Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	1	34

ACNHP-P014(074)E

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN LOS ANGELES COUNTY
IN AND NEAR SANTA CLARITA
FROM S14-S5 CONNECTOR OVERHEAD
TO SANTA CLARA RIVER

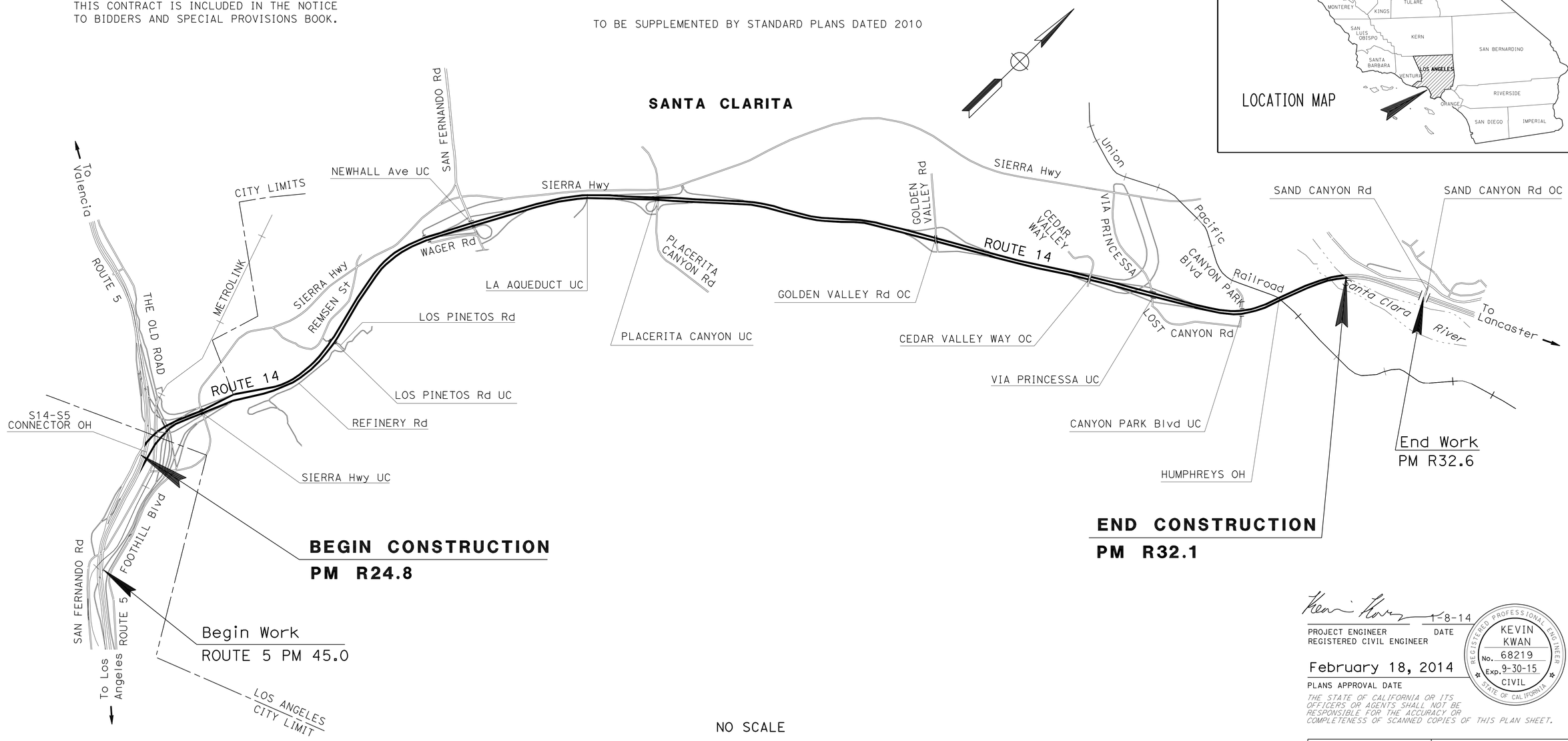
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3	PROJECT CONTROL AND MONUMENTATION
4-5	CONSTRUCTION DETAILS
6	CONSTRUCTION AREA SIGNS
7-13	TRAFFIC HANDLING DETAILS
14	PAVEMENT DELINEATION DETAILS
15-16	PAVEMENT DELINEATION QUANTITIES
17	SUMMARY OF QUANTITIES
18-20	ELECTRICAL PLANS
21-34	REVISED STANDARD PLANS

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

LOCATION MAP



NO SCALE

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

PROJECT MANAGER: GARY KEVORKIAN
DESIGN ENGINEER: HAMID SAADATNEJADI

PROJECT ENGINEER REGISTERED CIVIL ENGINEER — DATE 1-8-14

February 18, 2014
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — KEVIN KWAN — No. 68219 — Exp. 9-30-15 — 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.

CONTRACT No.	07-4Y9204
PROJECT ID	0700020906

LAST REVISION 02-18-14 — DATE PLOTTED => 11-MAR-2014 TIME PLOTTED => 13:35

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	2	34

REGISTERED CIVIL ENGINEER 1-8-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KEVIN KWAN No. 68219 Exp. 9/30/15 CIVIL STATE OF CALIFORNIA

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

NOTE:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURE SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.

LEGEND:

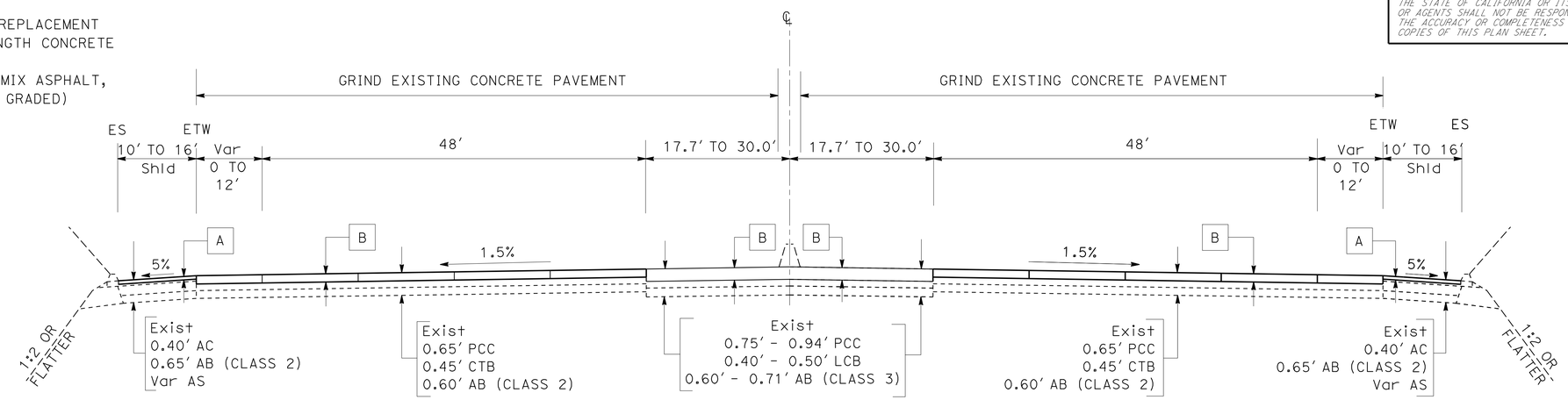
A — 0.10′ COLD PLANE AND 0.10′ RHMA-SP-G

B — 0.65′ - 0.94′ ISR (RSC)

ABBREVIATION:

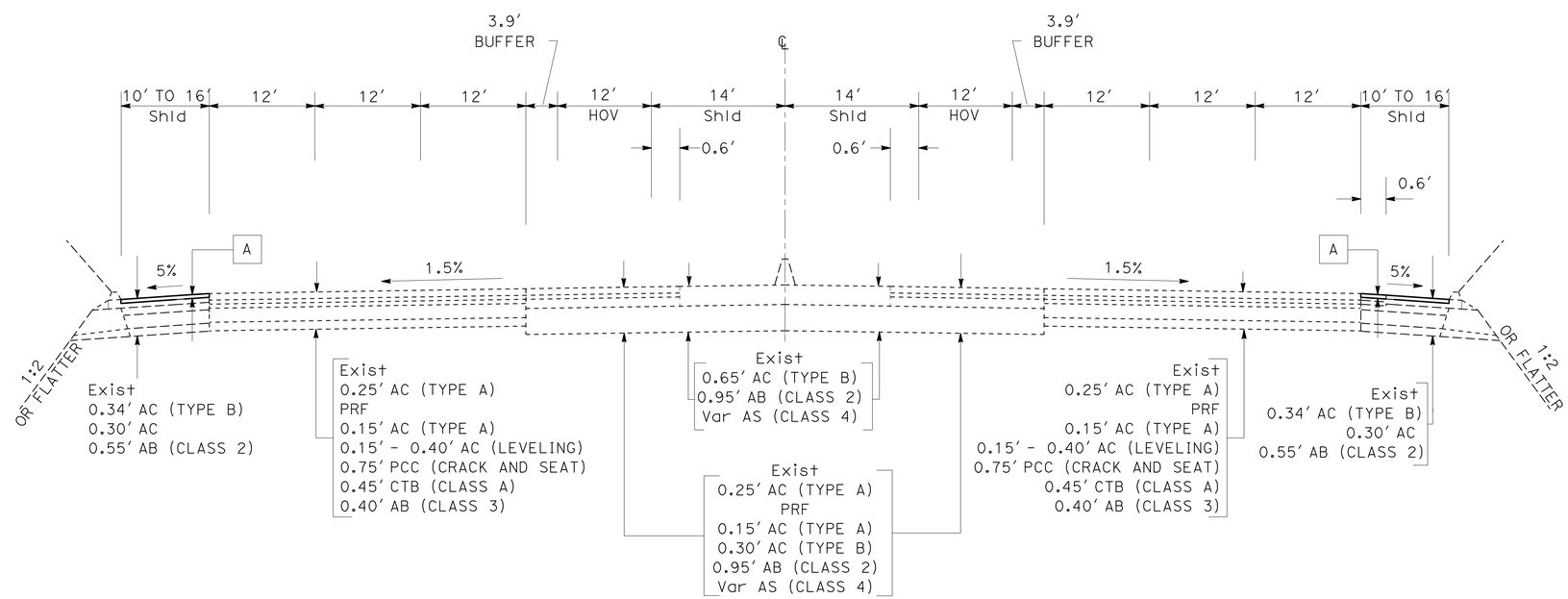
ISR (RSC): INDIVIDUAL SLAB REPLACEMENT WITH RAPID STRENGTH CONCRETE

RHMA-SP-G: RUBBERIZED HOT MIX ASPHALT, SUPPERPAVE (GAP GRADED)



ROUTE 14

PM R24.8 to PM R29.7
PM R30.9 to PM R32.1



ROUTE 14

PM R29.7 to PM R30.9

TYPICAL CROSS-SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

CALCULATED-DESIGNED BY: HOALU NGUYEN
CHECKED BY: KEVIN KWAN

REVISED BY | DATE REVISED

LAST REVISION 02-18-14 | DATE PLOTTED => 11-MAR-2014 | TIME PLOTTED => 13:35

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	3	34

REGISTERED CIVIL ENGINEER 1-8-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KEVIN KWAN No. 68219 Exp. 9-30-15 CIVIL STATE OF CALIFORNIA

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

NOTE:

FOR COMPLETE PROJECT CONTROL AND MONUMENTATION DATA, SEE THE SURVEY RECORDS ON FILE IN THE SURVEYS DEPARTMENT AT THE DISTRICT OFFICE.

ABBREVIATIONS:

CT - CALTRANS TAG

(N) - FOR INFORMATION ONLY

R/O - RIGHT OF

SURVEY MONUMENTATION (N)

LATITUDE	LONGITUDE	DESCRIPTION	POST MILE	LOCATION
34° 20′ 24.0″ N	118° 30′ 22.6″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 7, PER CT FIELD BOOK SR 92-037	25.23	83′ R/O CENTERLINE Rte 14
34° 20′ 32.4″ N	118° 30′ 19.0″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 9, PER CT FIELD BOOK SR 92-037	25.41	95′ R/O CENTERLINE Rte 14
34° 20′ 41.5″ N	118° 30′ 15.4″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 11, PER CT FIELD BOOK SR 92-037	25.60	83′ R/O CENTERLINE Rte 14
34° 20′ 48.5″ N	118° 30′ 13.4″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 13, PER CT FIELD BOOK SR 92-037	25.74	83′ R/O CENTERLINE Rte 14
34° 20′ 55.7″ N	118° 30′ 13.2″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 15, PER CT FIELD BOOK SR 92-037	25.89	83′ R/O CENTERLINE Rte 14
34° 21′ 11.6″ N	118° 30′ 17.8″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 19, PER CT FIELD BOOK SR 92-037	26.22	82.9′ R/O CENTERLINE Rte 14
34° 21′ 20.9″ N	118° 30′ 21.0″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 21, PER CT FIELD BOOK SR 92-037	26.42	83′ R/O CENTERLINE Rte 14
34° 21′ 24.2″ N	118° 30′ 21.9″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 23, PER CT FIELD BOOK SR 92-037	26.49	83′ R/O CENTERLINE Rte 14
34° 21′ 27.7″ N	118° 30′ 22.3″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 25, PER CT FIELD BOOK SR 92-037	26.56	83′ R/O CENTERLINE Rte 14
34° 21′ 34.5″ N	118° 30′ 21.7″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 27, PER CT FIELD BOOK SR 92-037	26.69	83′ R/O CENTERLINE Rte 14
34° 21′ 37.8″ N	118° 30′ 20.6″ W	DIVISION OF Hwy BRASS CAP, FLUSH, POINT 29, PER CT FIELD BOOK SR 92-037	26.76	83′ R/O CENTERLINE Rte 14
34° 22′ 1.9″ N	118° 30′ 7.6″ W	BRASS CAP MONUMENT, DOWN 0.1′, POINT 6	27.20	72′ R/O CENTERLINE Rte 14
34° 22′ 20.8″ N	118° 29′ 56.3″ W	BRASS CAP MONUMENT, DOWN 0.1′, POINT 10	27.63	72′ R/O CENTERLINE Rte 14
34° 22′ 25.9″ N	118° 29′ 51.4″ W	BRASS CAP MONUMENT, DOWN 0.1′, POINT 12	27.76	72′ R/O CENTERLINE Rte 14
34° 22′ 57.9″ N	118° 29′ 14.7″ W	BRASS CAP MONUMENT, DOWN 0.1′, POINT 16	28.55	72′ R/O CENTERLINE Rte 14
34° 23′ 2.2″ N	118° 29′ 8.3″ W	BRASS CAP MONUMENT, DOWN 0.1′, POINT 18	28.69	72′ R/O CENTERLINE Rte 14
34° 23′ 11.3″ N	118° 28′ 52.8″ W	BRASS CAP MONUMENT, UNDER 2″ AC OVERLAY, POINT 22	29.01	72′ R/O CENTERLINE Rte 14
34° 23′ 19.6″ N	118° 28′ 42.7″ W	BRASS CAP MONUMENT, UNDER 2″ AC OVERLAY, POINT 24	29.25	72′ R/O CENTERLINE Rte 14
34° 23′ 23.2″ N	118° 28′ 37.5″ W	BRASS CAP MONUMENT, UNDER 2″ AC OVERLAY, POINT 26	29.36	72′ R/O CENTERLINE Rte 14
34° 23′ 27.9″ N	118° 28′ 29.0″ W	BRASS CAP MONUMENT, UNDER 2″ AC OVERLAY, POINT 28	29.53	72′ R/O CENTERLINE Rte 14
34° 23′ 32.3″ N	118° 28′ 21.0″ W	BRASS CAP MONUMENT, UNDER 2″ AC OVERLAY, POINT 31	29.69	72′ R/O CENTERLINE Rte 14
34° 23′ 48.2″ N	118° 27′ 51.8″ W	BRASS CAP MONUMENT, UNDER 2″ AC OVERLAY, POINT 33	30.08	84′ R/O CENTERLINE Rte 14
34° 23′ 51.3″ N	118° 27′ 46.7″ W	SPIKE AND WASHER IN LIEU OF BRASS CAP MONUMENT, UNDER 2″ AC OVERLAY, POINT 35	30.19	84′ R/O CENTERLINE Rte 14
34° 23′ 57.2″ N	118° 27′ 37.9″ W	SPIKE AND WASHER IN LIEU OF BRASS CAP MONUMENT, UNDER 2″ AC OVERLAY, POINT 39	30.38	72′ R/O CENTERLINE Rte 14
34° 24′ 6.7″ N	118° 27′ 20.7″ W	SPIKE AND WASHER IN LIEU OF BRASS CAP MONUMENT, UNDER 2″ AC OVERLAY, POINT 41	30.72	72′ R/O CENTERLINE Rte 14
34° 24′ 18.2″ N	118° 26′ 59.7″ W	SPIKE AND WASHER IN LIEU OF BRASS CAP MONUMENT, UNDER 2″ AC OVERLAY, POINT 43	31.14	80′ R/O CENTERLINE Rte 14
34° 24′ 32.5″ N	118° 26′ 47.1″ W	BRASS CAP MONUMENT, DOWN 0.1′, POINT 45	31.50	84′ R/O CENTERLINE Rte 14
34° 24′ 44.1″ N	118° 26′ 43.3″ W	BRASS CAP MONUMENT, DOWN 0.1′, POINT 47	31.74	72′ R/O CENTERLINE Rte 14

PROJECT CONTROL AND MONUMENTATION

PC-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

CALCULATED-DESIGNED BY: HOALU NGUYEN
CHECKED BY: KEVIN KWAN

REVISED BY
DATE REVISED

LAST REVISION 02-18-14
DATE PLOTTED => 11-MAR-2014
TIME PLOTTED => 13:36

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	4	34

REGISTERED CIVIL ENGINEER 1-8-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KEVIN KWAN No. 68219 Exp. 9-30-15 CIVIL STATE OF CALIFORNIA

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

NOTE:

1. EXISTING UTILITIES HAVE NOT BEEN PLOTTED.

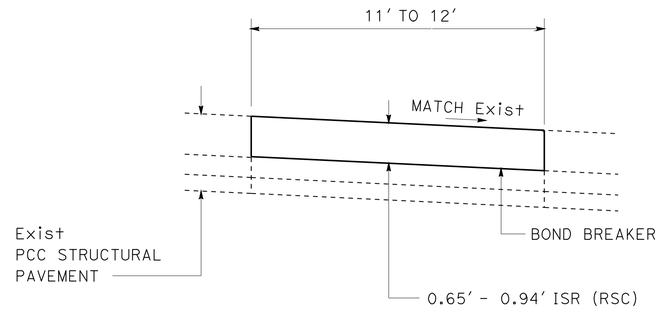
ABBVEVIATIONS:

IRS (RSC): INDIVIDUAL SLAB REPLACEMENT WITH RAPID STRENGTH CONCRETE

RHMA-SP-G: RUBBERIZED HOT MIX ASPHALT, SUPERPAVE (GAP GRADED)

HMA-SP (TYPE A): HOT MIX ASPHALT, SUPERPAVE (TYPE A)

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



ISR (RSC) DETAIL

ISR (RSC) LOCATIONS (N)

LOCATION		No. OF SLABS NB				No. OF SLABS SB			
PM	FACILITIES	HOV LANE	LANE No.1	LANE No.2	LANE No.3	HOV LANE	LANE No.1	LANE No.2	LANE No.3
R24.79/R25.13	14/5 CONNECTOR TO SIERRA Hwy UC			2	10			2	5
R25.13/R25.97	SIERRA Hwy UC TO LOS PINETOS Rd UC			3	5			1	13
R25.97/R27.03	LOS PINETOS Rd UC TO NEWHALL UC				2				2
R27.03/R27.53	NEWHALL UC TO LA AQUEDUCT UC				5				5
R27.53/R28.08	LA AQUEDUCT UC TO PLACERITA CANYON Rd UC	10		1	5	20			13
R28.08/R29.68	PLACERTIA CANYON Rd UC TO GOLDEN VALLEY Rd OC	10			5				30
R29.68/R30.55	GOLDEN VALLEY Rd OC TO CEDAR VALLEY WAY OC								
R30.55/R30.89	CEDAR VALLEY WAY OC TO VIA PRINCESSA UC								
R30.89/R31.38	VIA PRINCESSA UC TO TRUCK SCALES				5	5	2	3	5
R31.38/R31.40	TRUCK SCALES TO CANYON PARK Blvd UC				2				
R31.40/R31.63	CANYON PARK Blvd UC TO HUMPREYS OH				3		4	4	2
R31.63/R32.14	HUMPHREYS OH TO SANTA CLARITA RIVER	20			1	10	23	4	3
SUBTOTAL		40		6	43	35	29	14	78
TOTAL		40	49			35	121		

CONSTRUCTION DETAILS

NO SCALE

C-1

REVISED BY | DATE REVISED
HOALU NGUYEN | KEVIN KWAN
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
HAMID SAADATNEJADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 02-18-14 | DATE PLOTTED => 11-MAR-2014 | TIME PLOTTED => 13:36

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	5	34

REGISTERED CIVIL ENGINEER 1-8-14 DATE

2-18-14
PLANS APPROVAL DATE

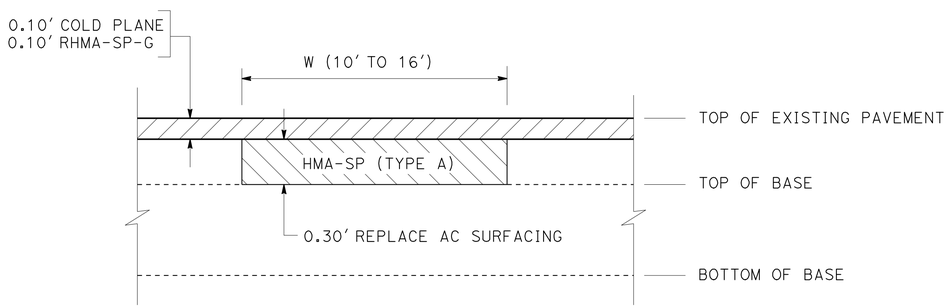
REGISTERED PROFESSIONAL ENGINEER KEVIN KWAN No. 68219 Exp. 9-30-15 CIVIL STATE OF CALIFORNIA

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.

