Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	1	45

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
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22	CONSTRUCTION AREA SIGNS
23-29	TRAFFIC HANDLING DETAILS
30	PAVEMENT DELINEATION DETAILS
31-33	PAVEMENT DELINEATION QUANTITIES
34	SUMMARY OF QUANTITIES
35-36	ELECTRICAL PLANS
37-45	NEW AND REVISED STANDARD PLANS

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

STATE OF CALIFORNIA

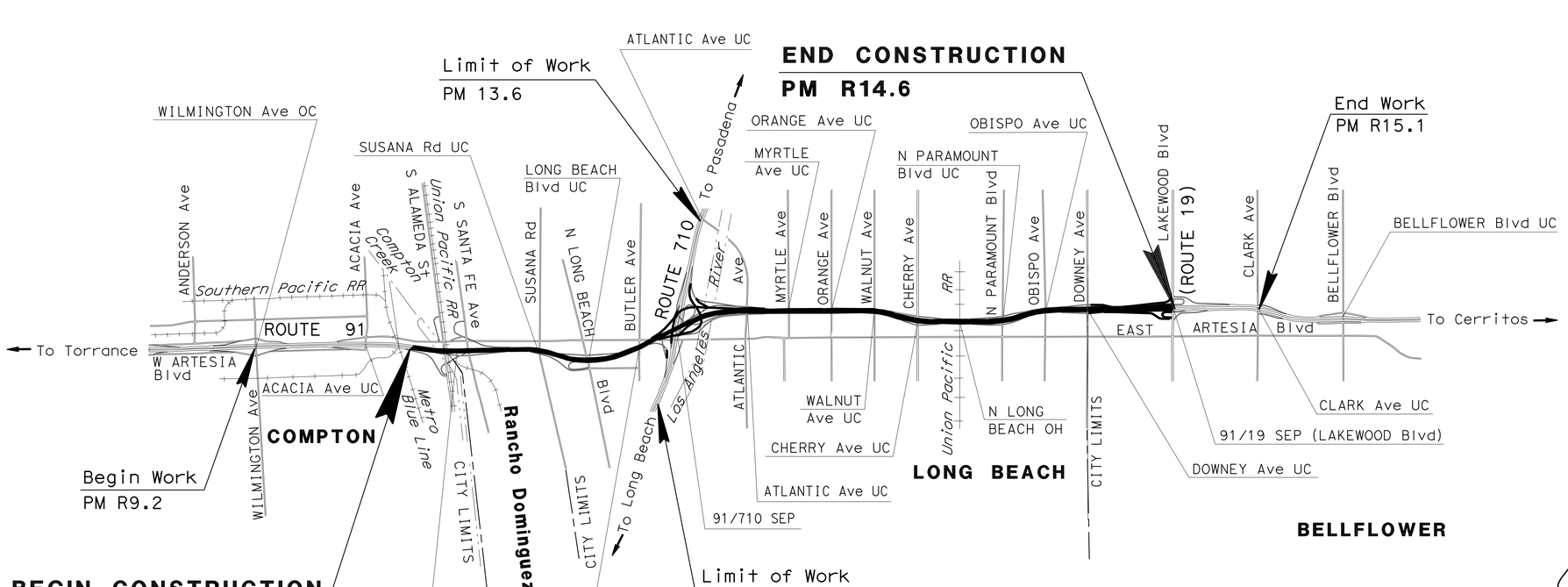
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY

IN LOS ANGELES COUNTY IN COMPTON, LONG BEACH, AND BELLFLOWER FROM 0.1 MILE WEST OF COMPTON CREEK BRIDGE AND OVERHEAD TO ROUTE 91/19 SEPARATION

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

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 1-11-12

January 30, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — CAM CHAU — No. 70305 — Exp. 9-30-12 — CIVIL — STATE OF CALIFORNIA

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

CONTRACT No.	07-3Y9504
PROJECT ID	0700020223

LAST REVISION 01-30-12 — DATE PLOTTED => 26-JAN-2012 — TIME PLOTTED => 11:00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	2	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

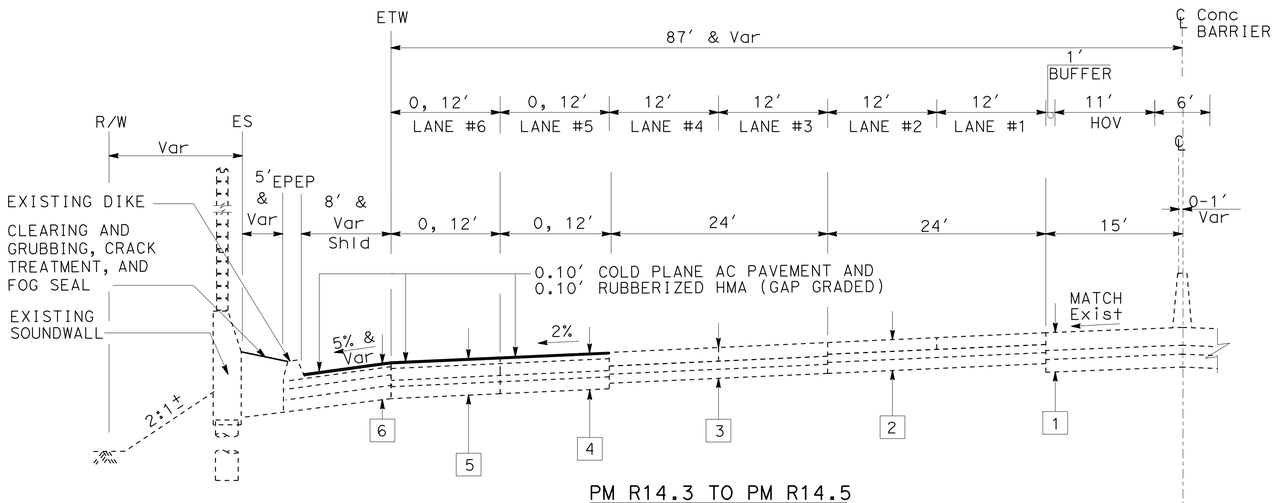
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

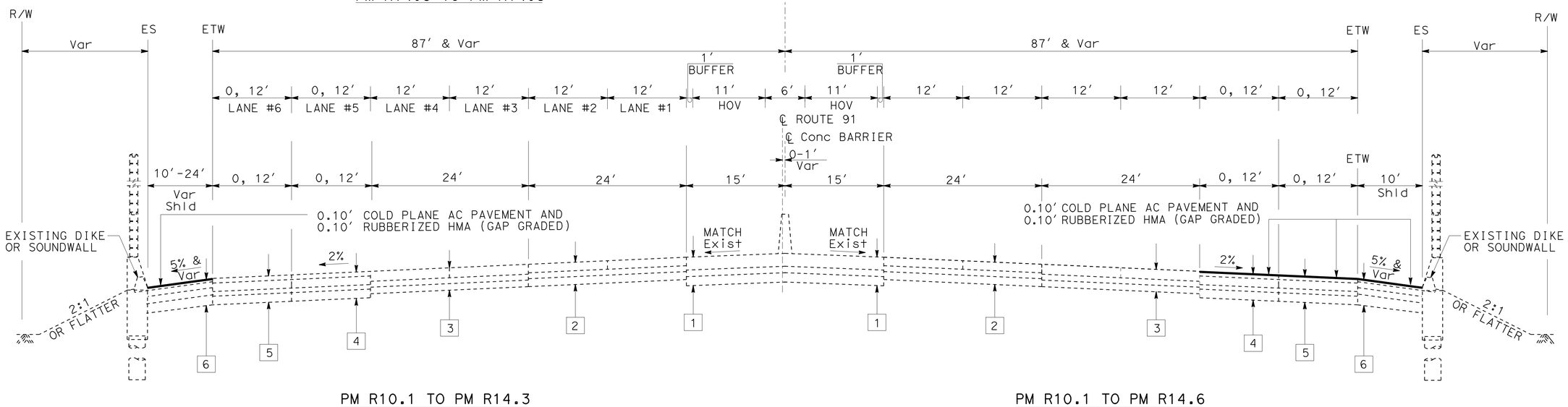
1. DIMENSIONS OF THE PAVEMENT STRUCTURAL ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
4. EXISTING DRAINAGE INLETS HAVE NOT BEEN PLOTTED ON THESE PLANS.
5. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
6. OMIT COLD PLANING AND RHMA (GAP GRADED) OVERLAY ON BRIDGE DECKS AND PCC PAVEMENT.
7. SEE LAYOUT SHEETS FOR LOCATIONS.

ABBREVIATION:

RHMA - RUBBERIZED HOT MIX ASPHALT

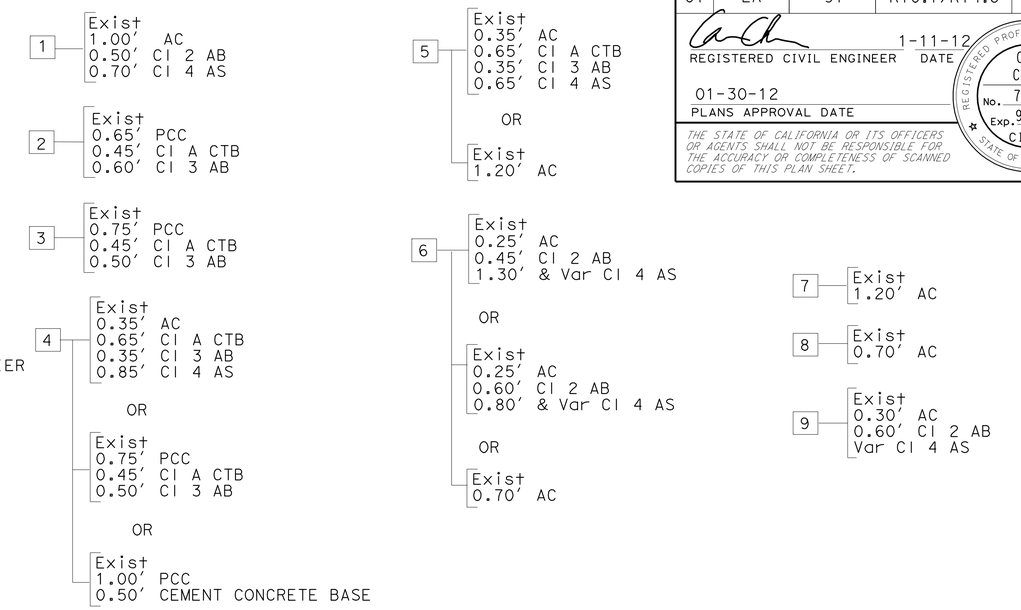


PM R14.3 TO PM R14.5



PM R10.1 TO PM R14.3

PM R10.1 TO PM R14.6



TYPICAL STRUCTURAL SECTIONS

ROUTE 91

TYPICAL CROSS SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:00

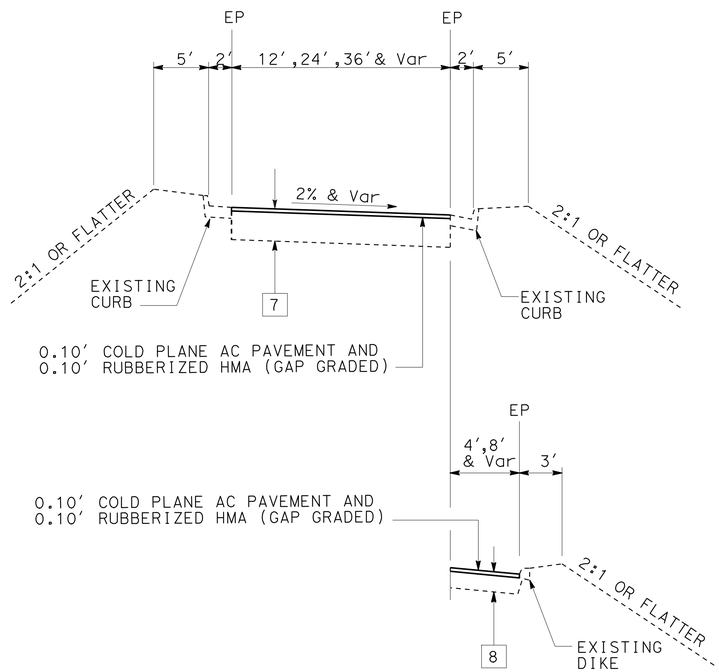
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	3	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

