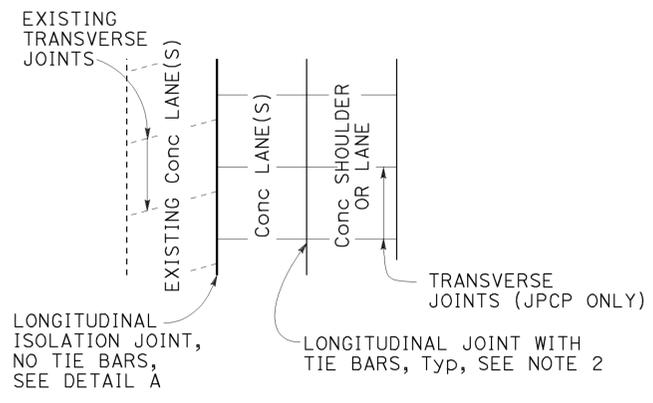


4 LANES OR LESS WITH AC SHOULDERS
PLAN

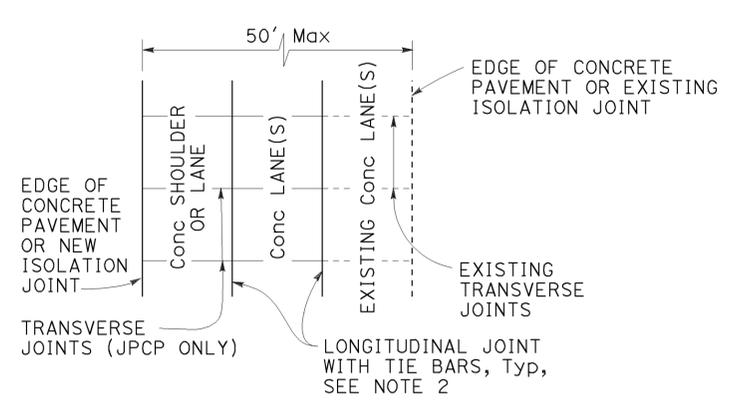


5 LANES WITH AC SHOULDERS
PLAN

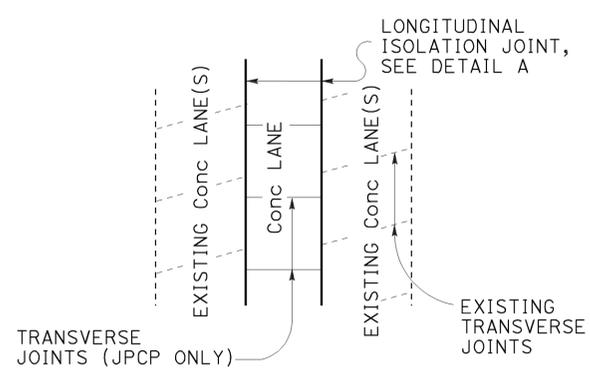
NEW CONSTRUCTION
Location of Longitudinal Joints For JPCP



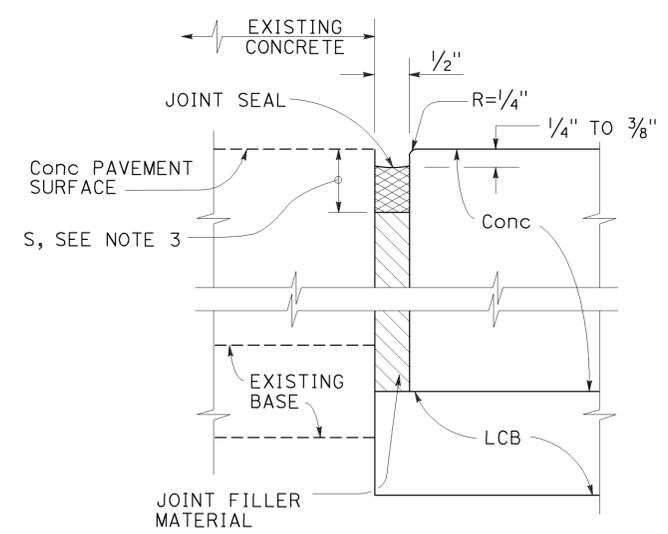
CASE 1
PLAN
Transverse Joints do not align between new and existing.



CASE 2
PLAN
Transverse Joints align between new and existing. (For JPCP only)



CASE 3 (INTERIOR LANE REPLACEMENT)
PLAN
Transverse Joints do not align between new and existing.



DETAIL "A"
ISOLATION JOINT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONCRETE PAVEMENT
LANE SCHEMATICS
AND ISOLATION JOINT DETAIL**

NO SCALE

LANE/SHOULDER ADDITION OR RECONSTRUCTION
For JPCP and CRCP

RSP P18 DATED JULY 19, 2013 SUPERSEDES RSP P18 DATED APRIL 20, 2012 AND STANDARD PLAN P18 DATED MAY 20, 2011 - PAGE 135 OF THE STANDARD PLANS BOOK DATED 2010.

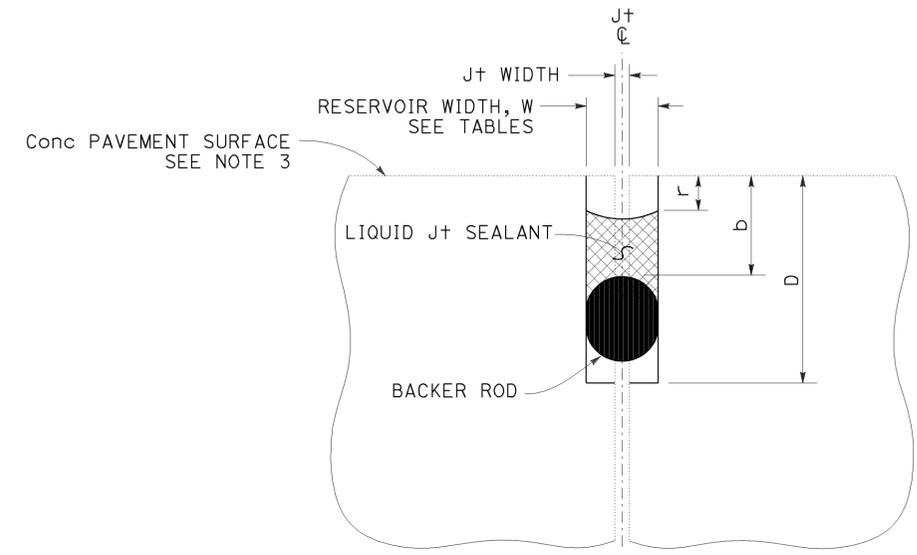
REVISED STANDARD PLAN RSP P18

2010 REVISED STANDARD PLAN RSP P18

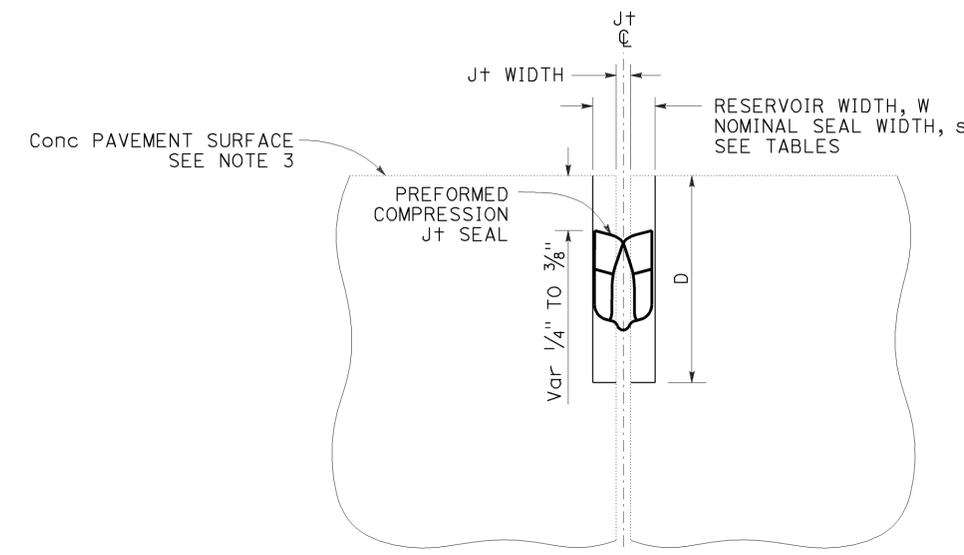


NOTES:

1. Details do not apply to isolation joints and longitudinal construction joints.
2. Tie bars, dowel bars, and bar reinforcement are not shown.
3. Depths are measured from the final concrete pavement surface elevation after any grinding.



LIQUID JOINT SEALANT



PREFORMED COMPRESSION JOINT SEAL

Const SEASON	Min RESERVOIR WIDTH * W ± 1/16"
WINTER	1/4"
SPRING	3/8"
SUMMER	
FALL	

* Minimum reservoir width for replace joint seal = existing joint width + 1/8"

RESERVOIR WIDTH W ± 1/16"	LIQUID JOINT SEALANT DIMENSIONS					
	BACKER ROD NOMINAL Dia *	DEPTHS (ASPHALT RUBBER) **		DEPTHS (SILICONE)		
		RESERVOIR D ± 1/4"	BACKER ROD b ± 1/16"	RESERVOIR D ± 1/4"	BACKER ROD b ± 1/16"	RECESS r ± 1/16"
1/4"	3/8"	1 3/4"	7/8"	1 3/8"	1/2"	1/4"
3/8"	1/2"	1 7/8"	7/8"	1 1/2"	1/2"	1/4"
1/2"	3/4"	2"	7/8"	1 3/4"	9/16"	5/16"
5/8"	7/8"	2 1/4"	1"	2"	5/8"	5/16"
3/4"	1"	2 3/4"	1 1/8"	2 1/4"	3/4"	3/8"
7/8"	1 1/4"	3"	1 1/4"	2 1/2"	13/16"	3/8"
1"	1 1/2"	3 1/4"	1 3/8"	2 5/8"	7/8"	3/8"
1 1/8"	1 1/2"	3 1/2"	1 1/2"	2 13/16"	1"	1/2"

* Larger diameter backer rods may be substituted according to manufacturer recommendations if reservoir depth is increased equivalently.

** Asphalt rubber sealant recess depth "r" varies from 1/4" to 3/8"

RESERVOIR WIDTH W ± 1/16"	PREFORMED COMPRESSION JOINT SEAL DIMENSIONS	
	NOMINAL SEAL WIDTH s	RESERVOIR DEPTH D ± 1/4"
1/4"	7/16"	1 1/4"
3/8"	11/16"	1 1/16"
1/2"	13/16"	1 1/8"
5/8"	1"	1 7/8"
3/4"	1 1/4"	2 1/8"
7/8"	1 5/8"	2 5/8"
1"	1 7/8"	2 3/8"
1 1/8"	2"	2 7/8"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINT SEALS

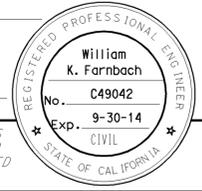
NO SCALE

RSP P20 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P20
DATED MAY 20, 2011 - PAGE 136 OF THE STANDARD PLANS BOOK DATED 2010.

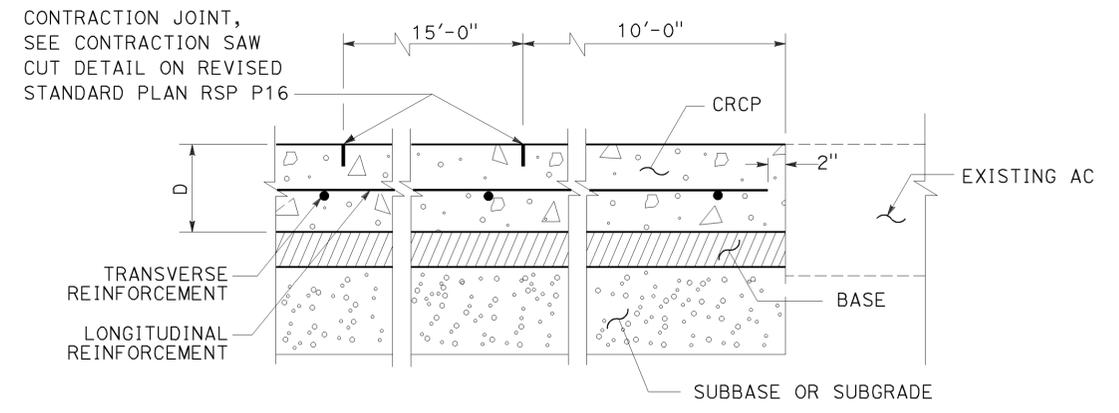
2010 REVISED STANDARD PLAN RSP P20

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	135	151

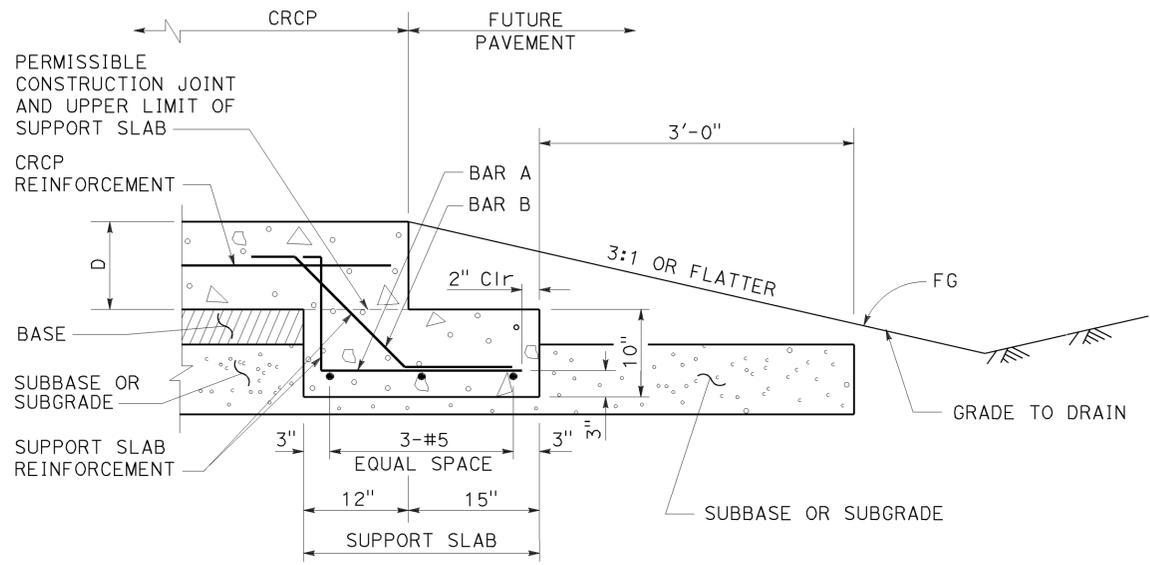
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