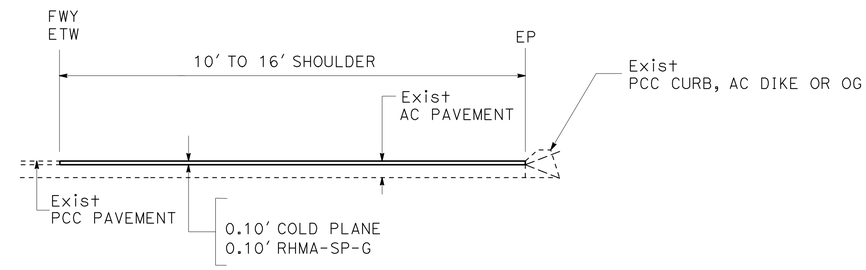
LEGEND:

COLD PLANE 0.10' EXIST AC PAVEMENT
0.10' RHMA-SP-G

REPLACE AC SURFACING



REPLACE AC SURFACING DETAIL



TYPICAL COLD PLANE AND OVERLAY RHMA-SP-G ON SHOULDER

REPLACE AC SURFACING LOCATIONS (N)

LOCATION		NB		SB	
PM	FACILITIES	LENGTH LF	WIDTH LF	LENGTH LF	WIDTH LF
R25.13/R25.97	SIERRA Hwy UC TO LOS PINETOS Rd UC			600	16
R25.97/R27.03	LOS PINETOS Rd UC TO NEWHALL UC	1,000	10	500	13
R27.03/R27.53	NEWHALL UC TO LA AQUEDUCT UC	1,500	10		
R27.53/R28.08	LA AQUEDUCT UC TO PLACERITA CANYON Rd UC	3,000	12	600	10

CONSTRUCTION DETAILS

NO SCALE

C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: HOALU NGUYEN
CHECKED BY: KEVIN KWAN
REVISED BY
DATE REVISED

LAST REVISION 02-18-14
DATE PLOTTED => 11-MAR-2014
TIME PLOTTED => 13:36

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	6	34

REGISTERED CIVIL ENGINEER 1-8-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KEVIN KWAN No. 68219 Exp. 9-30-15 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.

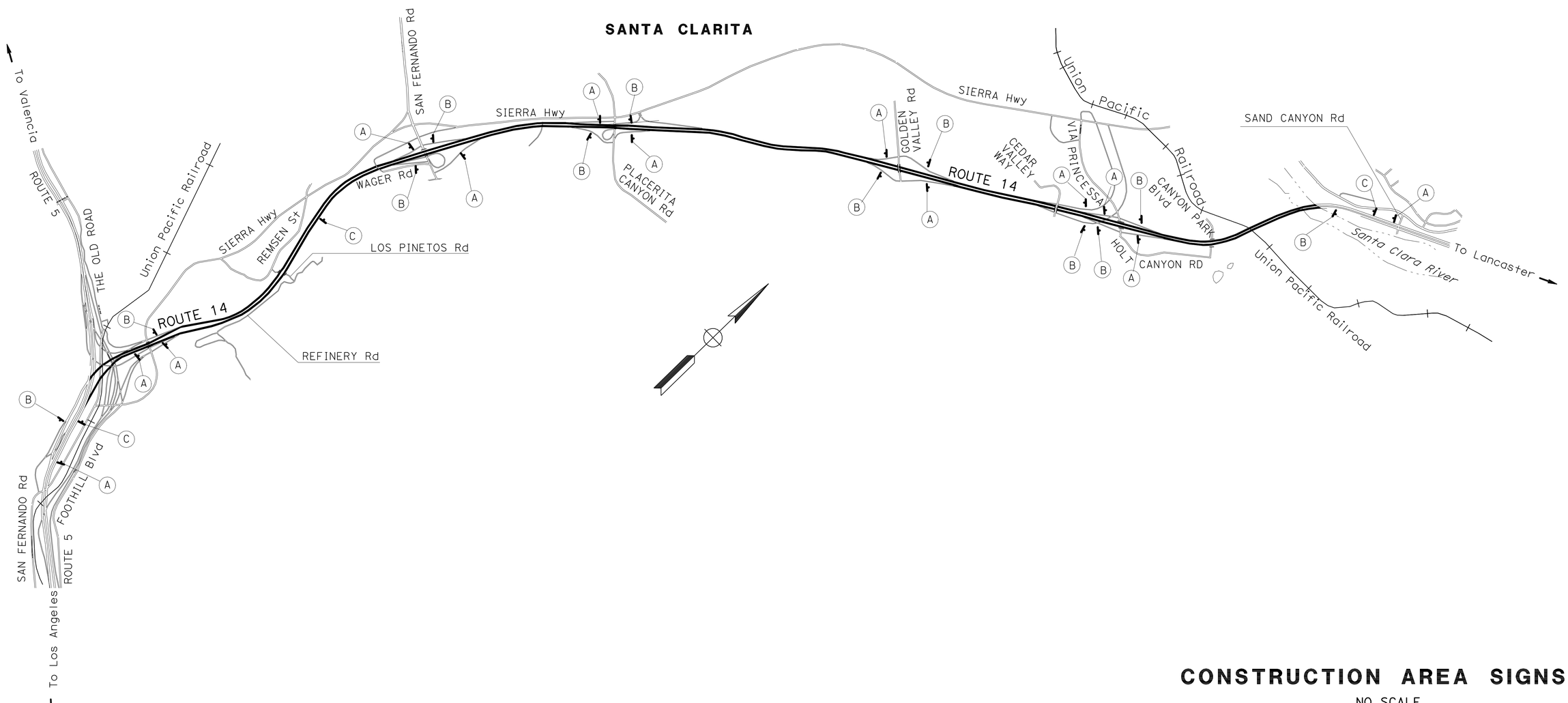
NOTES:

1. LOCATIONS OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

2. C40 SIGNS MUST BE PLACED APPROXIMATELY 500' IN ADVANCE OF W20-1 SIGNS OR AS DIRECTED BY THE ENGINEER.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

	SIGN CODE	PANEL SIZE (INCHES)	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS (EA)
A	W20-1	48 X 48	ROAD WORK AHEAD	1 - 6" X 6"	13
B	G20-2	48 X 24	END ROAD WORK	1 - 4" X 6"	12
C	C40(CA)	102 X 40	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 6" X 6"	3



CONSTRUCTION AREA SIGNS

NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: HOALU NGUYEN
CHECKED BY: KEVIN KWAN
REVISED BY
DATE REVISED

LAST REVISION 02-18-14
DATE PLOTTED => 11-MAR-2014
TIME PLOTTED => 13:36

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	7	35

REGISTERED CIVIL ENGINEER 2-9-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MARTIN OREGEL No. C56816 Exp. 6-30-15 CIVIL STATE OF CALIFORNIA

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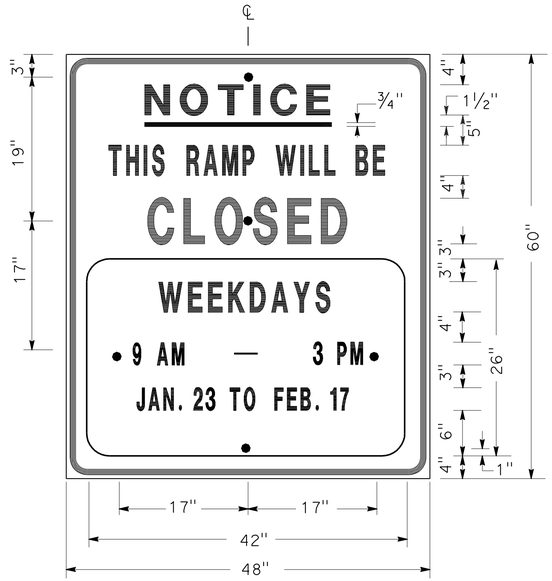
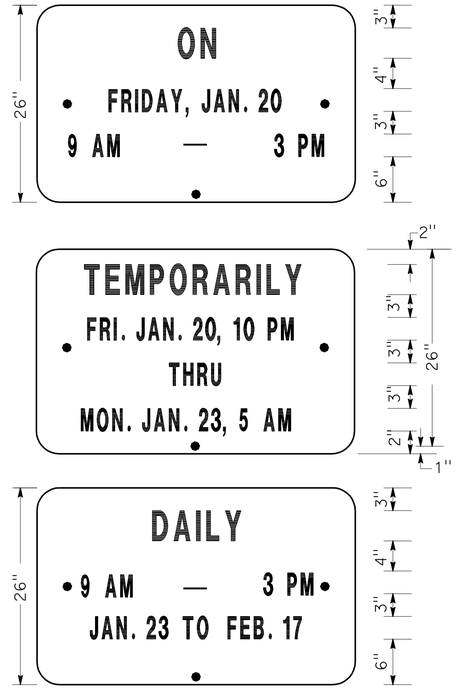


SIGN SP-1



ALTERNATE OVERLAY PANELS (TYPICAL)

SPECIAL ADVANCE NOTICE PUBLICITY SIGN

NOTES: (SIGN SP-1)

1. LETTERS AND BORDER SHALL BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
2. BOLT HOLES SHALL BE 3/8" DIAMETER.
3. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
4. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND.

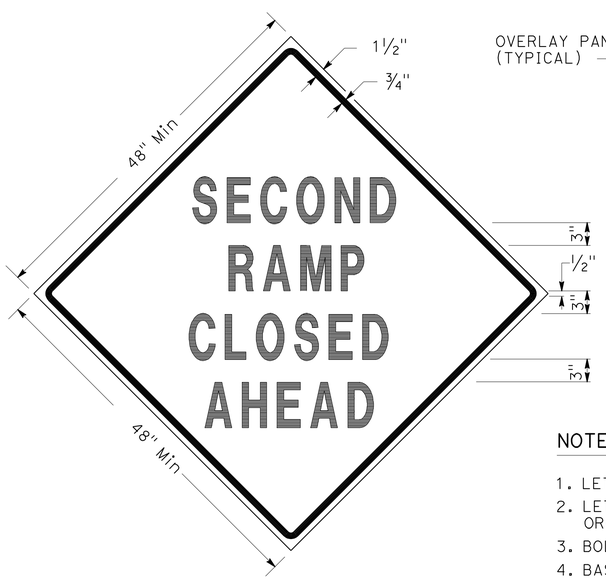
SIZE	BORDER WIDTH	MARGIN WIDTH	LETTER SIZE					CORNER RADIUS
			LINE 1	LINE 2*	LINE 3	LINE 4	LINE 5, 6, & 7*	
48"x60"	1 1/4"	3/4"	4E	4D	6E	4D		3"
42"x26"	OVERLAY						3D	1 1/2"
* CONDENSED SPACING IF NECESSARY								

SIGN SP-4

NOTES: (SIGN SP-4)

1. LETTERS - 6" SERIES C.
2. LETTERS AND BORDER SHALL BE BLACK ON REFLECTORIZED WHITE BACKGROUND.
3. BOLT HOLES SHALL BE 3/8" DIAMETER.
4. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
5. SIGNS SHALL BE PLACED AT RAMP ENTRANCES IN ADDITION TO SIGNS POSTED IN ACCORDANCE WITH REVISED STANDARD PLAN RSP T14.

SPECIAL SIGN FOR ENTRANCE RAMP CLOSURES



SIGN SP-3

SIGN SP-5

NOTES: (SIGNS SP-3 & SP-5)

1. LETTERS - 6" SERIES D.
2. LETTERS AND BORDER SHALL BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
3. BOLT HOLES SHALL BE 3/8" DIAMETER.
4. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
5. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND.
6. SIGN SP-5 SHALL BE USED IF THE OFF-RAMP TO BE CLOSED FOLLOWS A FREEWAY OFF-CONNECTOR.

SPECIAL SIGNS FOR EXIT RAMP CLOSURES

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS
SHEET 1 OF 2

NO SCALE

THD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: JOHN YANG
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: MARTIN OREGEL
REVISED BY: JC
DATE REVISED: 3/12

LAST REVISION 02-18-14 | DATE PLOTTED => 11-MAR-2014 | TIME PLOTTED => 13:36

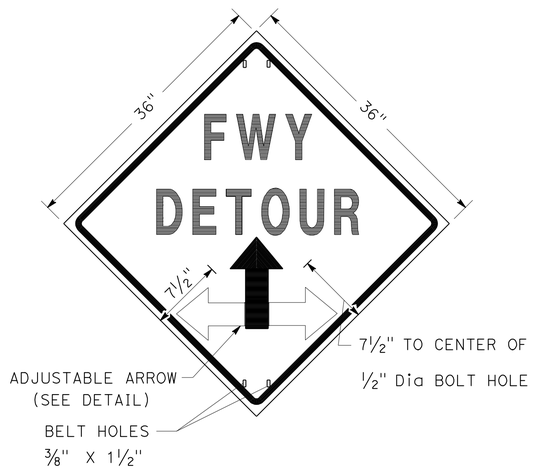
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	8	35

REGISTERED CIVIL ENGINEER 2-9-14 DATE

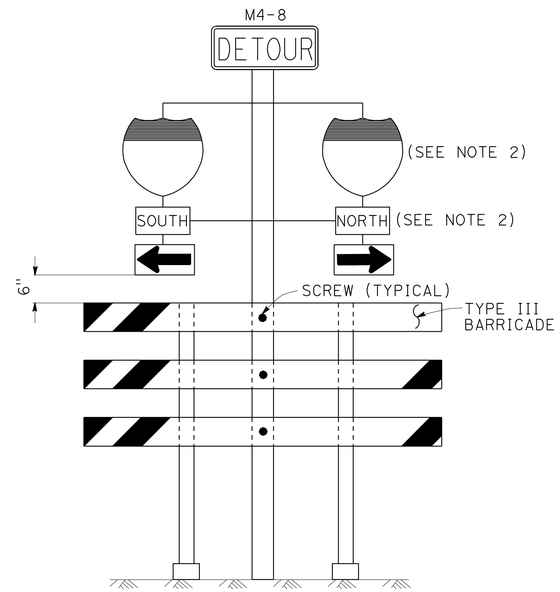
2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MARTIN OREGEL No. C56816 Exp. 6-30-15 CIVIL STATE OF CALIFORNIA

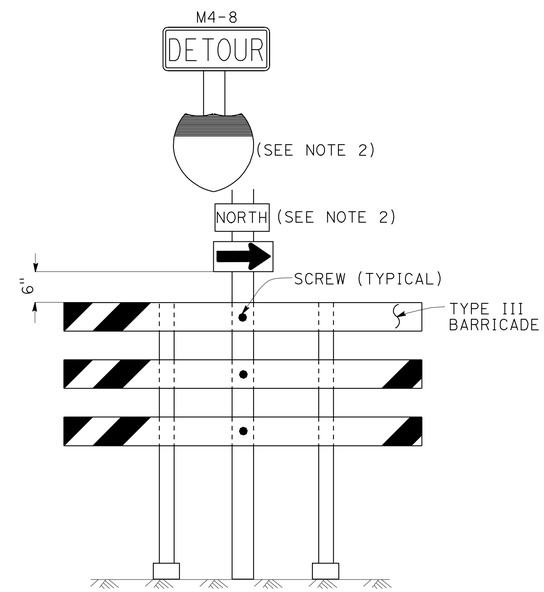
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



SIGN SP-2



SIGN SP-6 (SEE NOTE 1)



SIGN SP-7 (SEE NOTE 1)

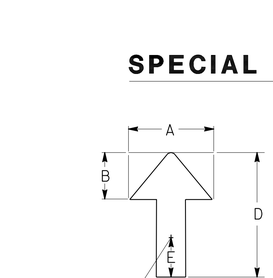
NOTES: SIGN SP-2

1. LETTERS - 6" SERIES E.
2. LETTERS, BORDER AND ARROW - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
3. BASE MATERIAL FOR SIGNS AND ARROWS SHALL BE ALUMINUM (MINIMUM 0.06").
4. BELTS (LUGGAGE STRAPS) SHALL BE 1" WIDE BY 48" LONG, MADE OF COTTON OR POLYPROPYLENE WEB MATERIAL.
5. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND EXCEPT AS OTHERWISE SHOWN ON OTHER TRAFFIC HANDLING DETAILS PLANS.

NOTES: SIGNS SP-6 & SP-7

1. IN LIEU OF PLACING SIGNS ON TYPE III BARRICADES, SIGNS, INCLUDING POSTS, MAY BE PLACED INTO THE GROUND OR FASTENED ONTO ELECTROLIERS.
2. USE APPROPRIATE ROUTE MARKER [G26-2(CA), G27-2(CA), G28-2(CA)] AND CARDINAL DIRECTION [NORTH (M3-1), SOUTH (M3-3), EAST (M3-2), WEST (M3-4)].

SPECIAL PORTABLE FREEWAY DETOUR SIGNS



DIMENSIONS				
A	B	C	D	E
6"	3"	2"	8"	1"

ADJUSTABLE ARROW DETAIL

ABBREVIATION

(CA) CALIFORNIA CODE

TRAFFIC HANDLING DETAILS

TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS

SHEET 2 OF 2

NO SCALE

THD-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: JOHN YANG
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: MARTIN OREGEL
REVISED BY: JC
DATE REVISED: 3/12

LAST REVISION 02-18-14 | DATE PLOTTED => 11-MAR-2014 | TIME PLOTTED => 13:36

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	9	35

REGISTERED CIVIL ENGINEER 2-9-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MARTIN OREGEL No. C56816 Exp. 6-30-15 CIVIL STATE OF CALIFORNIA

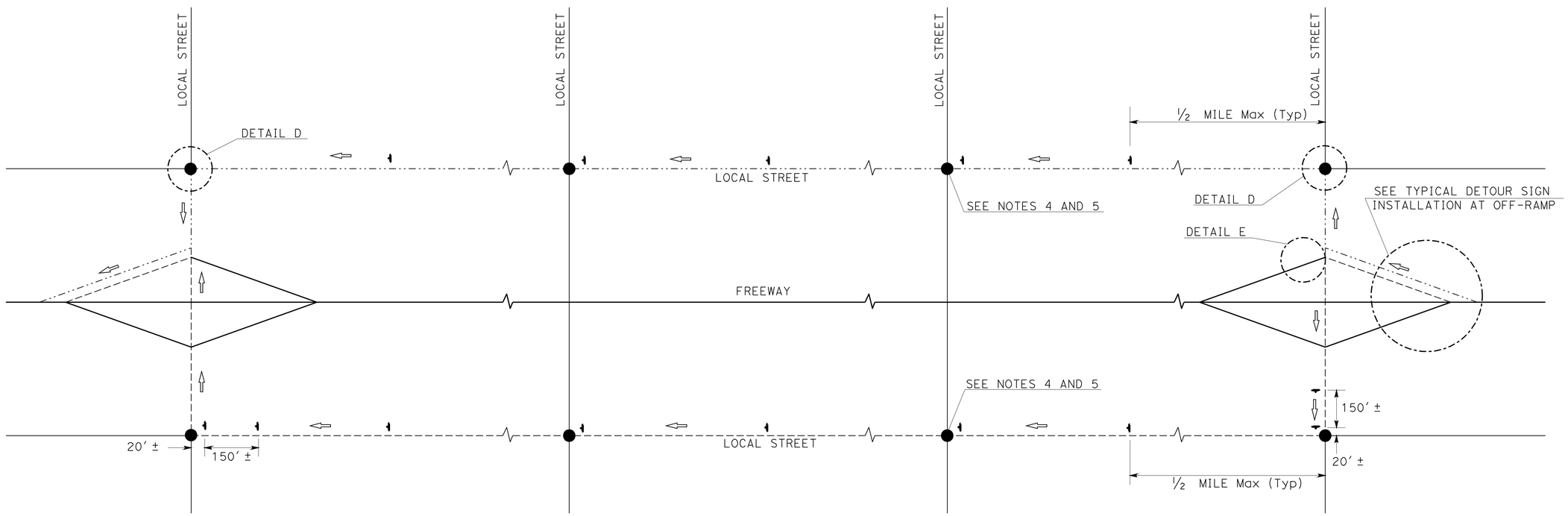
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND

- SIGN SP-2
- AND/OR — DESIGNATED DETOUR ROUTE
- DETOUR DIRECTION
- CONTROLLED INTERSECTION

NOTES:

1. SP-2 SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
2. SP-2 SIGNS SHALL NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
3. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
4. SP-2 SIGNS SHALL BE POSTED AT EACH CONTROLLED INTERSECTION (EXCEPT AT COMMERCIAL PROPERTY, RESIDENTIAL COMPLEX OR T-INTERSECTION FROM ONE-WAY STREET) ALONG THE DESIGNATED DETOUR ROUTE.
5. UNLESS OTHERWISE SHOWN ON OTHER THD PLANS, WHEN CONTROLLED INTERSECTIONS ALONG THE DESIGNATED DETOUR ROUTE ARE CLOSELY SPACED, PLACE SP-2 SIGNS AT CONTROLLED INTERSECTIONS AT A DISTANCE NOT TO EXCEED 1/4 MILE FROM THE PRECEDING DETOUR SIGN.
6. EXCEPT AS OTHERWISE SHOWN ON OTHER PLANS OR SPECIFIED IN THE SPECIAL PROVISIONS, SP-2 SIGNS SHALL BE PLACED AS SHOWN ON THIS PLAN.