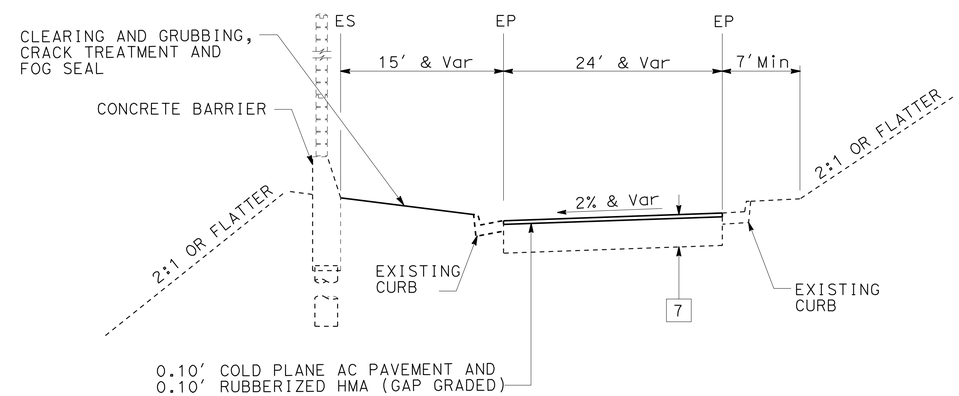
01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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



RAMP (WITHOUT SOUND WALL)



RAMP (WITH SOUND WALL)

TYPICAL CROSS SECTIONS

NO SCALE

X-2

CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED
FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	4	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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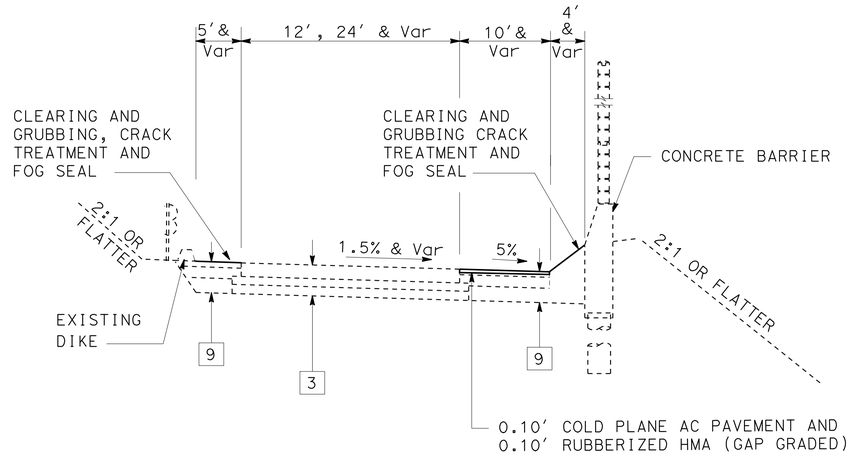
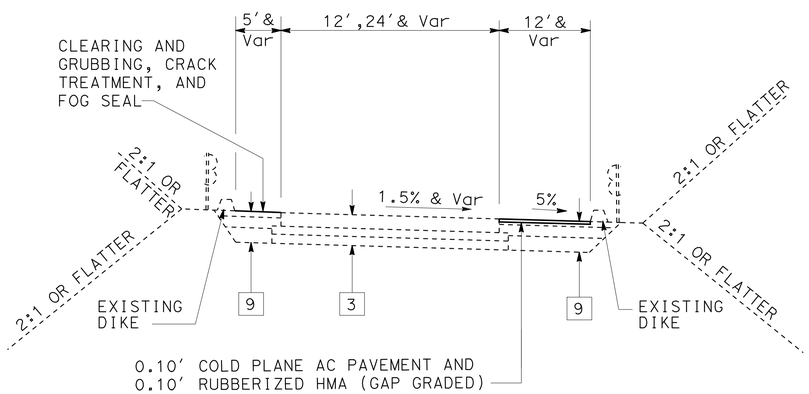


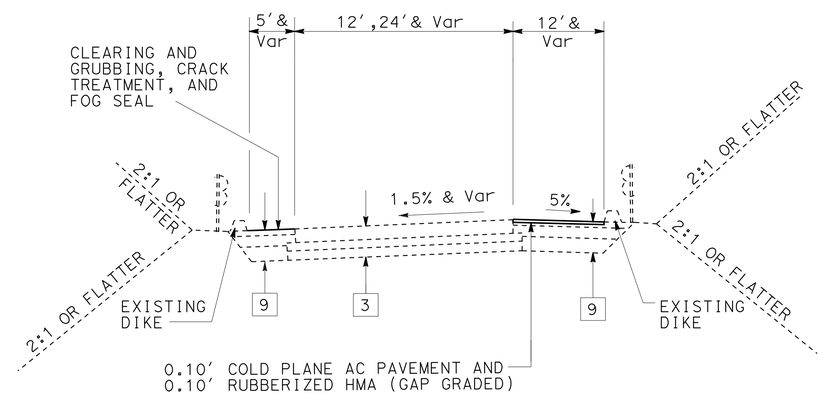
SB Rte 710 TO WB Rte 91 Conn



WB Rte 91 TO SB Rte 710 Conn

NB Rte 710 TO EB Rte 91 Conn

WB Rte 91 TO NB Rte 710 Conn



EB Rte 91 TO NB Rte 710 Conn

EB Rte 91 TO SB Rte 710 Conn

TYPICAL CROSS SECTIONS

NO SCALE

X-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	5	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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NOTE:

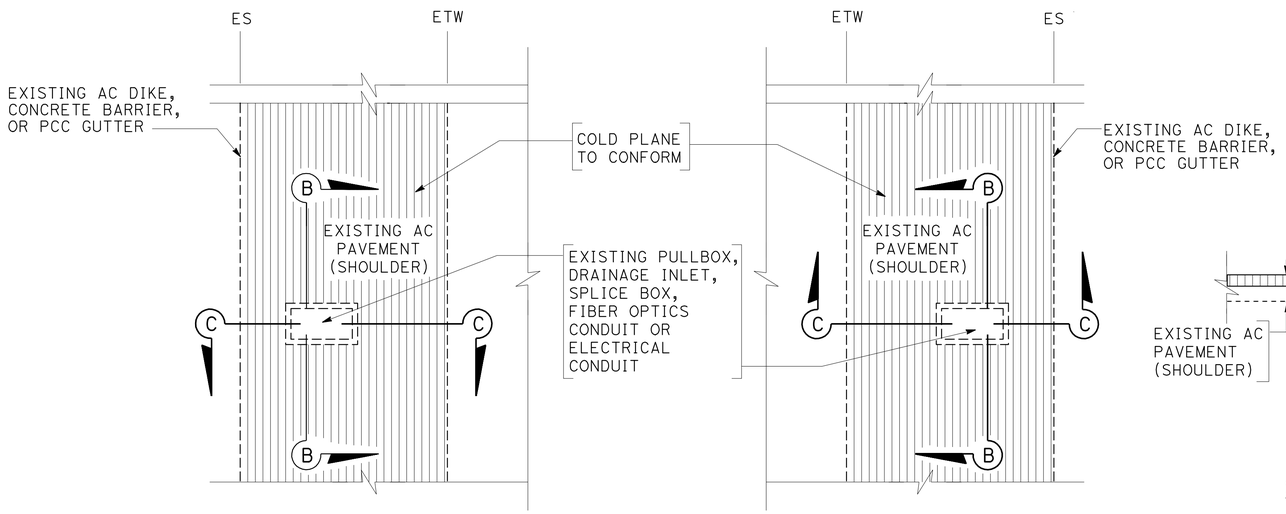
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE

LEGEND:

0.10' COLD PLANE AC PAVEMENT AND 0.10' RHMA (GAP GRADED)

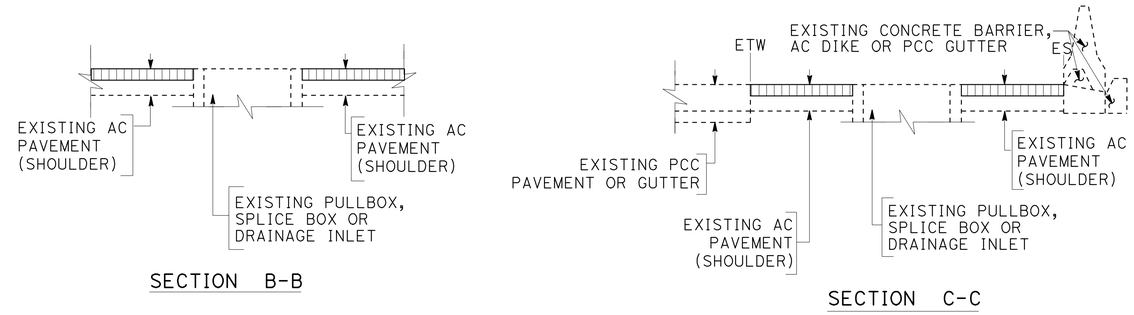
ABBREVIATIONS:

RHMA - RUBBERIZED HOT MIX ASPHALT
BOH - BRIDGE & OVERHEAD



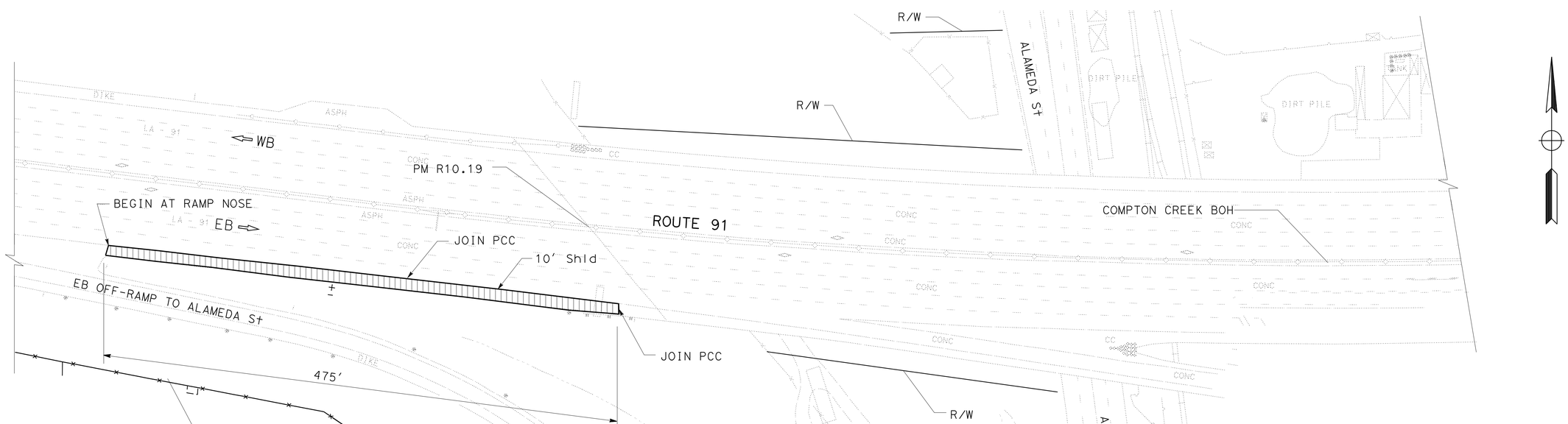
FIBER OPTIC PULLBOX, DRAINAGE INLET OR SPLICEBOX (VARIOUS LOCATIONS)

NO SCALE



TYPICAL FIBER OPTIC PULLBOX, SPLICE BOX OR DRAINAGE INLET

NO SCALE



LAYOUT

SCALE 1" = 50'

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY / DATE REVISED

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	6	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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NOTE:

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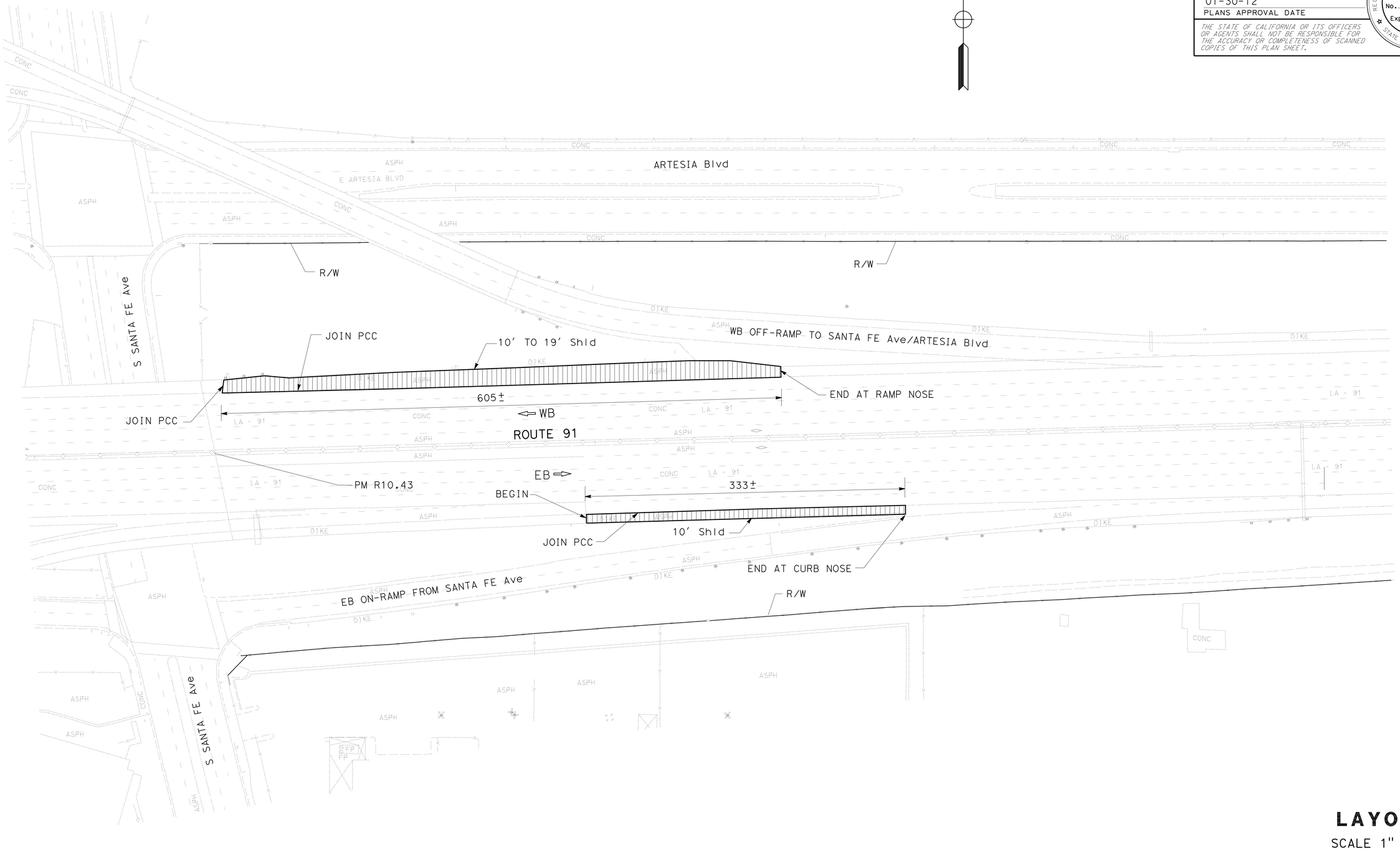

LAYOUT

SCALE 1" = 50'

L-2

REVISED BY	DATE REVISED
CAM CHAU	HAMID SAADATNEJADI
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	HAMID SAADATNEJADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	7	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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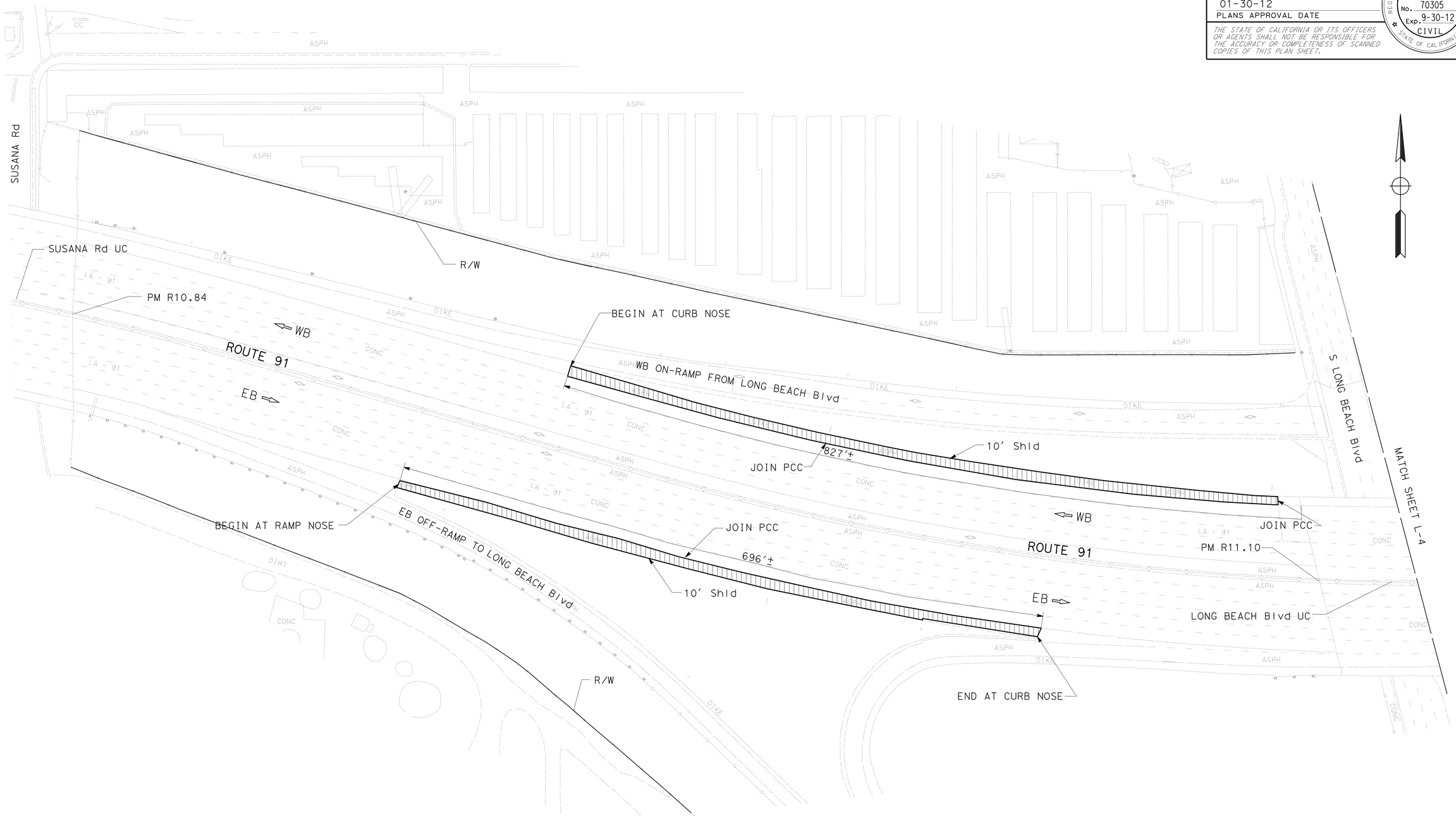

LAYOUT

SCALE 1" - 50'

L-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	8	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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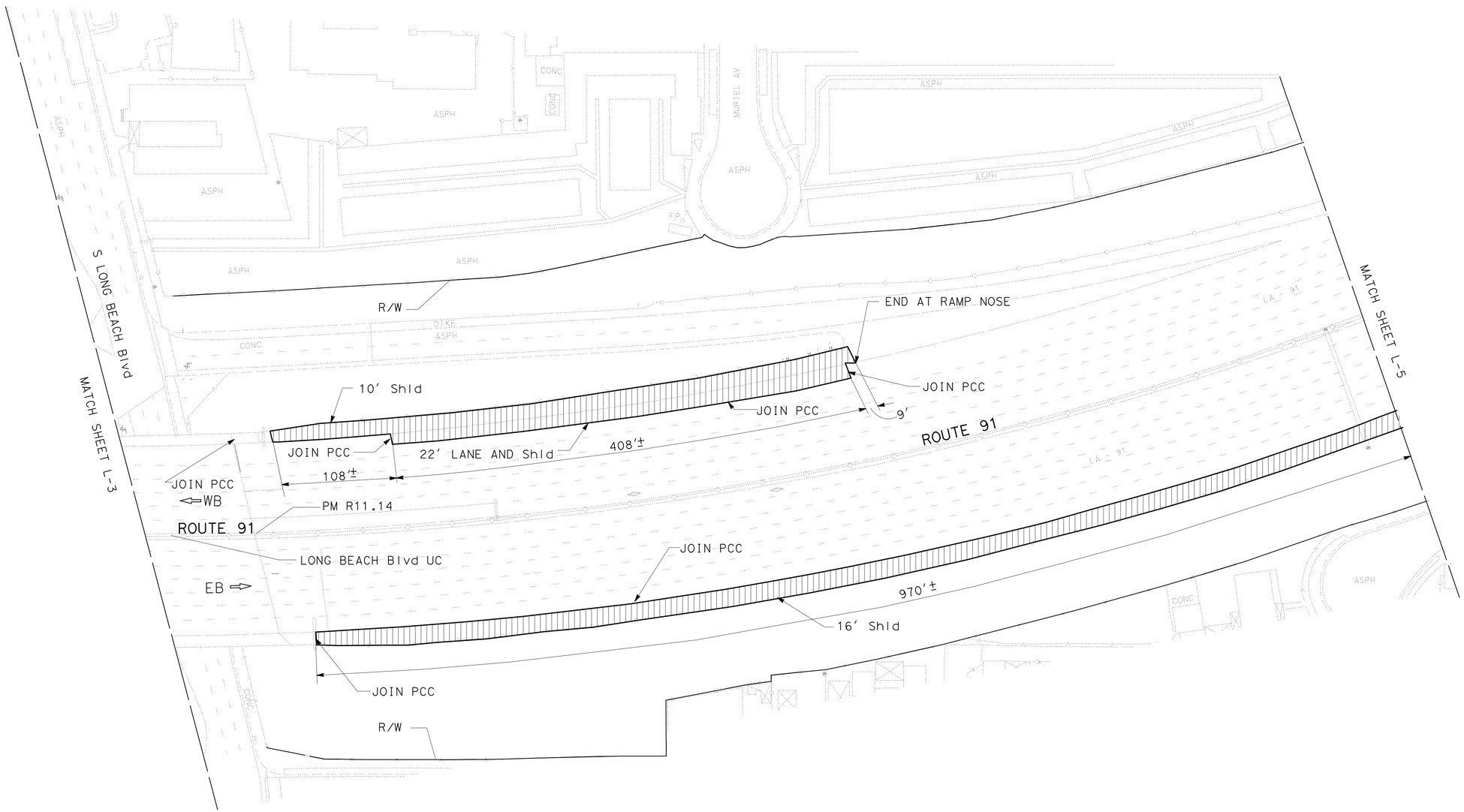
NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE



LAYOUT

SCALE 1" = 50'

L-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	9	45

REGISTERED CIVIL ENGINEER DATE 1-11-12

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE

LAYOUT

SCALE 1" = 50'

