Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	1	14

IM-005-4(192)217E

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

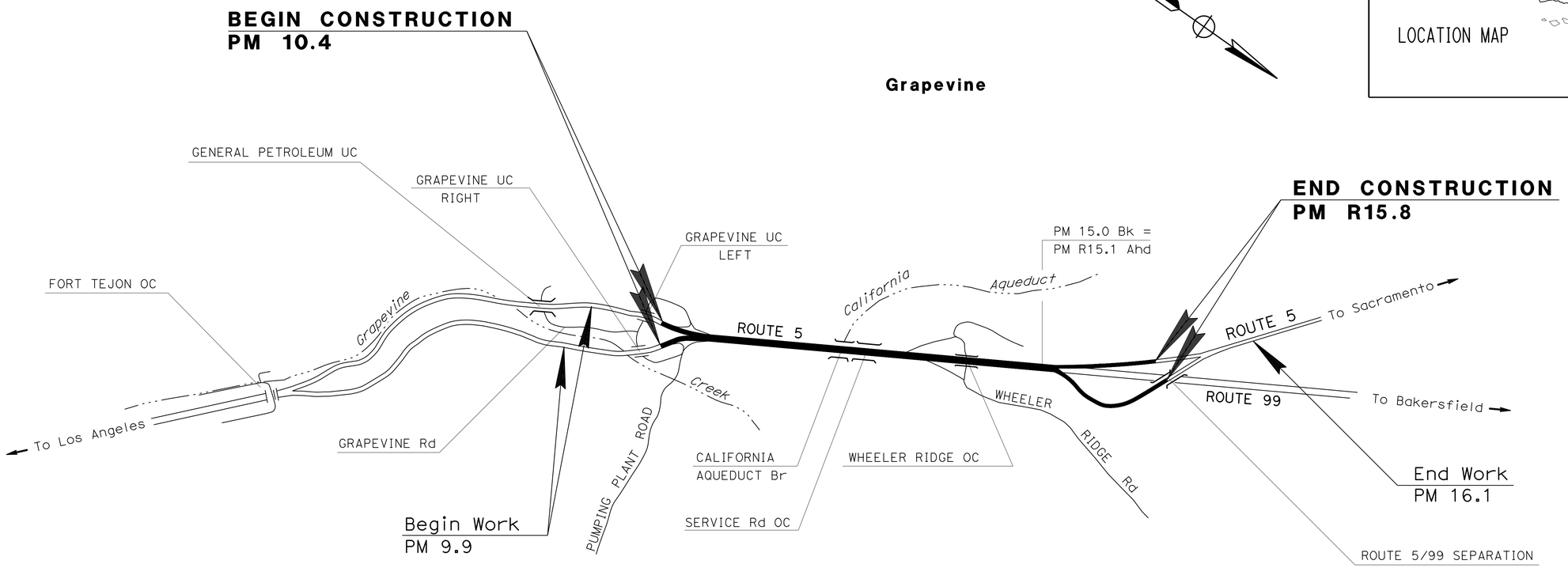
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN KERN COUNTY
NEAR GRAPEVINE
FROM 0.2 MILE NORTH OF GRAPEVINE UNDERCROSSING TO ROUTE 5/99 SEPARATION

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	TYPICAL CROSS SECTIONS
3	CONSTRUCTION DETAILS
4	CONSTRUCTION AREA SIGNS
5	PAVEMENT DELINEATION QUANTITIES
6-8	SUMMARY OF QUANTITIES
9-14	REVISED STANDARD PLANS

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



NO SCALE

Ranjeev Kumar Ghai 6-6-13
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

June 10, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RANJEEV KUMAR GHAI No. 61338 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

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

PROJECT MANAGER MEHRAN AKHAVAN

DESIGN ENGINEER SHAHIN MANSOUR

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

CONTRACT No.	06-0N3604
PROJECT ID	0600020697

LAST REVISION 06-06-13 DATE PLOTTED => 07-AUG-2013 TIME PLOTTED => 15:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	2	14

Ranjeev Kumar Ghai 03-11-13
REGISTERED CIVIL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
RANJEEV KUMAR GHAI
No. 61338
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

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

NOTES:

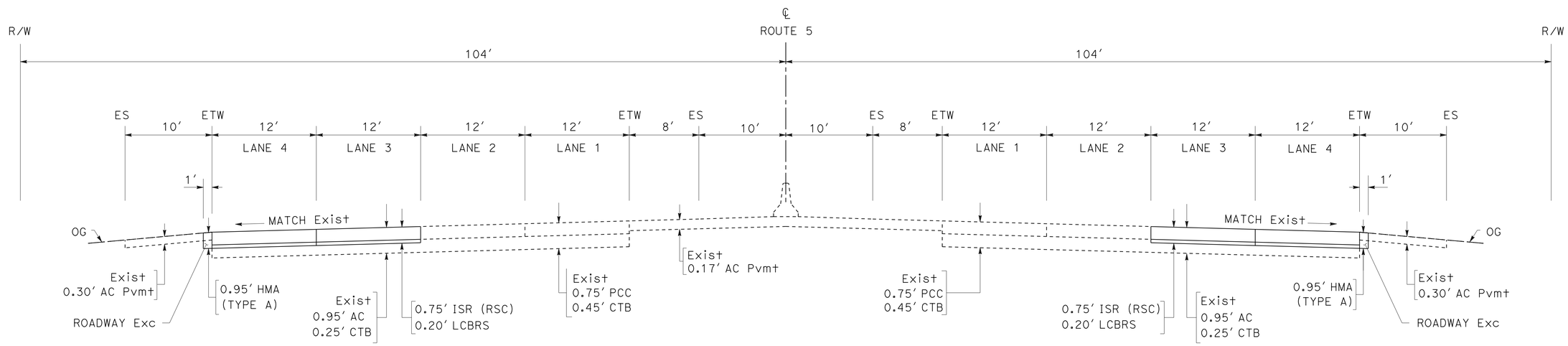
1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
3. DETAIL LOCATIONS FOR REMOVE EXISTING AC PANELS AND PLACE RSC ARE SHOWN ON SHEETS Q1, Q2 AND Q3.

ABBREVIATIONS:

RSC RAPID STRENGTH CONCRETE

ISR INDIVIDUAL SLAB REPLACEMENT

LCBRS LEAN CONCRETE BASE RAPID SETTING



SOUTHBOUND

NORTHBOUND

ROUTE 5

PM 10.4 TO PM R15.8

TYPICAL CROSS SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: SHAHIN MANSOUR
CALCULATED-DESIGNED BY: RANJEEV KUMAR GHAI
CHECKED BY: SHAHIN MANSOUR
REVISED BY: xx-xx-xx
DATE REVISED: xx-xx-xx

LAST REVISION 06-07-13
DATE PLOTTED => 06-AUG-2013
TIME PLOTTED => 13:39

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	3	14

Ranjeev Kumar Ghai 03-11-13
REGISTERED CIVIL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
RANJEEV KUMAR GHAI
No. 61338
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

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

NOTES:

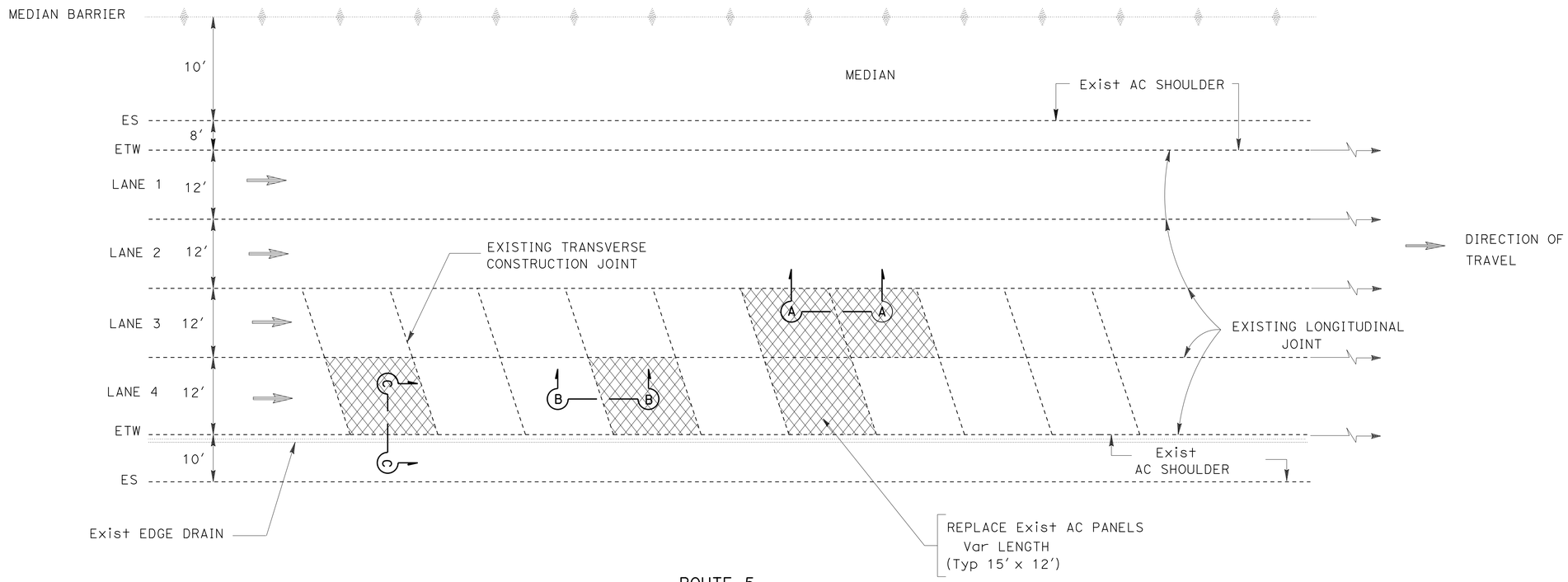
1. SPACING OF DOWEL BAR BASKET FROM AN EXISTING TRANSVERSE CONSTRUCTION JOINT SHALL NOT BE GREATER THAN 20′.
2. SIDE FORMS SHALL BE USED WHERE EP IS ADJACENT TO ASPHALT CONCRETE.
3. LEAN CONCRETE BASE RAPID SETTING (LEVELING COURSE) VARIES FROM 0.1′ TO 0.3′. AVERAGE THICKNESS SHOWN ON DETAILS EQUALS TO 0.2′.