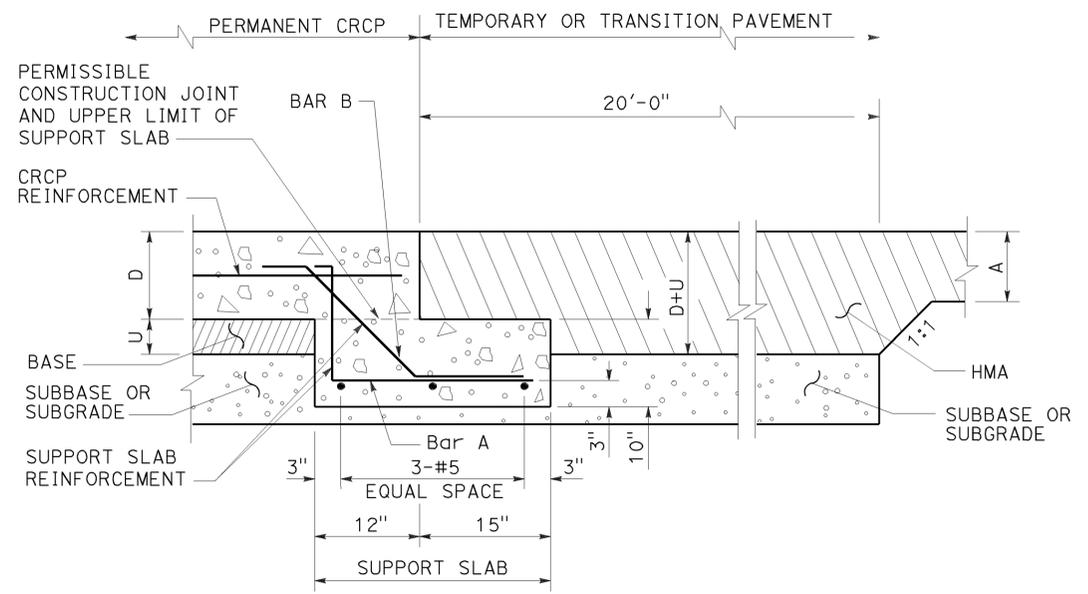
TO ACCOMPANY PLANS DATED 08-24-15



TERMINAL JOINT TYPE A
(For Existing AC)



TERMINAL JOINT TYPE B
(For Future Pavement)

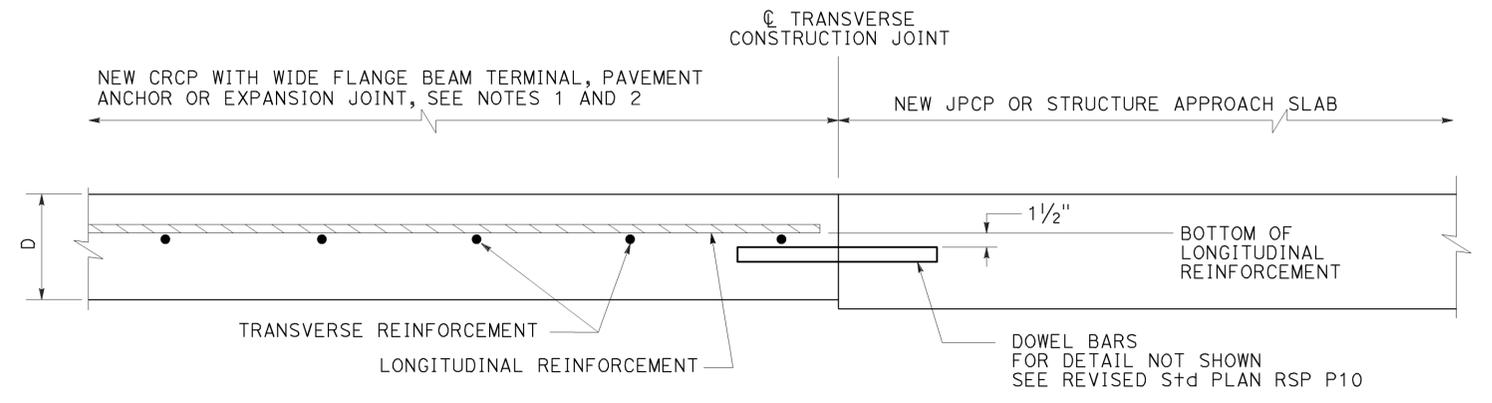


TERMINAL JOINT TYPE C
(For Temporary HMA Pavement)

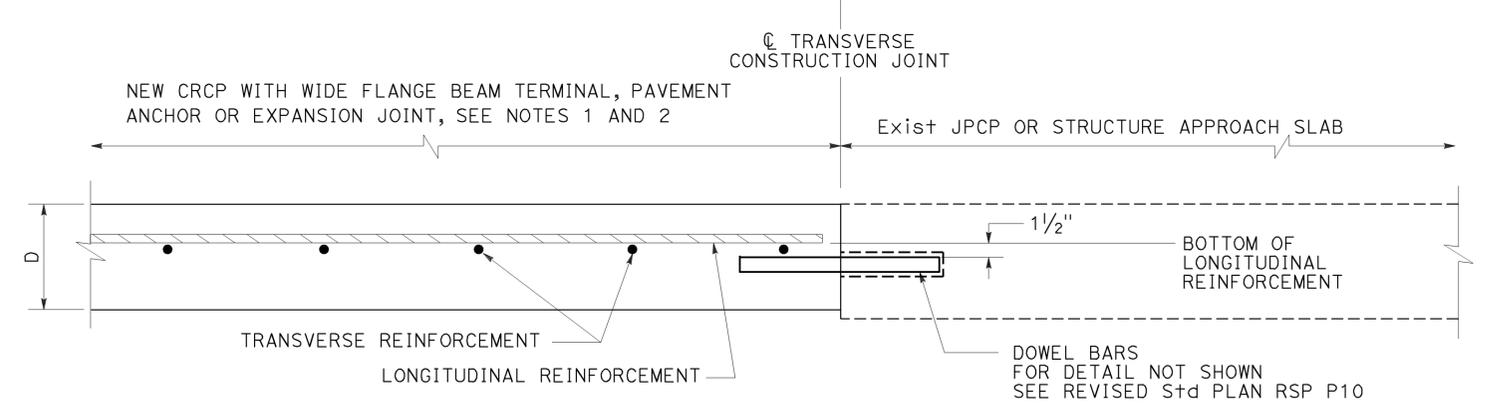
- NOTES:**
- For the locations of wide flange beam terminal, pavement anchors and expansion joints, see Projects Plans.
 - See Revised Standard Plans RSP P31B and RSP P32A.

ABBREVIATIONS

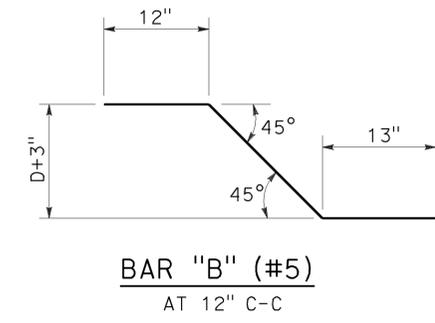
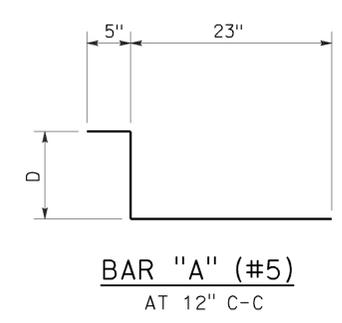
D = Thickness of CRCP
 A = Depth of HMA as shown on Project Plans
 U = Thickness of Base



TERMINAL JOINT TYPE E
(For New JPCP or Structure Approach Slabs)



TERMINAL JOINT TYPE D
(For Existing JPCP or Structure Approach Slabs)



STATE OF CALIFORNIA
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**CONTINUOUSLY REINFORCED
 CONCRETE PAVEMENT
 TERMINAL JOINT DETAILS**
 NO SCALE

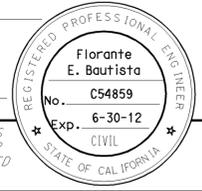
RSP P31A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P31A DATED MAY 20, 2011 - PAGE 138 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P31A

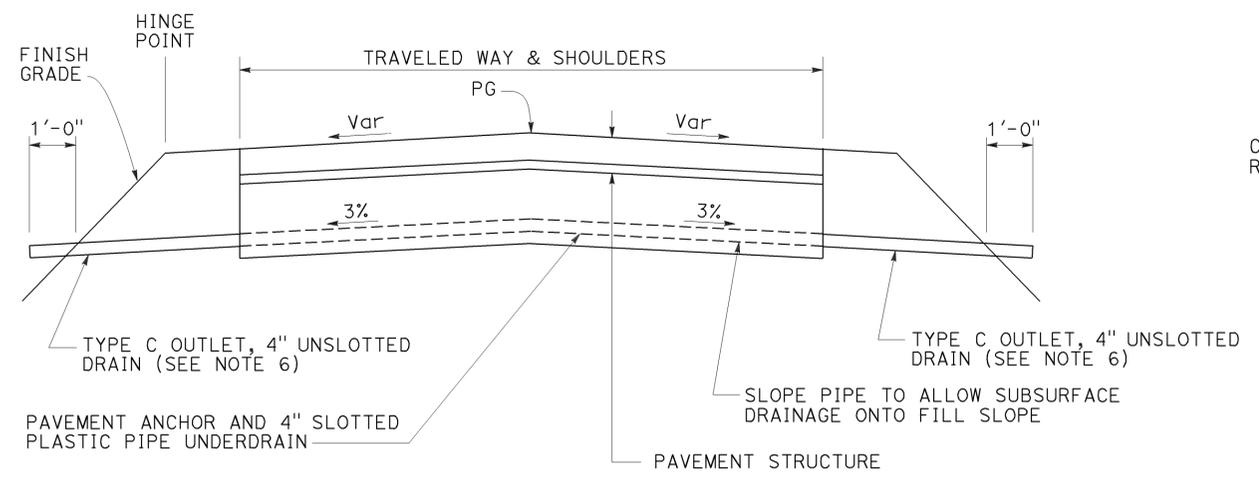
2010 REVISED STANDARD PLAN RSP P31A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	136	151

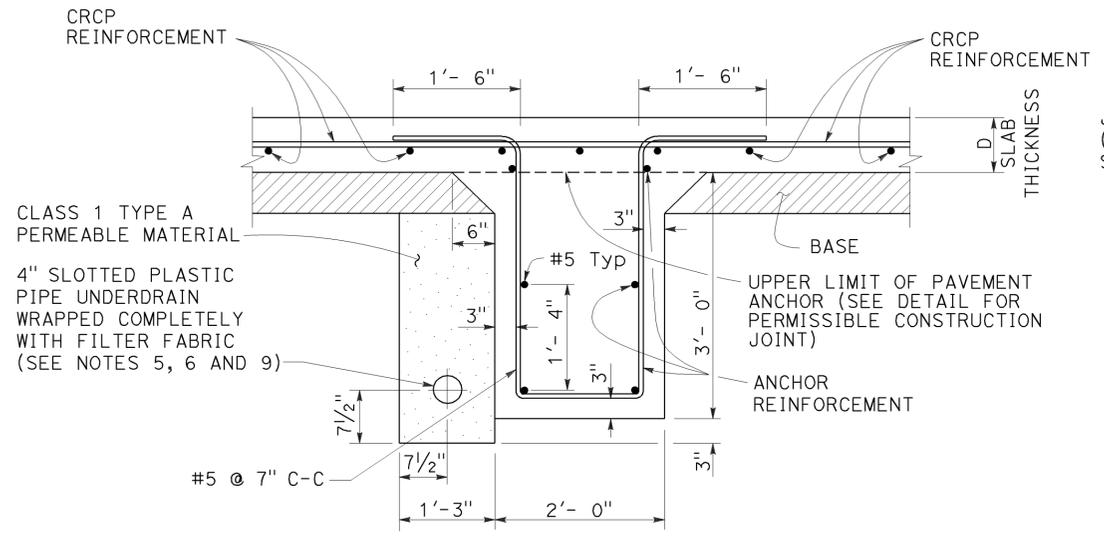
Florante E. Bautista
 REGISTERED CIVIL ENGINEER
 April 20, 2012
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