L-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	10	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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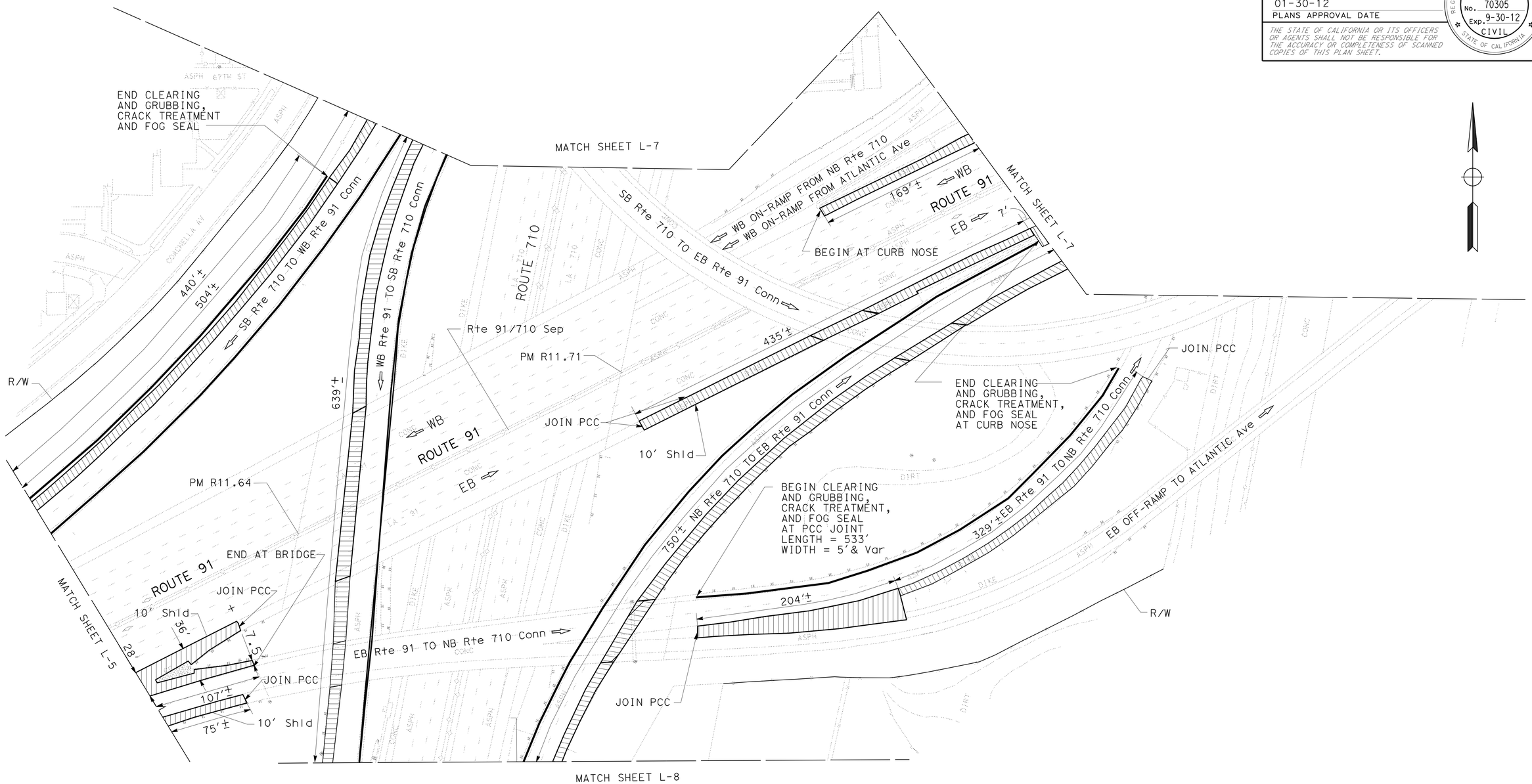
NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE



LAYOUT

SCALE 1" = 50'

L-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	11	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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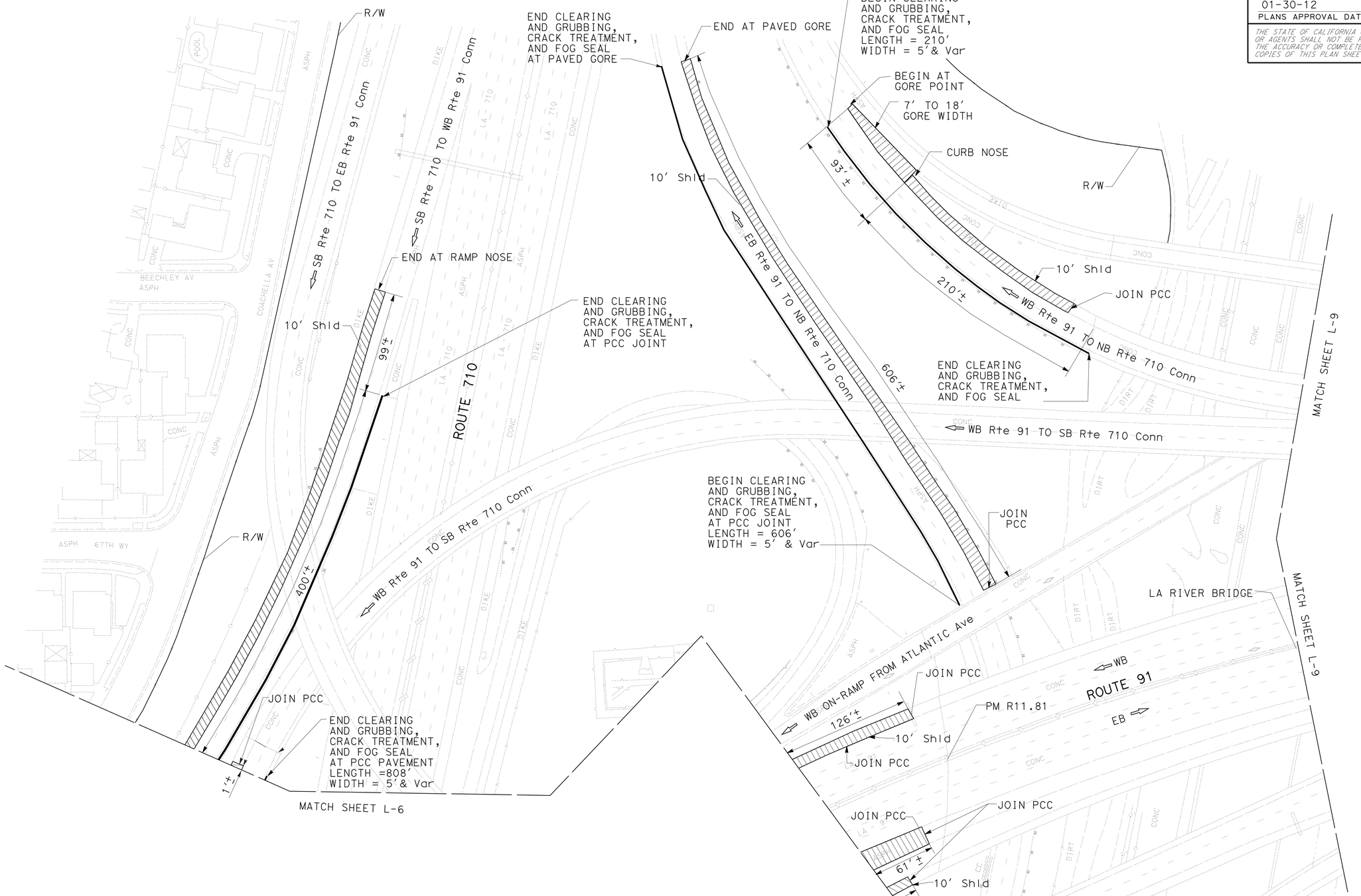
NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE



LAYOUT

SCALE 1" = 50'

L-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	12	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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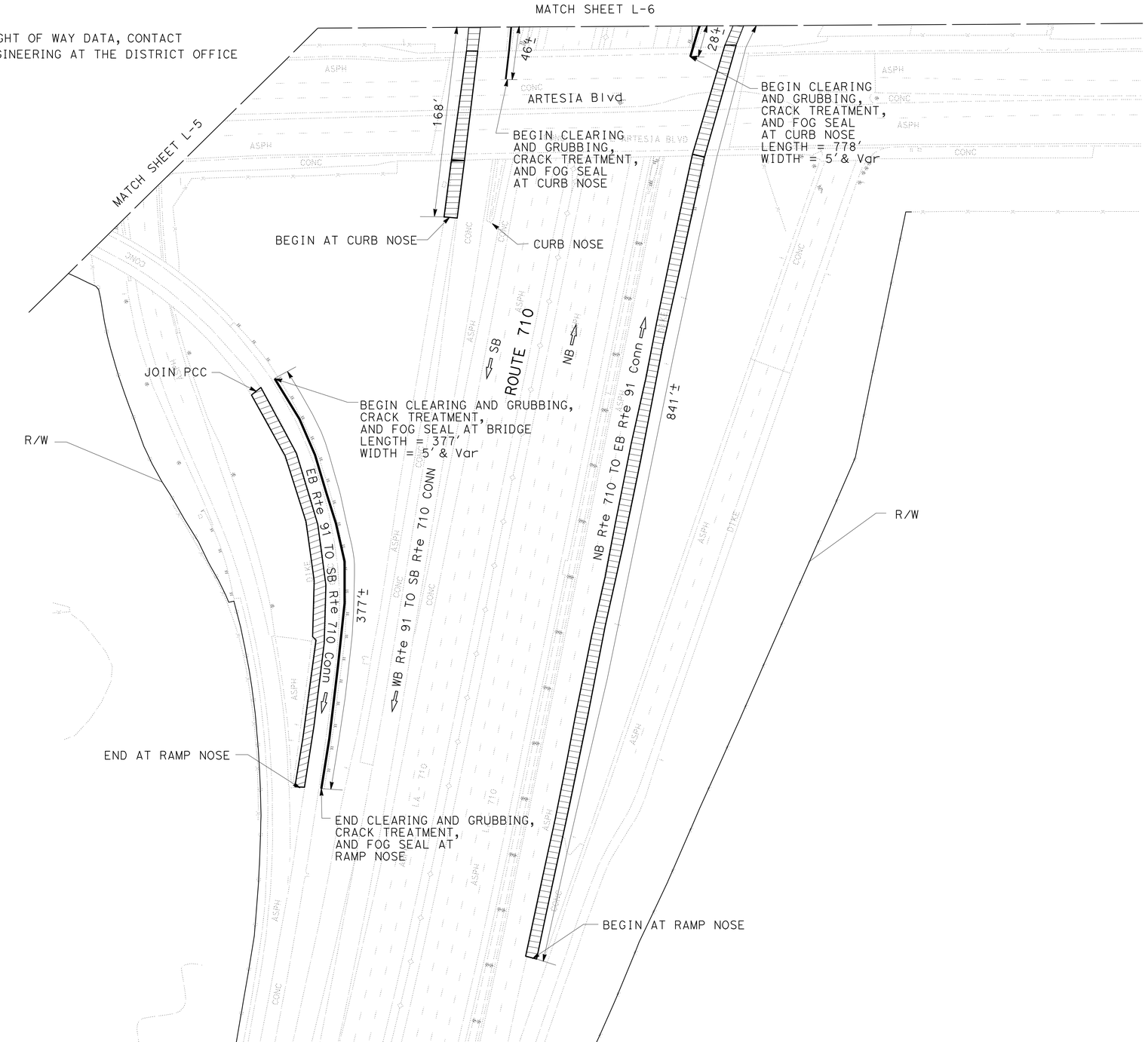
NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE



LAYOUT

SCALE 1" = 50'

L-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	13	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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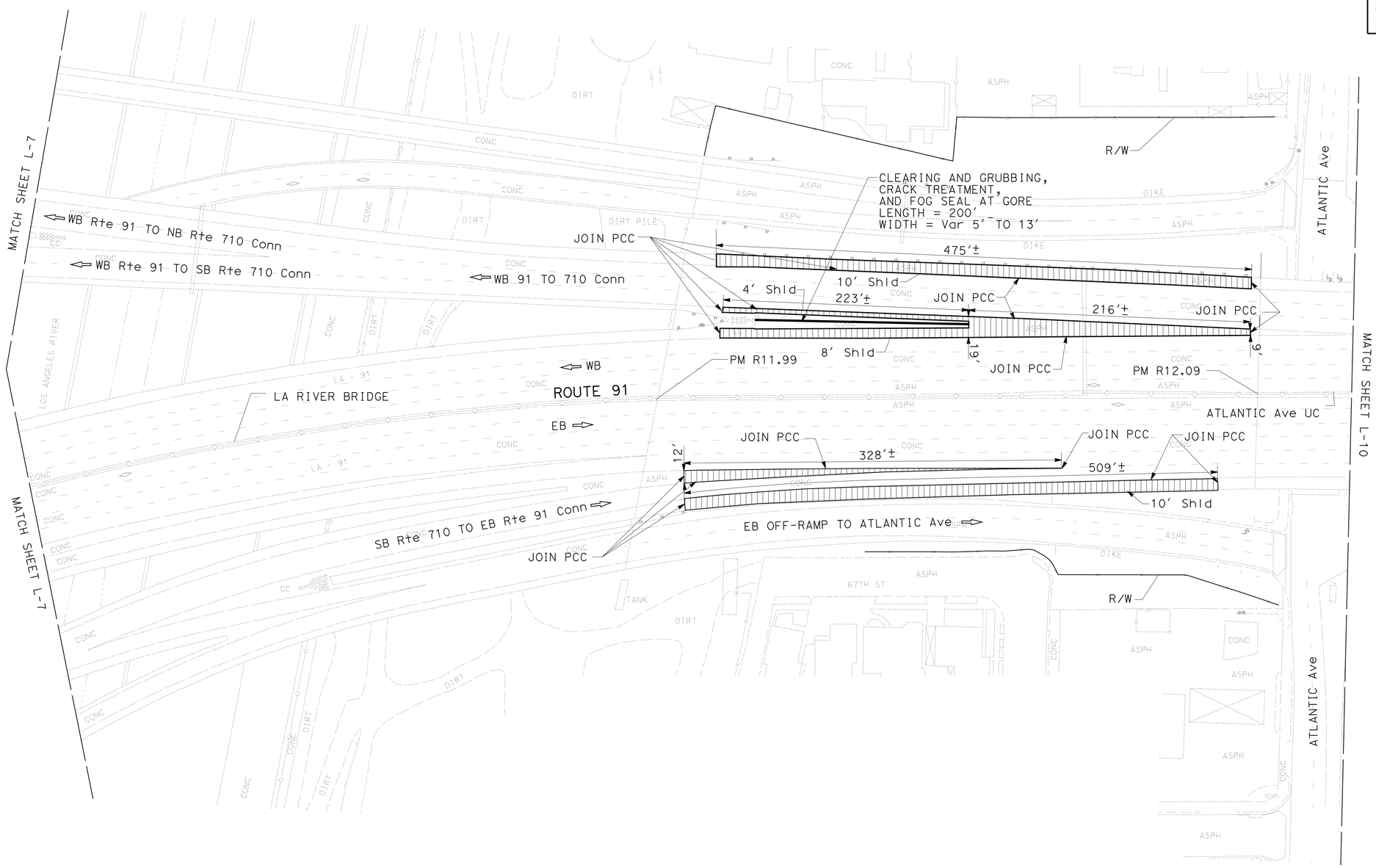
NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE



LAYOUT

SCALE 1" = 50'

L-9

REVISED BY	DATE REVISED
CAM CHAU	HAMID SAADATNEJADI
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	HAMID SAADATNEJADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 01-30-12 DATE PLOTTED => 27-JAN-2012 TIME PLOTTED => 14:24

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	14	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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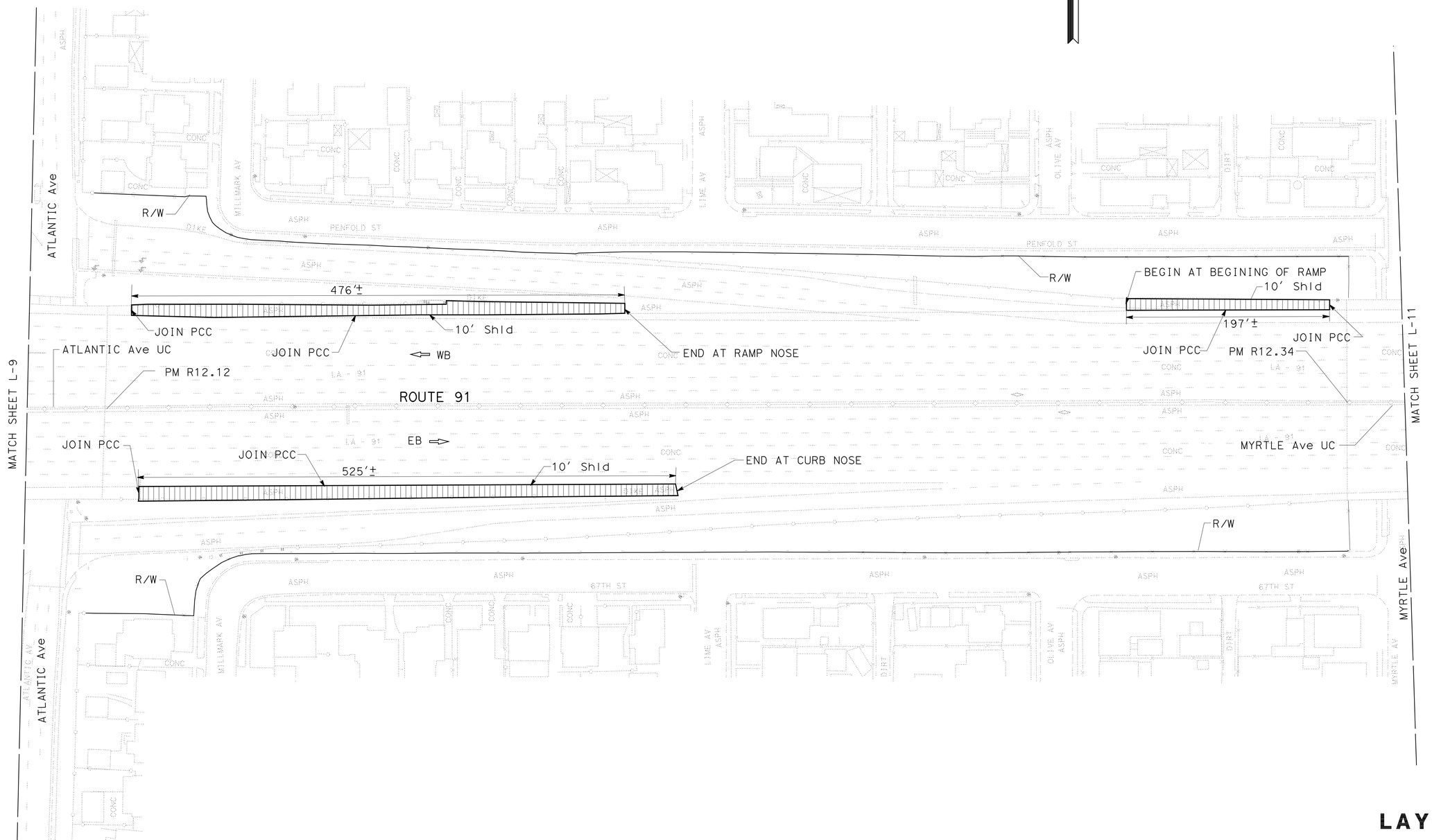
NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE



LAYOUT

SCALE 1" = 50'

L-10

REVISED BY	DATE REVISED

CAM CHAU — HAMID SAADATNEJADI

CALCULATED-DESIGNED BY — CHECKED BY

FUNCTIONAL SUPERVISOR — HAMID SAADATNEJADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 01-30-12 — DATE PLOTTED => 26-JAN-2012 — TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	15	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

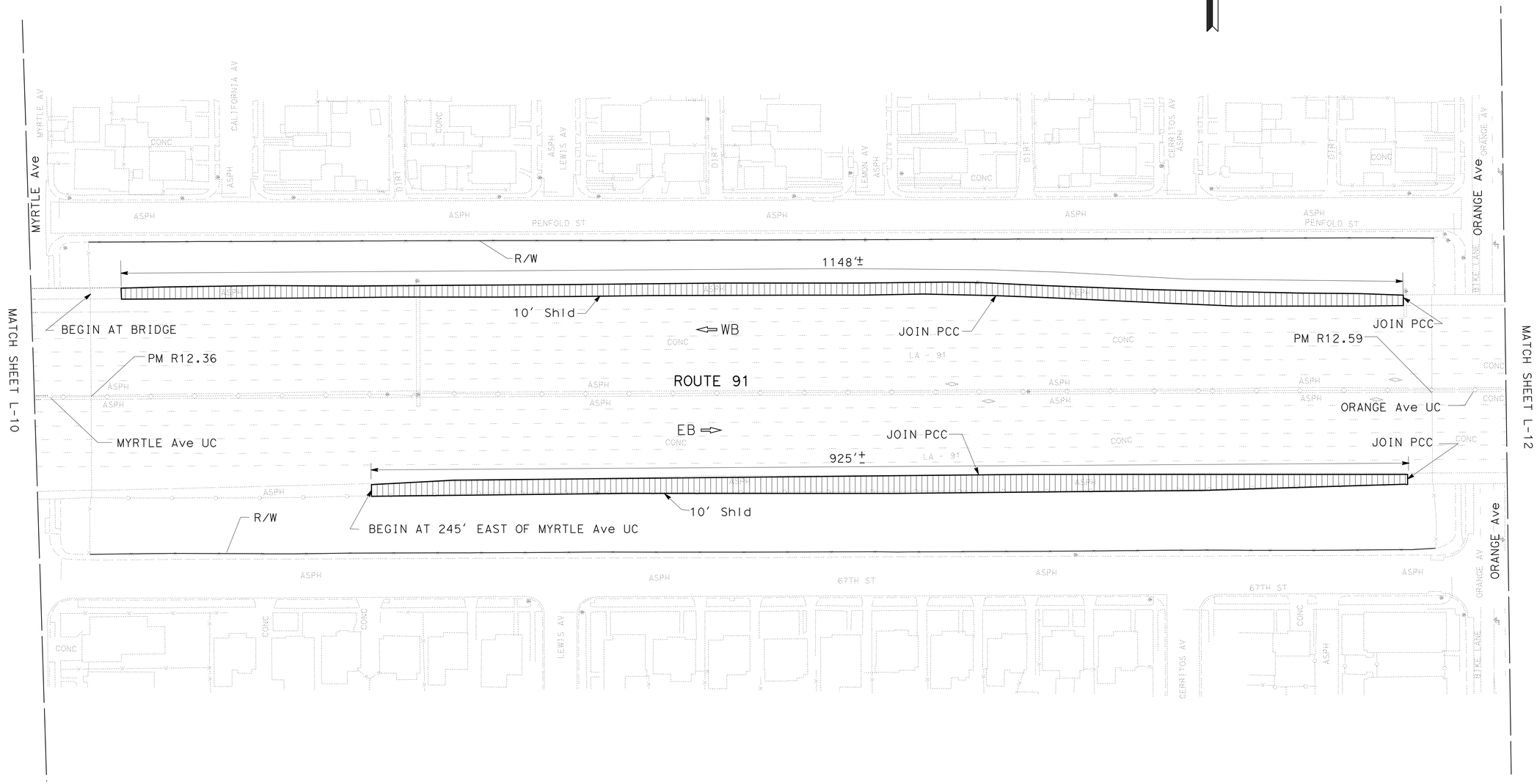
01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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

NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE



LAYOUT

SCALE 1" = 50'

L-11

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY	CHECKED BY
CAM CHAU	HAMID SAADATNEJADI

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	16	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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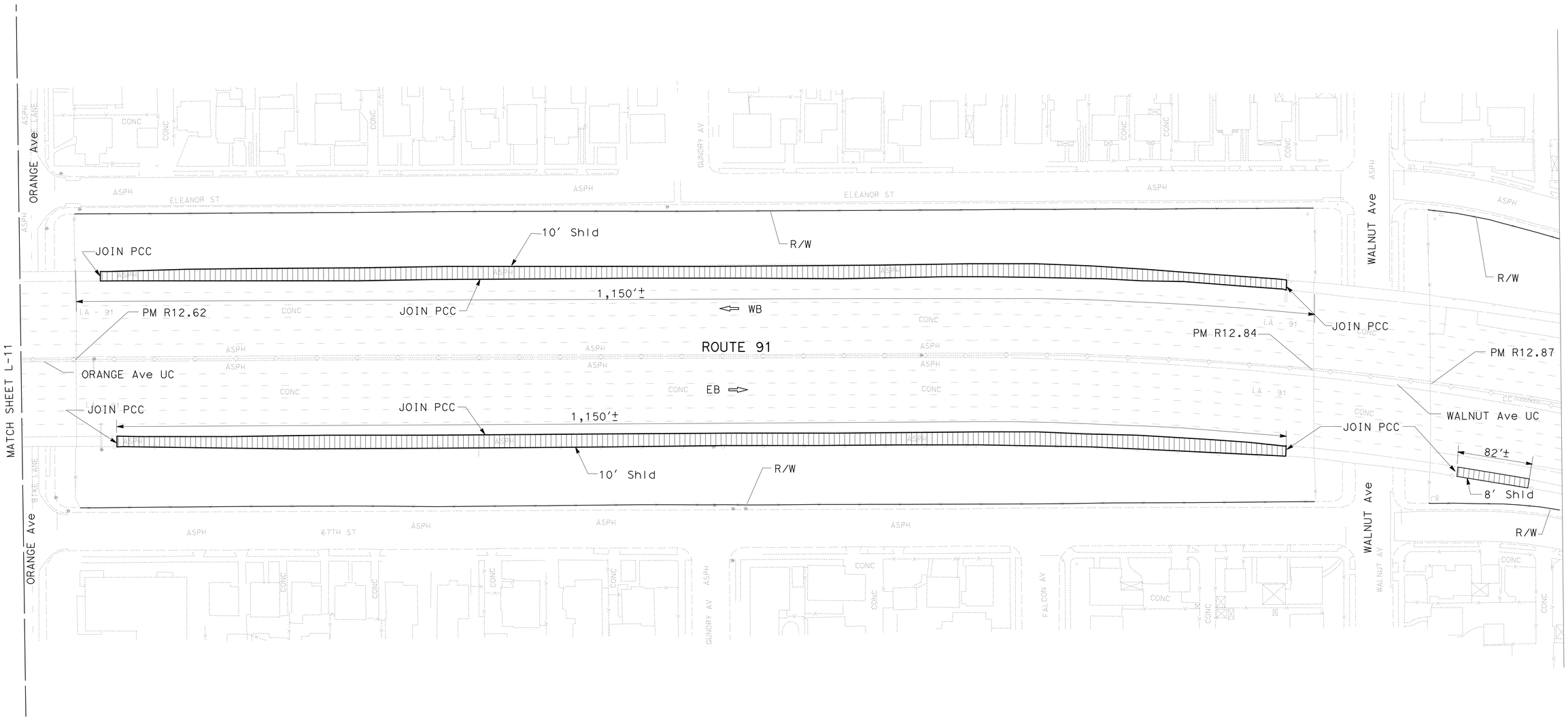