TYPICAL DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

TRAFFIC HANDLING DETAILS

TRAFFIC CONTROL SYSTEM FOR DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

SHEET 1 OF 3

NO SCALE

THD-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: JOHN YANG
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: MARTIN OREGEL
REVISED BY: JC
DATE REVISED: 3/12

LAST REVISION 02-18-14
DATE PLOTTED => 11-MAR-2014
TIME PLOTTED => 13:36

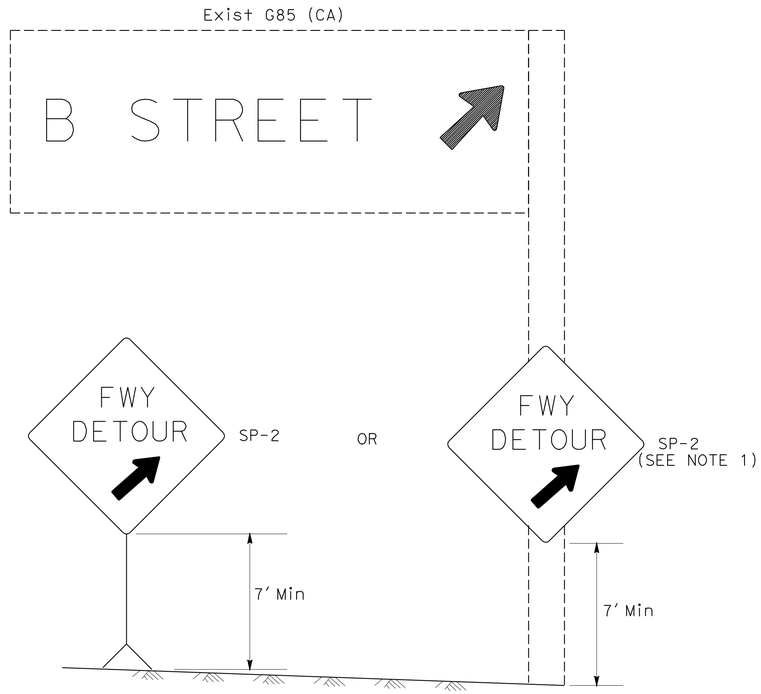
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	10	35

REGISTERED CIVIL ENGINEER 2-9-14 DATE

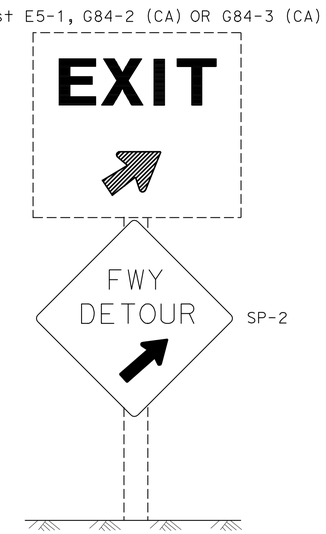
2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MARTIN OREGEL No. C56816 Exp. 6-30-15 CIVIL STATE OF CALIFORNIA

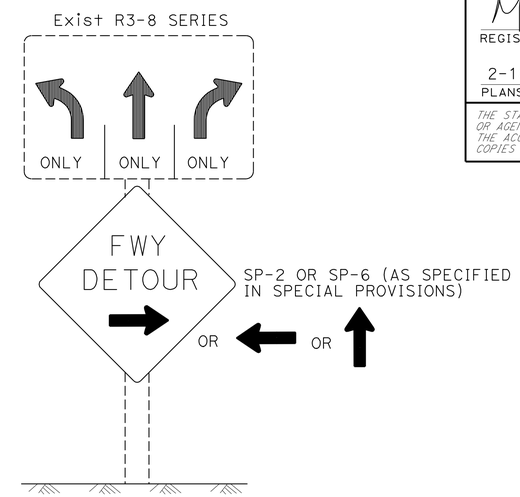
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



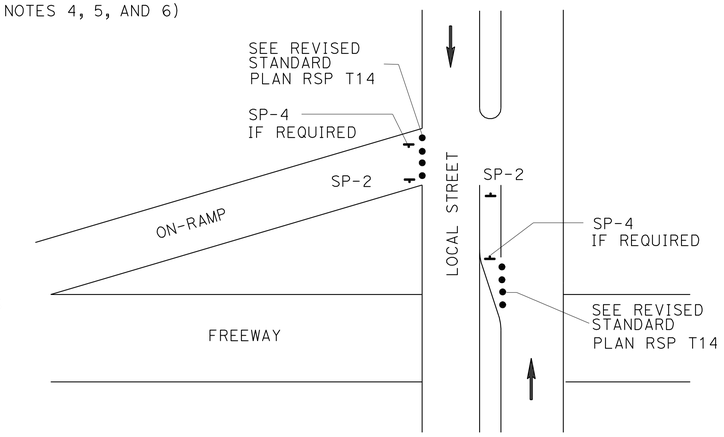
DETAIL A (SEE NOTE 3)



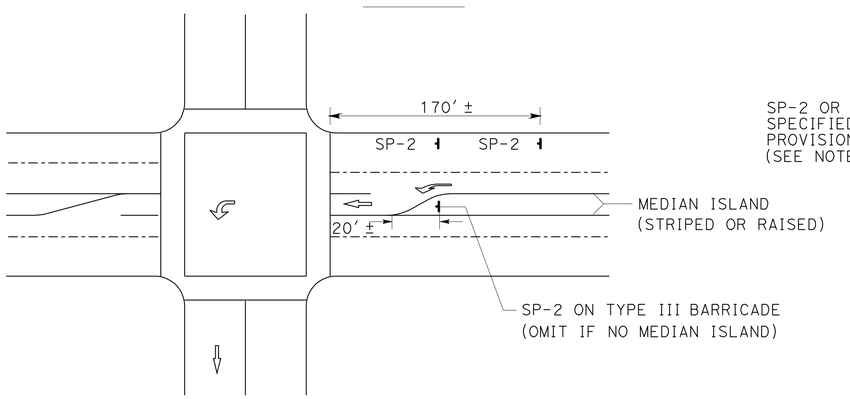
DETAIL B (SEE NOTE 3)



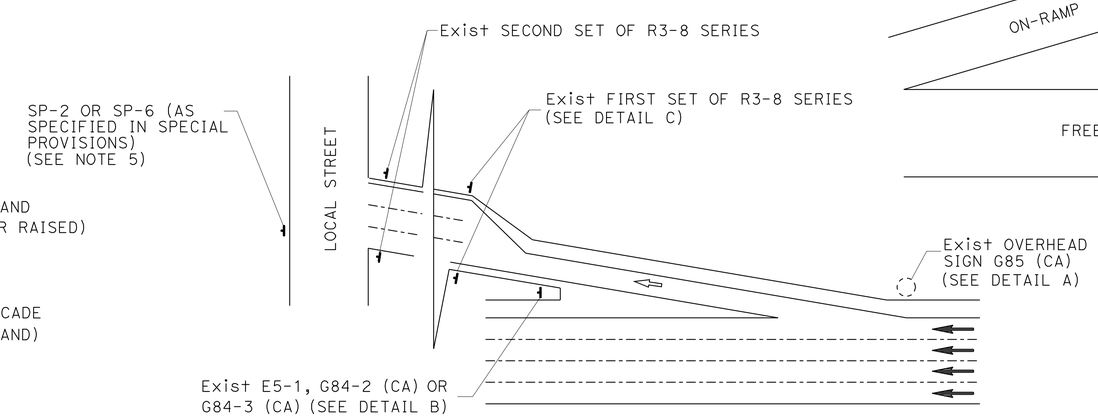
DETAIL C (SEE NOTES 4, 5, AND 6)



DETAIL E



DETAIL D



TYPICAL DETOUR SIGN INSTALLATION AT OFF-RAMP

LEGEND

- CONE
- PORTABLE SIGN
- DIRECTION OF TRAVEL
- DETOUR DIRECTION
- EXISTING OVERHEAD SIGN

NOTES: SIGN SP-2

1. SP-2 SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
2. SP-2 SIGNS SHALL NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
3. OMIT DETAILS A AND B FOR FULL FREEWAY CLOSURES.
4. SEE TRAFFIC HANDLING DETAILS-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS PLAN SHEET 2 OF 2 FOR SP-6 SIGN DETAILS.
5. IF R3-8 SERIES SIGNS ARE NOT PRESENT AT THE OFF-RAMP, SP-2 OR SP-6 SIGNS SHALL BE FASTENED ONTO EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
6. EXCEPT FOR DETAILS A & B, OMIT SP-2 SIGNS IF RAMP HAS MANDATORY SINGLE MOVE.

SIGN CODE LEGEND

XXYY-Y: FEDERAL SIGN CODE PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

XXYY-Y (CA): CALIFORNIA SIGN CODE PER CALIFORNIA MUTCD

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE
SHEET 2 OF 3

NO SCALE

THD-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: JOHN YANG
REVISED BY: JC — DATE REVISED: 3/12
ALBERT K YU — MARTIN OREGEL
CALCULATED-DESIGNED BY — CHECKED BY

LAST REVISION 02-18-14 — DATE PLOTTED => 11-MAR-2014 — TIME PLOTTED => 13:36

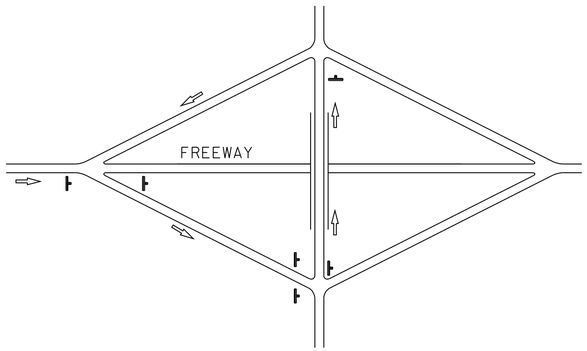
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	11	35

REGISTERED CIVIL ENGINEER 2-9-14 DATE

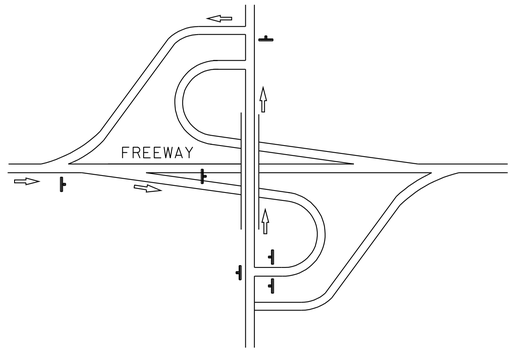
2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MARTIN OREGEL No. C56816 Exp. 6-30-15 CIVIL STATE OF CALIFORNIA

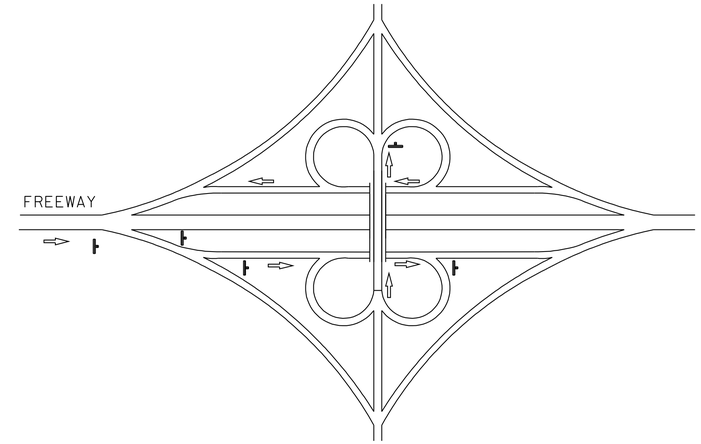
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



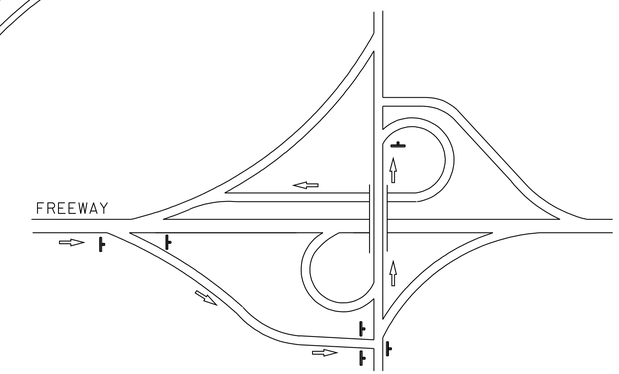
TYPE I



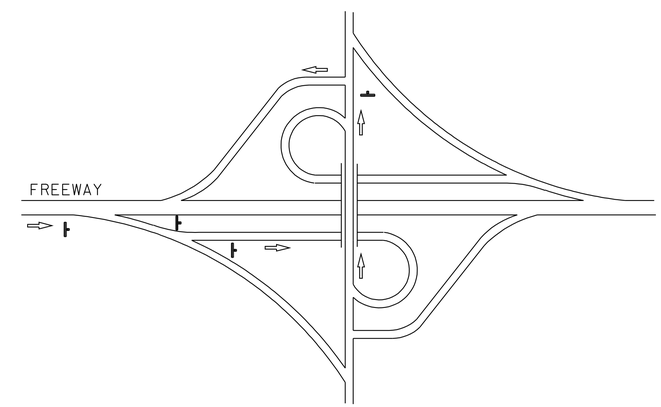
TYPE II



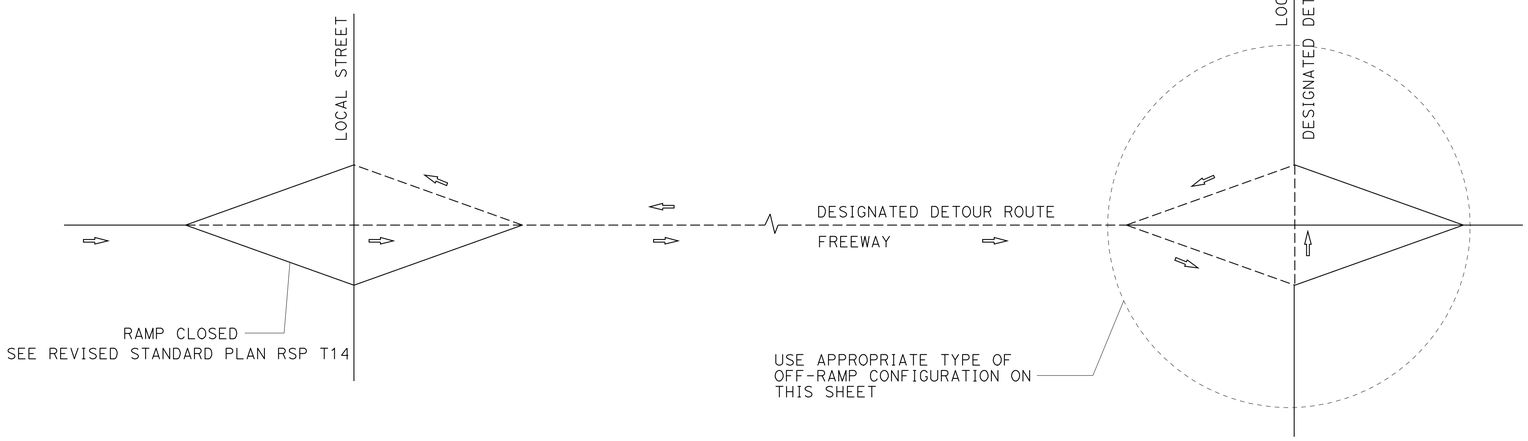
TYPE III



TYPE IV



TYPE V



TYPE OF OFF-RAMP CONFIGURATION	MINIMUM No. OF SP-2
TYPE I	6
TYPE II	6
TYPE III	5
TYPE IV	6
TYPE V	4

TYPICAL DETOUR SIGN INSTALLATION FOR OFF-RAMP CLOSURE

NOTES:

1. FOR RAMP CONFIGURATIONS NOT SHOWN, THE EXACT LOCATIONS AND MINIMUM NUMBER OF SP-2 SIGNS SHALL BE DETERMINED BY THE ENGINEER.
2. SEE TRAFFIC HANDLING DETAILS-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS PLAN SHEET 2 OF 2 FOR SP-2 SIGN DETAILS.

LEGEND

- SIGN SP-2
- DETOUR DIRECTION
- ----- DESIGNATED DETOUR ROUTE

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE
SHEET 3 OF 3

NO SCALE

THD-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: JOHN YANG
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: MARTIN OREGEL
REVISED BY: JC
DATE REVISED: 3/12

LAST REVISION 02-18-14 | DATE PLOTTED => 11-MAR-2014 | TIME PLOTTED => 13:37

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	12	35

REGISTERED CIVIL ENGINEER 2-9-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MARTIN OREGEL No. C56816 Exp. 6-30-15 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:

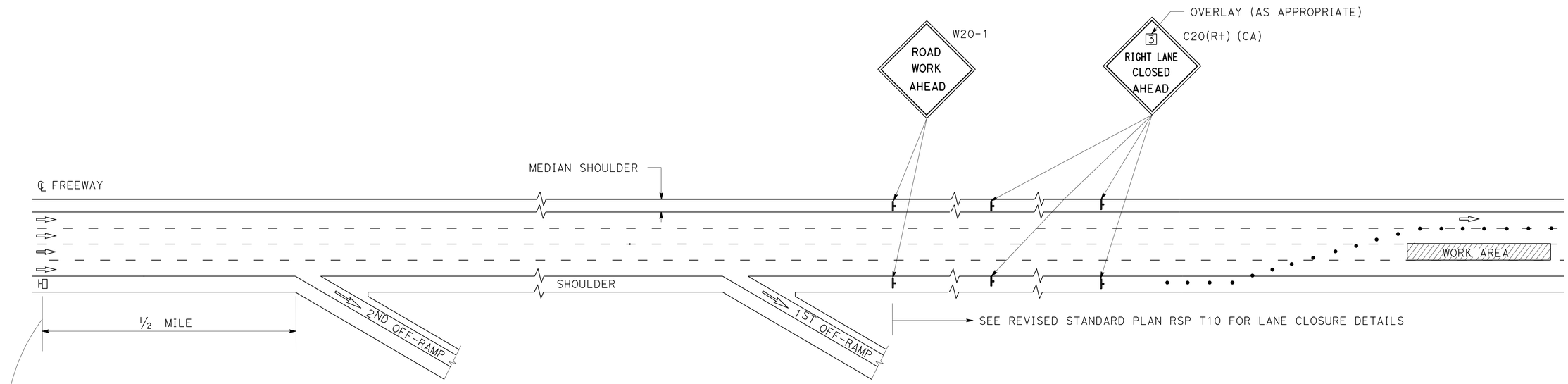
1. EXACT LOCATION OF PCMS WILL BE DETERMINED BY THE ENGINEER TO PROVIDE ADEQUATE VISIBILITY.
2. PCMS MESSAGE DISPLAYED WILL BE APPROVED BY THE ENGINEER.
3. PCMS MESSAGE SHALL BE CHANGED AT THE BEGINNING OF CURE PERIOD TO REFLECT NUMBER OF CLOSED LANES.