LEGEND:

- INDIVIDUAL SLAB REPLACEMENT RAPID STRENGTH CONCRETE
- ROADWAY Exc
- LCBRS

ABBREVIATIONS:

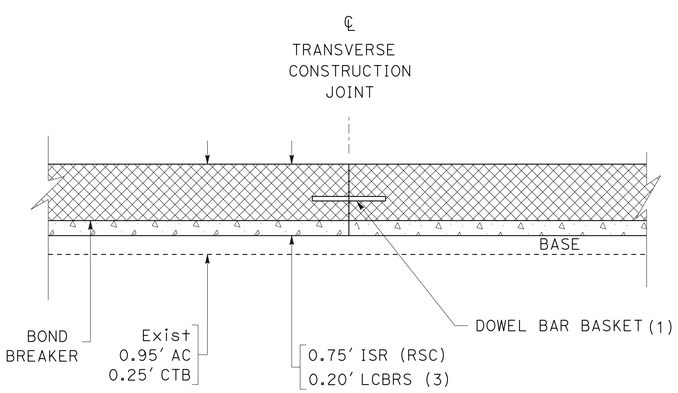
ISR INDIVIDUAL SLAB REPLACEMENT
RSC RAPID STRENGTH CONCRETE
LCBRS LEAN CONCRETE BASE RAPID SETTING



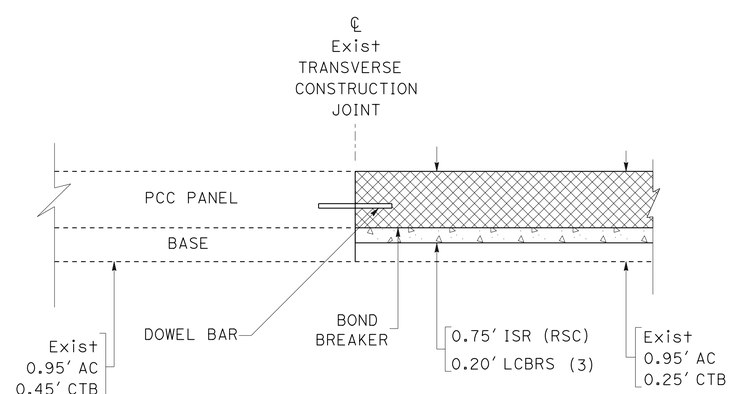
ROUTE 5

PLAN

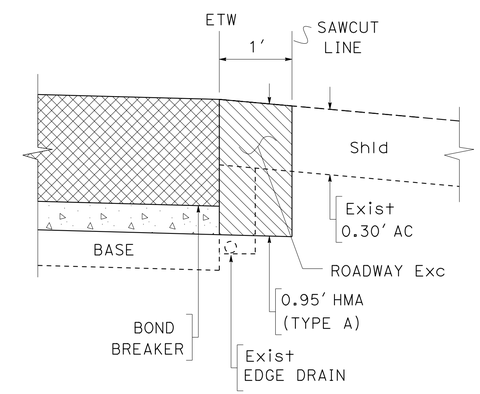
TYPICAL INDIVIDUAL SLAB REPLACEMENT



SECTION A-A



SECTION B-B



SECTION C-C (3)

CONSTRUCTION DETAILS

NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
Caltrans®

FUNCTIONAL SUPERVISOR: SHAHIN MANSOUR
CALCULATED-DESIGNED BY: RANJEEV KUMAR GHAI
CHECKED BY: SHAHIN MANSOUR
REVISED BY
DATE REVISED

LAST REVISION 06-07-13
DATE PLOTTED => 06-AUG-2013
TIME PLOTTED => 13:39

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	4	14

REGISTERED CIVIL ENGINEER 03-01-13 DATE

6-10-13
PLANS APPROVAL DATE

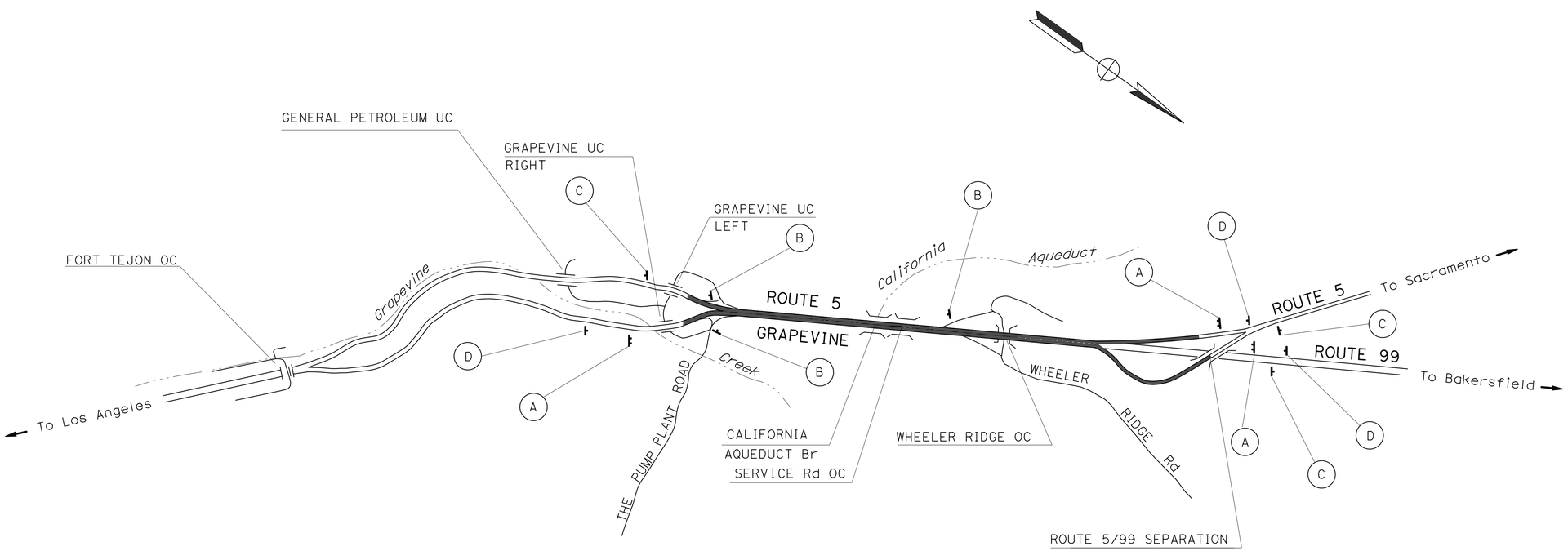
REGISTERED PROFESSIONAL ENGINEER KAMRUL KHAN No. 74112 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

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

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POST	POST SIZE	NUMBER OF SIGNS
A	W20-1	60" x 60"	ROAD WORK AHEAD	2	4" x 6"	3
B	W20-1	36" x 36"	ROAD WORK AHEAD	1	4" x 4"	3
C	G20-2	36" x 18"	END ROAD WORK	1	4" x 4"	3
D	G20-1	36" x 18"	ROAD WORK NEXT 10 MILES	1	4" x 4"	3

NOTES: EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.



APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CONSTRUCTION AREA SIGN

NO SCALE

CS-1

REVISED BY	A.S.
DATE REVISED	02-06-12
CALCULATED-DESIGNED BY	KAMRUL KHAN
CHECKED BY	HASSAN TAHA
FUNCTIONAL SUPERVISOR	MOHAMMED QATAMI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN

LAST REVISION 11-29-12
DATE PLOTTED => 07-AUG-2013
TIME PLOTTED => 15:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	5	14

REGISTERED CIVIL ENGINEER 03-01-13 DATE

6-10-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KAMRUL KHAN No. 74112 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

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PAVEMENT DELINEATION QUANTITIES

LOCATION PM	DIRECTION	DETAIL No.	PAVEMENT MARKER (RETROREFLECTIVE)		THERMOPLASTIC TRAFFIC STRIPE				REMOVE PAVEMENT MARKER
			TYPE G	TYPE H	4" SOLID 4" YELLOW	4" SOLID 4" WHITE	4" BROKEN (36'-12')	8" WHITE	
			EA		LF	LF	LF	LF	EA
10.40 To 15.00	NB	27B				24,288			
10.40 To 15.00	NB	12	507				24,288		507
10.40 To 15.00	NB	12	507				24,288		507
10.40 To 15.00	SB	27B				24,288			
10.40 To 15.00	SB	12	507				24,288		507
10.40 To 15.00	SB	12	507				24,288		507
15.00 To R15.40	NB	27B				2,112			
15.00 To R15.40	NB	12	45				2,112		45
15.00 To R15.40	NB	25		45	2,112				45
15.00 To R15.40	SB	27B				2,112			
15.00 To R15.40	SB	12	45				2,112		45
15.00 To R15.40	SB	25		45	2,112				45
13.32 To 13.36	NB	36	20					422	20
13.55 To 13.59	NB	36	20					422	20
10.54 To 10.59	SB	36	24					528	24
11.93 To 11.98	SB	36	24					528	24
13.45 To 13.48	SB	36	16					317	16
13.69 To 13.74	SB	36	24					528	24
		SUB-TOTAL	2246	90	4,224	52,800	101,376	2745	2336
		TOTAL	2336		57,024		101,376	2745	2336