LAYOUT

SCALE 1" = 50'

L-12

REVISED BY	DATE REVISED
CAM CHAU	HAMID SAADATNEJADI

CALCULATED-DESIGNED BY	CHECKED BY

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:02

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	17	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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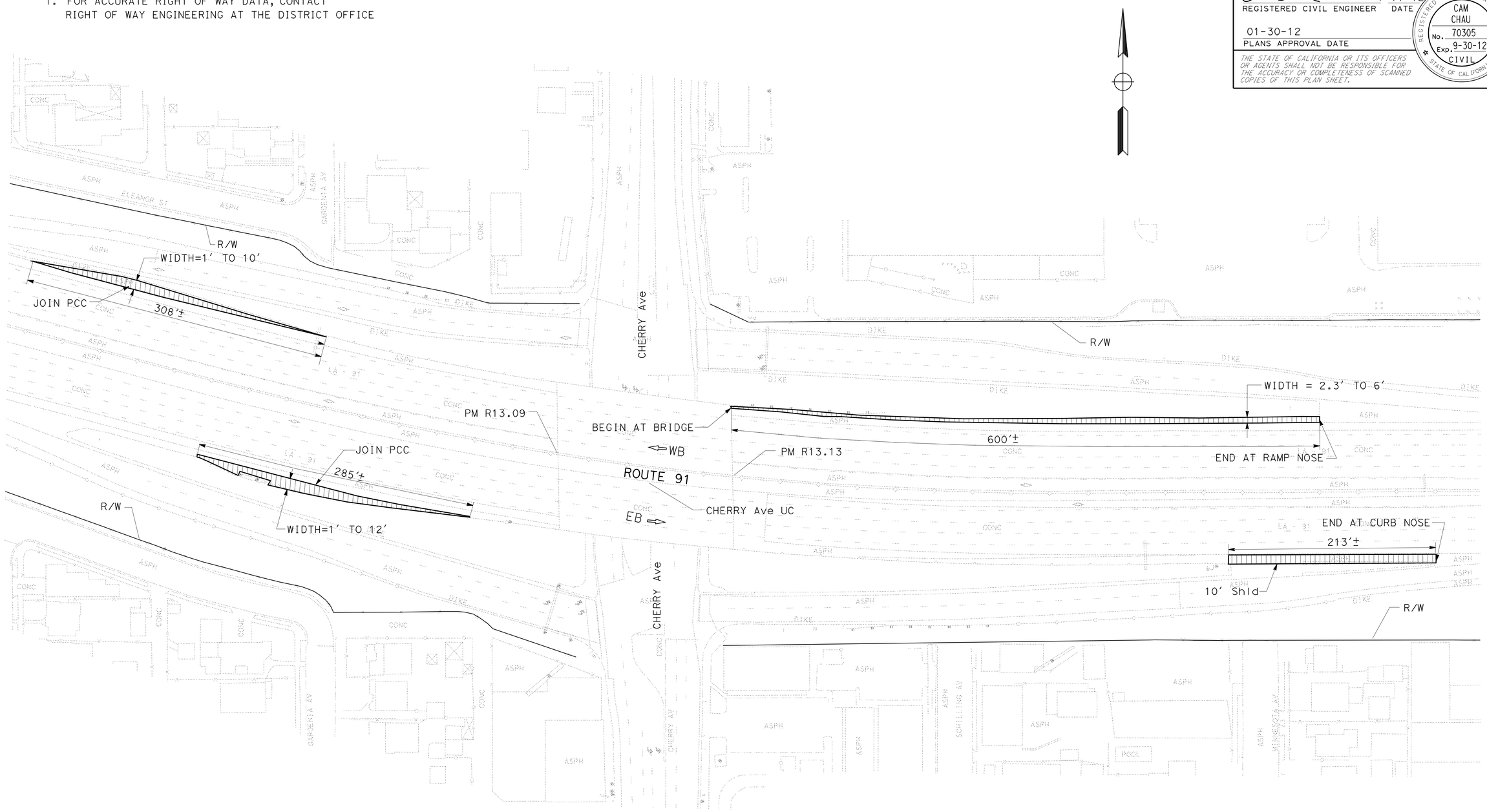


LAYOUT

SCALE 1" = 50'

L-13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI

REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:02

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	18	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

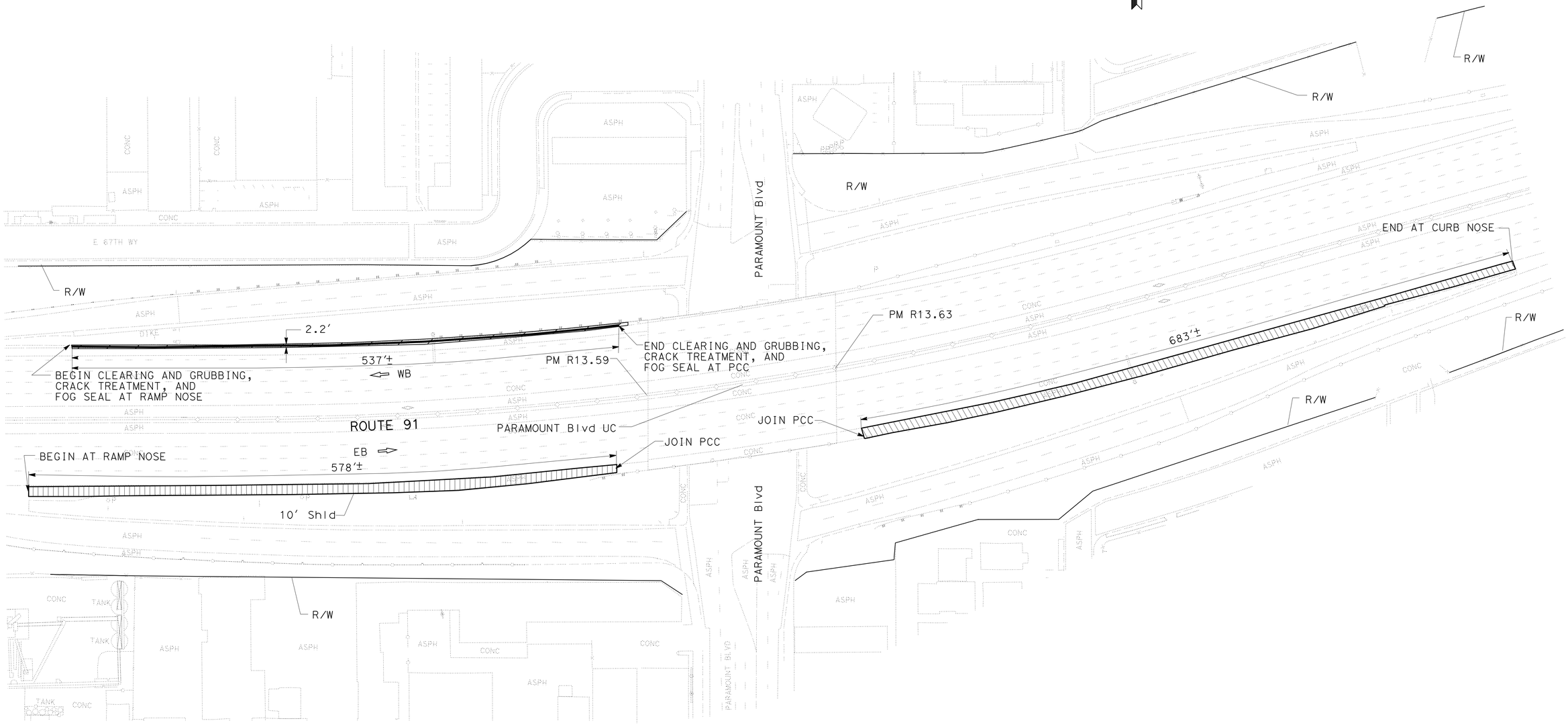
01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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

NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE



LAYOUT
SCALE 1" = 50′

L-14

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:02

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	19	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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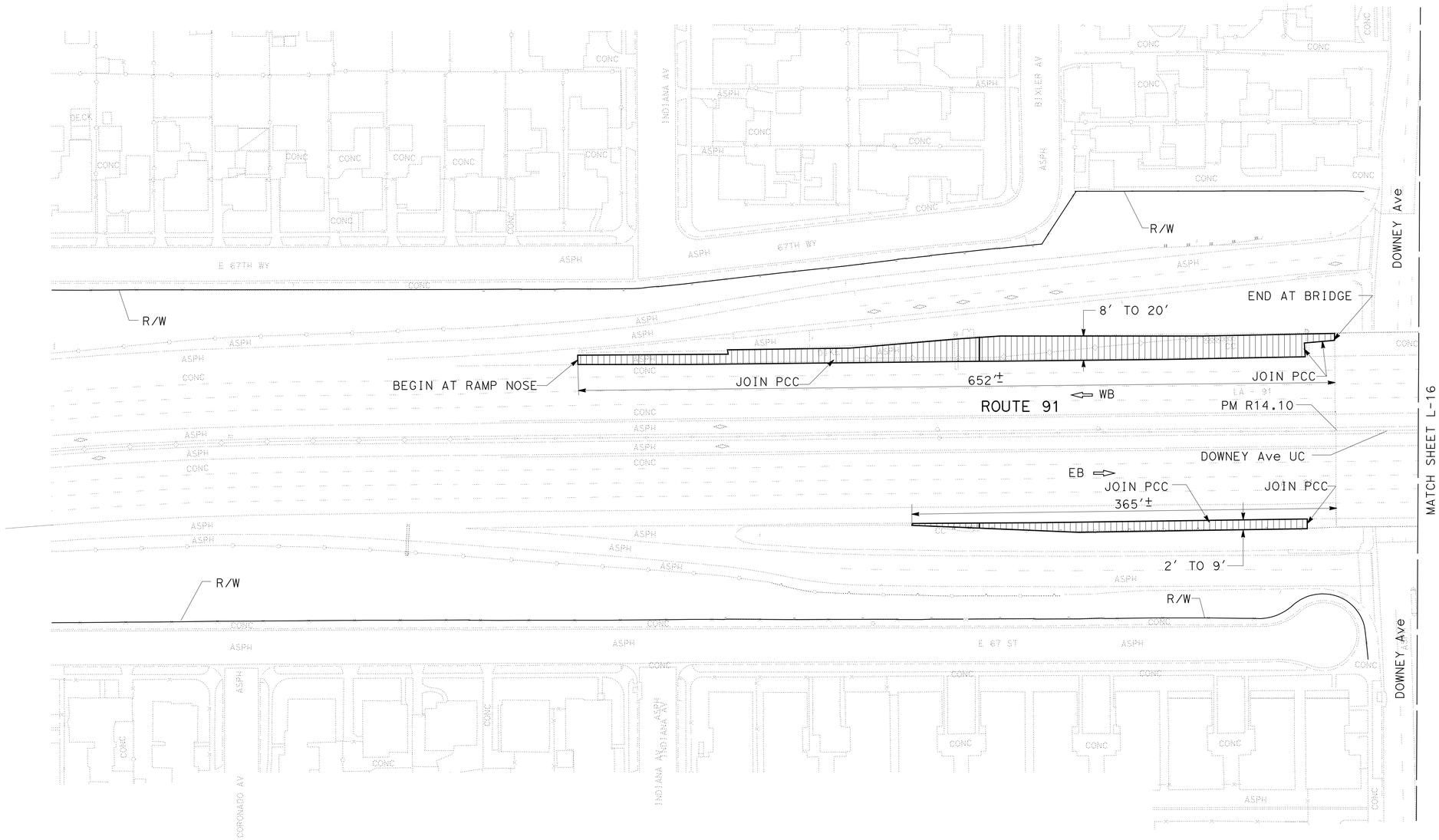

LAYOUT

SCALE 1" = 50'

L-15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:02

BORDER LAST REVISED 7/2/2010 | USERNAME => s122436 | DGN FILE => 0700020223ea015.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1959 | PROJECT NUMBER & PHASE 07000202231