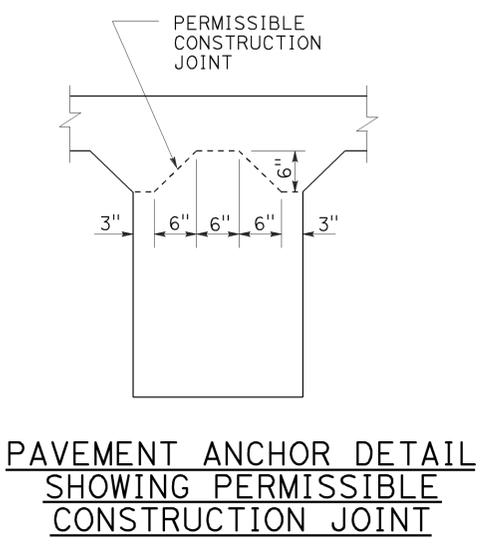
TO ACCOMPANY PLANS DATED 08-24-15



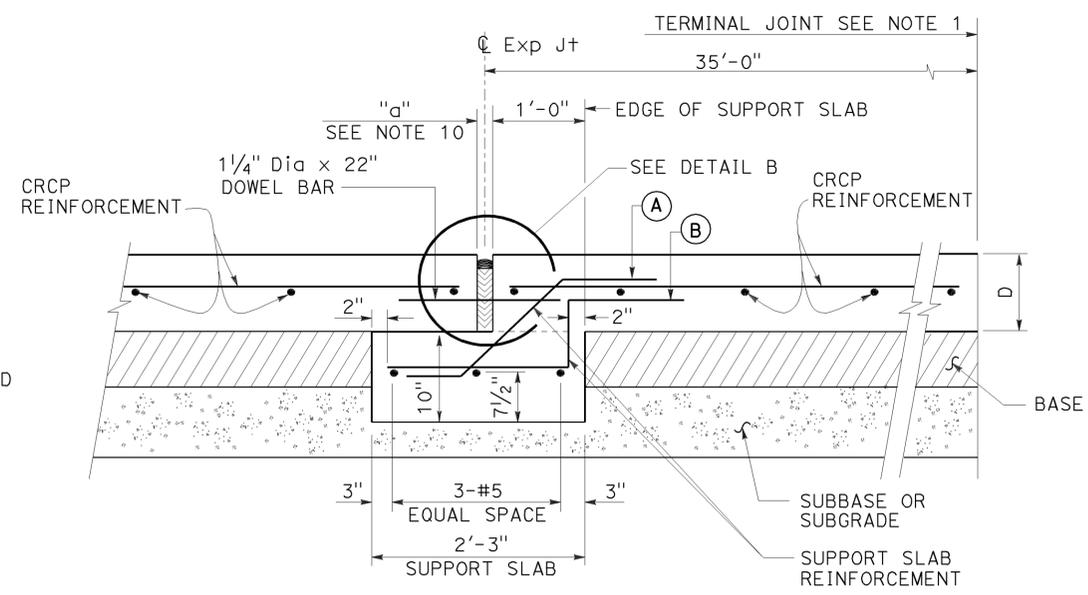
PAVEMENT ANCHOR PROFILE



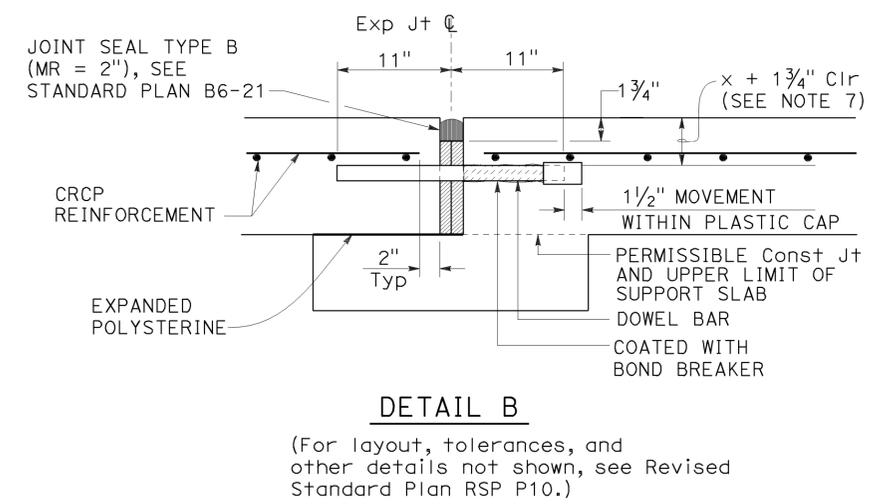
PAVEMENT ANCHOR



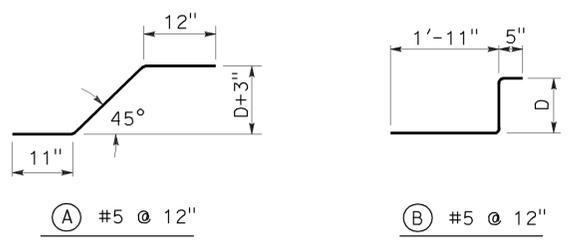
PAVEMENT ANCHOR DETAIL SHOWING PERMISSIBLE CONSTRUCTION JOINT



EXPANSION JOINT TYPE AN



DETAIL B
(For layout, tolerances, and other details not shown, see Revised Standard Plan RSP P10.)



REINFORCEMENT DETAIL

NOTES:

1. For the locations of the terminal joints, expansion joints and pavement anchors, see project plans.
2. The CRCP shall continue across the pavement anchor and expansion joints as shown.
3. Details of reinforcement, tie bars, and longitudinal joints (and if necessary, transverse construction joints) are shown on Revised Standard Plan RSP P4.
4. Transverse construction joints are not allowed within 20'-0" of the pavement anchor.
5. When placing pipe through concrete barrier, use 4" unslotted plastic pipe wrapped completely with 3/8" polystyrene.
6. See Standard Plan D99B for details not shown.
7. See Revised Standard Plan RSP P4 for "x".
8. D = thickness of CRCP
9. Place the 4" Slotted Plastic Pipe on the high side of the longitudinal grade.
10. See Standard Plan B6-21 for "a".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONTINUOUSLY REINFORCED
CONCRETE PAVEMENT-
EXPANSION JOINT AND ANCHOR DETAILS**

NO SCALE

RSP P31B DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P31B
DATED MAY 20, 2011 - PAGE 139 OF THE STANDARD PLANS BOOK DATED 2010.

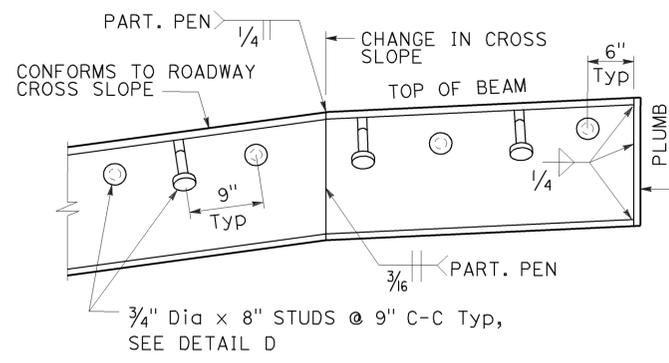
REVISED STANDARD PLAN RSP P31B

2010 REVISED STANDARD PLAN RSP P31B

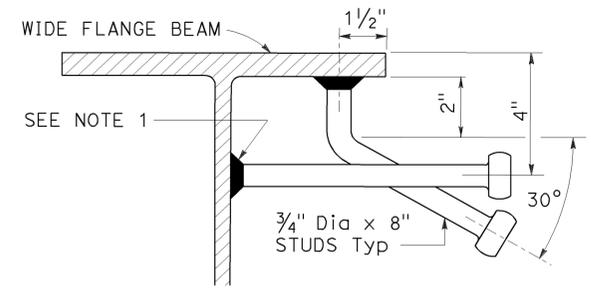
TO ACCOMPANY PLANS DATED 08-24-15

- LEGEND:**
- b_f - FLANGE WIDTH
 - t_f - FLANGE THICKNESS
 - t_w - WEB THICKNESS
 - d_b - BEAM DEPTH
 - D1 - PAVEMENT THICKNESSES
 - D2 - PAVEMENT THICKNESSES

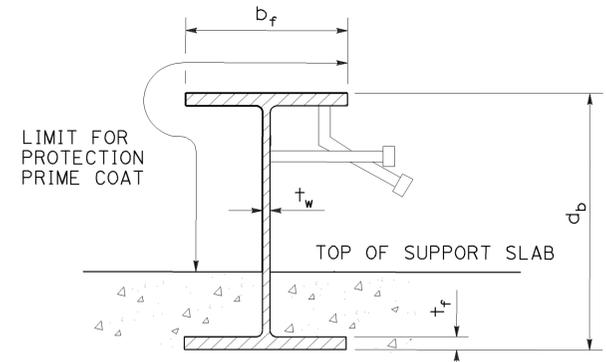
- NOTES:**
- Studs must be electric arc end welded with complete fusion. Any stud dislodged in shipping or that can be dislodged by hammer must be replaced.
 - Weld $\frac{3}{8}$ " plate to each end of wide flange beam at pavement edges only. End plate covers the entire wide flange beam.
 - Extend polyethylene foam to the sides and edges of the front part of the plate.



WIDE FLANGE DETAIL

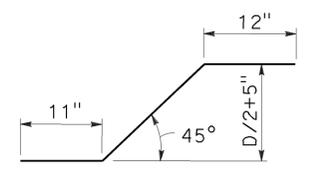


DETAIL D

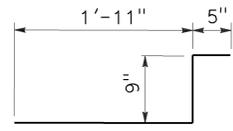


WIDE FLANGE PAINTING DETAIL

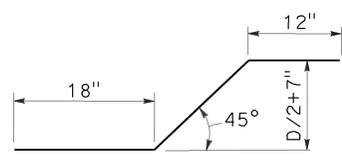
See "TABLE OF BEAM SIZES"



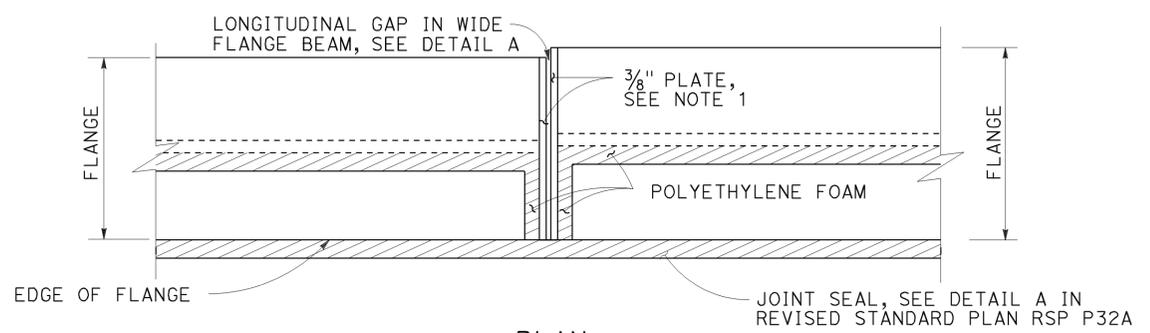
(A) #5 @ 12"



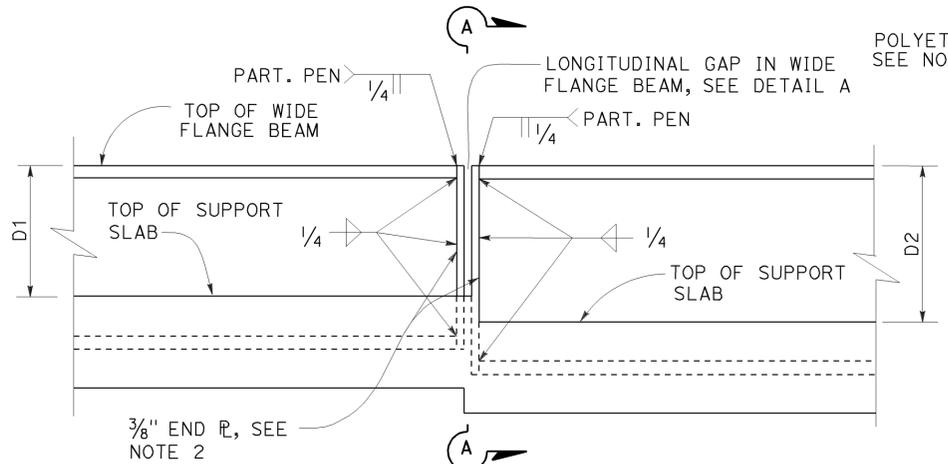
(B) #5 @ 12"



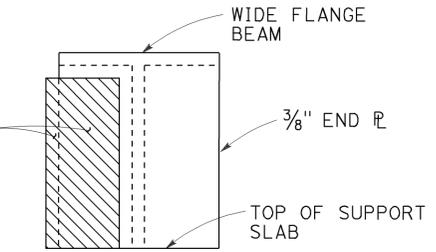
(C) #4 @ 12"



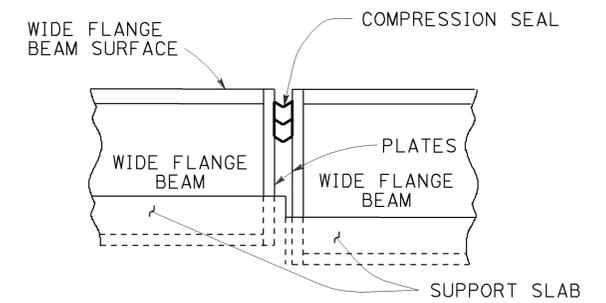
PLAN



ELEVATION



SECTION A-A



DETAIL A

PAVEMENT THICKNESS	WIDE FLANGE BEAM DESIGNATION	d_b	b_f	t_f	t_w
.75'	W14 x 43	13.70"	8.00"	0.53"	0.31"
.80'	W14 x 68	14.04"	10.04"	0.72"	0.42"
.85'	W16 x 89	16.75"	10.37"	0.88"	0.53"
.90'	W16 x 89	16.75"	10.37"	0.88"	0.53"
.95'	W18 x 97	18.59"	11.15"	0.87"	0.54"
1.00'	W18 x 97	18.59"	11.15"	0.87"	0.54"
1.05'	W18 x 97	18.59"	11.15"	0.87"	0.54"
1.10'	W18 x 97	18.59"	11.15"	0.87"	0.54"

ITEM	PAVEMENT THICKNESS								
	.75'	.80'	.85'	.90'	.95'	1.00'	1.05'	1.10'	
WIDE FLANGE BEAM	CONCRETE	4.8 CY	4.8 CY	4.8 CY	4.8 CY	4.8 CY	4.8 CY	4.8 CY	4.8 CY
TERMINAL SLAB	REINFORCING STEEL	552.0 LBS	552.2 LBS	552.4 LBS	552.6 LBS	552.8 LBS	553.0 LBS	553.1 LBS	553.3 LBS
Exp JOINT TYPE	CONCRETE	1.1 CY	1.1 CY	1.1 CY	1.1 CY	1.1 CY	1.1 CY	1.1 CY	1.1 CY
WIDE FLANGE SUPPORT SLAB	REINFORCING STEEL	99.9 LBS	99.9 LBS	100.2 LBS	100.5 LBS	100.8 LBS	101.1 LBS	101.1 LBS	101.6 LBS
STEEL BEAM (WEIGHT OF WIDE FLANGE BEAM AND STUDS)		43.0 LBS/LF +2 PLATES @ 14.9 LBS EA	69.51 LBS/LF +2 PLATES @ 14.9 LBS EA	90.51 LBS/LF +2 PLATES @ 18.5 LBS EA	90.51 LBS/LF +2 PLATES @ 18.5 LBS EA	98.51 LBS/LF +2 PLATES @ 22.0 LBS EA	98.51 LBS/LF +2 PLATES @ 22.0 LBS EA	98.51 LBS/LF +2 PLATES @ 22.0 LBS EA	98.51 LBS/LF +2 PLATES @ 22.0 LBS EA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT WIDE FLANGE BEAM TERMINALS

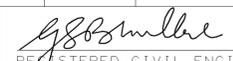
NO SCALE

RSP P32B DATED JULY 19, 2013 SUPERSEDES RSP P32B DATED APRIL 20, 2012 AND STANDARD PLAN P32B DATED MAY 20, 2011 - PAGE 141 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P32B

2010 REVISED STANDARD PLAN RSP P32B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	139	151


 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 08-24-15

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING							
SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

* - For other offsets, use the following merging taper length formula for L:
 For speed of 40 mph or less, $L = WS^2/60$
 For speed of 45 mph or more, $L = WS$

Where: L = Taper length in feet
 W = Width of offset in feet
 S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph
 ** - Longitudinal buffer space or flagger station spacing
 *** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING			
ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