PAVEMENT DELINEATION QUANTITIES
PDQ-1

REVISED BY	DATE REVISED
A.S.	12-08-11

CALCULATED-DESIGNED BY: KAMRUL KHAN
CHECKED BY: HASSAN TAHA
FUNCTIONAL SUPERVISOR: MOHAMMED QATAMI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN

LAST REVISION 03-01-13 | DATE PLOTTED => 07-AUG-2013 | TIME PLOTTED => 15:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	6	14

Ranjeev Kumar Ghai 03-11-13
REGISTERED CIVIL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
RANJEEV KUMAR GHAI
No. 61338
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

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

ABBREVIATIONS:

RSC RAPID STRENGTH CONCRETE

LCBRS LEAN CONCRETE BASE RAPID SETTING

ROADWAY QUANTITIES

No.	SOUTHBOUND LANE No. 3			INDIVIDUAL SLAB REPLACEMENT (RSC)	LCBRS	DOWEL BAR (DRILL AND BOND)
	PM	L	W	D=0.75′	D=0.20′	
		FT	FT	CY	CY	EA
1	12.77	15	12	5.00	1.33	24
2	12.78	15	12	5.00	1.33	24
3	13.21	16	12	5.33	1.42	24
4	13.22	15	12	5.00	1.33	24
5	13.27	30	12	10.00	2.67	36
6	13.46	15	12	5.00	1.33	24
7	13.48	15	12	5.00	1.33	24
8	13.63	15	12	5.00	1.33	24
9	13.65	15	12	5.00	1.33	24
10	13.68	20	12	6.67	1.78	24
11	13.69	15	12	5.00	1.33	24
12	13.78	15	12	5.00	1.33	24
13	13.86	15	12	5.00	1.33	24
14	13.88	15	12	5.00	1.33	24
15	13.95	15	12	5.00	1.33	24
16	13.96	15	12	5.00	1.33	24
17	14.25	17	12	5.67	1.51	24
18	14.28	16	12	5.33	1.42	24
19	14.31	46	12	15.33	4.09	48
20	14.40	16	12	5.33	1.42	24
21	14.41	14	12	4.67	1.24	24
22	14.42	15	12	5.00	1.33	24
23	14.43	15	12	5.00	1.33	24
24	14.49	15	12	5.00	1.33	24
25	14.51	14	12	4.67	1.24	24
26	14.56	30	12	10.00	2.67	36
27	14.58	15	12	5.00	1.33	24
28	14.61	15	12	5.00	1.33	24
29	14.62	24	12	8.00	2.33	36
30	14.68	30	12	10.00	2.67	36
31	14.79	30	12	10.00	2.67	36
SUBTOTAL 1				191.00	51.07	828

ROADWAY QUANTITIES

No.	NORTHBOUND LANE No. 3			INDIVIDUAL SLAB REPLACEMENT (RSC)	LCBRS	DOWEL BAR (DRILL AND BOND)
	PM	L	W	D=0.75′	D=0.20′	
		FT	FT	CY	CY	EA
1	11.66	18	12	6.00	1.60	24
2	12.43	25	12	8.33	2.22	36
3	12.48	13	12	4.33	1.16	24
4	12.49	15	12	5.00	1.33	24
5	12.61	28	12	9.33	2.49	36
6	12.70	15	12	5.00	1.33	24
7	12.71	12	12	4.00	1.07	24
8	12.74	14	12	4.67	1.24	24
9	13.41	15	12	5.00	1.33	24
10	13.42	18	12	6.00	1.60	24
11	13.45	31	12	10.33	2.76	36
12	13.82	26	12	8.67	2.31	36
13	13.83	15	12	5.00	1.33	24
14	13.87	42	12	14.00	3.73	48
15	14.04	51	12	17.00	4.53	24
16	14.42	20	12	6.67	1.78	24
17	14.47	13	12	4.33	1.16	24
18	14.62	25	12	8.33	2.22	36
19	14.63	45	12	15.00	4.00	48
SUBTOTAL 2				147.00	39.20	564

SUMMARY OF QUANTITIES
Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: SHAHIN MANSOUR
CALCULATED-DESIGNED BY: RANJEEV KUMAR GHAI
CHECKED BY: SHAHIN MANSOUR
REVISED BY
DATE REVISED

LAST REVISION 06-07-13
DATE PLOTTED => 06-AUG-2013
TIME PLOTTED => 13:39

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	7	14

Ranjeev Kumar Ghai 03-11-13
REGISTERED CIVIL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RANJEEV KUMAR GHAI No. 61338 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

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

ABBREVIATIONS:

RSC RAPID STRENGTH CONCRETE
LCBRS LEAN CONCRETE BASE RAPID SETTING

ROADWAY QUANTITIES

No.	NORTHBOUND LANE No. 4			INDIVIDUAL SLAB REPLACEMENT (RSC)	LCBRS	DOWEL BAR (DRILL AND BOND)	ROADWAY Exc	HMA (TYPE A)
	PM	L	W	D=0.75′	D=0.20′			D=0.95′
		FT	FT	CY	CY	EA	CY	TON
1	10.61	31	12	10.33	2.76	36	1.09	2.21
2	10.63	30	12	10.00	2.67	36	1.06	2.32
3	10.65	30	12	10.00	2.67	36	1.06	2.32
4	10.71	16	12	5.34	1.42	24	0.56	1.14
5	10.72	14	12	4.67	1.24	24	0.49	1.00
6	10.76	45	12	15.00	4.00	48	1.58	3.21
7	10.78	15	12	5.00	1.33	24	0.53	1.07
8	10.83	45	12	15.00	4.00	48	1.58	3.21
9	10.86	15	12	5.00	1.33	24	0.53	1.07
10	10.87	30	12	10.00	2.67	36	1.06	2.32
11	10.89	14	12	4.67	1.44	24	0.49	1.00
12	10.90	45	12	15.00	4.00	48	1.58	3.21
13	10.98	30	12	10.00	2.67	36	1.06	2.32
14	10.99	30	12	10.00	2.67	36	1.06	2.32
15	11.01	75	12	25.00	6.67	60	2.64	5.35
16	11.07	37	12	12.33	3.29	36	1.30	2.64
17	11.08	40	12	13.33	3.56	48	1.41	2.85
18	11.09	16	12	5.33	1.42	24	0.56	1.14
19	11.14	18	12	6.00	1.60	24	0.63	1.28
20	11.18	16	12	5.33	1.42	24	0.56	1.14
21	11.23	19	12	6.33	1.69	24	0.67	1.36
22	11.32	13	12	4.33	1.16	24	0.46	0.93
23	11.35	13	12	4.33	1.16	24	0.46	0.93
24	11.38	32	12	10.67	2.84	36	1.13	2.28
25	11.39	12	12	4.00	1.07	24	0.42	0.86
26	11.40	32	12	10.67	2.84	36	1.13	2.28
27	11.45	37	12	12.33	3.29	36	1.30	2.64
28	11.51	28	12	9.33	2.49	36	0.96	2.00
29	11.58	43	12	14.33	3.82	48	1.51	3.07
30	11.60	13	12	4.33	1.16	24	0.46	0.93
31	11.61	19	12	6.33	1.69	24	0.67	1.34
32	11.63	18	12	6.00	1.60	24	0.63	1.28
33	11.68	25	12	8.33	2.22	36	0.88	1.78
34	11.69	20	12	6.67	1.78	24	0.70	1.43
35	11.70	18	12	6.00	1.60	24	0.63	1.28
36	11.76	18	12	6.00	1.60	24	0.63	1.28
37	11.81	18	12	6.00	1.60	24	0.63	1.28
38	11.89	13	12	4.33	1.16	24	0.46	0.93
39	12.06	21	12	7.00	1.87	36	0.74	1.50
40	12.44	37	12	12.33	3.29	36	1.30	2.64
41	12.47	12	12	4.00	1.07	24	0.42	0.86
42	12.50	44	12	14.67	3.91	48	1.55	3.14
43	12.62	37	12	12.33	3.29	36	1.30	2.64
44	12.68	12	12	4.00	1.07	24	0.42	0.86
45	12.69	30	12	10.00	2.67	36	1.06	2.14
46	12.70	19	12	6.33	1.69	24	0.67	1.36
47	12.72	18	12	6.00	1.60	24	0.63	0.63
48	12.74	25	12	8.33	2.22	36	0.88	1.78
49	12.75	32	12	10.67	2.84	36	1.13	2.82
50	12.77	32	12	10.67	2.84	36	1.13	2.82
51	12.78	25	12	8.33	2.22	36	0.88	1.78
SUBTOTAL 3				442.30	118.18	1644	46.67	95.97