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	20	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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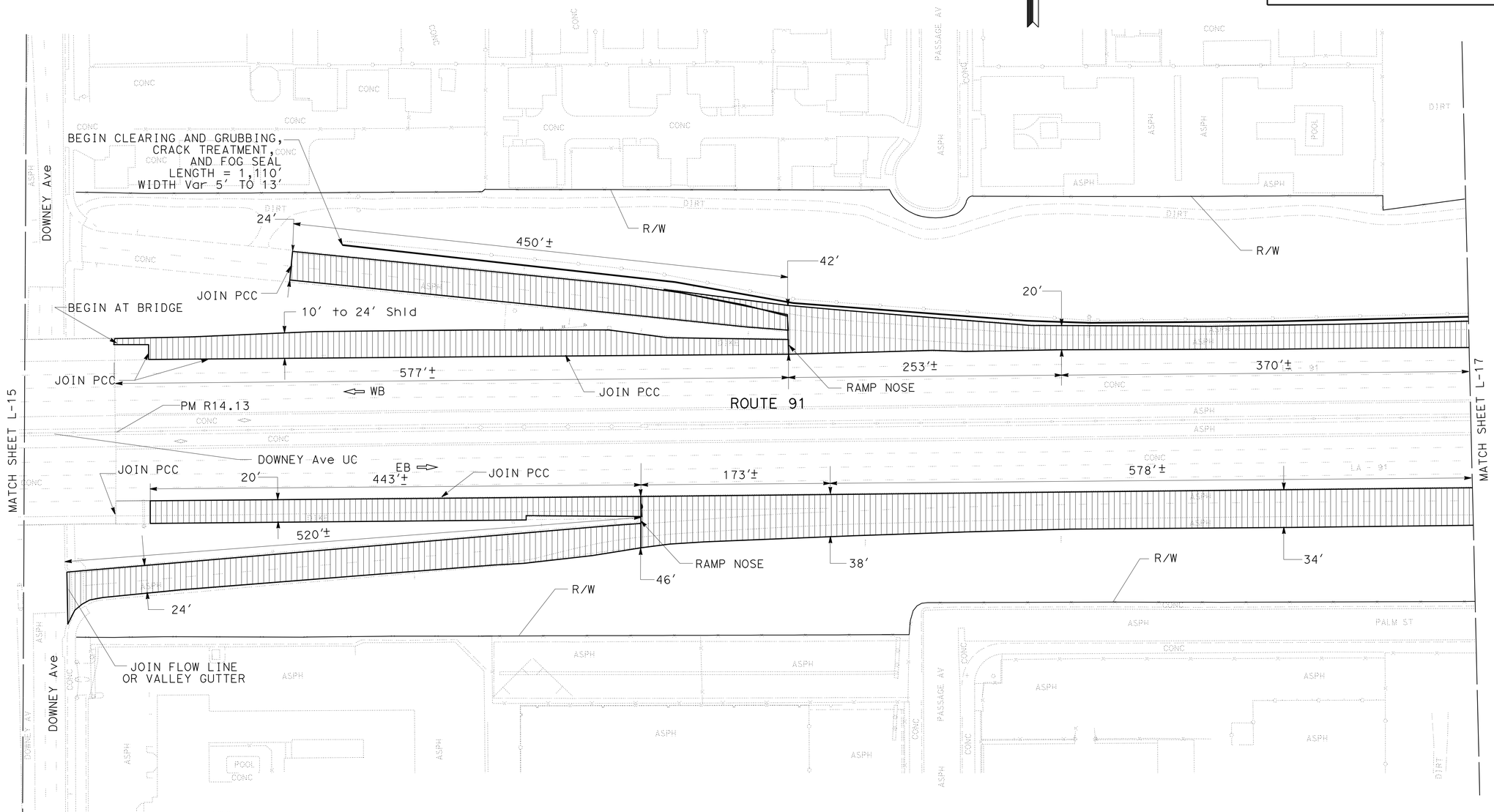

LAYOUT

SCALE 1" = 50'

L-16

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:02

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	21	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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

NOTE:

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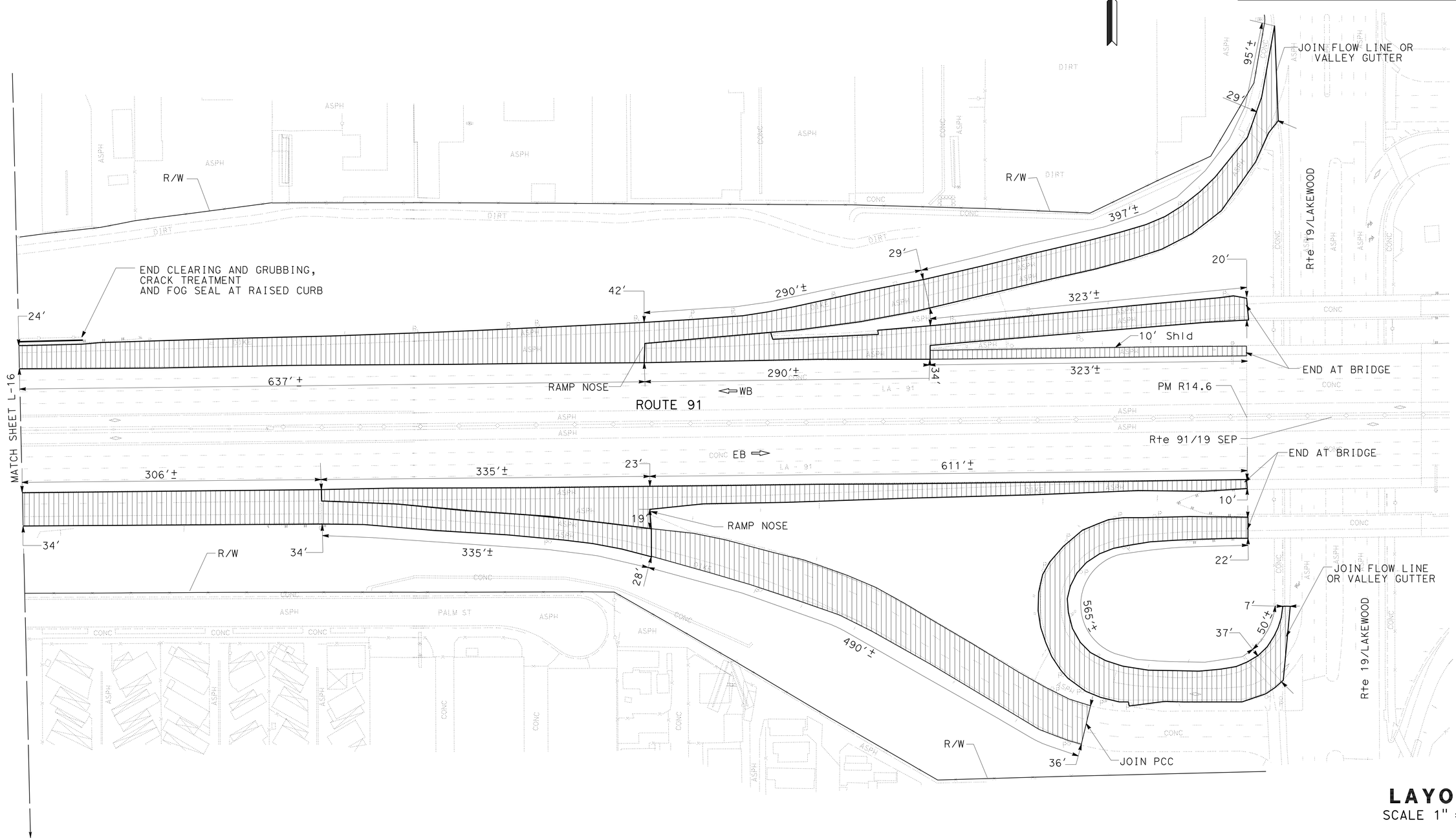


LAYOUT
SCALE 1" = 50'

L-17

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:02

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	22	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

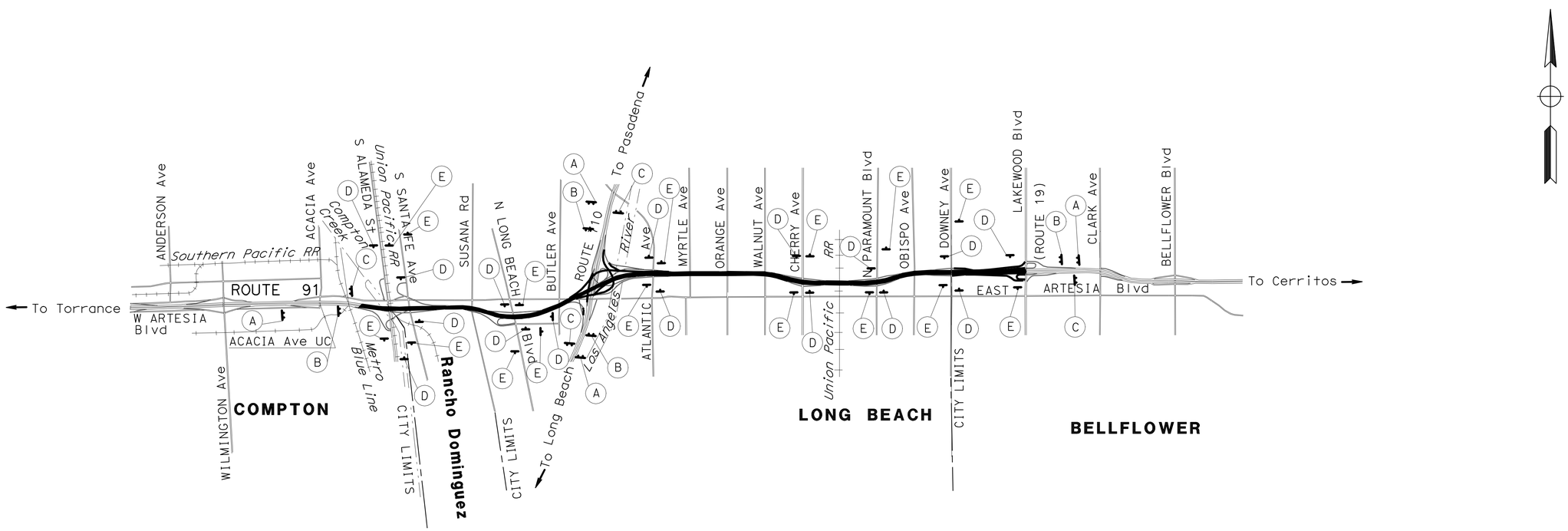
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. LOCATIONS OF CONSTRUCTION AREA SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN NUMBER	SIGN CODE FEDERAL	SIGN CODE CALIFORNIA	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
A		C40	144" x 60"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 6" x 6"	4
B	W20-1		48" x 48"	ROAD WORK AHEAD	1 - 4" x 6"	4
C	G20-2		48" x 24"	END ROAD WORK	1 - 4" x 6"	4
D	W20-1		36" x 36"	ROAD WORK AHEAD	1 - 4" x 4"	16
E	G20-2		36" x 18"	END ROAD WORK	1 - 4" x 4"	16



CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:02

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	23	45

Denis Katayama 06-14-11
REGISTERED CIVIL ENGINEER DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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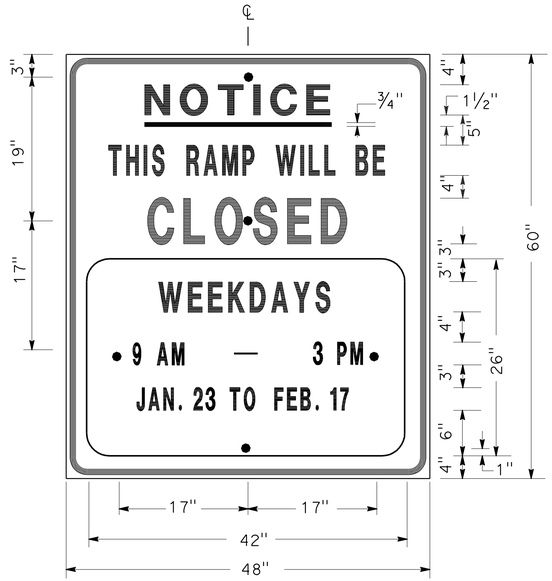
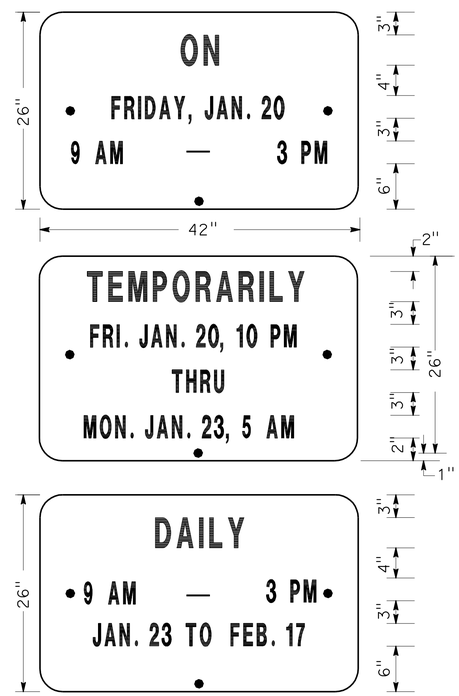


SIGN SP-1



ALTERNATE OVERLAY PANELS (TYPICAL)

SPECIAL ADVANCE NOTICE PUBLICITY SIGN

NOTES: (SIGN SP-1)

1. SIGNS SHALL HAVE ORANGE RETROREFLECTORIZED BACKGROUND WITH BLACK BORDER AND LETTERS.
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 6' ABOVE GROUND.