NO SCALE

RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T9

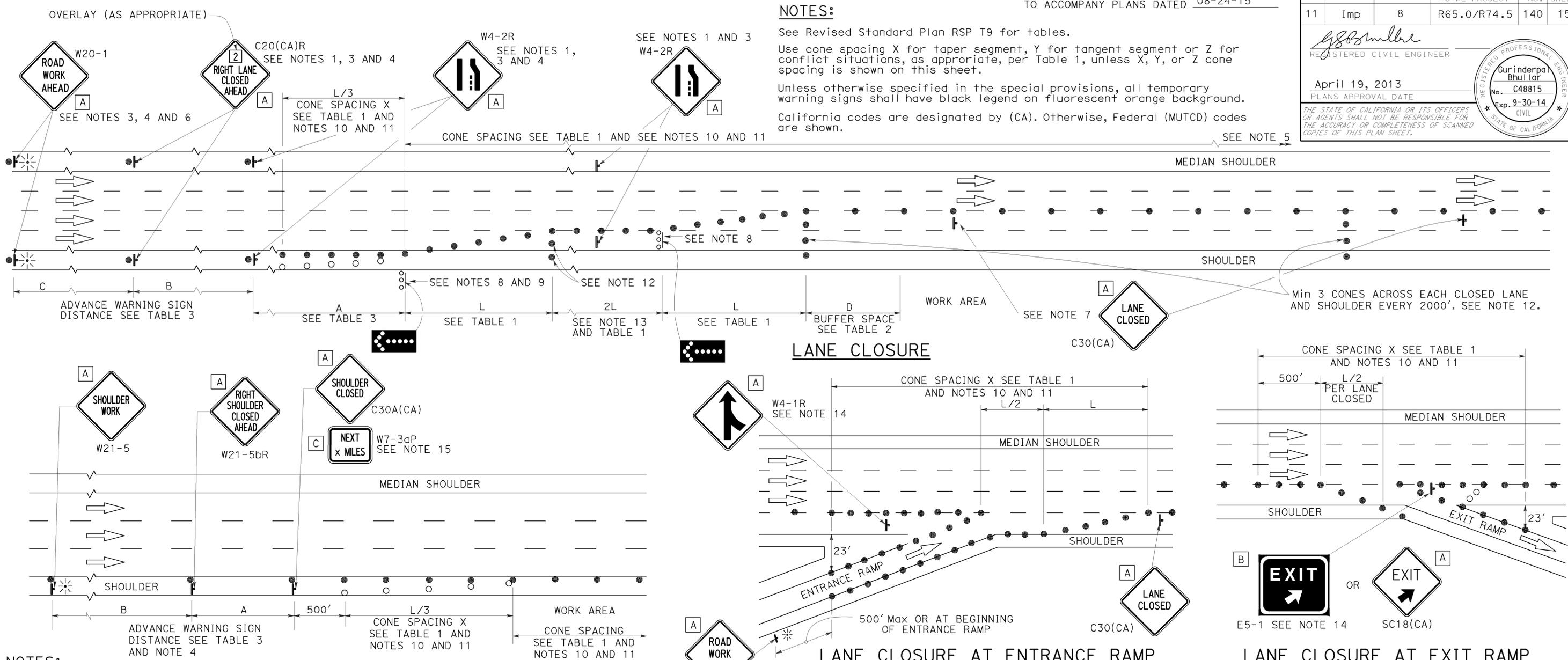
2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	140	151

REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL ENGINEER
 STATE OF CALIFORNIA

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- NOTES:**
1. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
 2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
 3. Duplicate sign installations are not required:
 - a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
 - b) In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
 4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
 5. A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.

- SHOULDER CLOSURE**
6. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA)L and W4-2L signs shall be used.
 7. Place a C30(CA) sign every 2000' throughout length of lane closure.
 8. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
 9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
 10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
 11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

12. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
13. Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
14. Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
15. A W7-3aP "NEXT _____ MILES" plaque must be used if the shoulder closure extends beyond the distance that can be perceived by road users.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- ⬢ FLASHING ARROW SIGN (FAS)
- ⬢ FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 72" x 60"
- C 36" x 30"

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS
 NO SCALE

RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10

2010 REVISED STANDARD PLAN RSP T10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	141	151

REGISTERED CIVIL ENGINEER
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

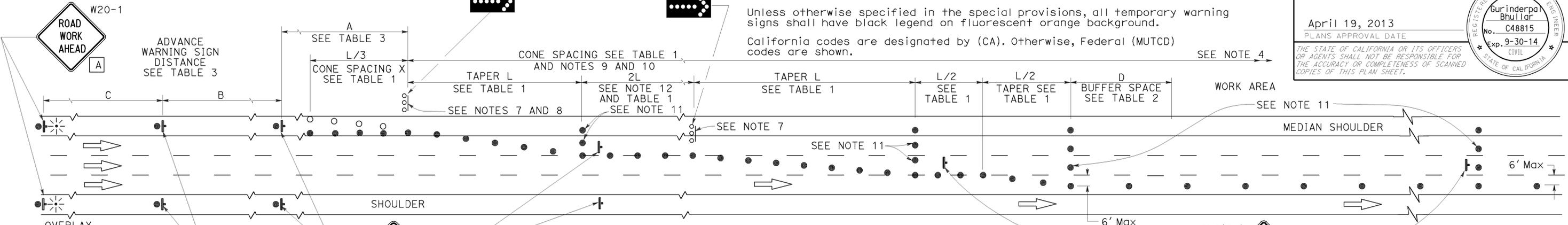
April 19, 2013
 PLANS APPROVAL DATE

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: See Revised Standard Plan RSP T9 for tables.
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

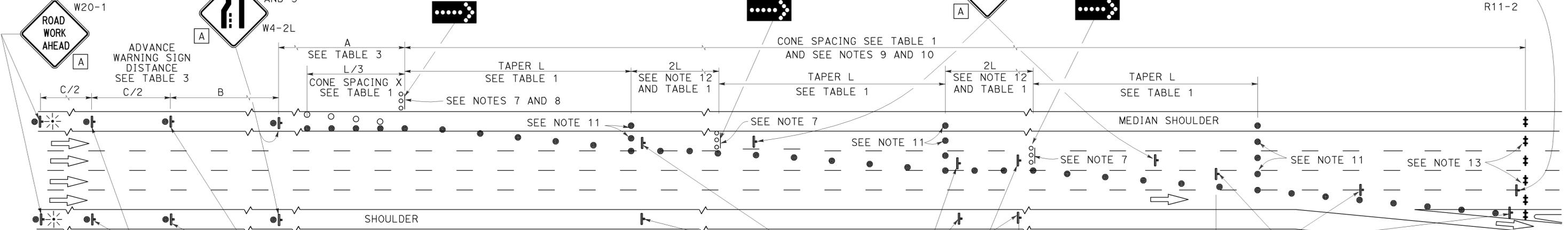
Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
 California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

SEE NOTES 3 AND 5



LANE CLOSURE WITH PARTIAL SHOULDER USE

SEE NOTES 3 AND 5



COMPLETE CLOSURE

NOTES:

- Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details as shown except that C20(CA)R and W4-2R signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
- Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" X 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT ___ MILES", use a C20(CA) sign for the first advance warning sign.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure With Partial Shoulder Use" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- A minimum of Two Type II or III barricades shall be placed across each closed lane and shoulder at the location shown and every 2000' within the complete closure area. Within the complete closure area, the transverse alignment of the barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- When specified in the special provisions, a W20-2 "DETOUR AHEAD" sign is to be used in place of the W20-3 "FREEWAY CLOSED AHEAD" sign.

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 18"
- C 48" x 30"

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURES ON
 FREEWAYS AND EXPRESSWAYS**
 NO SCALE

RSP T10A DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10A DATED MAY 20, 2011 - PAGE 238 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10A

2010 REVISED STANDARD PLAN RSP T10A

TYPICAL RAMP CLOSURES

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 30"
- C 36" x 36"
- D 48" x 36"

LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ‡ BARRICADES
- ⚡ PORTABLE FLASHING BEACON

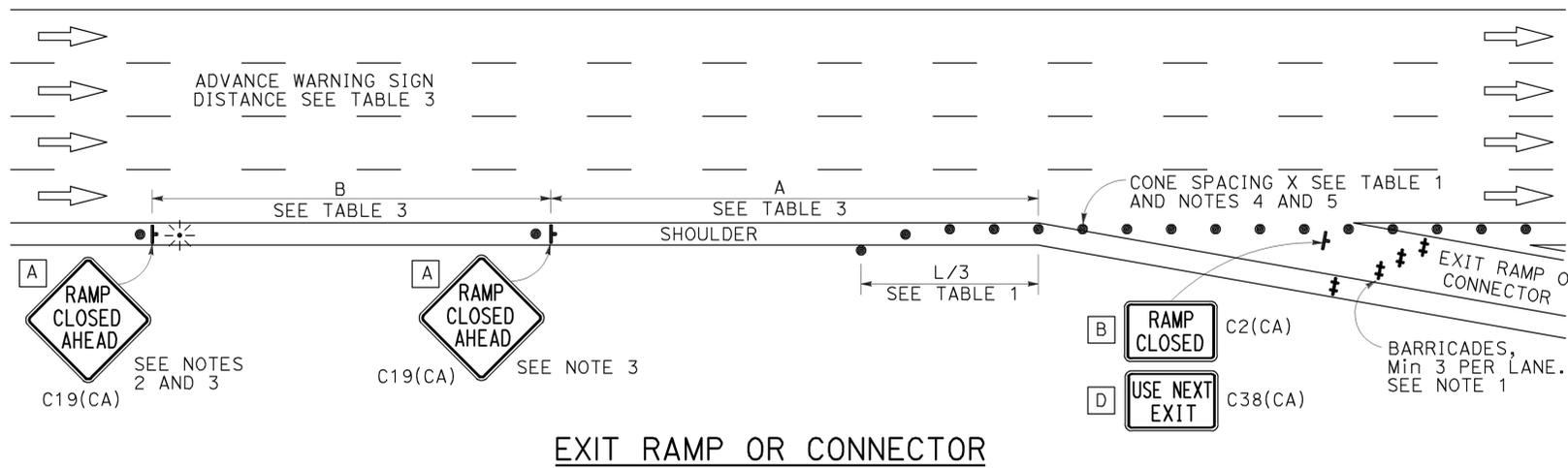
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	142	151

Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

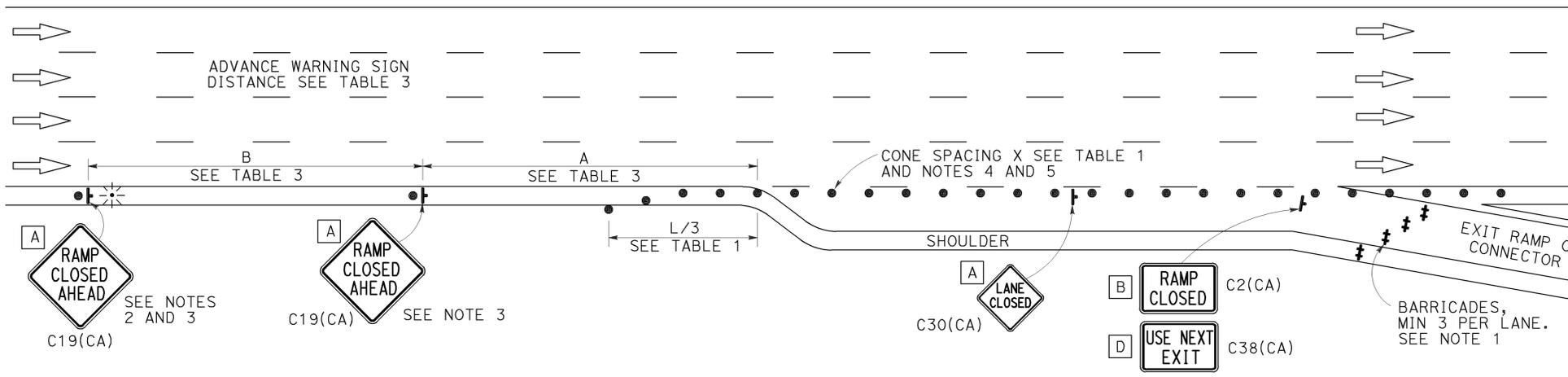
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-24-15