ROADWAY QUANTITIES

No.	SOUTHBOUND LANE No. 4			INDIVIDUAL SLAB REPLACEMENT (RSC)	LCBRS	DOWEL BAR (DRILL AND BOND)	ROADWAY Exc	HMA (TYPE A)
	PM	L	W	D=0.75′	D=0.20′			D=0.95′
		FT	FT	CY	CY	EA	CY	TON
1	10.41	36	12	12.00	3.20	36	1.27	2.57
2	10.42	46	12	15.33	4.09	48	1.62	3.28
3	10.44	15	12	5.00	1.33	24	0.53	1.07
4	10.45	15	12	5.00	1.33	24	0.53	1.07
5	10.46	14	12	4.67	1.24	24	0.49	1.00
6	10.47	46	12	15.33	4.09	48	1.62	3.28
7	10.48	45	12	15.00	4.00	48	1.58	3.21
8	10.49	31	12	10.33	2.76	36	1.09	2.21
9	10.51	46	12	15.33	4.09	48	1.62	3.21
10	10.55	46	12	15.33	4.09	48	1.62	3.21
11	10.63	46	12	15.33	4.09	48	1.62	3.21
12	10.71	13	12	4.33	1.16	24	0.46	0.93
13	10.73	15	12	5.00	1.33	24	0.53	1.07
14	10.77	61	12	20.33	5.42	60	2.15	4.35
15	10.82	45	12	15.00	4.00	48	1.58	3.21
16	10.84	39	12	13.00	3.45	36	1.37	2.78
17	10.85	15	12	5.00	1.33	24	0.53	1.07
18	10.87	36	12	12.00	3.20	36	1.27	2.57
19	11.02	15	12	5.00	1.33	24	0.53	1.07
20	11.03	15	12	5.00	1.33	24	0.53	1.07
21	11.06	14	12	4.67	1.24	24	0.49	1.00
22	11.94	46	12	15.33	4.09	48	1.62	3.21
23	11.98	74	12	24.67	6.58	60	2.60	5.28
24	12.03	30	12	10.00	2.67	36	1.06	2.32
25	12.05	15	12	5.00	1.33	24	0.53	1.07
26	12.09	45	12	15.00	4.00	48	1.58	3.21
27	12.10	16	12	5.33	1.42	24	0.56	1.14
28	12.12	15	12	5.00	1.33	24	0.53	1.07
29	12.16	30	12	10.00	2.67	36	1.06	2.32
30	12.18	15	12	5.00	1.33	24	0.53	1.07
31	12.23	30	12	10.00	2.67	36	1.06	2.32
32	12.24	15	12	5.00	1.33	24	0.53	1.07
33	12.26	21	12	7.00	1.87	36	0.73	1.07
34	12.27	16	12	5.33	1.42	24	0.56	1.54
35	12.29	46	12	15.33	4.09	48	1.62	3.21
36	12.30	16	12	5.33	1.42	24	0.56	1.14
37	12.31	15	12	5.00	1.33	24	0.53	1.07
38	12.33	14	12	4.67	1.24	24	0.49	1.00
SUBTOTAL 4				370.97	98.89	1320	39.18	79.55

SUMMARY OF QUANTITIES
Q-2

REVISED BY | DATE REVISED
RANJEEV KUMAR GHAI | SHAHIN MANSOUR
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | SHAHIN MANSOUR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

LAST REVISION 06-07-13 | DATE PLOTTED => 06-AUG-2013 | TIME PLOTTED => 13:39

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	8	14

Ranjeev Kumar Ghai 03-11-13
REGISTERED CIVIL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
RANJEEV KUMAR GHAI
No. 61338
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

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

ABBREVIATIONS:

RSC RAPID STRENGTH CONCRETE
LCBRS LEAN CONCRETE BASE RAPID SETTING

ROADWAY QUANTITIES

No.	NORTHBOUND LANE No. 4			INDIVIDUAL SLAB REPLACEMENT (RSC)	LCBRS	DOWEL BAR (DRILL AND BOND)	ROADWAY Exc	HMA (TYPE A)
	PM	L	W	D=0.75′	D=0.20′			D=0.95′
		FT	FT	CY	CY	EA	CY	TON
52	12.79	12	12	4.00	1.07	24	0.42	0.86
53	12.80	32	12	10.67	2.84	36	1.13	2.28
54	12.88	44	12	14.67	3.91	48	1.55	3.14
55	12.89	14	12	4.67	1.24	24	0.49	1.00
56	12.92	32	12	10.67	2.84	36	1.13	2.28
57	12.94	13	12	4.33	1.16	24	0.46	0.93
58	12.95	19	12	6.33	1.69	24	0.67	1.36
59	13.01	18	12	6.00	1.60	24	0.63	1.28
60	13.04	25	12	8.33	2.22	36	0.88	1.78
61	13.23	20	12	6.67	1.78	24	0.70	1.43
62	13.33	42	12	14.00	3.73	48	1.48	3.00
63	13.41	18	12	6.00	1.60	24	0.63	1.28
64	13.45	19	12	6.33	1.69	24	0.67	1.36
65	13.54	25	12	8.33	2.22	36	0.88	1.78
66	13.61	42	12	14.00	3.73	48	1.48	3.00
67	13.92	32	12	10.67	2.84	36	1.13	2.28
68	13.93	32	12	10.67	2.84	36	1.13	2.28
69	14.04	14	12	4.67	1.24	24	0.49	1.00
70	14.01	12	12	4.00	1.07	24	0.42	0.86
71	14.08	12	12	4.00	1.07	24	0.42	0.89
72	14.12	32	12	10.67	2.84	36	1.13	2.28
73	14.15	12	12	4.00	1.07	24	0.42	0.86
74	14.22	18	12	6.00	1.60	24	0.63	1.28
75	14.32	26	12	8.67	2.31	36	0.92	1.85
76	14.33	6	12	2.00	0.53	24	0.21	0.43
77	14.37	10	12	3.33	0.89	24	0.65	0.71
78	14.38	13	12	4.33	1.16	24	0.46	0.93
79	14.40	33	12	11.00	2.93	36	1.16	2.35
80	14.41	12	12	4.00	1.07	24	0.42	0.86
81	14.43	44	12	14.67	3.91	48	1.55	3.14
82	14.54	43	12	14.33	3.82	48	1.51	3.07
83	14.62	25	12	8.33	2.22	36	0.88	1.78
84	14.63	25	12	8.33	2.22	36	0.88	1.78
85	14.65	25	12	8.33	2.22	36	0.88	1.78
86	14.68	25	12	8.33	2.22	36	0.88	1.78
87	14.69	25	12	8.33	2.22	36	0.88	1.78
88	14.71	44	12	14.67	3.91	48	1.55	3.14
89	14.78	18	12	6.00	1.60	24	0.63	1.28
SUBTOTAL 5				304.33	81.12	1224	32.43	65.15

ROADWAY QUANTITIES

No.	NORTHBOUND LANE No. 4			INDIVIDUAL SLAB REPLACEMENT (RSC)	LCBRS	DOWEL BAR (DRILL AND BOND)	ROADWAY Exc	HMA (TYPE A)
	PM	L	W	D=0.75′	D=0.20′			D=0.95′
		FT	FT	CY	CY	EA	CY	TON
90	14.82	12	12	4.00	1.07	24	0.42	0.86
91	14.84	25	12	8.33	2.22	36	0.88	1.78
92	14.86	44	12	14.67	3.91	48	1.55	3.14
93	14.91	19	12	6.33	1.69	24	0.67	1.36
94	14.92	26	12	8.67	2.31	36	0.92	1.85
95	14.94	26	12	8.67	2.31	36	0.92	1.85
96	14.99	74	12	24.67	6.58	60	2.60	5.28
97	15.01	18	12	6.00	1.60	24	0.63	1.28
98	R15.08	57	12	19.00	5.07	48	2.01	4.06
99	R15.10	12	12	4.00	1.07	24	0.42	0.89
100	R15.21	37	12	12.33	3.29	36	1.30	2.64
101	R15.27	31	12	10.33	2.76	36	1.09	2.21
102	R15.36	13	12	4.33	1.16	24	0.46	0.93
SUBTOTAL 6				131.33	35.04	456	13.87	28.13
SUBTOTAL 5				304.33	81.12	1224	32.43	65.15
SUBTOTAL 4				370.97	98.89	1320	39.18	79.55
SUBTOTAL 3				442.30	118.18	1644	46.67	95.97
SUBTOTAL 2				147.00	39.20	564	--	--
SUBTOTAL 1				191.00	51.07	828	--	--
GRAND TOTAL				1586.93	423.50	6036	132.15	268.80

SUMMARY OF QUANTITIES
Q-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: SHAHIN MANSOUR
CALCULATED-DESIGNED BY: RANJEEV KUMAR GHAI
CHECKED BY: SHAHIN MANSOUR
REVISED BY
DATE REVISED