ABBREVIATIONS

PCMS PORTABLE CHANGEABLE MESSAGE SIGN
(CA) CALIFORNIA CODE

LEGEND

- CONE
- PORTABLE SIGN
- DIRECTION OF TRAVEL
- PCMS



FIRST FLASH	X (NO OF LANES)RIGHT/LEFT	1ST LINE (TYPICAL)
	LANES	2ND LINE (TYPICAL)
	CLOSED	3RD LINE (TYPICAL)
SECOND FLASH	A ST	LIMIT OF CLOSURE (TYPICAL)
	TO	
	B DR	LIMIT OF CLOSURE (TYPICAL)

WORDING FORMAT FOR PCMS MESSAGE

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR CONCRETE PAVEMENT AND APPROACH SLAB REPLACEMENT

NO SCALE

THD-6

REVISED BY	DATE REVISED
JC	3/12

CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
FUNCTIONAL SUPERVISOR: MARTIN OREGEL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DTM

LAST REVISION 02-18-14
DATE PLOTTED => 11-MAR-2014
TIME PLOTTED => 13:37

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	13	35

REGISTERED CIVIL ENGINEER 2-9-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MARTIN OREGEL No. C56816 Exp. 6-30-15 CIVIL STATE OF CALIFORNIA

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LEGEND

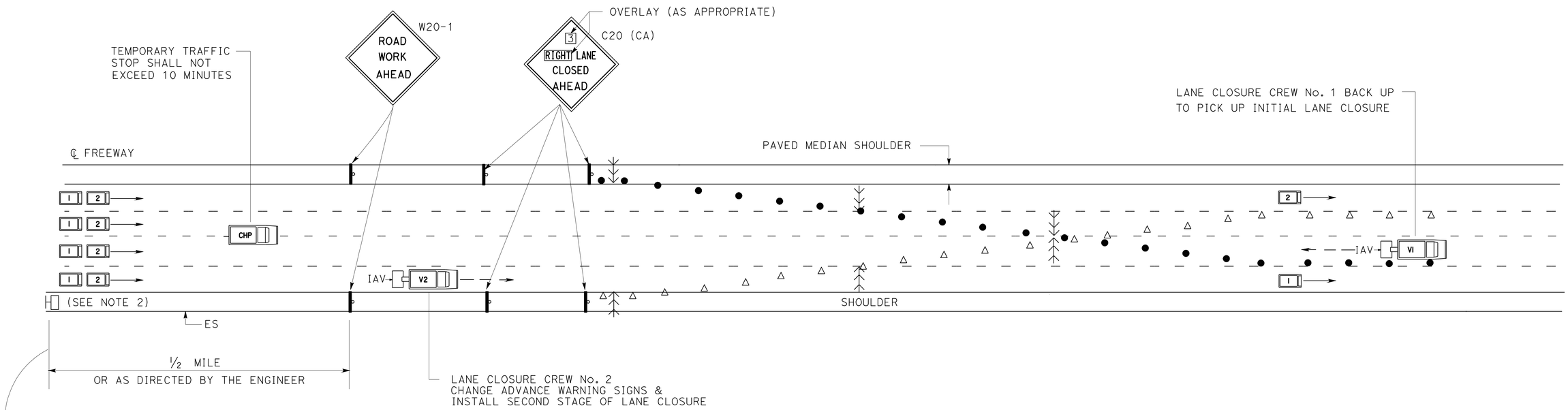
- IAV — V1 — TRAFFIC CONTROL CREW No. 1
- IAV — V2 — TRAFFIC CONTROL CREW No. 2
- CHP — CHP CAR
- ● CONES FOR INITIAL LANE CLOSURE
- △ CONES FOR SECOND STAGE LANE CLOSURE
- 1 → DIRECTION OF TRAVEL FOR INITIAL LANE CLOSURE
- 2 → DIRECTION OF TRAVEL FOR SECOND STAGE LANE CLOSURE
- FLASHING ARROW SIGN
- PORTABLE SIGN
- PCMS

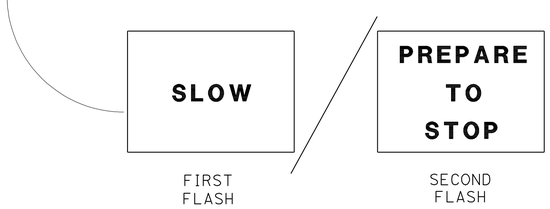
NOTES:

1. SEE STANDARD PLAN RSP T10 FOR LANE CLOSURE DETAILS NOT SHOWN.
2. ACTIVATE PCMS ONLY DURING SECOND STAGE LANE CLOSURE INSTALLATION.
3. CLOSE ALL ON-RAMPS BETWEEN CHP CAR AND THE CLOSURE.

ABBREVIATIONS

(CA) CALIFORNIA CODE
CHP CALIFORNIA HIGHWAY PATROL
PCMS PORTABLE CHANGEABLE MESSAGE SIGN





PCMS MESSAGE

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR "FLIP-FLOP" OPERATIONS

NO SCALE

THD-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DTM

FUNCTIONAL SUPERVISOR: MARTIN OREGEL
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 3/12

LAST REVISION 02-18-14 | DATE PLOTTED => 11-MAR-2014 | TIME PLOTTED => 13:37

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	14	34

REGISTERED CIVIL ENGINEER 1-8-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KEVIN KWAN No. 68219 Exp 9/30/15 CIVIL STATE OF CALIFORNIA

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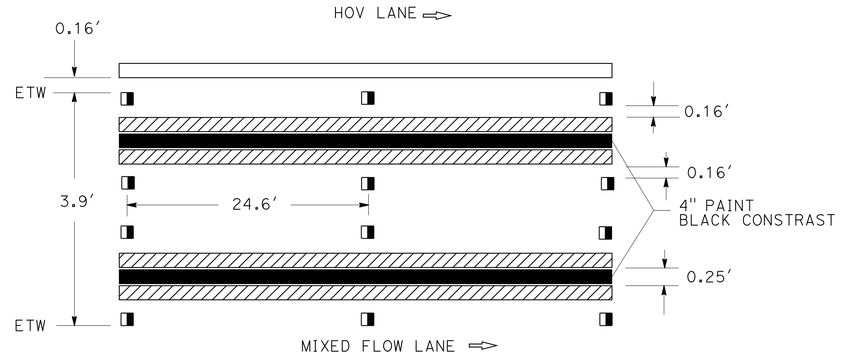
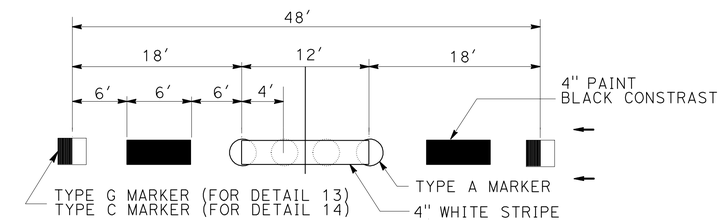
LEGEND:

- TYPE H ONE-WAY YELLOW RETROREFLECTIVE MARKER
- 4" WHITE STRIPE (THERMOPLASTIC)
- 4" YELLOW STRIPE (THERMOPLASTIC)
- 2-TYPE G ONE-WAY CLEAR RETROREFLECTIVE MARKERS



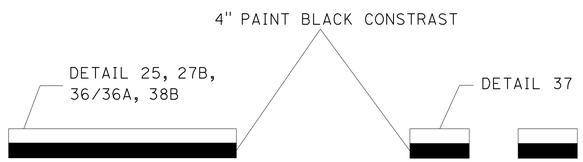
BUFFER STRIPING DETAIL (BUFFER WIDTH - 3.9')
DETAIL M-9



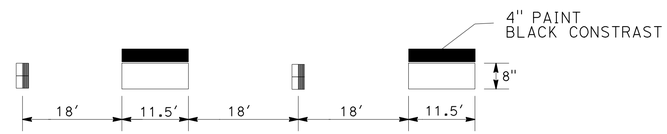
NOTES:

1. REMOVE TYPE G AND C PAVEMENT MARKERS. REPLACE WITH TYPE G AND C RETROREFLECTIVE MARKERS.
2. REPLACE MISSING TYPE A MARKERS IN EACH GROUP WITH TYPE A NON-REFLECTIVE MARKERS.
3. PLACE 4" WIDE THERMOPLASTIC TRAFFIC STRIPE ON TOP OF TYPE A NON-REFLECTIVE MARKERS.

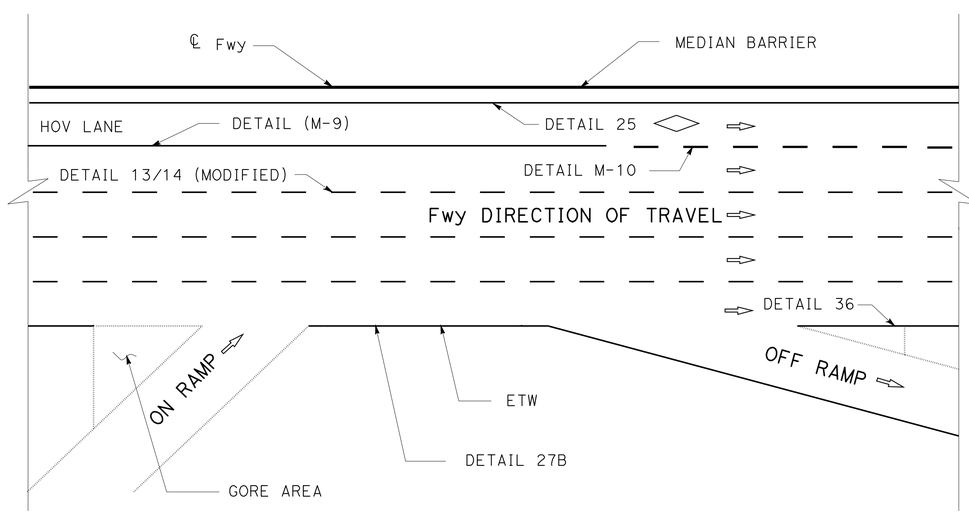
DETAIL 13/14 (MODIFIED)



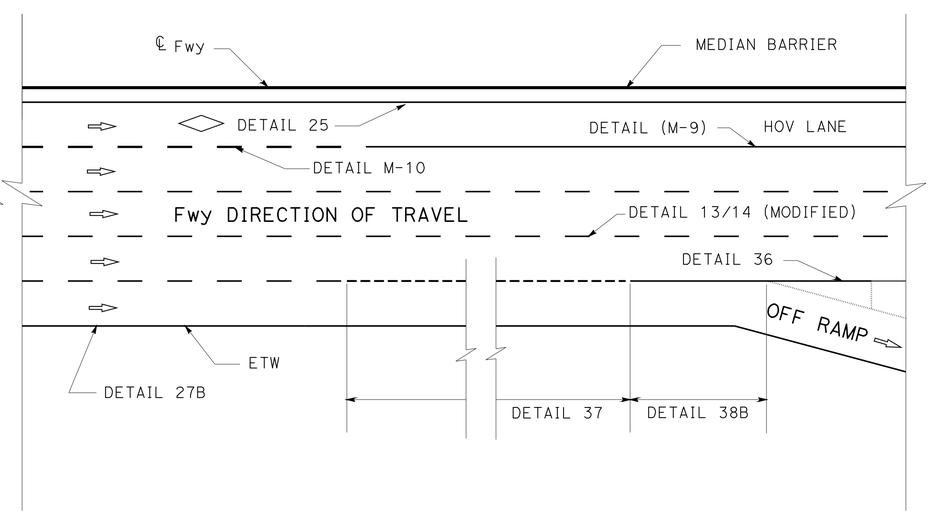
STRIPING DETAIL



INGRESS/EGRESS STRIPING DETAIL
DETAIL M-10



DETAIL 13/14 MODIFIED AT APPROACHING EXIT RAMPS



MAINLINE LANE DROP TO A ONE LANE EXIT

PAVEMENT DELINEATION DETAILS

NO SCALE

PDD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: HOALU NGUYEN
CHECKED BY: KEVIN KWAN
REVISED BY
DATE REVISED

LAST REVISION 02-18-14
DATE PLOTTED => 11-MAR-2014
TIME PLOTTED => 13:37

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	15	34

REGISTERED CIVIL ENGINEER 1-8-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KEVIN KWAN No. 68219 Exp 9/30/15 CIVIL STATE OF CALIFORNIA

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NORTHBOUND FREEWAY PAVEMENT DELINEATION QUANTITIES

LOCATIONS		PAINT TRAFFIC STRIPE (2-COAT)	THERMOPLASTIC TRAFFIC STRIPE									THERMOPLASTIC PAVEMENT MARKING				PAVEMENT MARKER				
																Det M-9 Det 25	Det M-10 Det 36/36A	Det 13/14 MODIFIED		
		BLACK CONSTRAST 4"	Det M-10 8" (BROKEN 36-12)	Det 36/36A 8" WHITE	Det 37 8" WHITE	Det 38B 8" WHITE	Det M-9 4" YELLOW	Det M-9 4" WHITE	Det 13/14 MODIFIED 4" WHITE	Det 25 4" YELLOW	Det 27B 4" WHITE	DIAGONAL STRIPE (12")	CAR POOL ONLY	◇	AAROWS	TYPE H RETROREFLECTIVE	TYPE G RETROREFLECTIVE	TYPE C/G RETROREFLECTIVE	TYPE A NON-REFLECTIVE	REMOVE
PM	FACILITIES	LF										SQFT				EA				
R24.79/R25.13	14/5 CONNECTOR TO SIERRA Hwy UC	5,490							1,830	1,830	1,830					37		39	153	229
R25.13/R25.97	SIERRA Hwy UC TO LOS PINETOS Rd UC	28,420	2,500				1,680	420	16,720	4,180	4,180	150	312	132	126	156	105	348	1393	2,003
R25.97/R27.03	LOS PINETOS Rd UC TO NEWHALL UC	39,567				430	22,364	5,591	16,773	5,591	5,591		104	44		1,047	36	349	1398	2,830
R27.03/R27.53	NEWHALL UC TO LA AQUEDUCT UC	15,912					10,608	2,652	5,304	2,652	2,652		52	22		497		110	442	1,050
R27.53/R28.08	LA AQUEDUCT UC TO PLACERITA CANYON Rd UC	17,010					11,340	2,835	5,670	2,835	2,835	170				531		118	473	1,122
R28.08/R29.68	PLACERTIA CANYON Rd UC TO GOLDEN VALLEY Rd OC	20,868					13,912	3,478	6,956	3,478	3,478	136				652		145	580	1,376
R29.68/R30.55	GOLDEN VALLEY Rd OC TO CEDAR VALLEY WAY OC										4,600									
R30.55/R30.89	CEDAR VALLEY WAY OC TO VIA PRINCESSA UC										1,790									
R30.89/R31.38	VIA PRINCESSA UC TO TRUCK SCALES	12,380		250	250		7,920	1,980	3,960	1,980	1,980		52	22		371	10	83	330	795
R31.38/R31.40	TRUCK SCALES TO CANYON PARK Blvd UC	4,900		400			3,000	750	1,500	750	750					141	17	32	125	315
R31.40/R31.63	CANYON PARK Blvd UC TO HUMPREYS OH	7,392					4,928	1,232	2,464	1,232	1,232					231		52	205	489
R31.63/R32.14	HUMPHREYS OH TO SANTA CLARITA RIVER	13,974					9,316	2,329	4,658	2,329	2,329	150	52	22		437		97	388	922
	SUBTOTAL	165,913	2,500	650	250	430	85,068	21,267	65,835	26,857	33,247	606	572	242	126	4,100	168	1,374	5,487	11,131
	SHEET TOTAL	165,913	2,500	1,330			232,274					1,546				5,642			5,487	11,131

PAVEMENT DELINEATION QUANTITIES

PDQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: HOALU NGUYEN
CHECKED BY: KEVIN KWAN
REVISED BY
DATE REVISED

LAST REVISION 02-18-14
DATE PLOTTED => 11-MAR-2014
TIME PLOTTED => 13:37

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	16	34

REGISTERED CIVIL ENGINEER 1-18-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KEVIN KWAN No. 68219 Exp. 9/30/15 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.

SOUTHBOUND FREEWAY PAVEMENT DELINEATION QUANTITIES

LOCATION		PAINT TRAFFIC STRIPE (2-COAT)	THERMOPLASTIC TRAFFIC STRIPE									THERMOPLASTIC PAVEMENT MARKING				PAVEMENT MARKER				
																Det M-9 Det 25	Det M-10 Det 36/36A	Det 13/14 MODIFIED		
		BLACK CONSTRAST 4"	Det M-10 8" (BROKEN 36-12)	Det 36/36A 8" WHITE	Det 37 8" WHITE	Det 38B 8" WHITE	Det M-9 4" YELLOW	Det M-9 4" WHITE	Det 13/14 MODIFIED 4" WHITE	Det 25 4" YELLOW	Det 27B 4" WHITE	DIAGONAL STRIPE (12")	CAR POOL ONLY	◇	AAROWS	TYPE H RETROREFLECTIVE	TYPE G RETROREFLECTIVE	TYPE C/G RETROREFLECTIVE	TYPE A NON-REFLECTIVE	REMOVE
PM	FACILITIES	LF										SQFT				EA				
R24.79/R25.13	14/5 CONNECTOR TO SIERRA Hwy UC	8,540							4,270	2,135	2,135					44		89	356	489
R25.13/R25.97	SIERRA Hwy UC TO LOS PINETOS Rd UC	25,080							16,720	4,180	4,180	1,132			126	87		348	1,393	1,829
R25.97/R27.03	LOS PINETOS Rd UC TO NEWHALL UC	36,191					14,612	3,653	18,039	5,423	5,423	320	52	22	126	2,451		376	1,503	4,330
R27.03/R27.53	NEWHALL UC TO LA AQUEDUCT UC	16,190		300	290		10,400	2,600	5,200	2,600	2,600	220				1,718	13	128	433	2,292
R27.53/R28.08	LA AQUEDUCT UC TO PLACERITA CANYON Rd UC	17,160			150		11,340	2,835	5,670	2,835	2,835		52	22		1,873		128	473	2,474
R28.08/R29.68	PLACERTIA CANYON Rd UC TO GOLDEN VALLEY Rd OC	22,372		370			14,668	3,667	7,334	3,667	3,667					2,423	16	153	611	3,203
R29.68/R30.55	GOLDEN VALLEY Rd OC TO CEDAR VALLEY WAY OC										4,600									
R30.55/R30.89	CEDAR VALLEY WAY OC TO VIA PRINCESSA UC										1,790									
R30.89/R31.38	VIA PRINCESSA UC TO TRUCK SCALES	17,900	80	400			7,600	1,900	3,960	1,980	1,980	30	52	22		1,257	20	83	330	1,690
R31.38/R31.40	TRUCK SCALES TO CANYON PARK Blvd UC	6,750					3,000	750	1,500	750	750		52	22		496		32	125	653
R31.40/R31.63	CANYON PARK Blvd UC TO HUMPREYS OH	11,088					4,928	1,232	2,464	1,232	1,232	300				814		52	205	1,071
R31.63/R32.14	HUMPHREYS OH TO SANTA CLARITA RIVER	10,440					4,640	1,160	2,320	1,160	1,160	418	52	22		767		49	193	1,009
SUBTOTAL		171,711	80	1,070	440	0	71,188	17,797	67,477	25,962	32,352	2,420	260	110	252	11,930	49	1,438	5,622	19,040
SHEET TOTAL		171,711	80	1,510			214,776					3,042				13,417			5,622	19,040
GRAND TOTAL		337,624	2,580	2,840			447,050					4,588				19,059			11,109	30,171

PAVEMENT DELINEATION QUANTITIES

PDQ-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: HOALU NGUYEN
CHECKED BY: KEVIN KWAN
REVISED BY
DATE REVISED

LAST REVISION 02-18-14 | DATE PLOTTED => 11-MAR-2014 | TIME PLOTTED => 13:37

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	17	34

REGISTERED CIVIL ENGINEER 1-8-14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KEVIN KWAN No. 68219 Exp. 9-30-15 CIVIL STATE OF CALIFORNIA