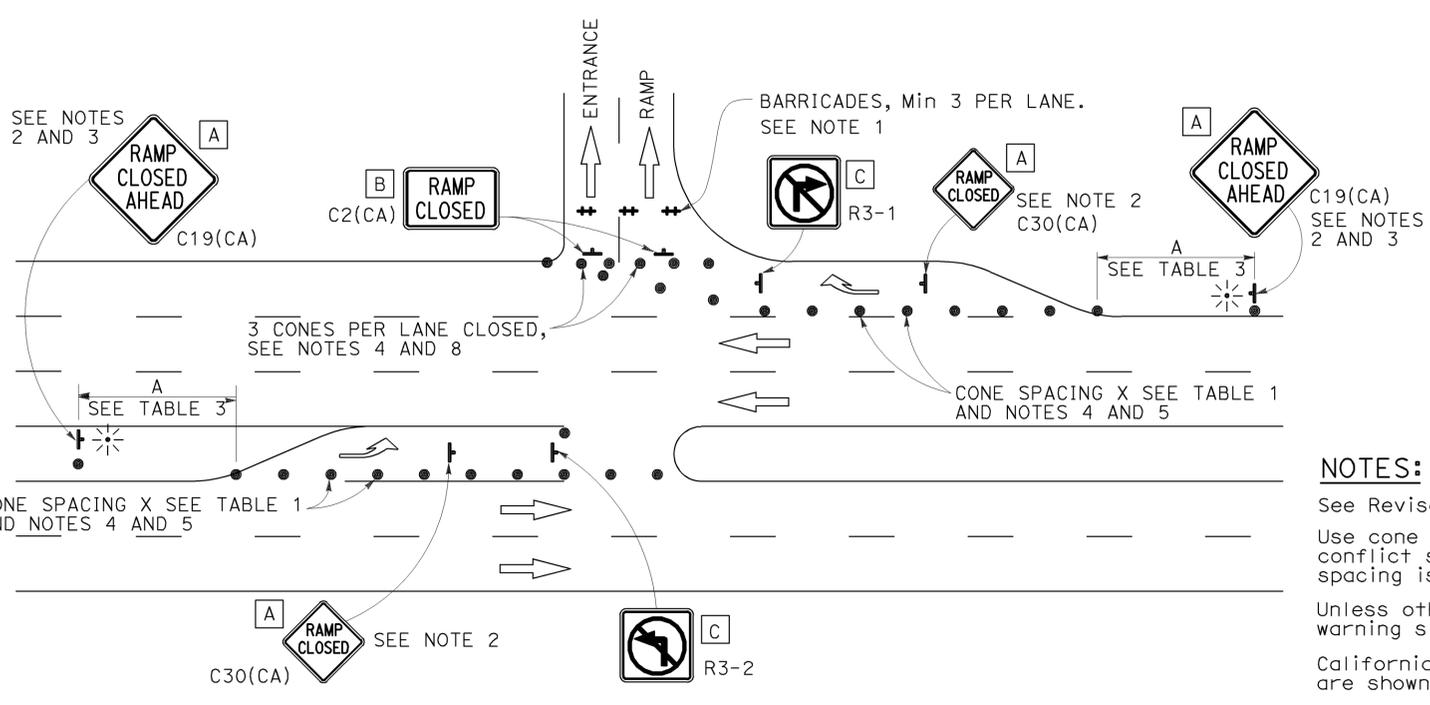
2010 REVISED STANDARD PLAN RSP T14



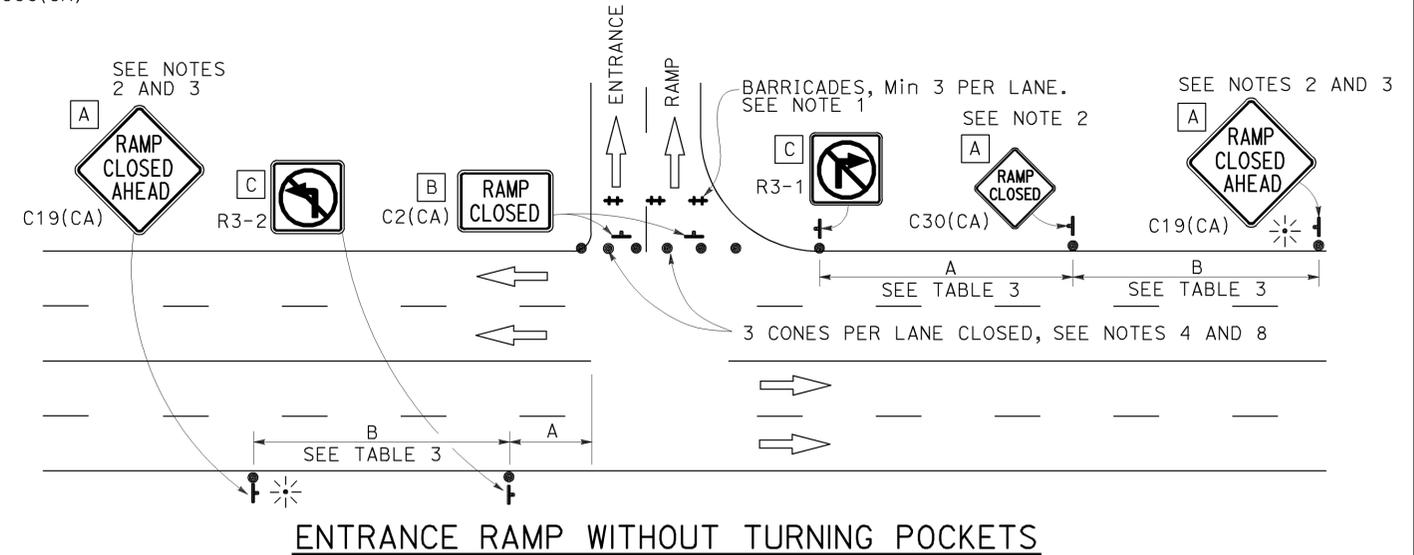
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

1. See Revised Standard Plan RSP T9 for tables.
2. Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
3. Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
4. California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

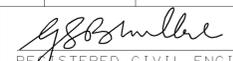
NOTES:

1. Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
2. In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
3. Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
4. All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
6. At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
7. The existing "EXIT" signs shall be covered during ramp closures.
8. A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR RAMP CLOSURE**
 NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14
 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.
REVISED STANDARD PLAN RSP T14

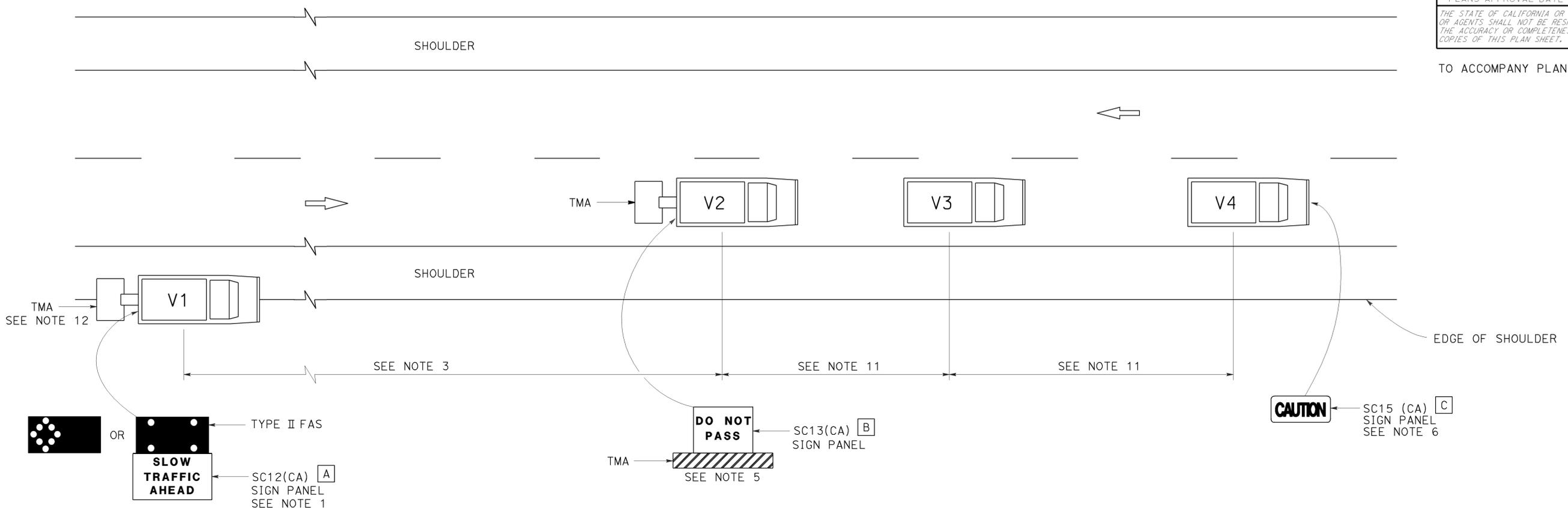
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	143	151


 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 08-24-15



NOTES:

1. Either a changeable message sign or a SC12(CA) "SLOW TRAFFIC AHEAD" sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "CAUTION" message first, follow by the "SLOW TRAFFIC AHEAD" message. A Type II flashing arrow sign may be used with the SC12(CA) sign panel.
2. Sign vehicle V1 should be positioned where highly visible when shoulders are not available.
3. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue.
4. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
5. Shadow vehicle shall be equipped with a truck-mounted attenuator. The sign panel shown shall be mounted on the rear of shadow vehicle V2. The message "LANE CLOSED" may be used in place of the "DO NOT PASS" message.
6. The sign panel shown shall be mounted on the front of sign vehicle V4, facing opposing traffic.

7. All vehicles shall be equipped with flashing or rotating amber lights.
8. Sign vehicle V4 will not be required when the work and vehicles V2 and V3 are 2' or more from the centerline of the highway during the work or application operations.
9. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
10. This plan shall not be used where workers would be on foot in the work area. Use a stationary type lane closure (Revised Standard Plan T13) for this condition.
11. Minimize spacing between vehicles V2 and V3 and vehicles V3 and V4 to deter road users from driving in between them.
12. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.

LEGEND

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- V4 SIGN VEHICLE
- TMA TRUCK-MOUNTED ATTENUATOR
-  FLASHING ARROW SIGN (FAS) IN FLASHING CAUTION MODE
-  FLASHING ARROW SIGN (FAS) IN ALTERNATING DIAMOND CAUTION

SIGN PANEL SIZE (Min)

- A** 72" x 42"
- B** 54" x 42"
- C** 54" x 24"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR MOVING LANE CLOSURE
 ON TWO LANE HIGHWAYS**
 NO SCALE

RSP T17 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T17 DATED MAY 20, 2011 - PAGE 245 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T17

2010 REVISED STANDARD PLAN RSP T17

LEGEND:

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 TAPE
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
TSP	TELEPHONE SERVICE POINT

ABBREVIATIONS

APS	ACCESSIBLE PEDESTRIAN SIGNAL	M/M	MULTIPLE TO MULTIPLE TRANSFORMER
BBS	BATTERY BACKUP SYSTEM	Mtg	MOUNTING
BC	BOLT CIRCLE	MV	MERCURY VAPOR LIGHTING FIXTURE
BPB	BICYCLE PUSH BUTTON	MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
C	CONDUIT	N	NEUTRAL (GROUNDED CONDUCTOR)
CB	CIRCUIT BREAKER	NB	NEUTRAL BUS
CCTV	CLOSED CIRCUIT TELEVISION	NC	NORMALLY CLOSE
Ck+	CIRCUIT	NO	NORMALLY OPEN
CMS	CHANGEABLE MESSAGE SIGN	P	CIRCUIT BREAKER'S POLE
Ctid	CALTRANS IDENTIFICATION	PB	PULL BOX
Comm	COMMUNICATION	PBA	PUSH BUTTON ASSEMBLY
DLC	LOOP DETECTOR LEAD-IN CABLE	PEC	PHOTOELECTRIC CONTROL
EMS	EXTINGUISHABLE MESSAGE SIGN	Ped	PEDESTRIAN
EVUC	EMERGENCY VEHICLE UNIT CABLE	PEU	PHOTOELECTRIC UNIT
EVUD	EMERGENCY VEHICLE UNIT DETECTOR	PT	CONDUIT WITH PULL TAPE
FB	FLASHING BEACON	RE	RELOCATED EQUIPMENT
FBCA	FLASHING BEACON CONTROL ASSEMBLY	RM	RAMP METERING
FBS	FLASHING BEACON WITH SLIP BASE	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
FO	FIBER OPTIC	SB	SLIP BASE
G	EQUIPMENT GROUNDING CONDUCTOR	SIC	SIGNAL INTERCONNECT CABLE
GB	GROUND BUS	Sig	SIGNAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SMA	SIGNAL MAST ARM
HAR	HIGHWAY ADVISORY RADIO	SNS	STREET NAME SIGN
Hex	HEXAGONAL	SP	SERVICE POINT
HPS	HIGH PRESSURE SODIUM	TDC	TELEPHONE DEMARCATION CABINET
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN	TMS	TRAFFIC MONITORING STATION
ISL	INDUCTION SIGN LIGHTING	TOS	TRAFFIC OPERATIONS SYSTEM
LED	LIGHT EMITTING DIODE	Veh	VEHICLE
LMA	LUMINAIRE MAST ARM	VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
LPS	LOW PRESSURE SODIUM	WIM	WEIGH-IN-MOTION
Ltg	LIGHTING	Xfmr	TRANSFORMER
Lum	LUMINAIRE		
M	METERED		
MAT	MAST ARM MOUNTING TOP ATTACHMENT		
MAS	MAST ARM MOUNTING SIDE ATTACHMENT		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	144	151

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Theresa
Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 08-24-15

SOFFIT AND WALL MOUNTED LUMINAIRES

- PENDANT, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL SURFACE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO REMAIN UNMODIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO BE MODIFIED AS SPECIFIED

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
HZ	HERTZ

MISCELLANEOUS ELECTROLIERS

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

- NOTES:**
- HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
 - LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
 - Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

STANDARD ELECTROLIER

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	145	151

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED 08-24-15

CONDUIT

SIGNAL EQUIPMENT

NEW	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 ATTACHED TO THE STRUCTURE OR SERVICE POLE

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)

SIGNAL EQUIPMENT Cont

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION SYSTEM

SERVICE EQUIPMENT

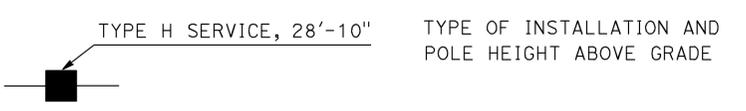
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

NOTES:

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

POLE-MOUNTED SERVICE DESIGNATION



FLASHING BEACON

NEW	EXISTING	
		FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
		FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
		FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

ILLUMINATED OVERHEAD SIGN

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

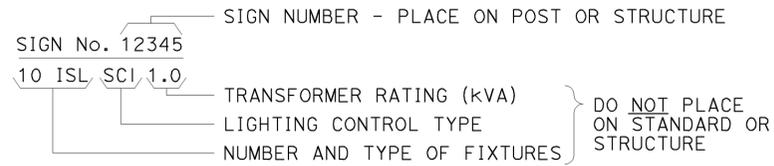
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

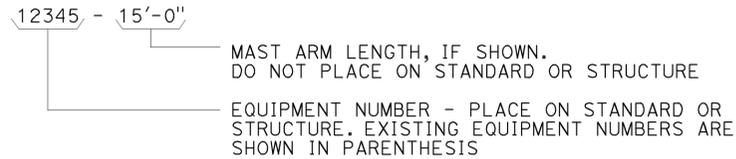
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

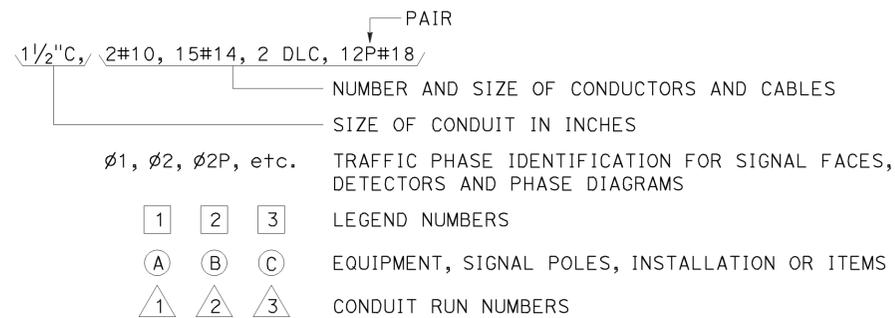
ILLUMINATED SIGN IDENTIFICATION NUMBER:



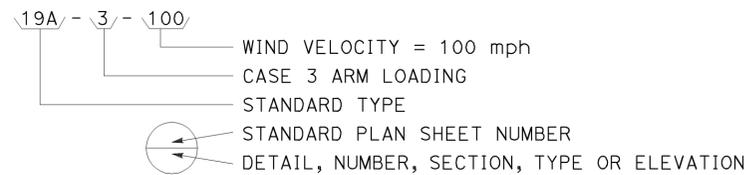
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