LAST REVISION 06-07-13
DATE PLOTTED => 06-AUG-2013
TIME PLOTTED => 13:39

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	9	14

William K. Farnbach
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER William K. Farnbach No. C49042 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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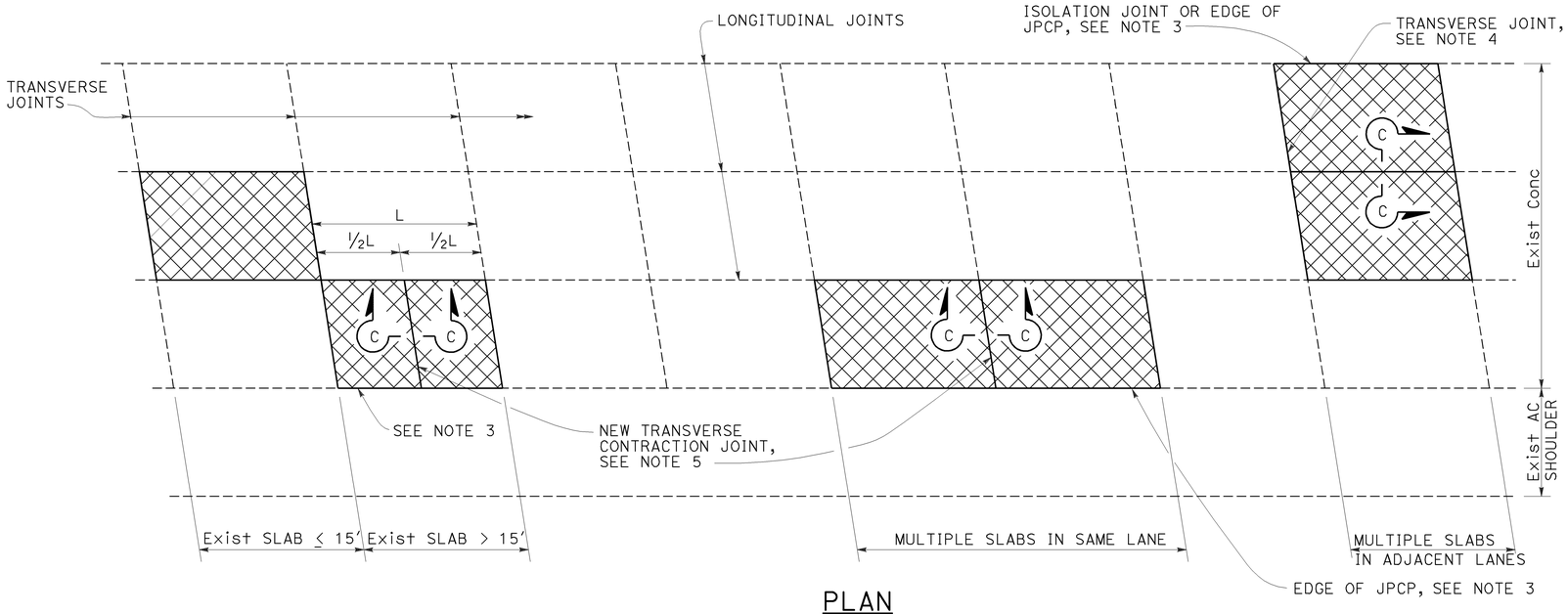
TO ACCOMPANY PLANS DATED 6-10-13



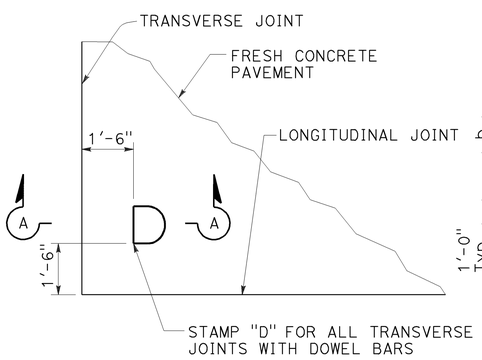
PLAN

NOTES:

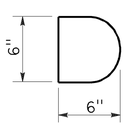
1. For details not shown, see Revised Standard Plan P10.
2. Where the existing outer shoulder pavement is asphalt concrete pavement, the "a" dimension shall be 1'-0" and the "b" dimension shall be 2'-0".
3. Side forms shall be used where edge of pavement is adjacent to asphalt concrete.
4. For detail, see Transverse Construction Joint for existing concrete pavement detail on Revised Standard Plan P10.
5. Transverse joint to match skew of existing joint. Omit dowel bars.

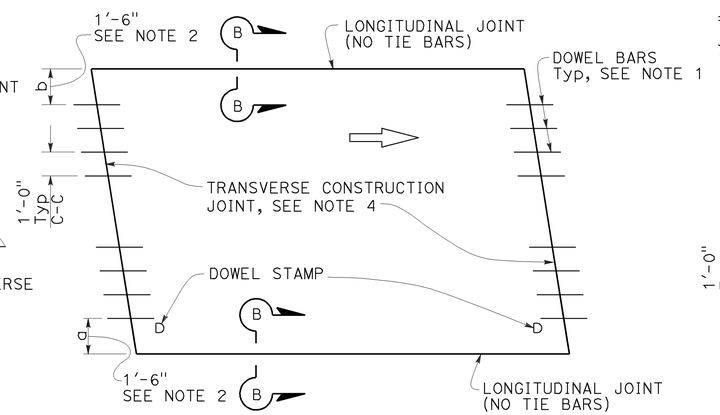
LEGEND:

Replace Concrete Pavement (See Slab Layout Detail)



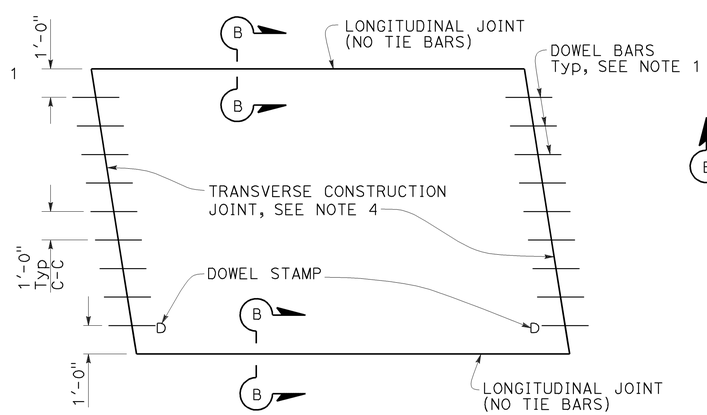
DOWEL STAMP DETAIL





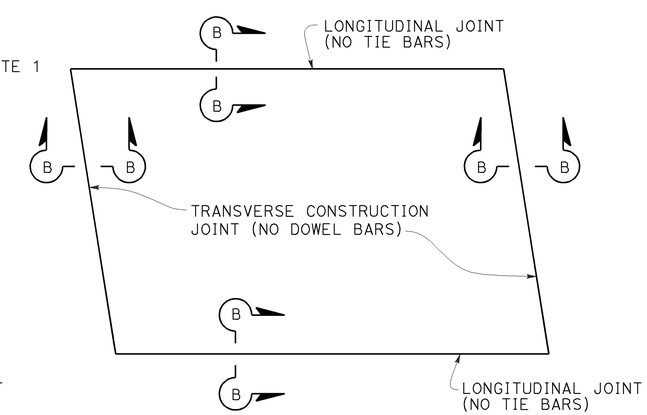
TYPE I

Traffic lane lines match longitudinal joints



TYPE II

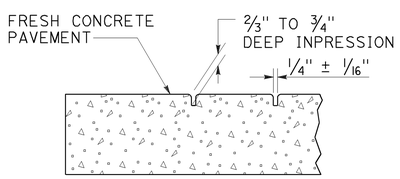
Traffic lane lines do not match longitudinal joints



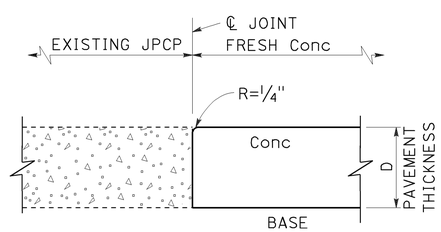
TYPE III

For short term repairs < 5 yrs design life or for slab replacements with a cracking and seating operation

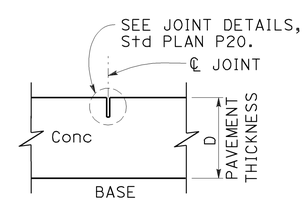
SLAB LAYOUT



SECTION A-A



SECTION B-B



SECTION C-C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINTED PLAIN CONCRETE PAVEMENT-INDIVIDUAL SLAB REPLACEMENT

NO SCALE

RSP P8 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P8
DATED MAY 20, 2011 - PAGE 130 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P8

2010 REVISED STANDARD PLAN RSP P8

2-22-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	10	14

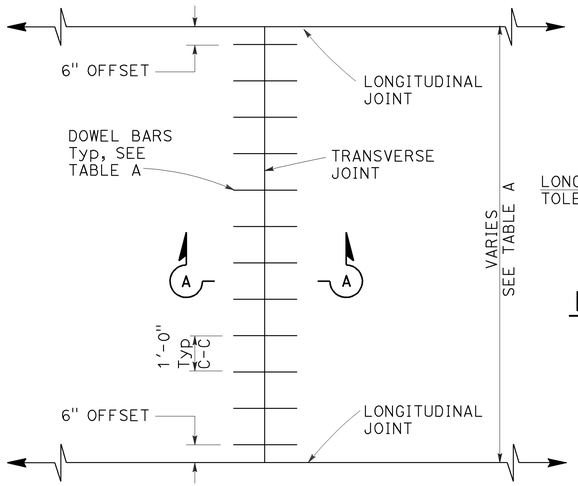
William K. Farnbach
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER William K. Farnbach No. C49042 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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