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ROADWAY QUANTITIES SUMMARY

LOCATION		COLD PLANE ASPHALT CONCRETE PAVEMENT		RUBERIZED HOT MIX ASPHALT, SUPERPAVE (GAP GRADED)		TACK COAT		REPLACE ASPHALT CONCRETE SURFACING		GRIND EXISTING CONCRETE PAVEMENT		REPLACE JOINT SEAL (SILICONE)		INDIVIDUAL SLAB REPLACEMENT WITH RAPID STRENGTH CONCRETE		DRILL AND BOND (DOWEL BAR)		LEAN CONCRETE BASE RAPID SETTING	ROADWAY EXCAVATION
		SQYD		TON		TON		CY		SQYD		LF		CY		EA		CY	CY
PM	FACILITIES	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB		
R24.79/R25.13	14/5 CONNECTOR TO SIERRA Hwy UC									5,585	2,729	1,433	1,433	52.00	30.33	192	112		
R25.13/R25.97	SIERRA Hwy UC TO LOS PINETOS Rd UC	8,311	4,869	524	307	3.81	2.23		120.00	36,636	30,377	31,840	32,633	34.67	60.67	128	224		
R25.97/R27.03	LOS PINETOS Rd UC TO NEWHALL UC	9,617	6,076	606	383	4.41	2.78	111.11	72.22	46,028	45,820	46,267	47,025	8.67	8.67	32	32		
R27.03/R27.53	NEWHALL UC TO LA AQUEDUCT UC	3,500	2,072	221	131	1.60	0.95	166.67		18,417	17,333	20,000	20,000	21.67	21.67	80	80		
R27.53/R28.08	LA AQUEDUCT UC TO PLACERITA CANYON Rd UC	2,206	751	139	47	1.01	0.34	400.00	66.67	18,850	17,570	20,080	20,582	89.33	183.00	256	528		
R28.08/R29.68	PLACERTIA CANYON Rd UC TO GOLDEN VALLEY Rd OC	12,968	2,222	817	140	5.94	1.02			25,278	24,500	29,167	28,700	85.00	130.00	240	480	250	250
R29.68/R30.55	GOLDEN VALLEY Rd OC TO CEDAR VALLEY WAY OC	7,700	6,673	485	420	3.53	3.06												
R30.55/R30.89	CEDAR VALLEY WAY OC TO VIA PRINCESSA UC	2,624	3,027	165	191	1.20	1.39												
R30.89/R31.38	VIA PRINCESSA UC TO TRUCK SCALES	2,150	1,423	179	90	1.30	0.65			12,516	12,928	14,549	14,549	21.67	75.00	80	240		
R31.38/R31.40	TRUCK SCALES TO CANYON PARK Blvd UC	454	167	6	11	0.04	0.08			5,156	4,983	5,704	5,704	8.67		32			
R31.40/R31.63	CANYON PARK Blvd UC TO HUMPREYS OH	944	992	60	63	0.43	0.45			8,889	8,342	8,450	8,450	13.00	43.33	48	160		
R31.63/R32.14	HUMPHREYS OH TO SANTA CLARITA RIVER	1,867	1,791	118	113	0.86	0.82			9,167	9,167	9,533	9,533	131.00	193.33	336	640		
	SUBTOTAL	52,341	30,063	3,320	1,869	24.13	13.77	677.78	258.89	186,522	173,749	187,023	188,609	465.68	746.00	1,424	2,496	250	250
	TOTAL	82,404		5,216		37.90		936.67		360,271		375,632		1,211.68		3,920		250	250

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: HOALU NGUYEN
CHECKED BY: KEVIN KWAN
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 11-MAR-2014
02-18-14 TIME PLOTTED => 13:37

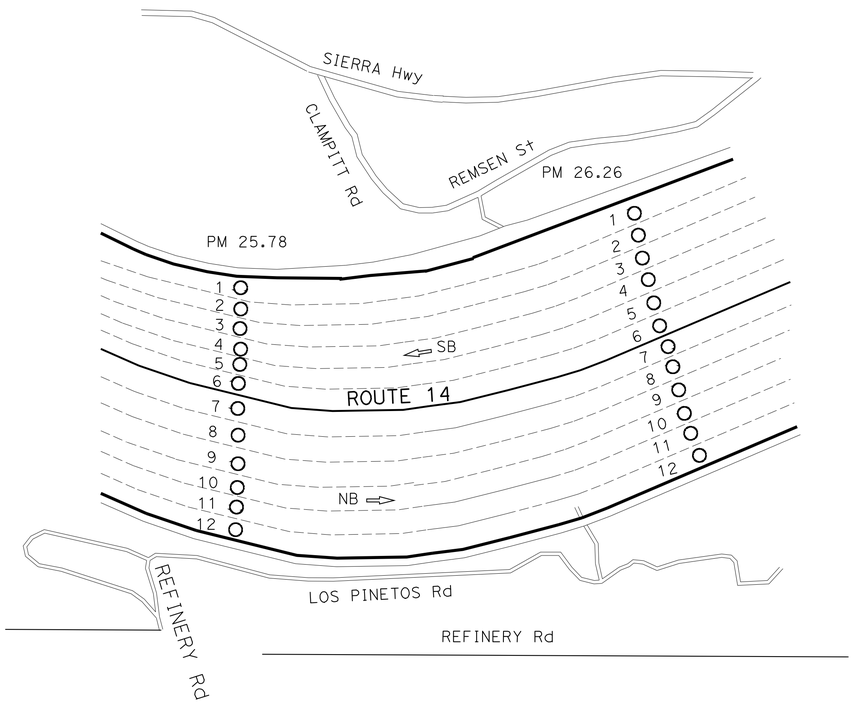
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	18	35

Jesse Ruelas 1-13-14
REGISTERED ELECTRICAL ENGINEER DATE

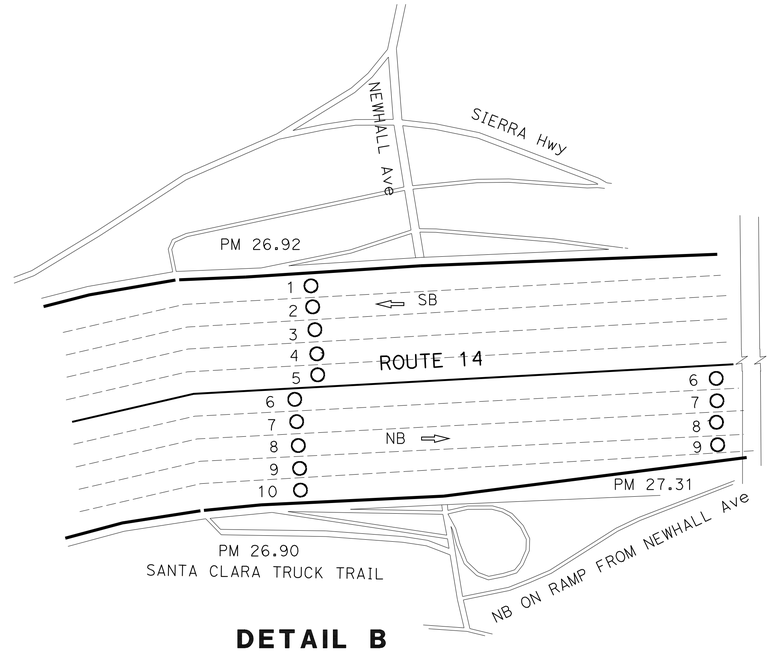
2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER JESSE RUELAS No. E015604 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.



DETAIL A



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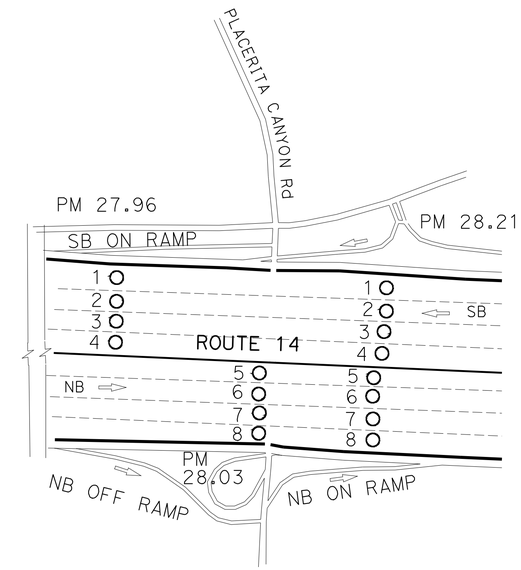

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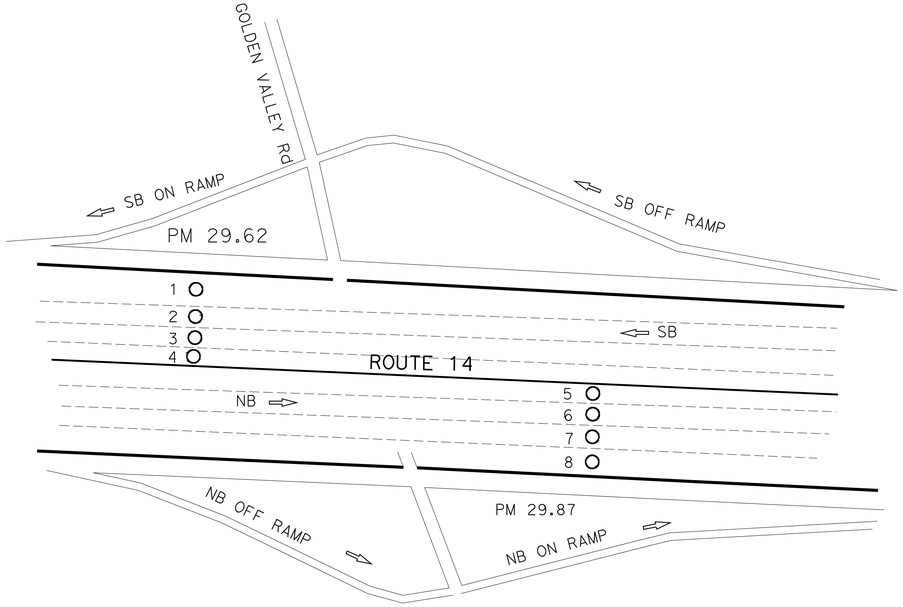

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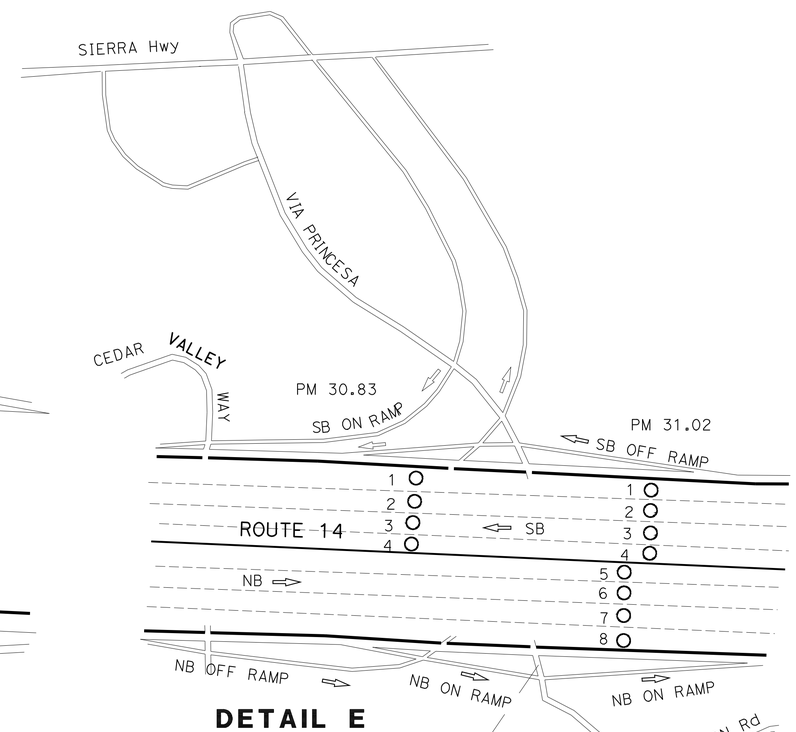

DETAIL E

NOTE:

FOR NOTES AND INDUCTIVE LOOP DETECTORS LOCATIONS SEE E-2.

APPROVED FOR ELECTRICAL WORK ONLY

INDUCTIVE LOOP DETECTOR (REPLACEMENT)

NO SCALE

E-1

REVISED BY | DATE REVISED
KARINE PARTAMIAN | JESSE RUELAS
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: YI TSAU

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN

LAST REVISION 02-18-15 | DATE PLOTTED => 11-MAR-2014 | TIME PLOTTED => 13:37

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	19	35

REGISTERED ELECTRICAL ENGINEER 1/24/14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER JESSE RUELAS No. E015604 Exp. 12/31/15 ELECTRICAL STATE OF CALIFORNIA

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INDUCTIVE LOOP DETECTOR (REPLACEMENT)

No.	Approx PM	LOCATION		SEE DETAIL A, B, C, D AND E ON SHEET E-1 FOR LOCATION OF INDUCTIVE LOOP DETECTORS UNLESS OTHERWISE NOTED															No. OF LOOPS	No. OF STUBOUTS (REPLACE)
				1	2	3	4	5	6	7	8	9	10	11	12					
1	25.78	NB AND SB ROUTE 14 AT LOS PINETOS Rd	(DETAIL A)	X	X	X	X	X	X	X	X	X	X	X	X				12	2
2	26.26	NB AND SB ROUTE 14 AT REMSEN St	(DETAIL A)	X	X	X	X	X	X	X	X	X	X	X	X				12	2
3	26.90 26.92	NB AND SB ROUTE 14 AT NEWHALL Ave	(DETAIL B)	X	X	X	X	X	X	X	X	X	X						10	2
4	27.31	NB ROUTE 14 AT NB ON RAMP FROM NEWHALL Ave	(DETAIL B)						X	X	X	X							4	1
5	27.96	SB ROUTE 14 AT SB ON RAMP FROM PLACERITA CANYON Rd	(DETAIL C)	X	X	X	X												4	1
6	28.03	NB ROUTE 14 AT NB OFF RAMP TO PLACERITA CANYON Rd	(DETAIL C)					X	X	X	X								4	1
7	28.21	NB AND SB ROUTE 14 AT NB ON RAMP FROM PLACIERTIA CANYON Rd	(DETAIL C)	X	X	X	X	X	X	X	X								8	2
8	29.62	SB ROUTE 14 AT SB ON RAMP FROM GOLDEN VALLEY Rd	(DETAIL D)	X	X	X	X												4	1
9	29.87	NB ROUTE 14 AT NB ON RAMP FROM GOLDEN VALLEY Rd	(DETAIL D)					X	X	X	X								4	1
10	30.83	SB ROUTE 14 AT SB ON RAMP FROM SIERRA Hwy	(DETAIL E)	X	X	X	X												4	1
11	31.02	NB AND SB ROUTE 14 AT NB ON RAMP FROM VIA PRINCESSA	(DETAIL E)	X	X	X	X	X	X	X	X								8	2

X - INSTALL TYPE E INDUCTIVE LOOP DETECTOR. ABANDON EXISTING INDUCTIVE LOOP DETECTOR AT SAME LOCATION.

NOTES: (SHEET E-1 THROUGH E-2)

1. INSTALL 2" STUBOUT FOR NEW INDUCTIVE LOOP DTECTOR. ABANDON EXISTING STUBOUTS.
2. PRIOR TO CONSTRUCTION, CONTRACTOR MUST LOCATE EXISTING INDUCTIVE LOOP DETECTORS.
3. SPLICE NEW INDUCTIVE LOOP DETECTOR CONDUCTORS TO EXISTING DLC IN ADJACENT PULL BOX.
4. IDENTIFY AND TAG EXISTING DLC IN ADJACENT PULL BOX AND IN CONTROLLER CABINET.

FOR INDUCTIVE LOOP DETECTOR DETAILS SEE E-1.

APPROVED FOR ELECTRICAL WORK ONLY

INDUCTIVE LOOP DETECTOR (REPLACEMENT)

E-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: YI TSAU
CALCULATED-DESIGNED BY: KARINE PARTAMIAN
CHECKED BY: JESSE RUELAS
REVISED BY
DATE REVISED

LAST REVISION 02-18-14 | DATE PLOTTED => 11-MAR-2014 | TIME PLOTTED => 13:38

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	20	35

REGISTERED ELECTRICAL ENGINEER 1/24/14 DATE

2-18-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JESSE RUELAS
No. E015604
Exp. 12/31/15
ELECTRICAL
STATE OF CALIFORNIA

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INDUCTIVE LOOP DETECTOR (REPLACEMENT)

SHEET No.	(N) TYPE 'E' INDUCTIVE LOOP DETECTOR	(N) STUBOUT (2"C)
	EA	EA
E-1	74	16

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

ELECTRICAL QUANTITIES

APPROVED FOR ELECTRICAL WORK ONLY

E-3

REVISED BY | DATE REVISED
KARINE PARTAMIAN | JESSE RUELAS
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: YI TSAU

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN

LAST REVISION 00-00-00 | DATE PLOTTED => 11-MAR-2014 | TIME PLOTTED => 13:38

M

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
Mtl	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

Oblr	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 Mtl	PERMEABLE MATERIAL

P continued

PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
Pkwy	PARKWAY
ℙ,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
℄	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
Tel	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
07	LA	14	R24.8/R32.1	21	34

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Grace M. Tsushima No. C49814 Exp. 9-30-14 CIVIL STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 2-18-14

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
ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kip	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

6-7-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	22	34

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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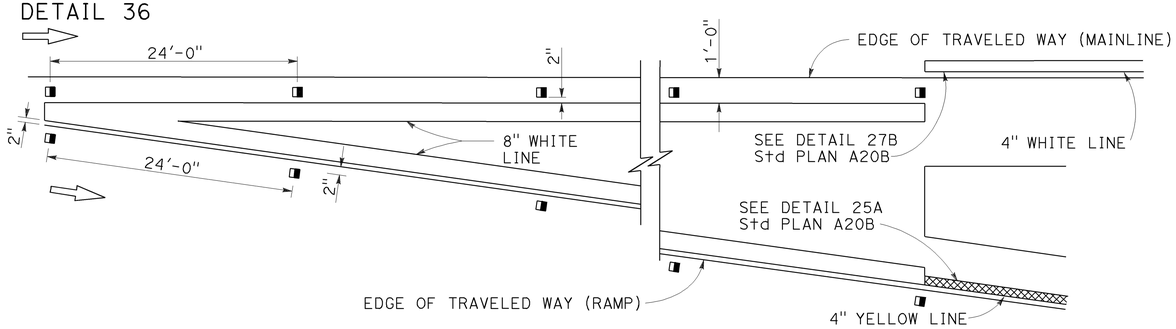
TO ACCOMPANY PLANS DATED 2-18-14

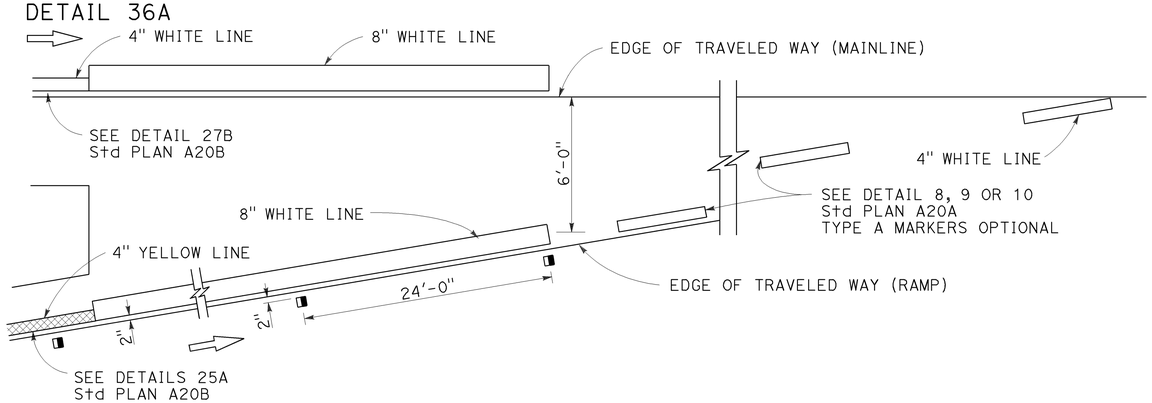
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT

DETAIL 36



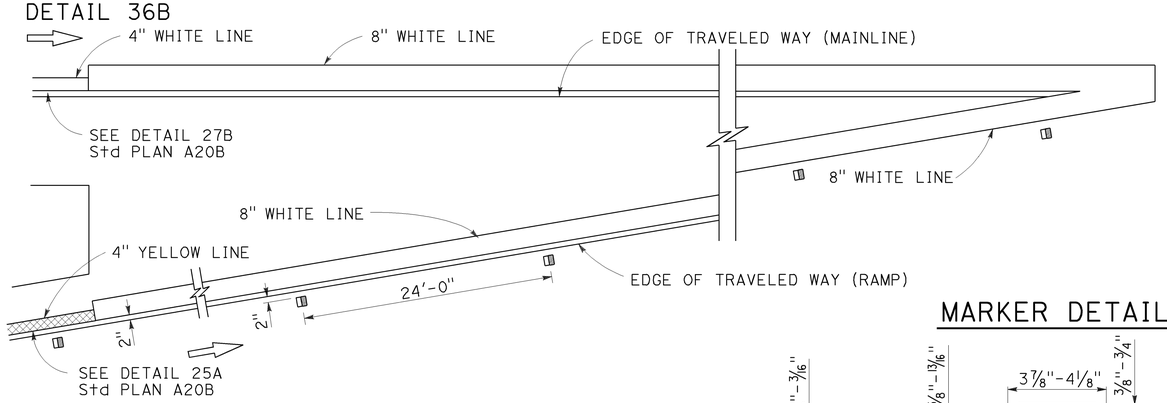
ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT

DETAIL 36A



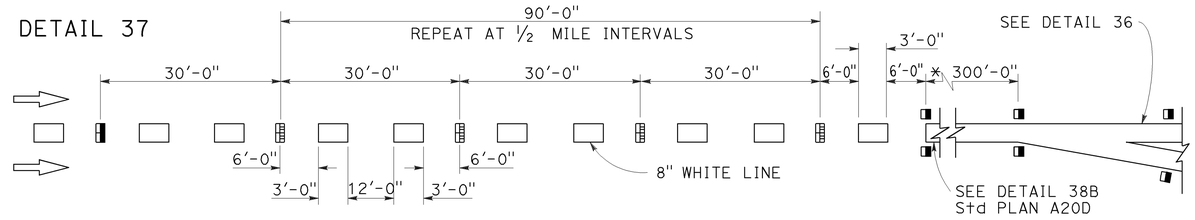
ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

DETAIL 36B

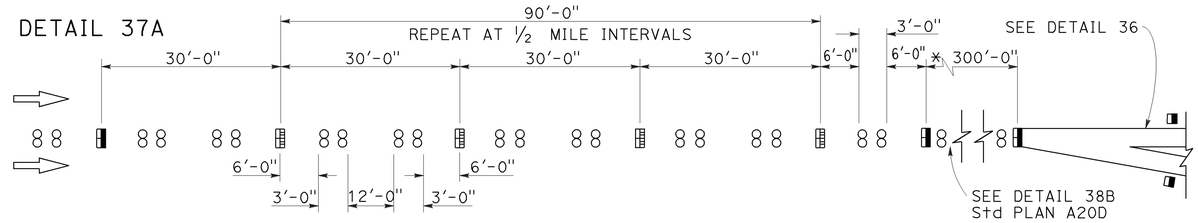


LANE DROP AT EXIT RAMPS

DETAIL 37



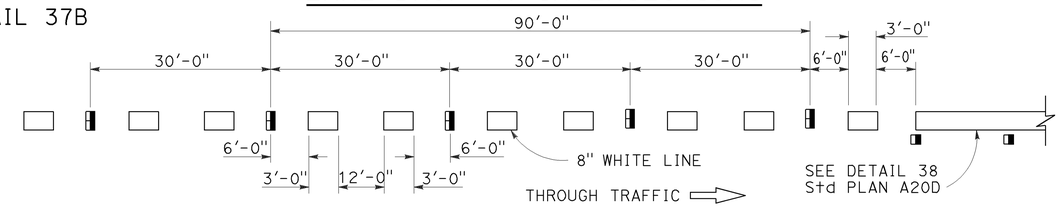
DETAIL 37A



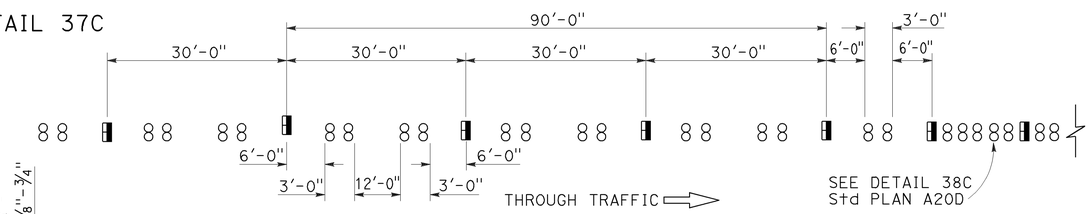
* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS

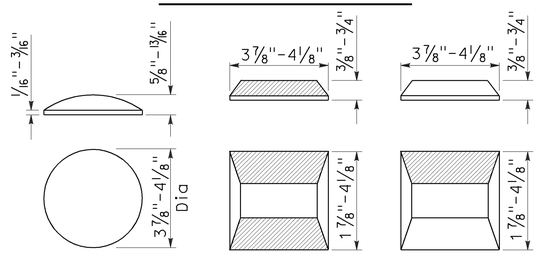
DETAIL 37B



DETAIL 37C



MARKER DETAILS



RETROREFLECTIVE FACE

LEGEND:

MARKERS

- TYPE A WHITE NON-REFLECTIVE
- TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE

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

4-29-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	23	34

REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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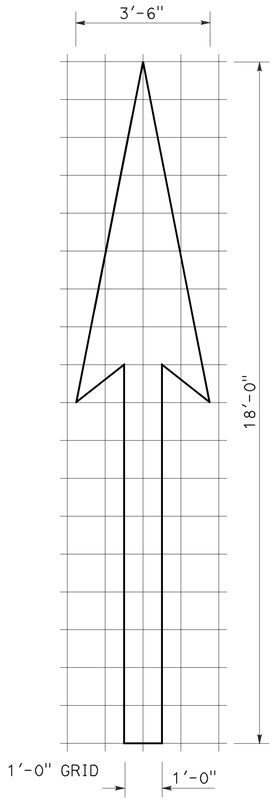
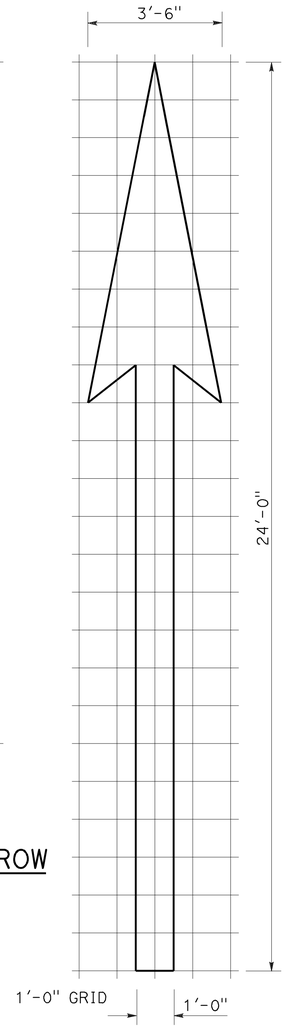
TO ACCOMPANY PLANS DATED 2-18-14

2010 REVISED STANDARD PLAN RSP A24A



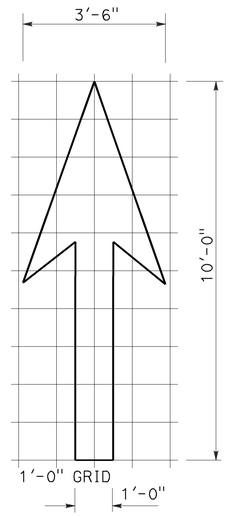
A=25 ft^2

TYPE I 18'-0" ARROW



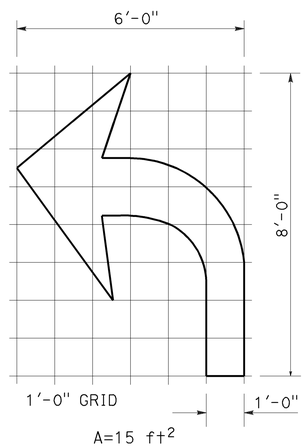
A=31 ft^2

TYPE I 24'-0" ARROW



A=14 ft^2

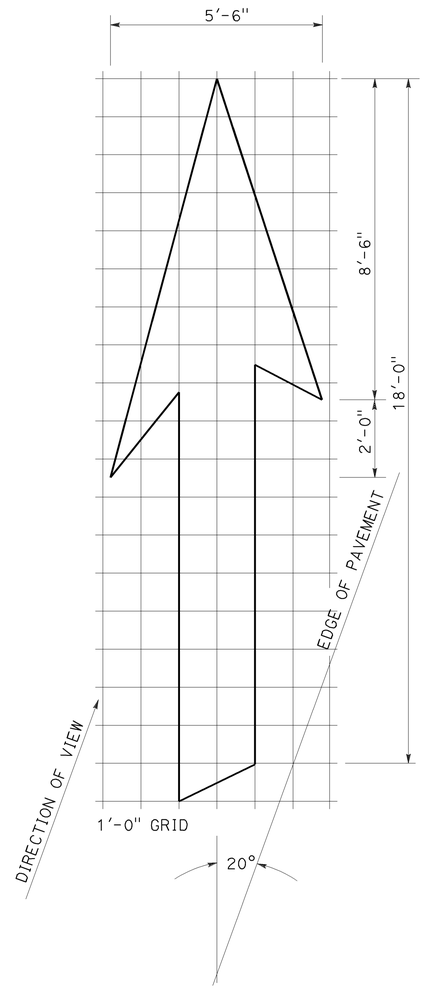
TYPE I 10'-0" ARROW



A=15 ft^2

TYPE IV (L) ARROW

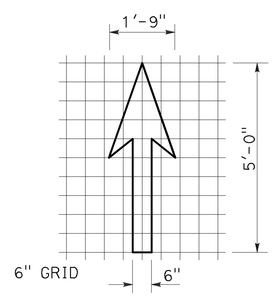
(For Type IV (R) arrow, use mirror image)



A=42 ft^2

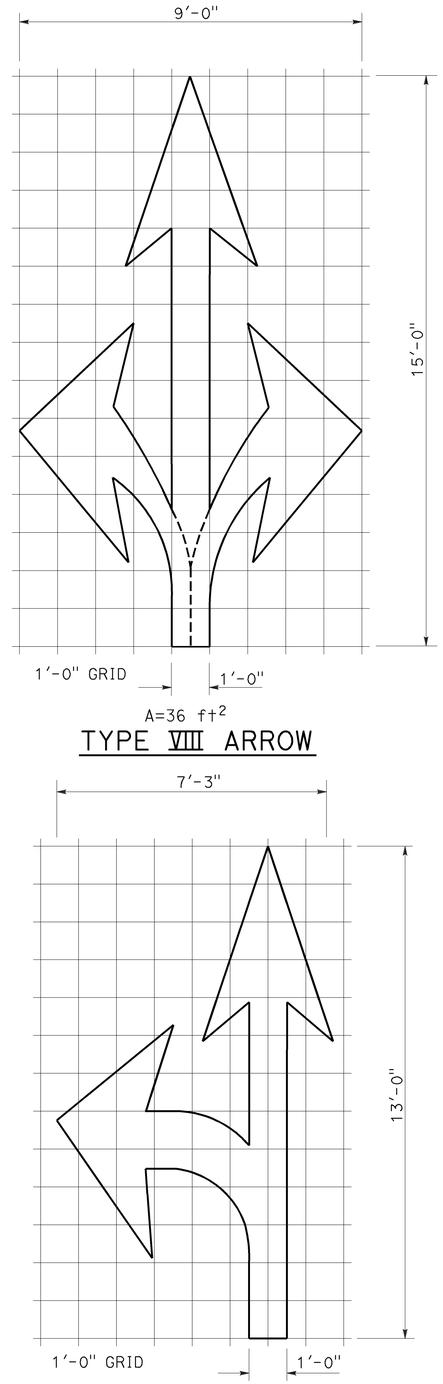
TYPE VI ARROW

Right lane drop arrow
(For left lane, use mirror image)



A=3.5 ft^2

BIKE LANE ARROW



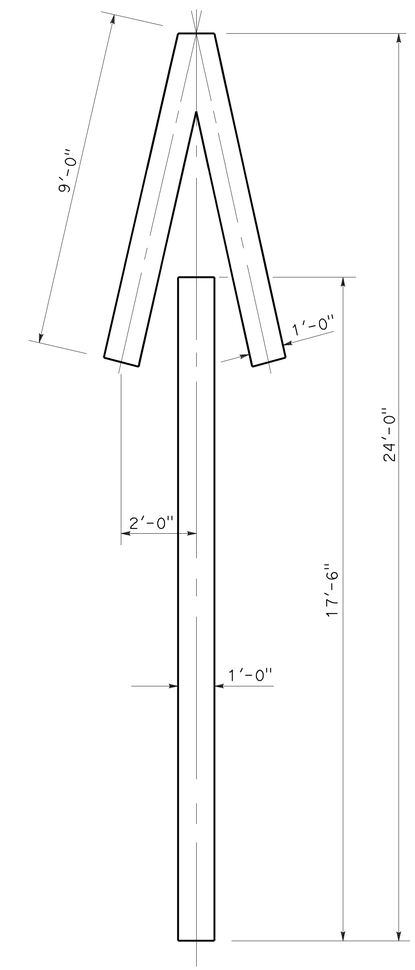
A=36 ft^2

TYPE VIII ARROW

A=27 ft^2

TYPE VII (L) ARROW

(For Type VII (R) arrow, use mirror image)



A=33 ft^2

TYPE V ARROW

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.

REVISED STANDARD PLAN RSP A24A

3-14-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	24	34

REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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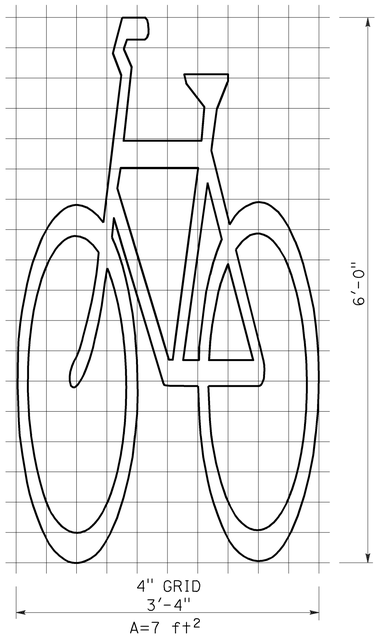
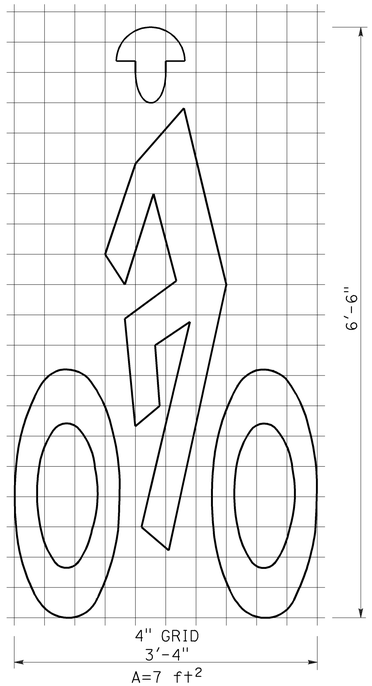
NOTE: TO ACCOMPANY PLANS DATED 2-18-14

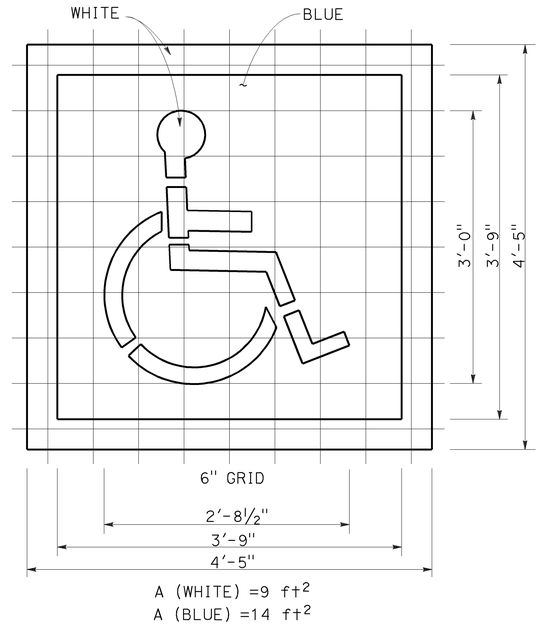
Minor variations in dimensions may be accepted by the Engineer.



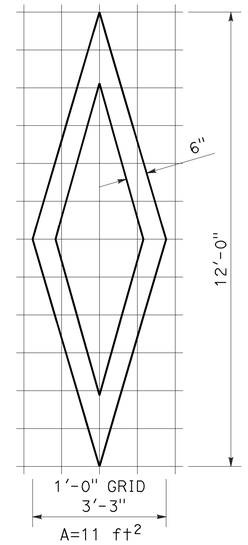
BIKE LANE SYMBOL WITHOUT PERSON



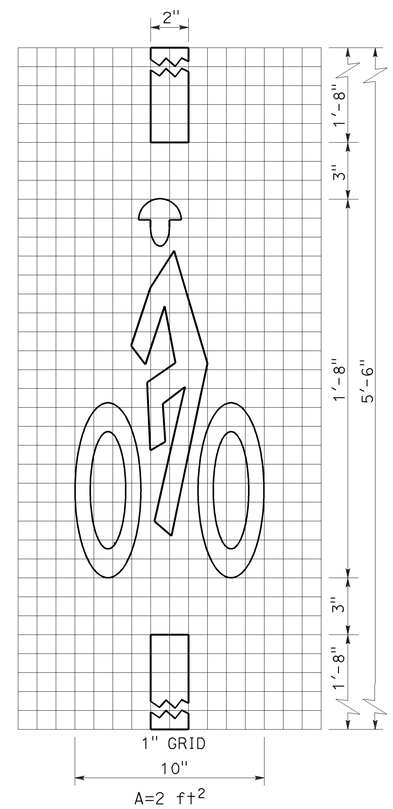
BIKE LANE SYMBOL WITH PERSON



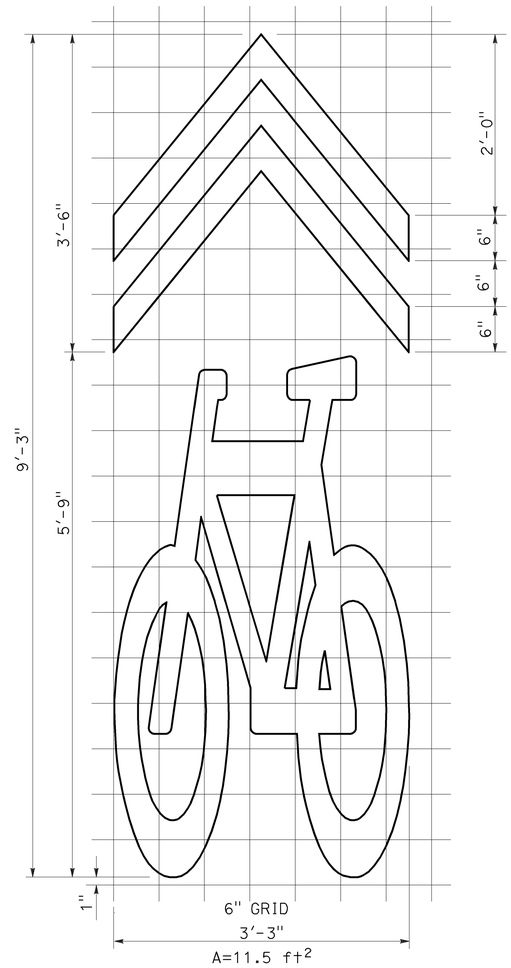
INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING



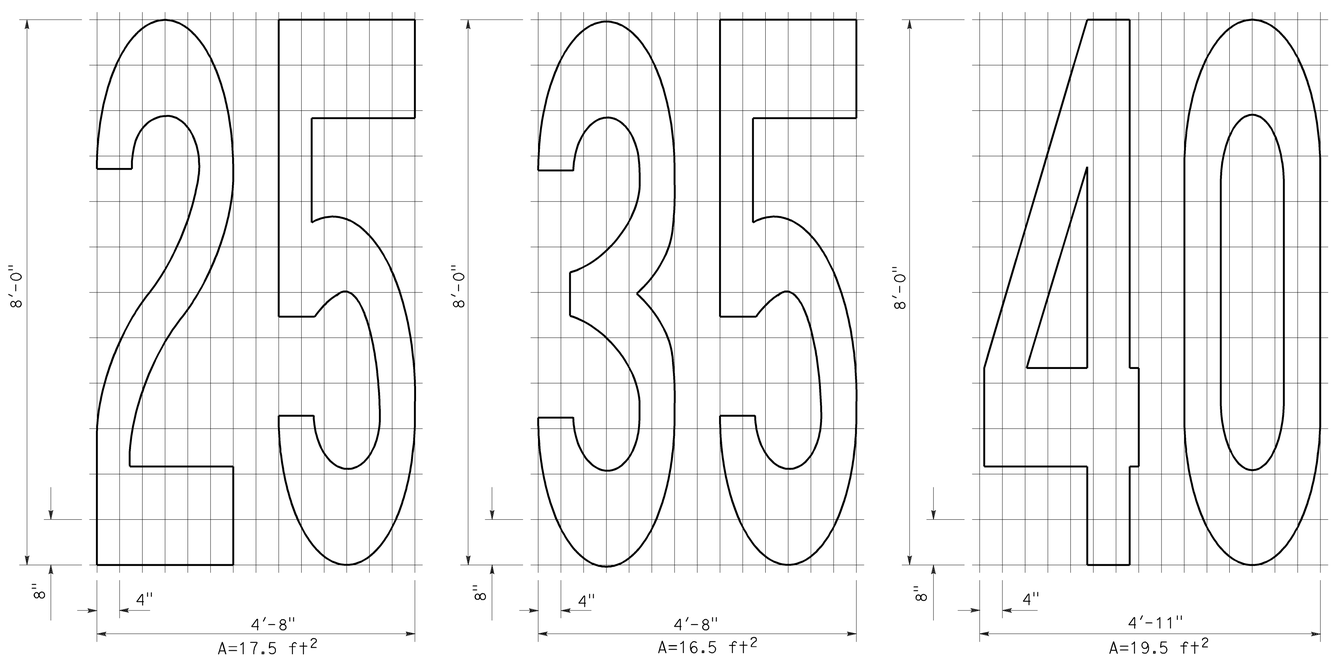
DIAMOND SYMBOL



BICYCLE LOOP DETECTOR SYMBOL



SHARED ROADWAY BICYCLE MARKING



NUMERALS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS SYMBOLS AND NUMERALS