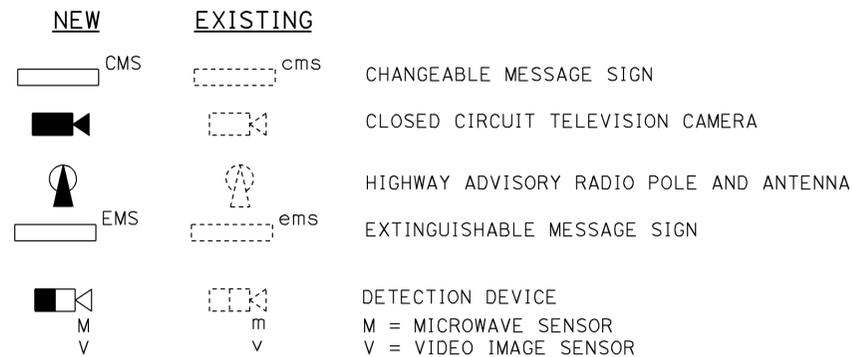
CONDUIT AND CONDUCTOR IDENTIFICATION:



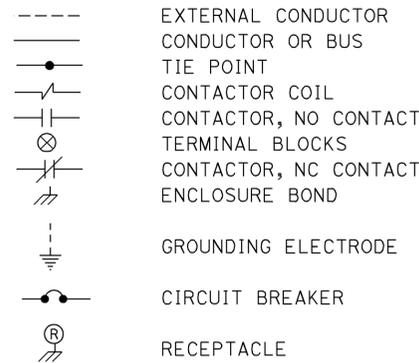
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



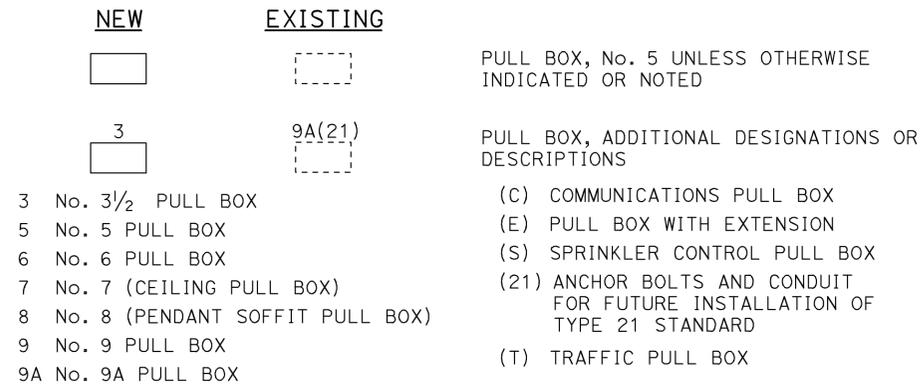
MISCELLANEOUS EQUIPMENT



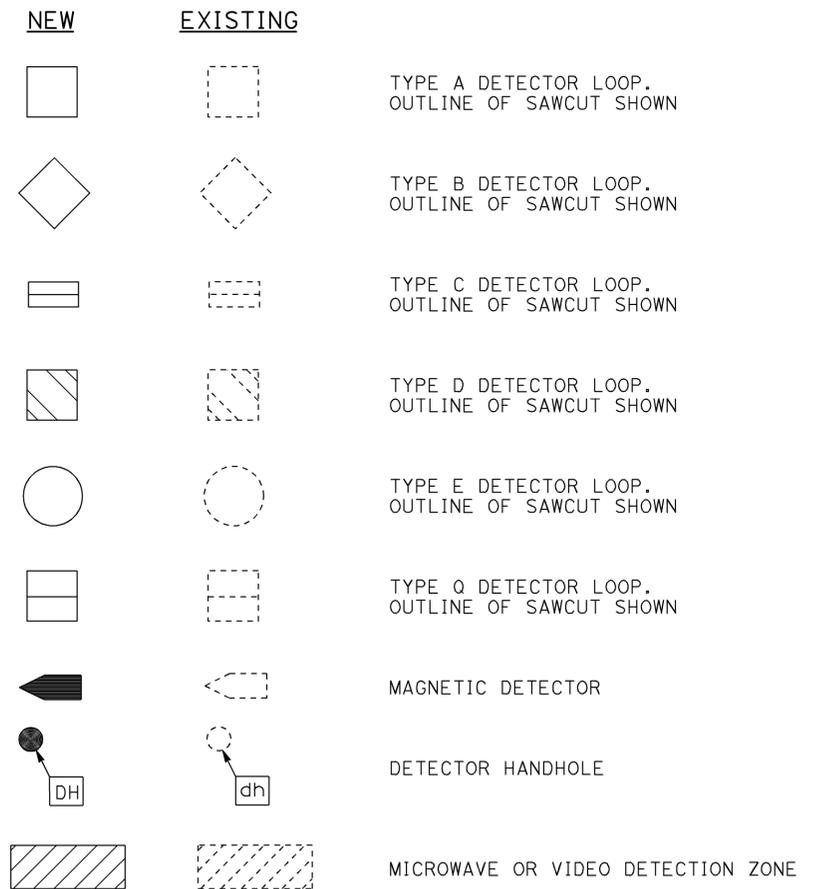
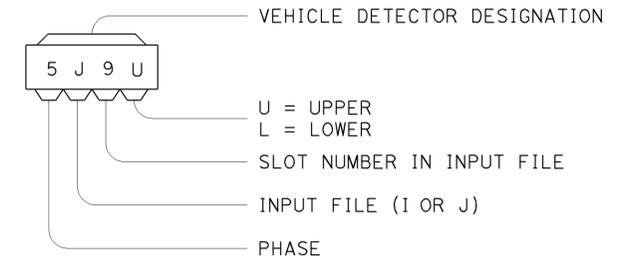
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1C

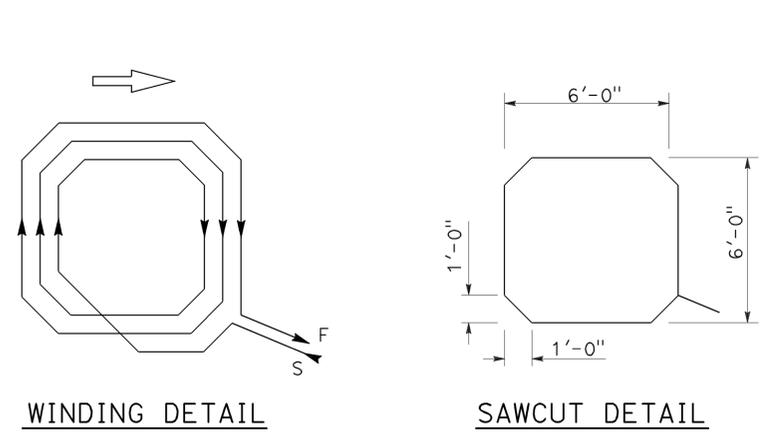
2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	147	151

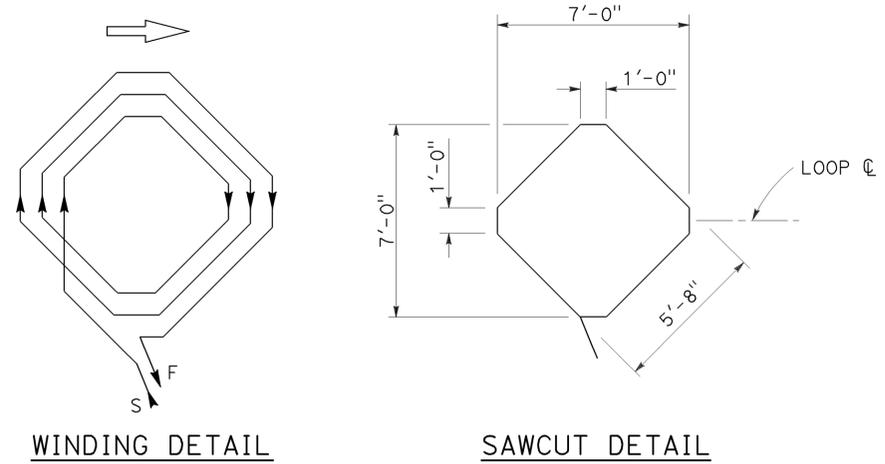
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED 08-24-15

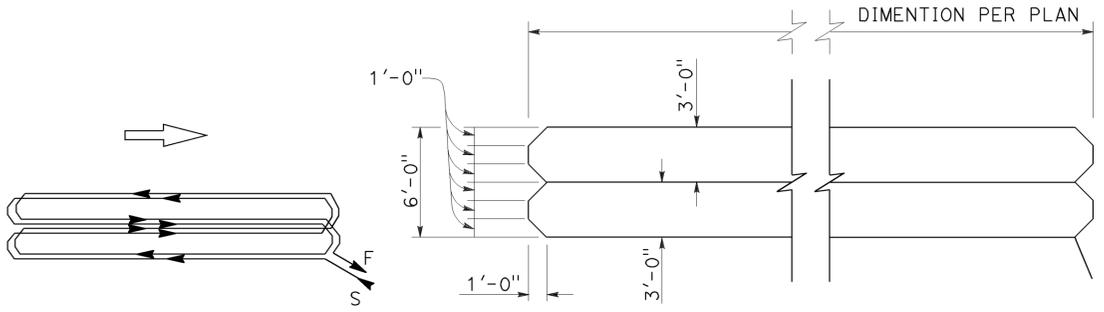
2010 REVISED STANDARD PLAN RSP ES-5B



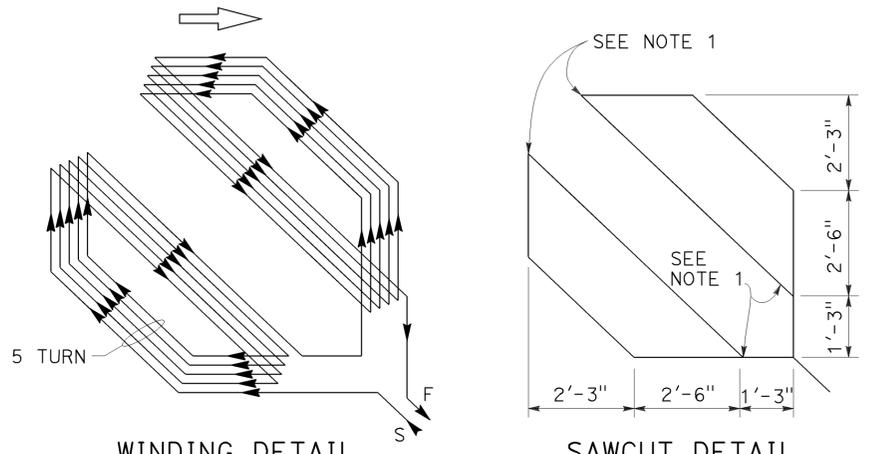
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



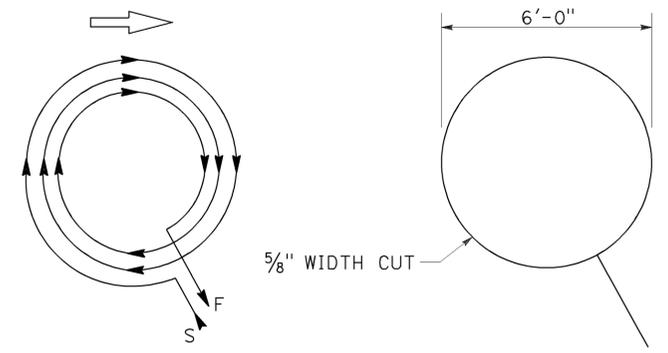
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



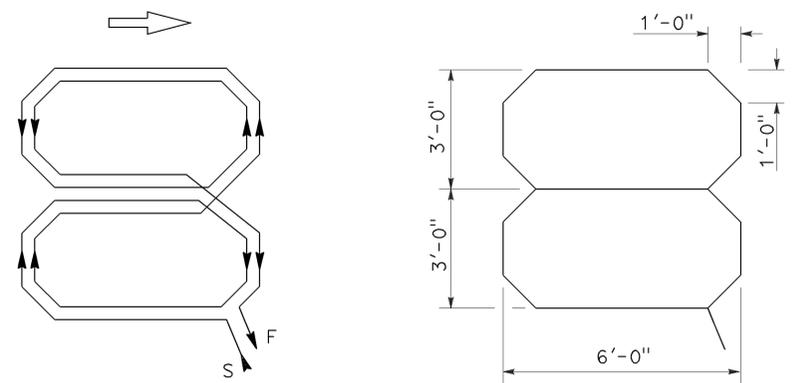
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



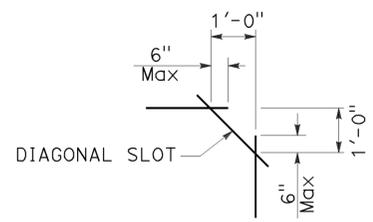
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



**PLAN VIEW OF
DIAGONAL SLOT
AT CORNERS**

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
 2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(DETECTORS)**

NO SCALE

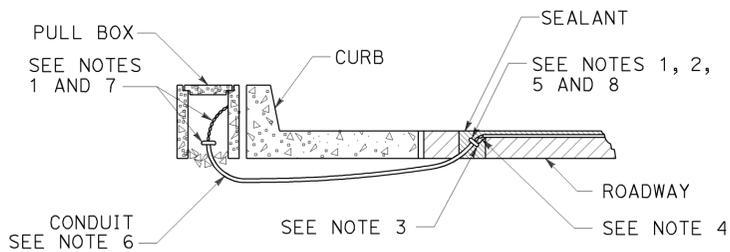
RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B
DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	148	151

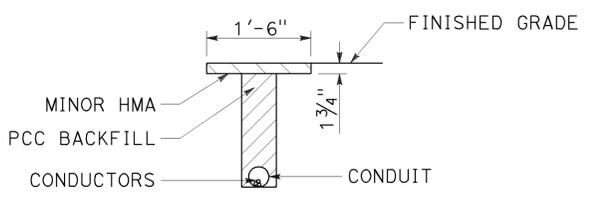
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