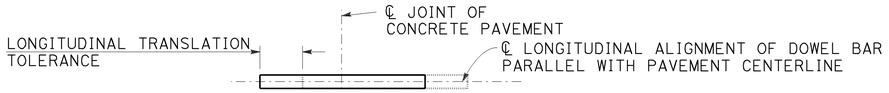
TO ACCOMPANY PLANS DATED 6-10-13



TRANSVERSE JOINT DOWEL BAR LAYOUT

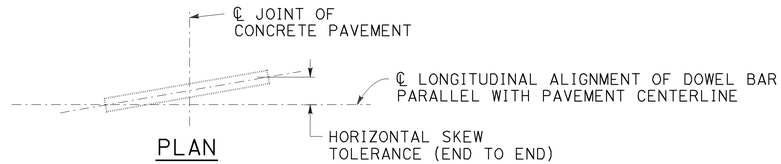
PLAN

HORIZONTAL OFFSET TOLERANCE



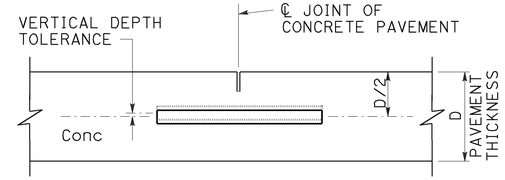
PLAN

LONGITUDINAL TRANSLATION TOLERANCE



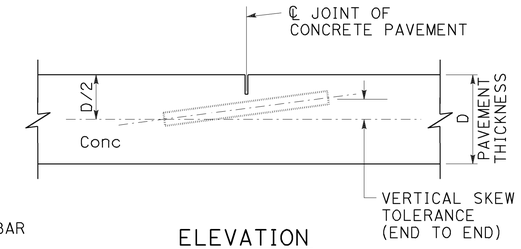
PLAN

HORIZONTAL SKEW TOLERANCE



ELEVATION

VERTICAL DEPTH TOLERANCE

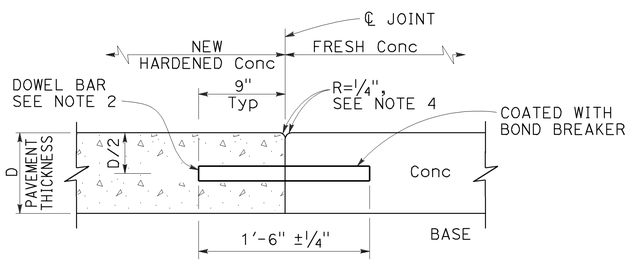


ELEVATION

VERTICAL SKEW TOLERANCE

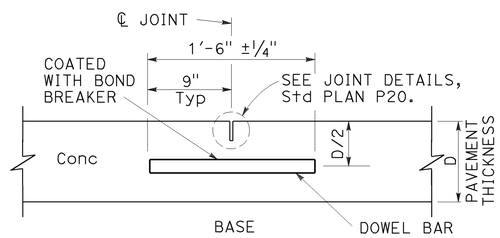
NOTES:

1. See Standard Plan P1 for typical dowel bar placement and locations.
2. 1½" Dia dowel bars are to be used with a pavement thickness, D, equal to or greater than 0.70 feet. For pavement thickness, D, less than 0.70 feet, use 1¼" Dia dowel bars.
3. For widths not shown, see Project Plans.
4. If fresh concrete pavement is placed adjacent to existing concrete pavement, the top corner of the existing concrete pavement does not need to be rounded to the ¼" radius, as shown.
5. May also use ¾" Dia dowel bars 2'-4" ± ¼" in length. Center the length of dowel bars at the centerline of longitudinal joint.

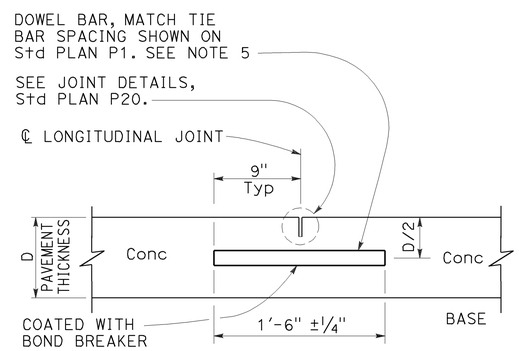


SECTION A-A

TRANSVERSE CONSTRUCTION JOINT DETAIL



TRANSVERSE CONTRACTION JOINT

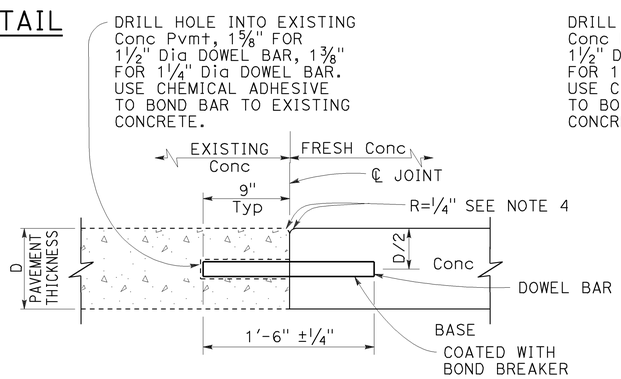


LONGITUDINAL CONTRACTION JOINT WITH DOWEL BARS

See Revised Std Plan RSP P18

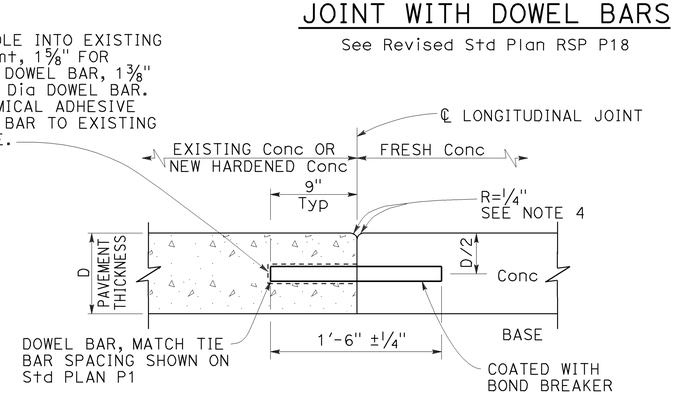
TABLE A (See Note 3)

DOWEL BAR TRANSVERSE SPACING TABLE	
WIDTH BETWEEN LONGITUDINAL JOINTS	NUMBER OF DOWELS BETWEEN LONGITUDINAL JOINTS
14'-0"	14
13'-0"	13
12'-0"	12
11'-0"	11
10'-0"	10
8'-0"	8
5'-0"	5
4'-0"	4



TRANSVERSE CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT

Drill and bond locations



LONGITUDINAL CONSTRUCTION JOINT WITH DOWEL BARS

See Revised Std Plan RSP P18

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-DOWEL BAR DETAILS

NO SCALE

RSP P10 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P10 DATED MAY 20, 2011 - PAGE 131 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P10

2010 REVISED STANDARD PLAN RSP P10

2-22-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	11	14

William K. Farnbach
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER William K. Farnbach No. C49042 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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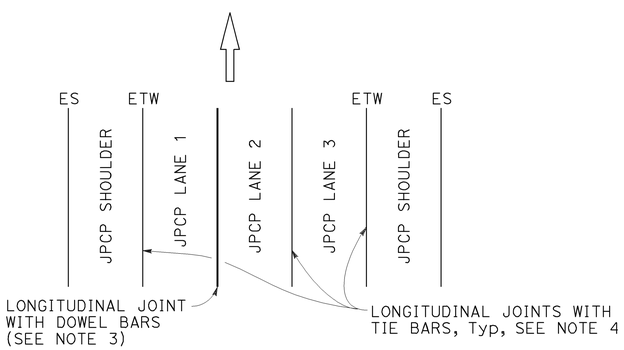
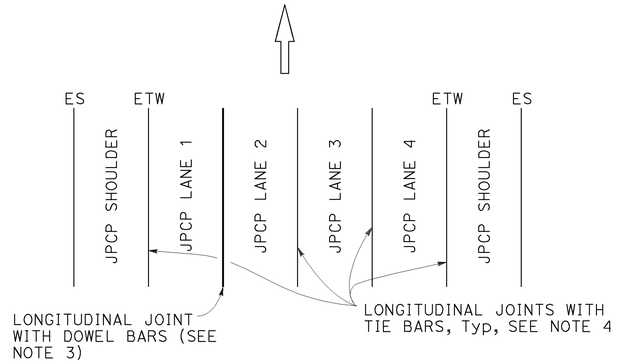
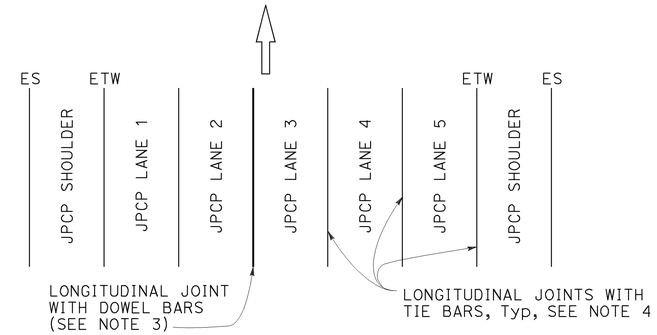
TO ACCOMPANY PLANS DATED 6-10-13