NO SCALE

RSP A24C DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A24C DATED MAY 20, 2011 - PAGE 15 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24C

2010 REVISED STANDARD PLAN RSP A24C

6-28-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	25	34

REGISTERED CIVIL ENGINEER

July 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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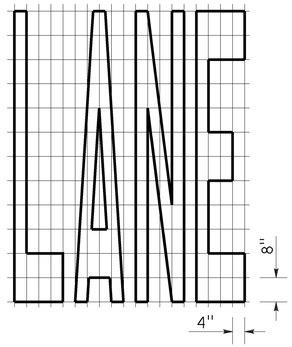
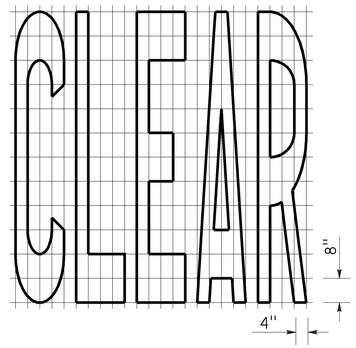
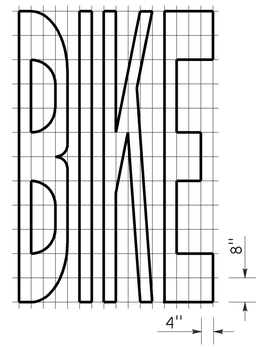
TO ACCOMPANY PLANS DATED 2-18-14



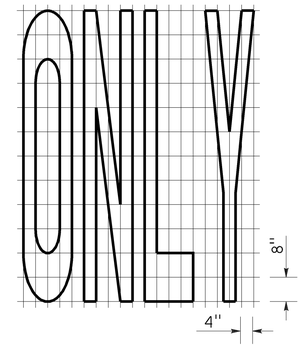
A=24 ft²



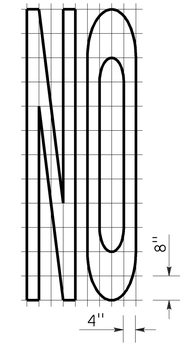
A=27 ft²



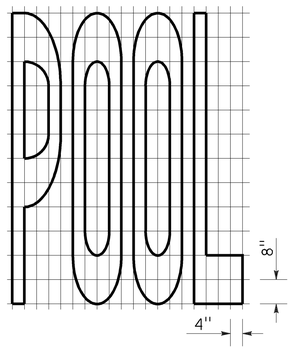
A=21 ft²



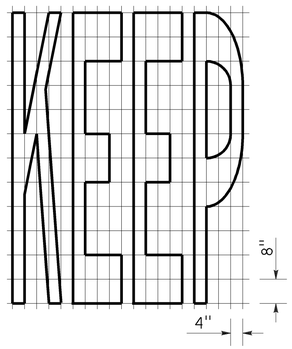
A=22 ft²



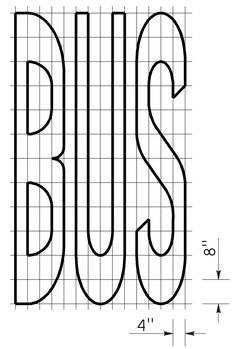
A=14 ft²



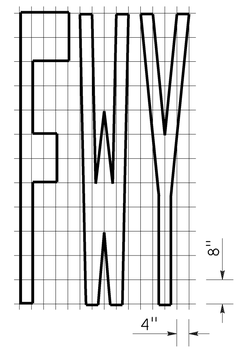
A=23 ft²



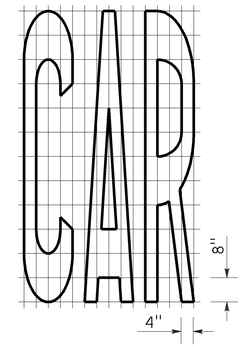
A=24 ft²



A=20 ft²

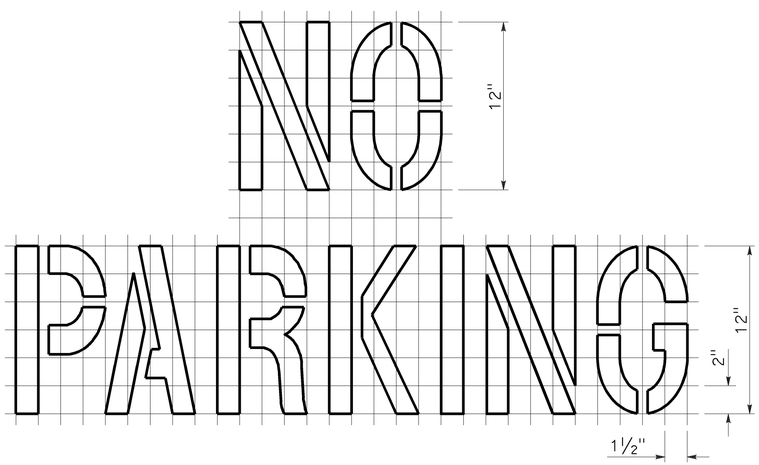


A=16 ft²

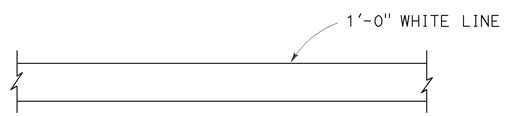


A=17 ft²

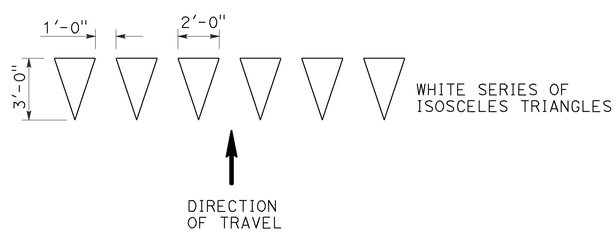
WORD MARKINGS			
ITEM	ft²	ITEM	ft²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft²
See Notes 6 and 7



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.

REVISED STANDARD PLAN RSP A24E

2010 REVISED STANDARD PLAN RSP A24E

6-12-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	26	34

William K. Farnbach
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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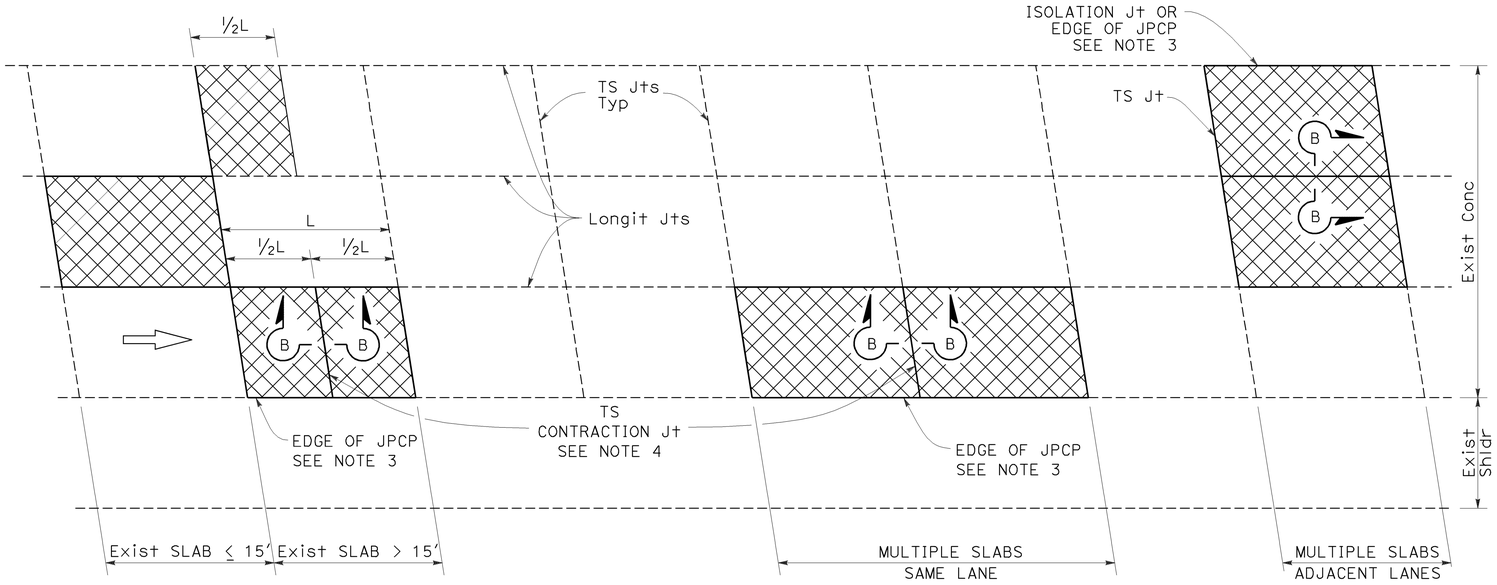
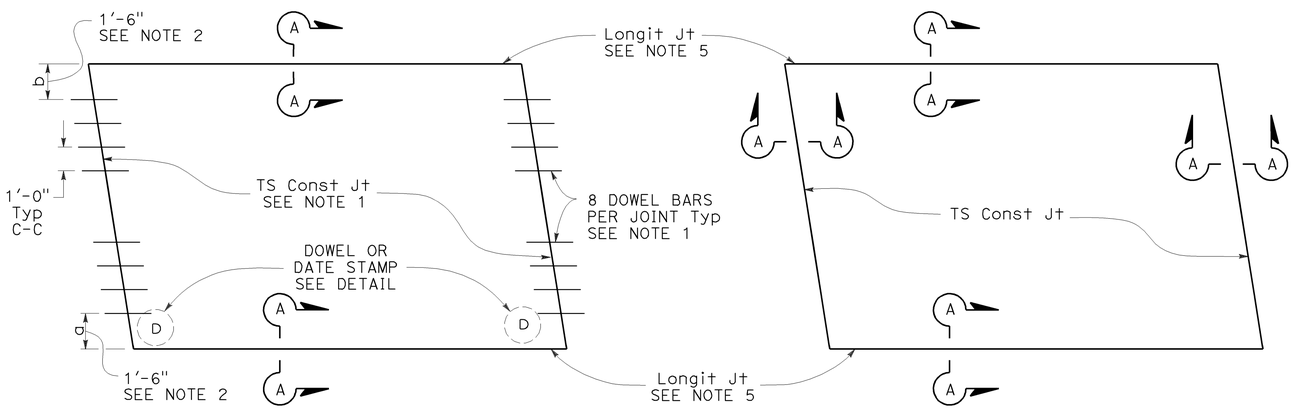
TO ACCOMPANY PLANS DATED 2-18-14



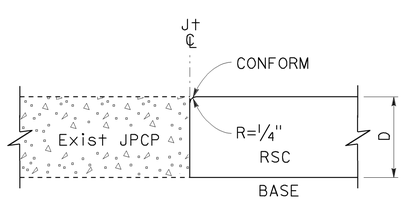
PLAN



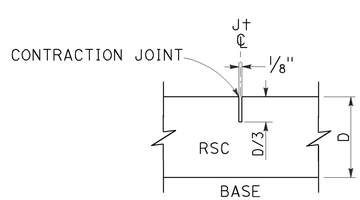
TYPE I
See Design Note 1

TYPE II
See Design Note 2

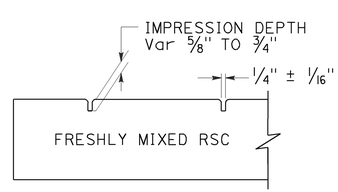
SLAB LAYOUT



SECTION A-A



SECTION B-B



SECTION C-C

LEGEND:

RSC RAPID STRENGTH CONCRETE

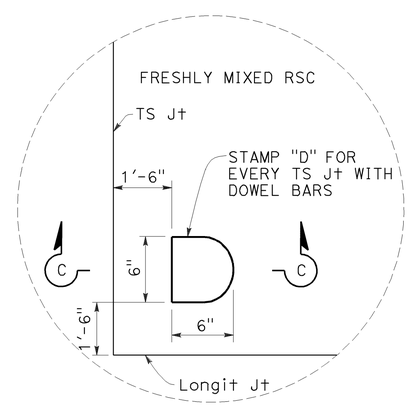
INDIVIDUAL SLAB REPLACEMENT WITH RSC

NOTES:

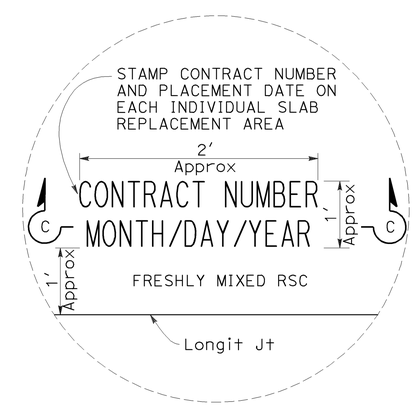
1. For details not shown, see Revised Standard Plan RSP P10.
2. Where the existing outside shoulder is asphalt concrete pavement, "a" = 1'-0" and "b" = 2'-0".
3. Use side forms where edge of RSC pavement is adjacent to asphalt concrete.
4. Transverse contraction joint to match skew of existing joint. Omit dowel bars.
5. Do not place tie bars at longitudinal joints.

DESIGN NOTES:

1. For concrete slab repair with at least 5 years design life.
2. For short term repairs < 5 yrs design life or for slab replacements with cracking and seating.



DOWEL STAMP DETAIL



DATE STAMP DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

INDIVIDUAL SLAB REPLACEMENT WITH RAPID STRENGTH CONCRETE

NO SCALE

RSP P8 DATED JULY 19, 2013 SUPERSEDES RSP P8 DATED APRIL 20, 2012 AND 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

5-31-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	27	34

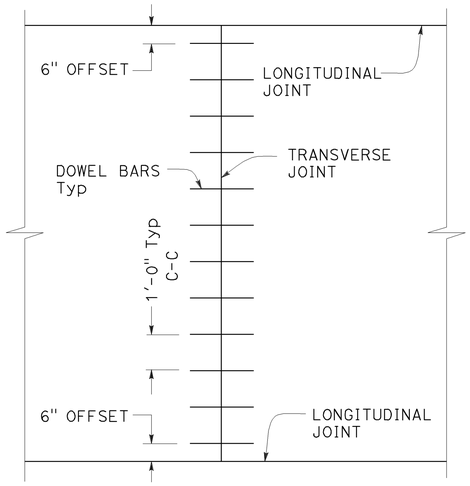
William K. Farnbach
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

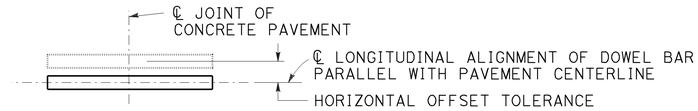
REGISTERED PROFESSIONAL ENGINEER William K. Farnbach No. C49042 Exp. 9-30-14 CIVIL STATE OF CALIFORNIA

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 2-18-14

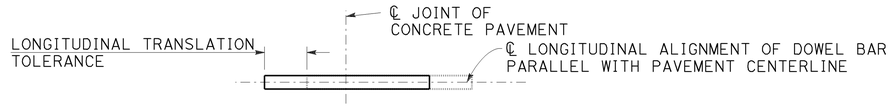


TRANSVERSE JOINT DOWEL BAR LAYOUT



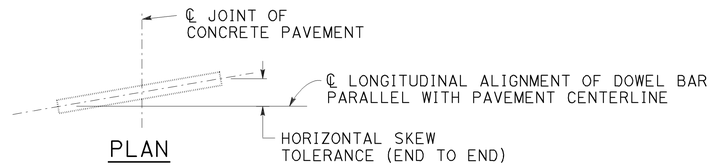
PLAN

HORIZONTAL OFFSET TOLERANCE



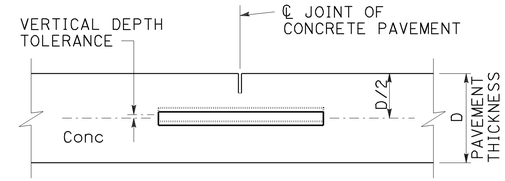
PLAN

LONGITUDINAL TRANSLATION TOLERANCE



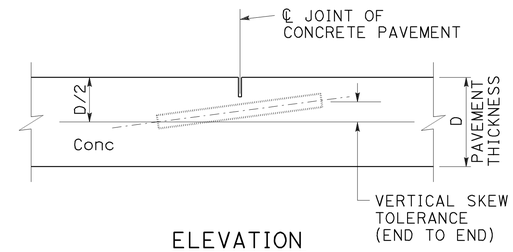
PLAN

HORIZONTAL SKEW TOLERANCE



ELEVATION

VERTICAL DEPTH TOLERANCE

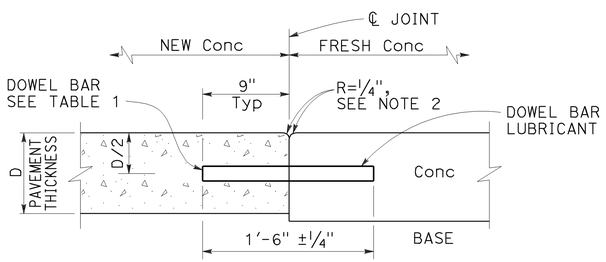


ELEVATION

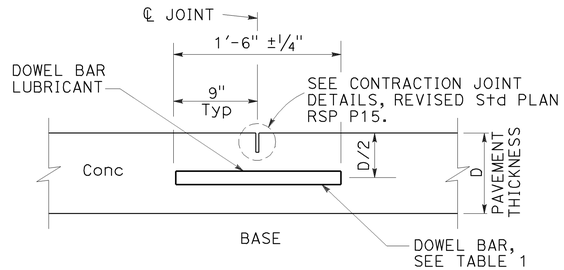
VERTICAL SKEW TOLERANCE

NOTES:

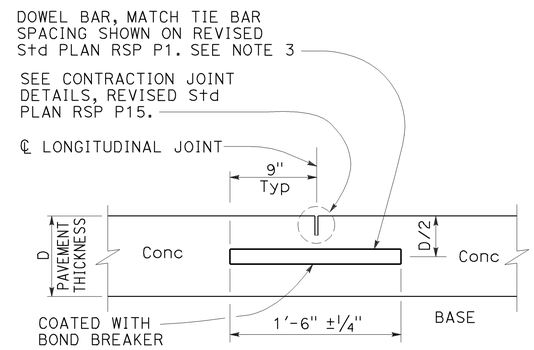
1. See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
2. Where fresh concrete pavement is placed against new concrete or existing concrete pavement, rounding the corner of the existing concrete pavement is not required.
3. May also use ¾" Dia dowel bars 2'-4" ± ¼" in length. Center the length of dowel bars at the centerline of longitudinal joint.



TRANSVERSE CONSTRUCTION JOINT DETAIL



TRANSVERSE CONTRACTION JOINT



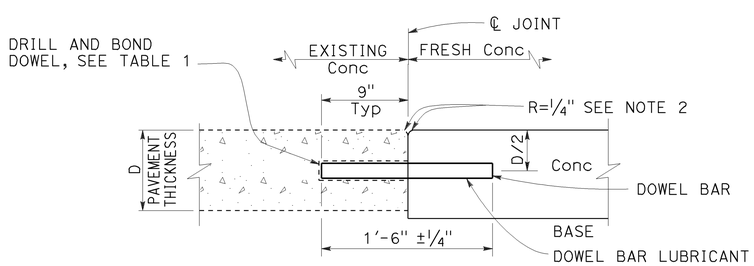
LONGITUDINAL CONTRACTION JOINT WITH DOWEL BARS

See Revised Std Plan RSP P18

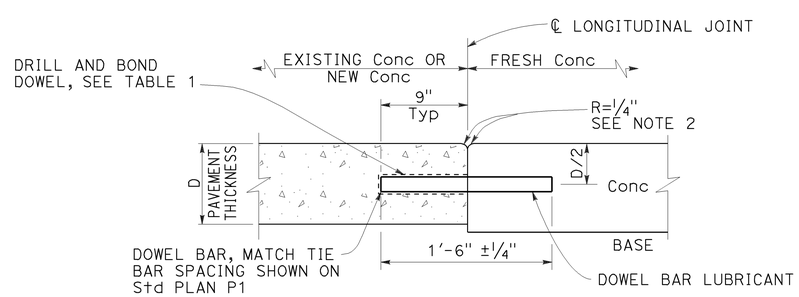
TABLE 1

DOWEL BAR DIAMETER TABLE			
PAVEMENT THICKNESS	0.65'	> 0.65' - 0.85'	> 0.85'
MINIMUM DOWEL * BAR DIAMETER	1"	1¼"	1½"

* The drilled hole diameter must be ⅛" to 3/16" larger than the bar diameter.