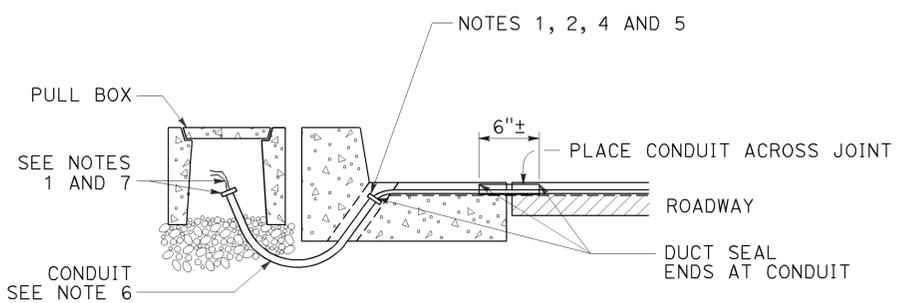
TO ACCOMPANY PLANS DATED 08-24-15



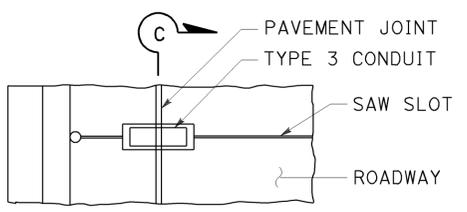
TYPE A
CURB TERMINATION DETAIL



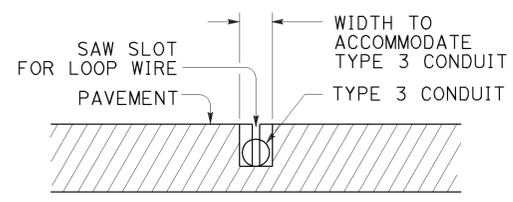
"T" TRENCH
DETAIL T



CROSS SECTION

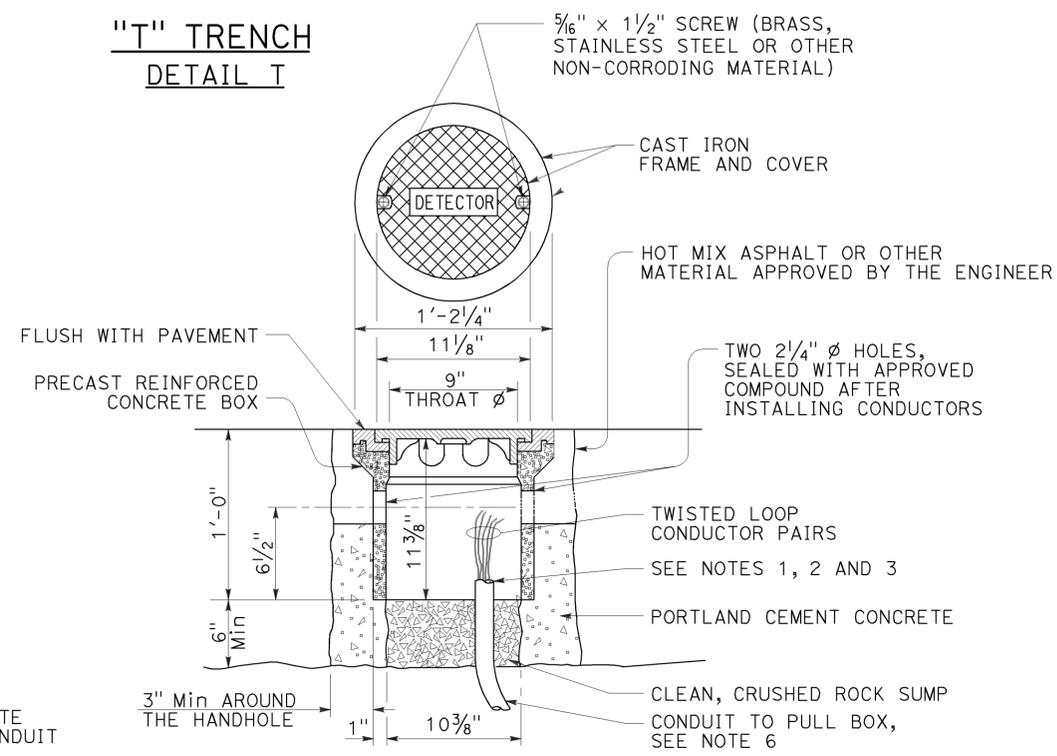


PLAN VIEW

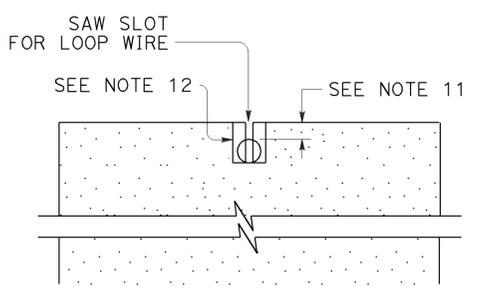


SECTION C-C

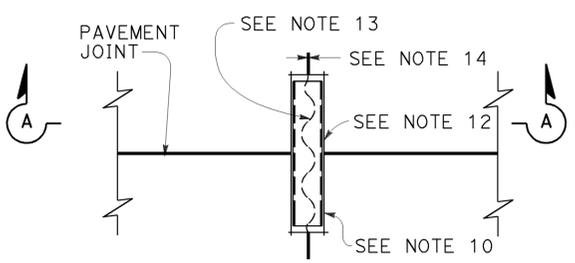
TYPE B
CURB TERMINATION DETAIL



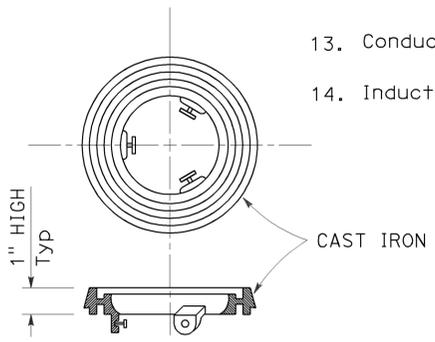
DETECTOR HANDHOLE DETAIL



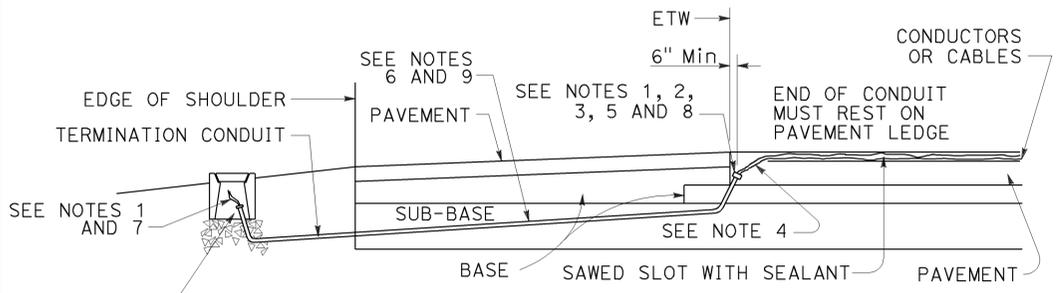
SECTION A-A



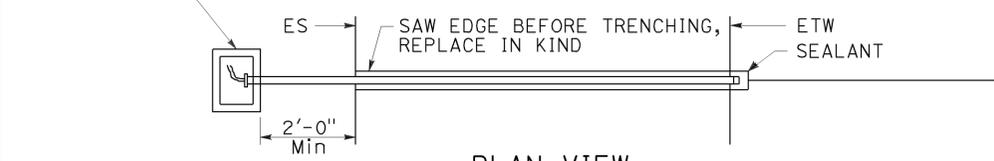
PLAN VIEW
TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT



LOCKING GRADE RING



CROSS SECTION



PLAN VIEW
SHOULDER TERMINATION DETAILS

NOTES:

- Bushing shall be used at end of conduit.
- Tape detector conductors or cables 3" each side of bushings.
- Install duct seal compound to each end of termination conduit before installing sealant.
- Round all sharp edges where detector conductors or cables have to pass.
- End of conduit shall be 3/8" below roadway surface.
- Conduit size Loop conductors
 1"C minimum 1 to 2 pairs
 1 1/2"C minimum 3 to 4 pairs
 2"C minimum 5 or more pairs
- Splice detector conductors or cables to detector lead-in-cable.
- Location of detector handhole when shown on plans.
- When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
- 3/4"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
- 1/2" Minimum between top of conduit and pavement surface.
- Sawcut shall not exceed 1" in width and 1/8" longer than conduit to be installed.
- Conductors with 1/2" minimum slack inside conduit.
- Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(CURB TERMINATION
AND HANDHOLE)
NO SCALE

RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5D

2010 REVISED STANDARD PLAN RSP ES-5D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	149	151

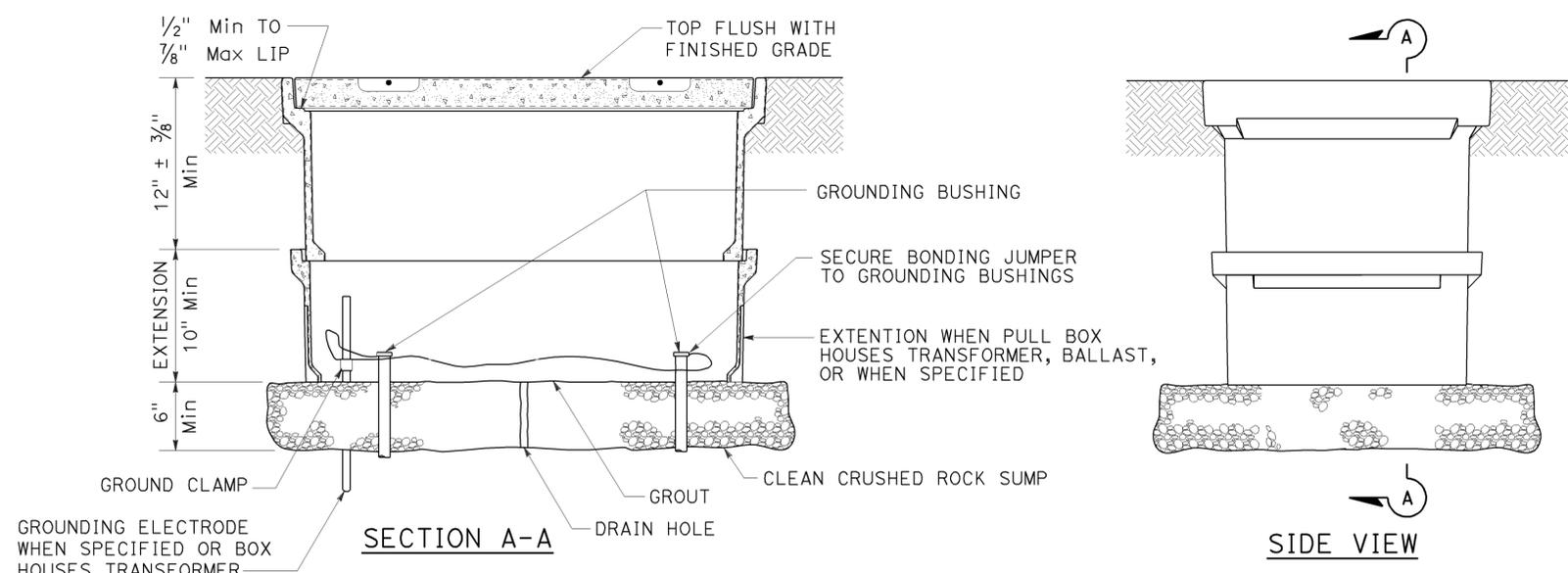
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

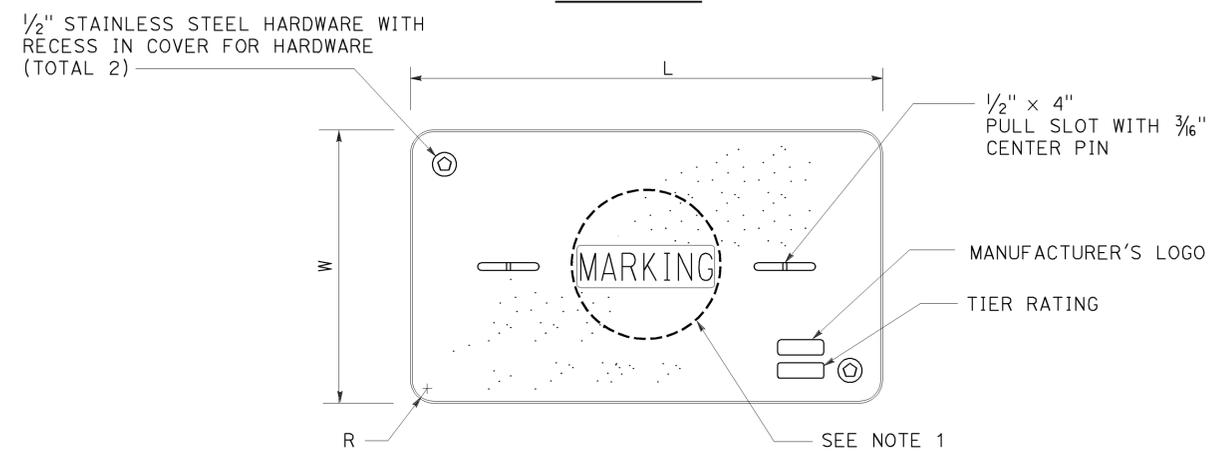
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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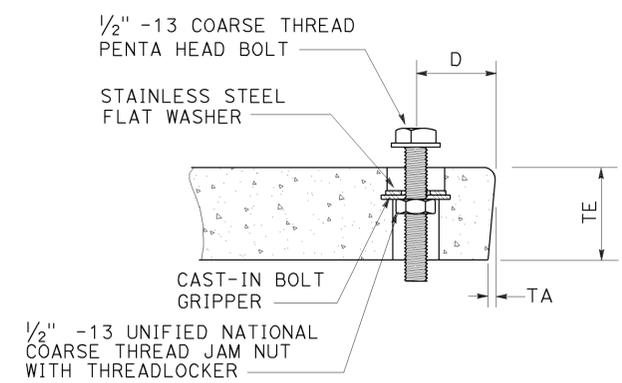
TO ACCOMPANY PLANS DATED 08-24-15



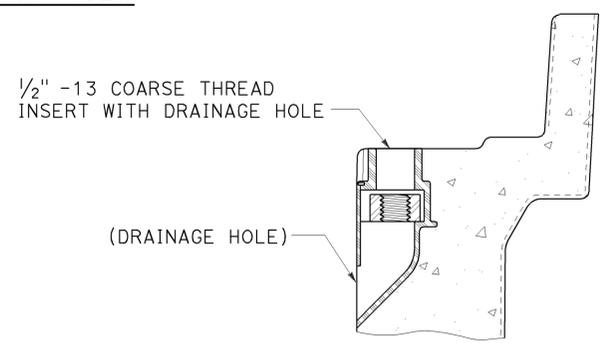
INSTALLATION DETAILS
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

NOTES:

- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
 - No. 3 1/2 pull box.
 - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - No. 5, 6, 9 or 9A pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATIONS" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communication line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
 - "BOOSTER PUMP" - Booster pump circuit.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8". Top outside radius of covers and pull boxes shall have a 1/8" radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
- All dimensions for the cover for non-traffic pull box are nominal values.