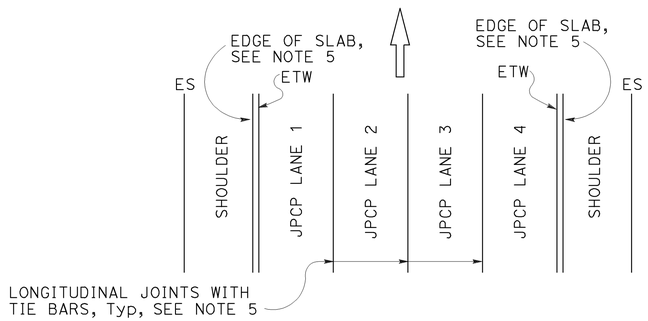
3 LANES WITH CONCRETE SHOULDERS
PLAN



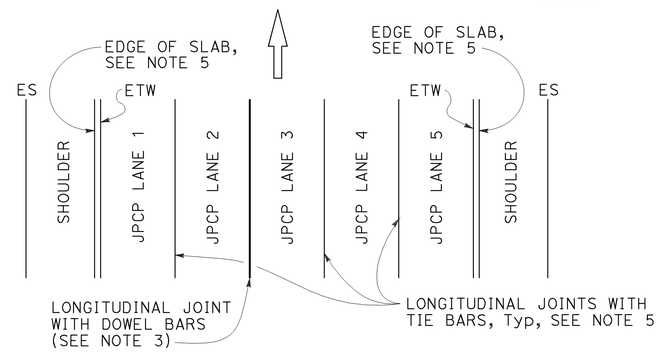
4 LANES WITH CONCRETE SHOULDERS
PLAN



5 LANES WITH CONCRETE SHOULDERS
PLAN



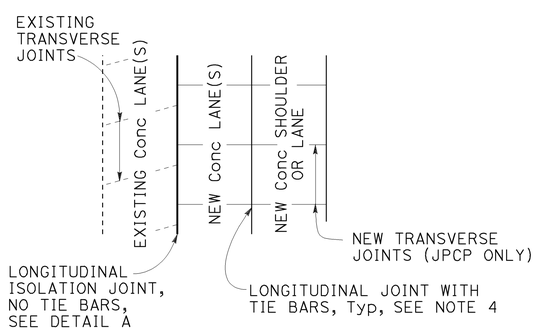
4 LANES OR LESS WITH AC SHOULDERS
PLAN



5 LANES WITH AC SHOULDERS
PLAN

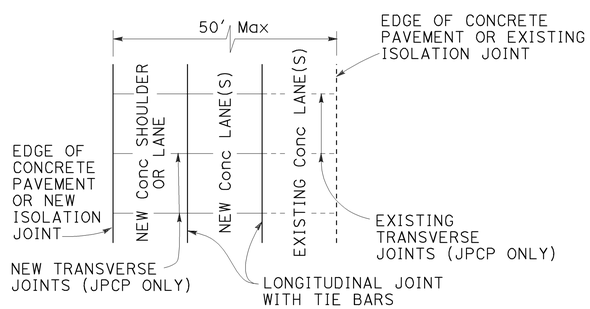
NEW CONSTRUCTION

Location of Longitudinal Joints For JPCP



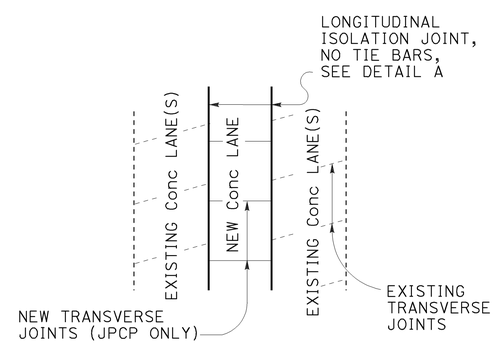
CASE 1
PLAN

Transverse Joints do not align between new and existing.



CASE 2
PLAN

Transverse Joints align between new and existing.



CASE 3 (INTERIOR LANE REPLACEMENT)
PLAN

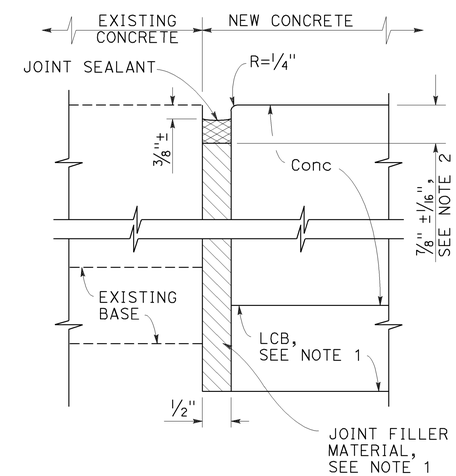
Transverse Joints do not align between new and existing.

LANE/SHOULDER ADDITION OR RECONSTRUCTION

For JPCP and CRCP

NOTES:

1. Where Lean Concrete Base is not used as base material, the joint filler material used for the longitudinal isolation joint shall only extend to the bottom of the new concrete slab. See Detail A.
2. Use 5/8" ±1/16" dimension for silicone sealant.
3. See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
4. See Standard Plan P1.
5. See Standard Plan P2.



DETAIL "A"

ISOLATION JOINT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-LANE SCHEMATICS AND ISOLATION JOINT DETAIL

NO SCALE

RSP P18 DATED APRIL 20, 2012 SUPERSEDES 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

2-22-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	12	14

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 6-10-13

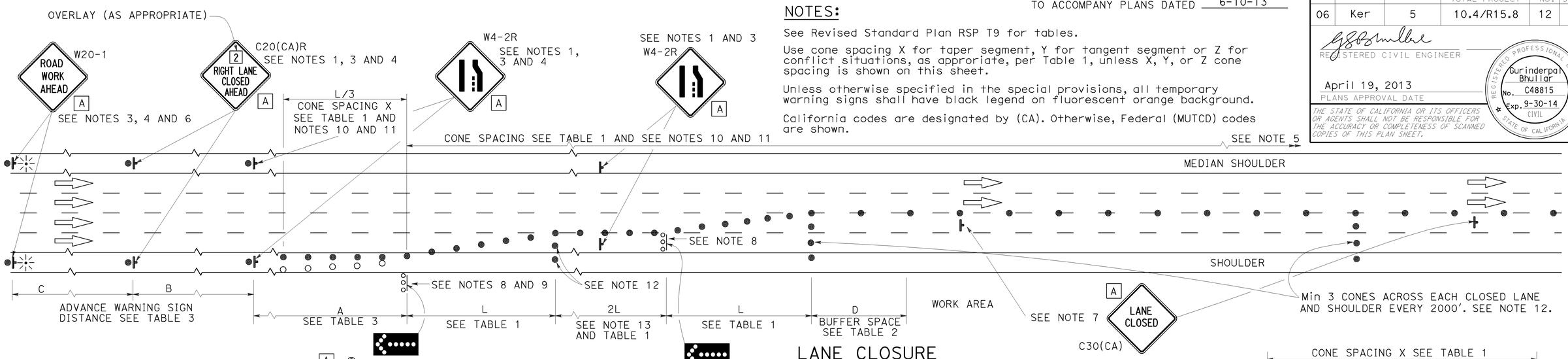
NOTES:

See Revised Standard Plan RSP T9 for tables.

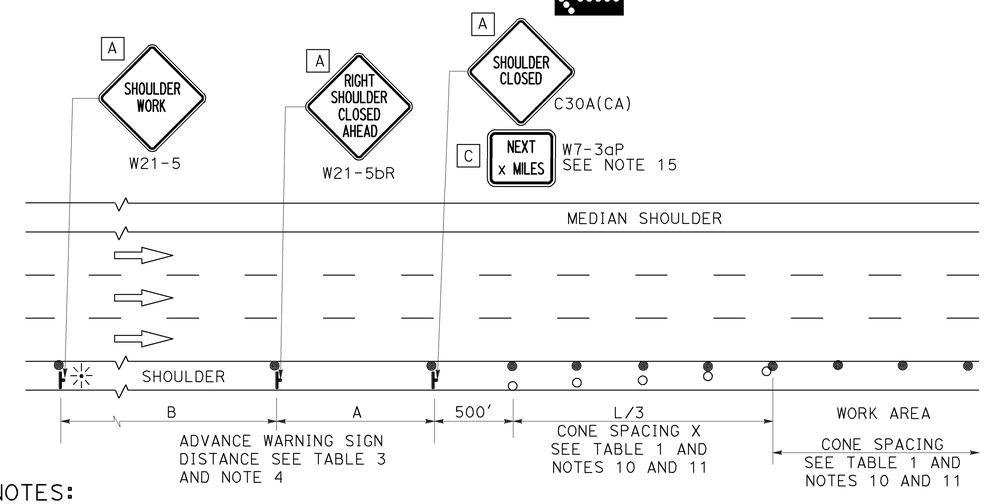
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

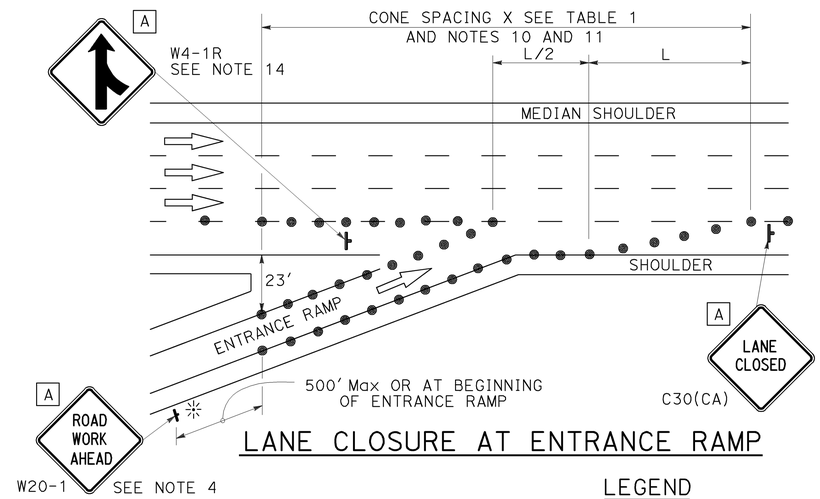
California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