TRANSVERSE CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT



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 JULY 19, 2013 SUPERSEDES RSP P10 DATED APRIL 20, 2012 AND 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

5-31-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	28	34

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
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 2-18-14

2010 REVISED STANDARD PLAN RSP T9

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		
					X	Y	Z **
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	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%
mph	ft	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 recommmended 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

TO ACCOMPANY PLANS DATED 2-18-14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	29	34

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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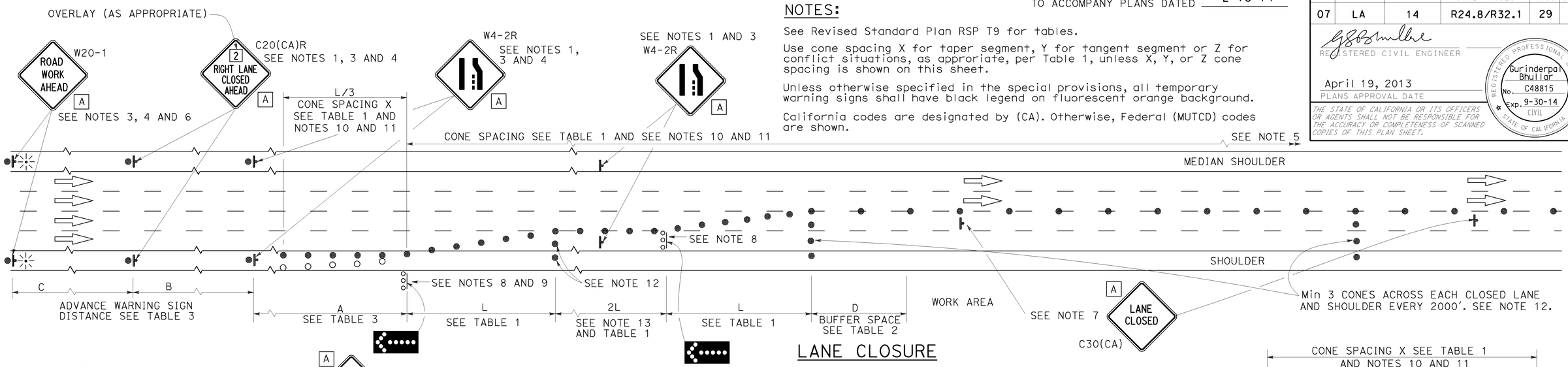
NOTES:

See Revised Standard Plan RSP T9 for tables.

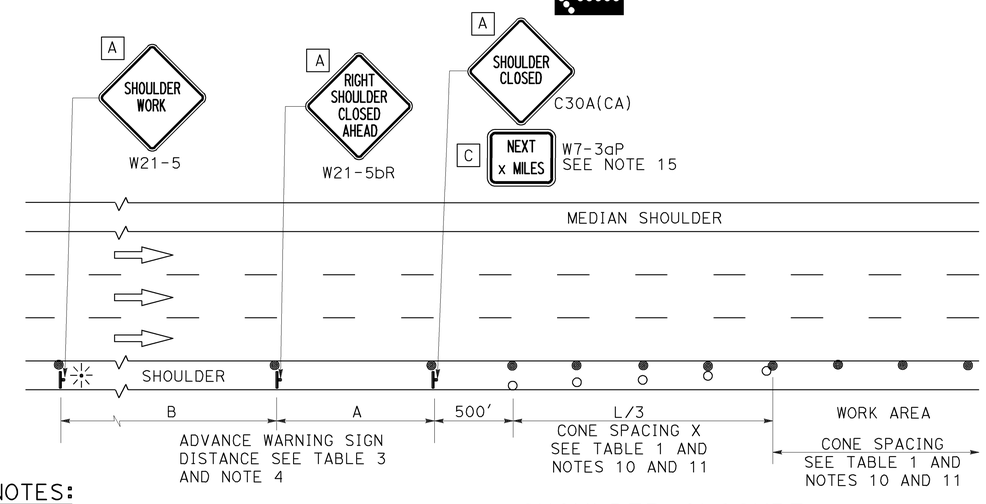
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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

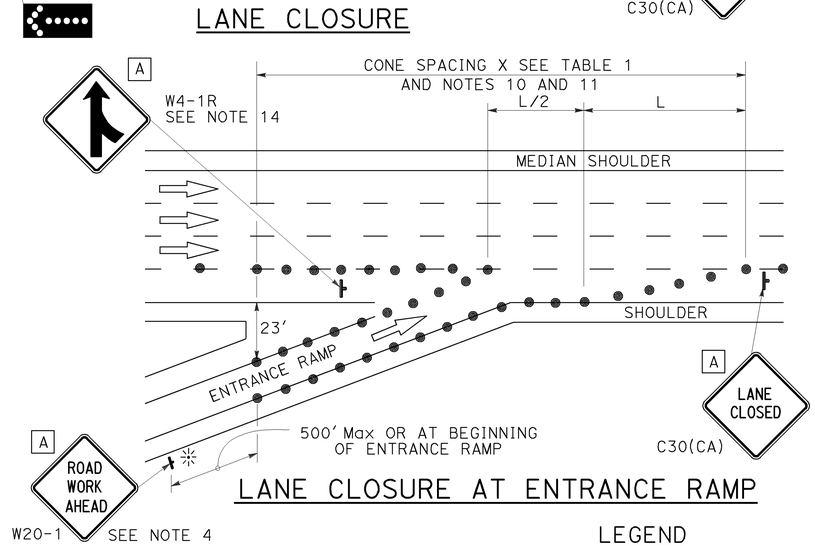
California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



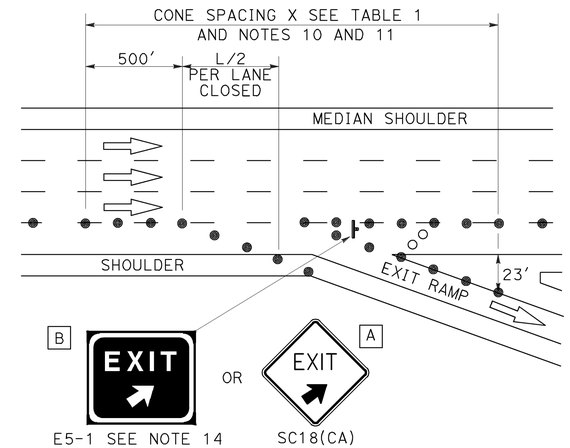
LANE CLOSURE



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

TO ACCOMPANY PLANS DATED 2-18-14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	30	34

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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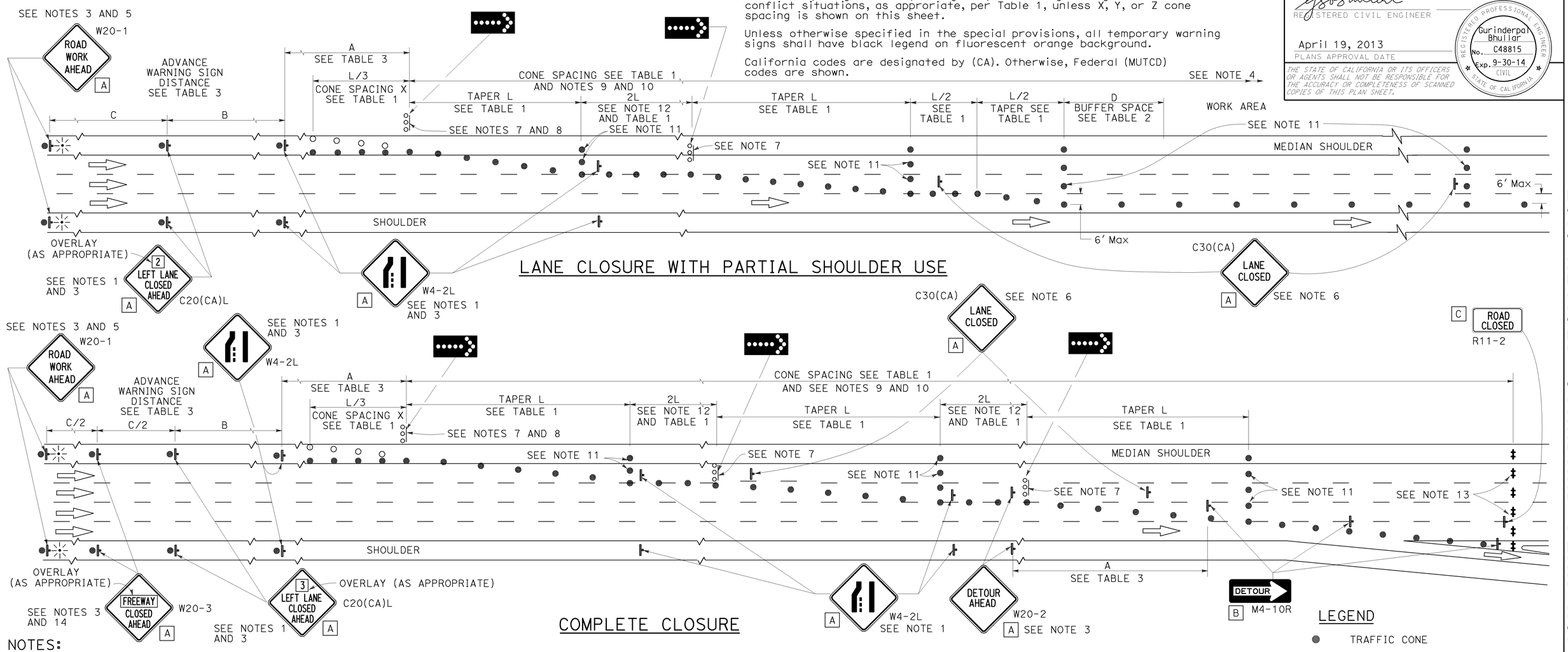
NOTES: See Revised Standard Plan RSP T9 for tables.

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 WITH PARTIAL SHOULDER USE

COMPLETE CLOSURE

NOTES:

1. 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.
2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
3. 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.
4. 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.
5. 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.
6. Place a C30(CA) sign every 2000' throughout length of lane closure.
7. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
8. 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.
9. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
10. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
11. 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.
12. 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.
13. 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.
14. 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

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	31	34

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 2-18-14

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

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:

1. 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.
2. 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.
3. 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

7-15-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	32	34

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 2-18-14

CONDUIT

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
R	r	CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION

TYPE H SERVICE, 28'-10" — TYPE OF INSTALLATION AND POLE HEIGHT ABOVE GRADE

FLASHING BEACON

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

SIGNAL EQUIPMENT

NEW	EXISTING	
C	C	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
PV	PV	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)
		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

SIGNAL EQUIPMENT Cont

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

NOTES:

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

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

7-15-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	33	34

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
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TO ACCOMPANY PLANS DATED 2-18-14

EQUIPMENT IDENTIFICATION

ILLUMINATED SIGN IDENTIFICATION NUMBER:

SIGN No. 12345
10 ISL SCI 1.0

- SIGN NUMBER - PLACE ON POST OR STRUCTURE
- TRANSFORMER RATING (kVA)
- LIGHTING CONTROL TYPE
- NUMBER AND TYPE OF FIXTURES

} DO NOT PLACE ON STANDARD OR STRUCTURE

ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:

12345 - 15'-0"

- MAST ARM LENGTH, IF SHOWN. DO NOT PLACE ON STANDARD OR STRUCTURE
- EQUIPMENT NUMBER - PLACE ON STANDARD OR STRUCTURE. EXISTING EQUIPMENT NUMBERS ARE SHOWN IN PARENTHESIS

CONDUIT AND CONDUCTOR IDENTIFICATION:

1½"C, 2#10, 15#14, 2 DLC, 12P#18 (PAIR)

- NUMBER AND SIZE OF CONDUCTORS AND CABLES
- SIZE OF CONDUIT IN INCHES

ø1, ø2, ø2P, etc.	TRAFFIC PHASE IDENTIFICATION FOR SIGNAL FACES, DETECTORS AND PHASE DIAGRAMS
1 2 3	LEGEND NUMBERS
A B C	EQUIPMENT, SIGNAL POLES, INSTALLATION OR ITEMS
1 2 3	CONDUIT RUN NUMBERS

SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):

19A - 3 - 100

- WIND VELOCITY = 100 mph
- CASE 3 ARM LOADING
- STANDARD TYPE
- STANDARD PLAN SHEET NUMBER
- DETAIL, NUMBER, SECTION, TYPE OR ELEVATION

MISCELLANEOUS EQUIPMENT

NEW	EXISTING	
CMS	cms	CHANGEABLE MESSAGE SIGN
		CLOSED CIRCUIT TELEVISION CAMERA
		HIGHWAY ADVISORY RADIO POLE AND ANTENNA
EMS	ems	EXTINGUISHABLE MESSAGE SIGN
M V	m v	DETECTION DEVICE M = MICROWAVE SENSOR V = VIDEO IMAGE SENSOR

WIRING DIAGRAM LEGEND

- EXTERNAL CONDUCTOR
- CONDUCTOR OR BUS
- TIE POINT
- CONTACTOR COIL
- CONTACTOR, NO CONTACT
- TERMINAL BLOCKS
- CONTACTOR, NC CONTACT
- ENCLOSURE BOND
- GROUNDING ELECTRODE
- CIRCUIT BREAKER
- RECEPTACLE

PULL BOXES

NEW	EXISTING	
		PULL BOX, No. 5 UNLESS OTHERWISE INDICATED OR NOTED
3	9A(21)	PULL BOX, ADDITIONAL DESIGNATIONS OR DESCRIPTIONS

3 No. 3½ PULL BOX
5 No. 5 PULL BOX
6 No. 6 PULL BOX
7 No. 7 (CEILING PULL BOX)
8 No. 8 (PENDANT SOFFIT PULL BOX)
9 No. 9 PULL BOX
9A No. 9A PULL BOX

(C) COMMUNICATIONS PULL BOX
(E) PULL BOX WITH EXTENSION
(S) SPRINKLER CONTROL PULL BOX
(21) ANCHOR BOLTS AND CONDUIT FOR FUTURE INSTALLATION OF TYPE 21 STANDARD
(T) TRAFFIC PULL BOX

VEHICLE DETECTORS

5 J 9 U

- VEHICLE DETECTOR DESIGNATION
- U = UPPER
  L = LOWER
- SLOT NUMBER IN INPUT FILE
- INPUT FILE (I OR J)
- PHASE

NEW	EXISTING	
		TYPE A DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE B DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE C DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE D DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE E DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE Q DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		MAGNETIC DETECTOR
DH	dh	DETECTOR HANDHOLE
		MICROWAVE OR VIDEO DETECTION ZONE

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

7-11-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	R24.8/R32.1	34	34

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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Theresa Aziz Gabriel
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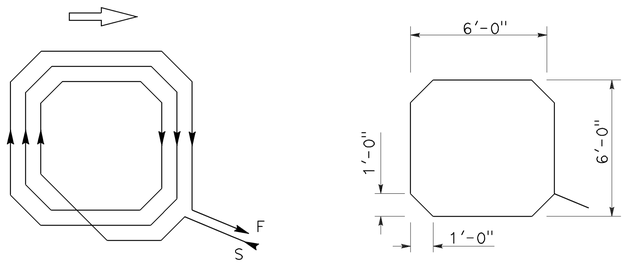
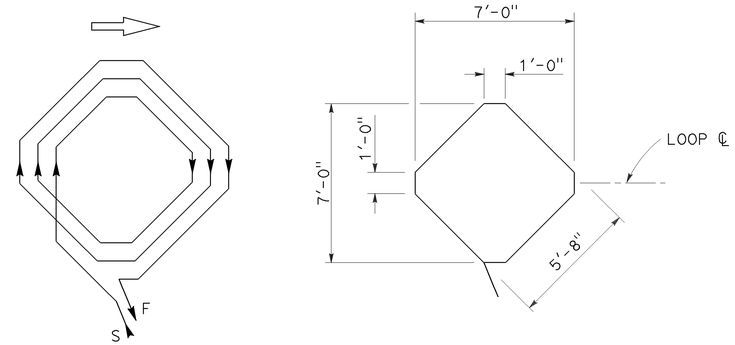
TO ACCOMPANY PLANS DATED 2-18-14

2010 REVISED STANDARD PLAN RSP ES-5B



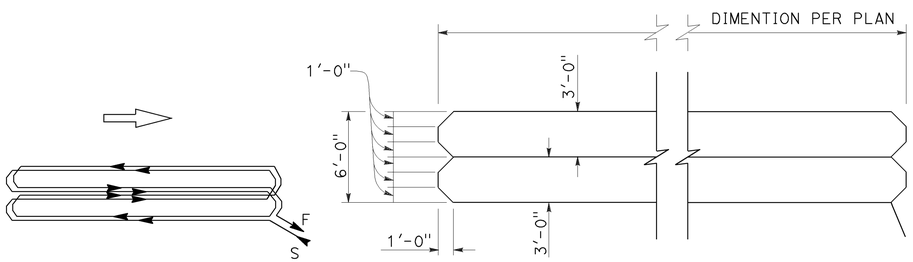
WINDING DETAIL SAWCUT DETAIL

TYPE A LOOP DETECTOR CONFIGURATION



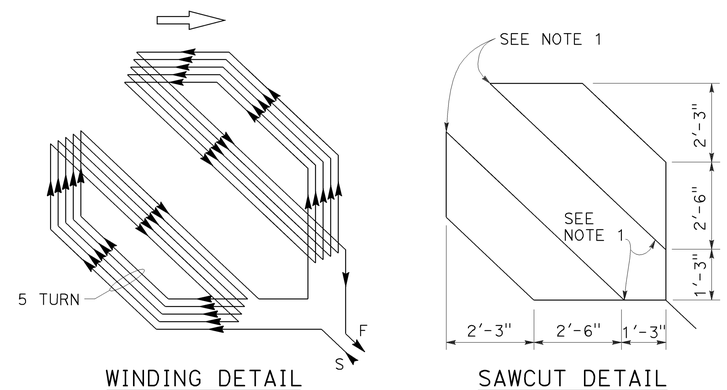
WINDING DETAIL SAWCUT DETAIL

TYPE B LOOP DETECTOR CONFIGURATION



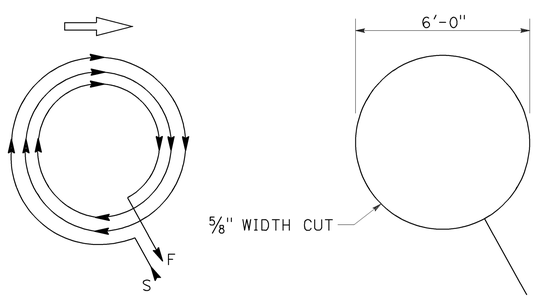
WINDING DETAIL SAWCUT DETAIL

TYPE C LOOP DETECTOR CONFIGURATION



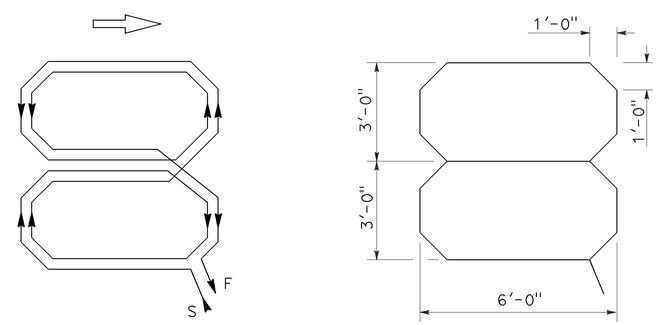
WINDING DETAIL SAWCUT DETAIL

TYPE D LOOP DETECTOR CONFIGURATION



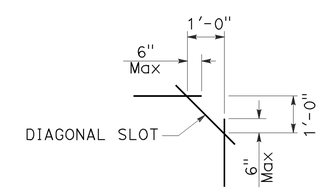
WINDING DETAIL SAWCUT DETAIL

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.

REVISED STANDARD PLAN RSP ES-5B

7-9-13