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3 1/2	12"	N/A	40 lb	1' - 3 3/8"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11 1/4"	1' - 1 3/4"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6 1/2"	1' - 5 1/2"	1 3/8"	2"	1/8"	2"	85 lb

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(NON-TRAFFIC PULL BOX)
NO SCALE

RSP ES-8A DATED JULY 19, 2013 SUPERSEDES RSP ES-8A DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8A

2010 REVISED STANDARD PLAN RSP ES-8A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R65.0/R74.5	150	151

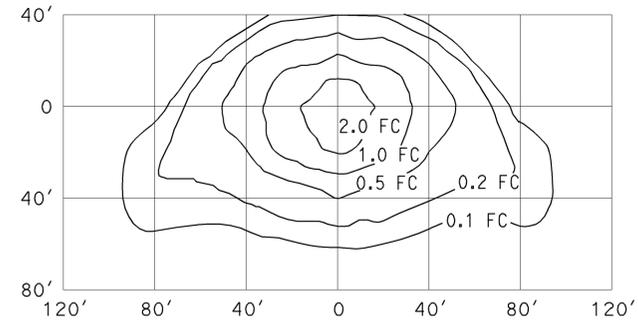
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

July 19, 2013
 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.

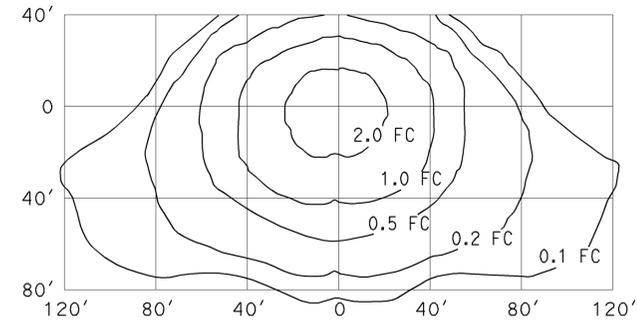
TO ACCOMPANY PLANS DATED 08-24-15

ISOFOOTCANDLE CURVE - MINIMUM



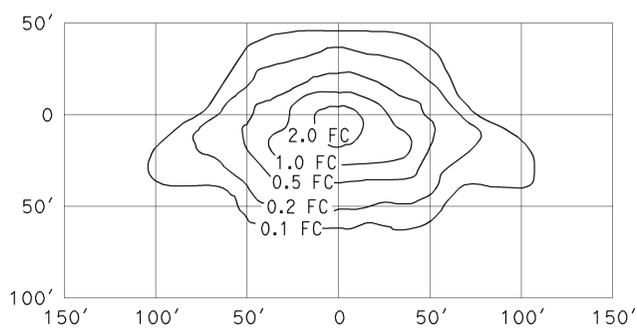
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 34' Mounting Height
 Lamp operated at 22,000 lm
 200-W high pressure sodium lamp
 ANSI Designation S66

ISOFOOTCANDLE CURVE - MINIMUM



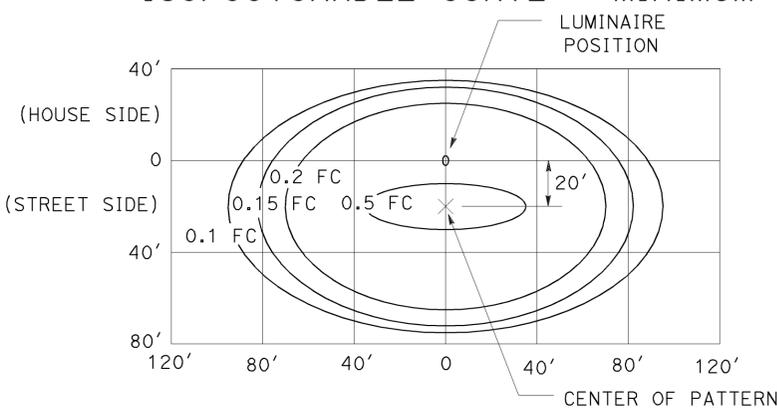
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 40' Mounting Height
 Lamp operated at 37,000 lm
 310-W high pressure sodium lamp
 ANSI Designation S67

ISOFOOTCANDLE CURVE - MINIMUM



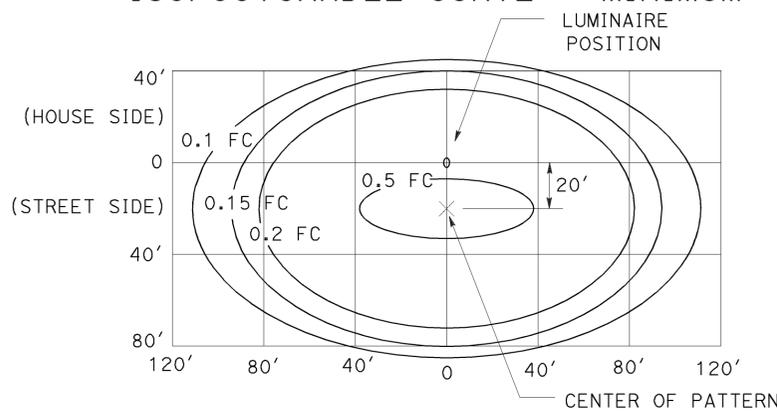
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 30' Mounting Height
 Lamp operated at 16,000 lm
 150-W high pressure sodium lamp
 ANSI Designation S55

ISOFOOTCANDLE CURVE - MINIMUM



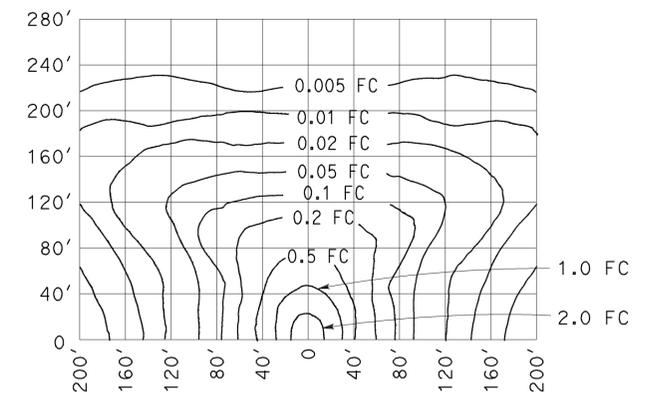
LED LUMINAIRE ROADWAY 1
 165-W at 34' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



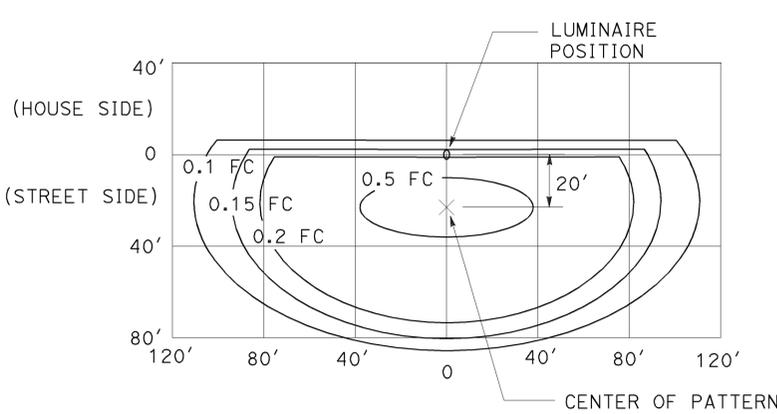
LED LUMINAIRE ROADWAY 2
 235-W at 40' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



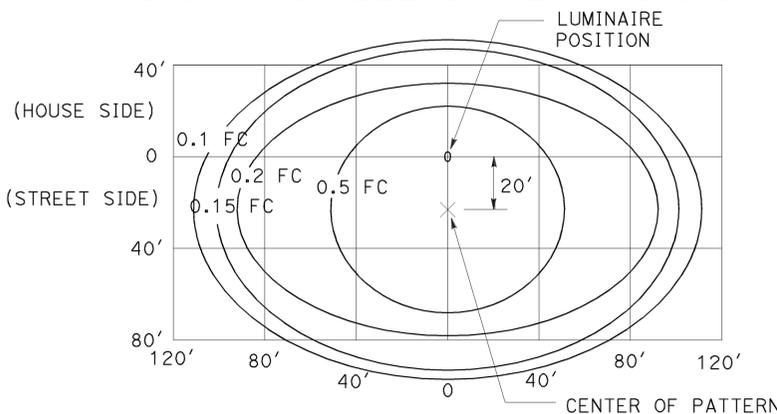
LOW PRESSURE SODIUM LUMINAIRE
 40' Mounting Height
 Lamp operated at 33,000 lm
 180-W low pressure sodium lamp

ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 3
 235-W at 40' Mounting Height
 with back side control

ISOFOOTCANDLE CURVE - MINIMUM

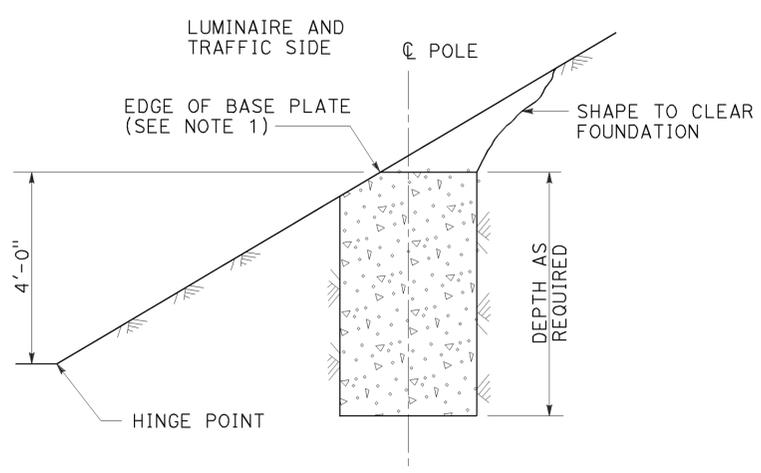
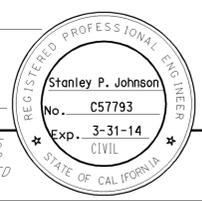


LED LUMINAIRE ROADWAY 4
 300-W at 40' Mounting Height

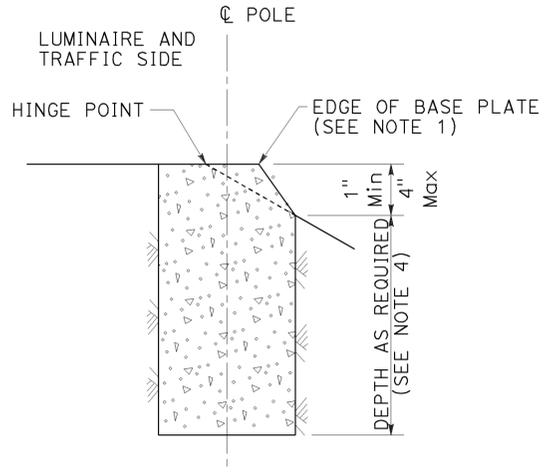
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (ISOFOOTCANDLE DIAGRAMS)**

NO SCALE
 RSP ES-10A DATED JULY 19, 2013 SUPERSEDES RSP ES-10A DATED JULY 20, 2012
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

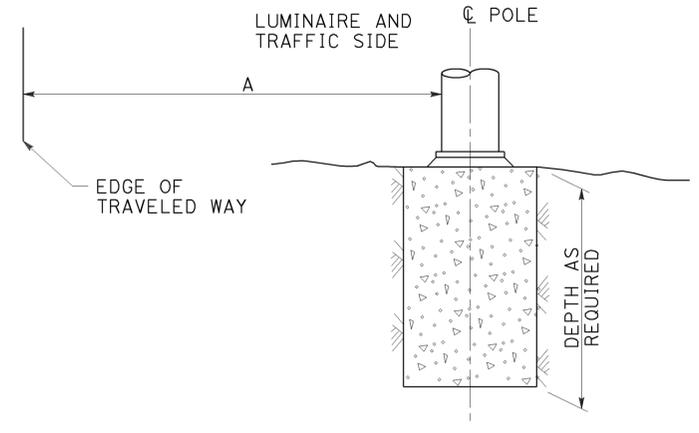
2010 REVISED STANDARD PLAN RSP ES-10A



CUT SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-1
 See Note 2 and 3



FILL SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-2
 See Note 2 and 3



FLAT SECTIONS, CUT OR FILL SLOPES
4:1 OR FLATTER
DETAIL A-3
 See Note 2

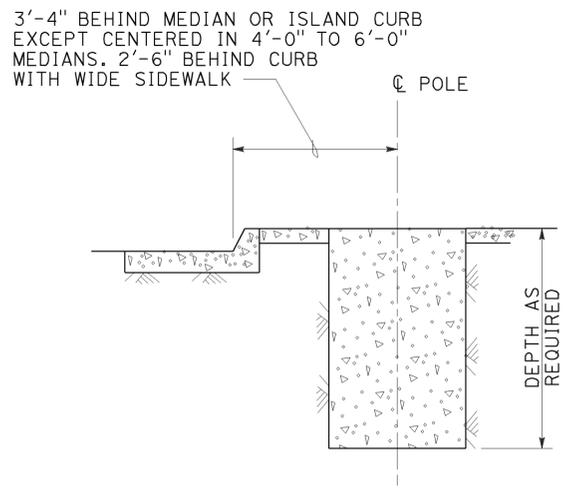
TO ACCOMPANY PLANS DATED 08-24-15

STANDARD TYPE	SETBACK (DIMENSION A)
32	30'-0" (Min)
31	20'-0" (Min)
15, 15D, 15-SB, 21, 21D, 30	ARM LENGTH (Min)

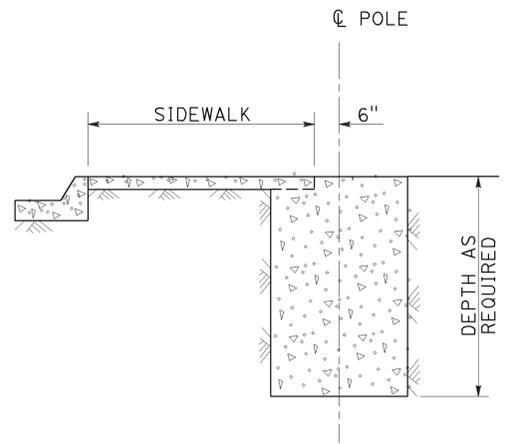
FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT
IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL A

NOTES:

1. Where a portion of the foundation is above grade, the top edges shall have a 1" chamfer.
2. Slopes shall be horizontal to vertical ratio (Horizontal : Vertical).
3. Horizontal setbacks on cut and fill slopes steeper than 4:1 shall not exceed the distance shown for flat sections.
4. CIDH embedment depth shall be increased beyond standard depths by the diameter of the CIDH.



MEDIAN, ISLAND
OR WIDE SIDEWALK
DETAIL B-1
 7' Wide and wider



NARROW SIDEWALK
DETAIL B-2
 Less than 7' wide

FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL B

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(FOUNDATION INSTALLATIONS)
 NO SCALE

RSP ES-11 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-11
 DATED MAY 20, 2011 - PAGE 488 OF THE STANDARD PLANS BOOK DATED 2010.