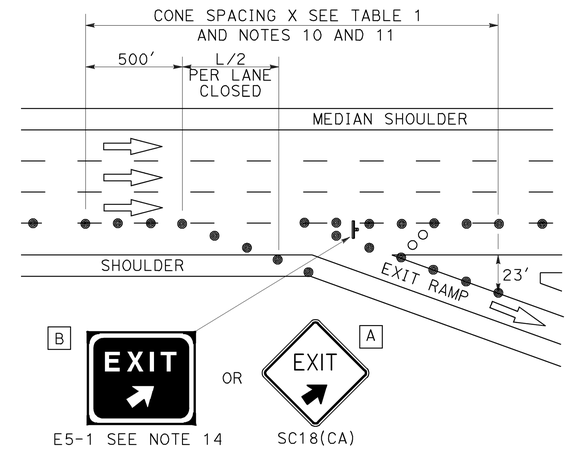
LANE CLOSURE



SHOULDER CLOSURE



LANE CLOSURE AT ENTRANCE RAMP



LANE CLOSURE AT EXIT RAMP

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.
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) sign for the first advance warning sign.
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 theshoulder 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"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	13	14

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

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

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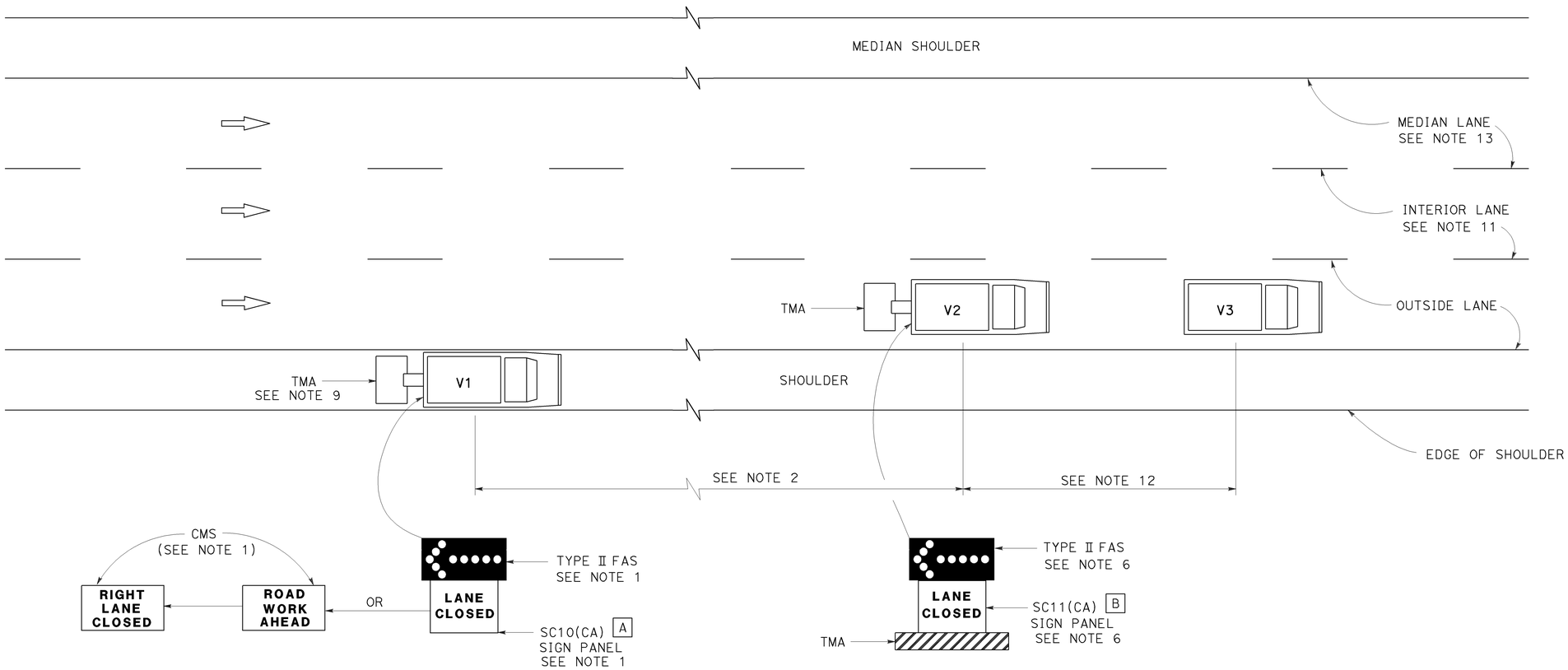
TO ACCOMPANY PLANS DATED 6-10-13



MOVING LANE CLOSURE ON MEDIAN LANE OR OUTSIDE LANE OF MULTILANE HIGHWAYS

SIGN PANEL SIZE (Min)

A 66" x 36"

B 54" x 42"

LEGEND

V1	SIGN VEHICLE
V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
	FLASHING ARROW SIGN (FAS)
CMS	CHANGEABLE MESSAGE SIGN
TMA	TRUCK-MOUNTED ATTENUATOR

NOTES:

1. Either a changeable message sign or a SC10(CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "RIGHT LANE CLOSED" message. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right and the changeable message sign shall show "LEFT LANE CLOSED".
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500′ should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500′.
5. 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.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. 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.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. 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.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, use Revised Standard Plan T16.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.
13. When the work/application vehicle V3 occupies the median lane, sign vehicle V1 should drive in the median shoulder and indicate left lane closed ahead.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15
DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T15

2010 REVISED STANDARD PLAN RSP T15

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	5	10.4/R15.8	14	14

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

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

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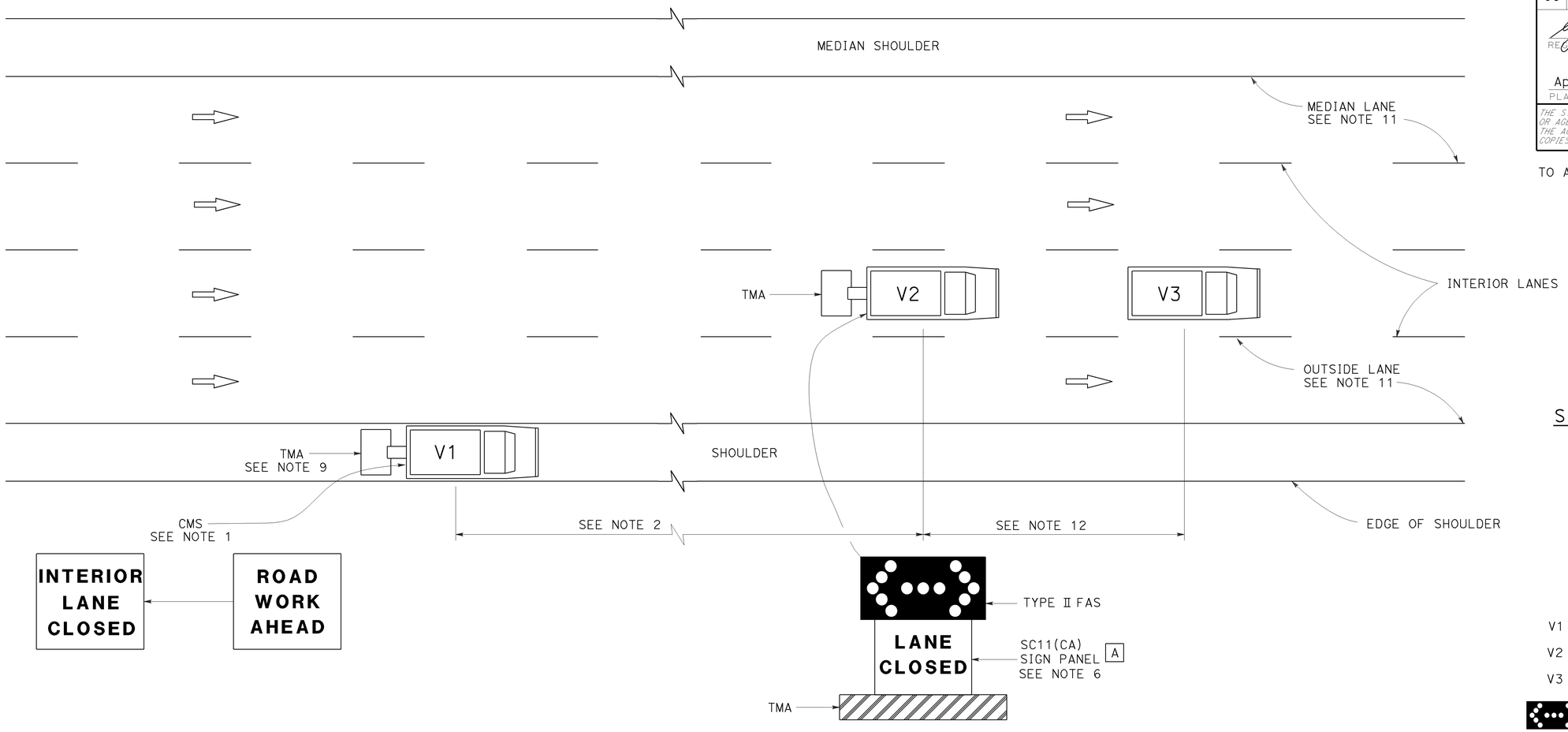
TO ACCOMPANY PLANS DATED 6-10-13



MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

V1	SIGN VEHICLE
V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
	FLASHING ARROW SIGN (FAS) IN FLASHING DOUBLE ARROW MODE
CMS	CHANGEABLE MESSAGE SIGN
TMA	TRUCK-MOUNTED ATTENUATOR

NOTES:

1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500′ should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500′.
5. 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.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. 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.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. 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.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11 etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on median lane or outside lane of multilane highways, use Revised Standard Plan T15.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

RSP T16 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T16
DATED MAY 20, 2011 - PAGE 244 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T16

2010 REVISED STANDARD PLAN RSP T16

12-18-12