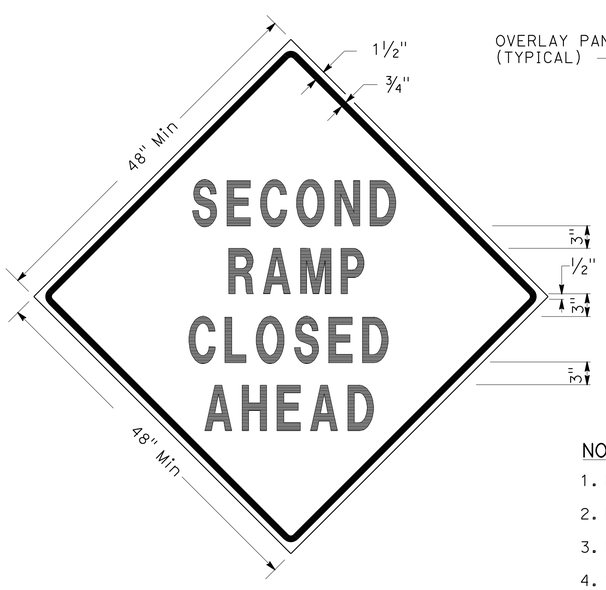
SIZE	BORDER WIDTH	MARGIN WIDTH	LETTER SIZE					CORNER RADIUS
			LINE 1	LINE 2*	LINE 3	LINE 4	LINE 5,6 & 7*	
48"x60"	1 1/4"	3/4"	4E	4D	6E	4D		3"
42"x26"	OVERLAY						3D	1 1/2"
* CONDENSED SPACING IF NECESSARY								

SIGN SP-4

NOTES: (SIGN SP-4)

1. LETTERS - 6" SERIES C.
2. LETTERS AND BORDERS - BLACK ON RETROREFLECTORIZED WHITE BACKGROUND.
3. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
4. SIGNS SHALL BE PLACED AT RAMP ENTRANCES IN ADDITION TO SIGNS POSTED IN ACCORDANCE WITH STANDARD PLAN 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 BORDERS - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
3. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
4. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 6' ABOVE GROUND.

SPECIAL SIGN 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 / JOCELYN C CHIANG
CHECKED BY: JC
REVISED BY / DATE REVISED: 7/10

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:02

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	24	45

Denis Katayama 06-14-11
REGISTERED CIVIL ENGINEER DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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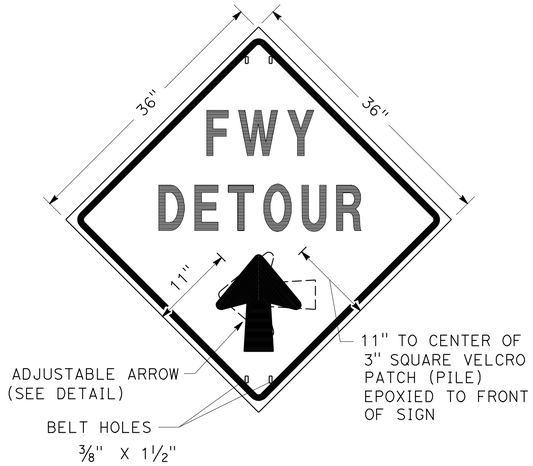
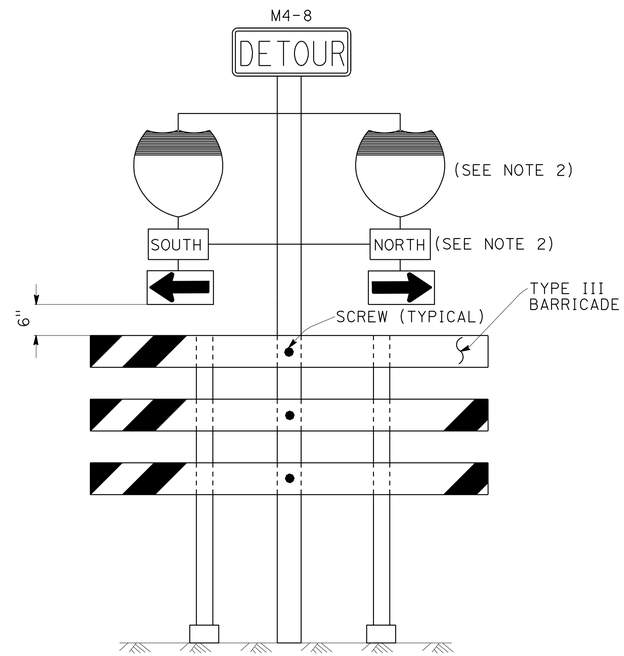
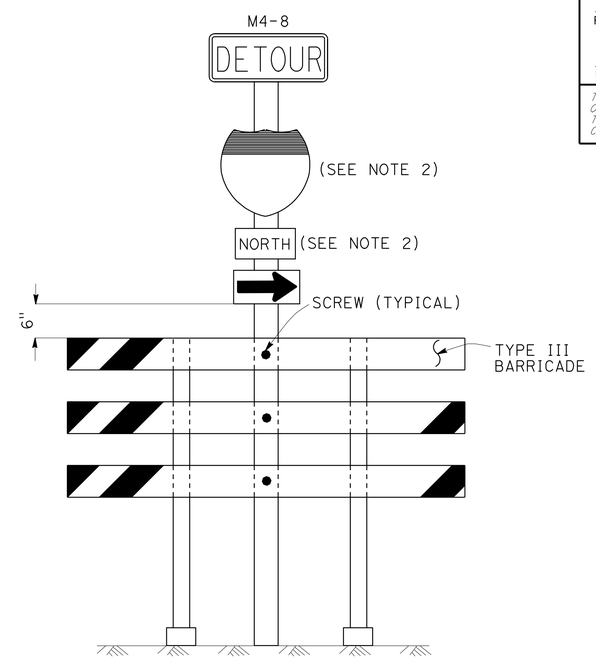


SIGN SP-2



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 6' ABOVE GROUND EXCEPT AS OTHERWISE SHOWN ON OTHER TRAFFIC HANDLING DETAILS PLANS.

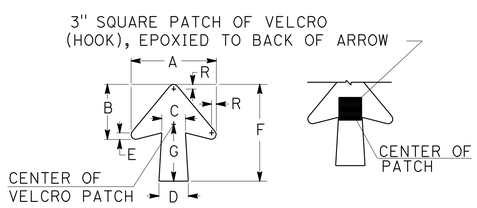
ABBREVIATION

(CA) CALIFORNIA CODE

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 SHIELD [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	F	G	R
11 1/4"	7 1/4"	3 1/8"	4"	7/8"	13"	7 1/2"	5/8"

SPECIAL PORTABLE FREEWAY DETOUR SIGN

ADJUSTABLE ARROW DETAIL

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: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 7/10

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:02

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	25	45

Denis Katayama 07-18-11
REGISTERED CIVIL ENGINEER DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 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:

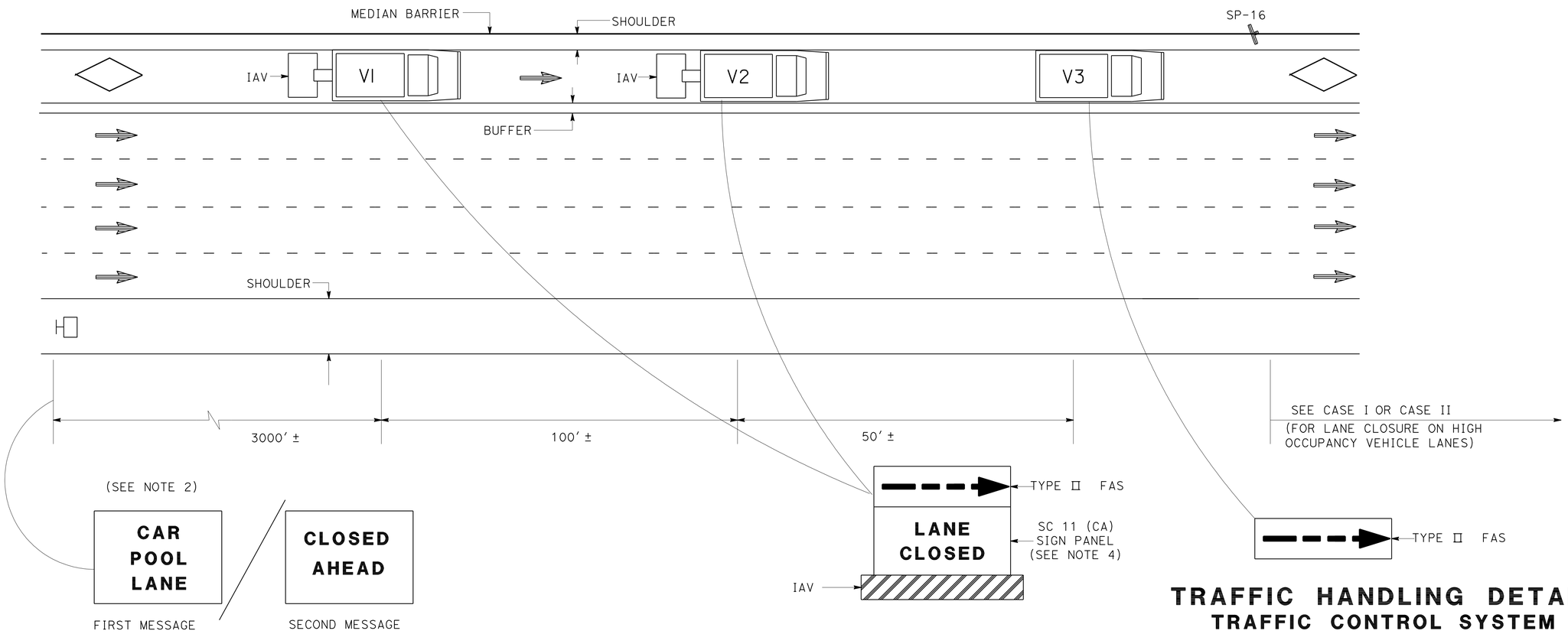
1. LANE CLOSURES SHALL NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
2. PCMS SHALL BE ACTIVATED PRIOR TO TRAFFIC CONTROL ACTIVITIES ON THE HOV LANE.
3. A MINIMUM SIGHT DISTANCE OF 1500′ SHALL BE PROVIDED IN ADVANCE OF PCMS.
4. VEHICLE-MOUNTED SIGN PANELS SHALL BE TYPE III OR IV RETROREFLECTORIZED SHEETING, BLACK ON WHITE OR BLACK ON ORANGE WITH 8" MINIMUM SERIES D LETTERS PER CALTRANS SIGN SPECIFICATIONS.
5. PLACE PCMS ON THE MEDIAN SHOULDER WHERE SUFFICIENT ROOM (SUCH AS CHP ENFORCEMENT AREAS) EXISTS.

LEGEND

V1, V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
	DIRECTION OF TRAVEL
	HOV LANE

ABBREVIATIONS

FAS	FLASHING ARROW SIGN
IAV	IMPACT ATTENUATOR VEHICLE
CMS	CHANGEABLE MESSAGE SIGN
(CA)	CALIFORNIA CODE
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
HOV	HIGH OCCUPANCY VEHICLE



PCMS/TRUCK MOUNTED CMS
(SEE NOTE 5)

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR HIGH OCCUPANCY VEHICLE LANES WITH MEDIAN SHOULDERS LESS THAN 8 FEET

NO SCALE

THD-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: JOHN YANG
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 7/10

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:02

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	26	45

Denis Katayama 06-18-11
REGISTERED CIVIL ENGINEER DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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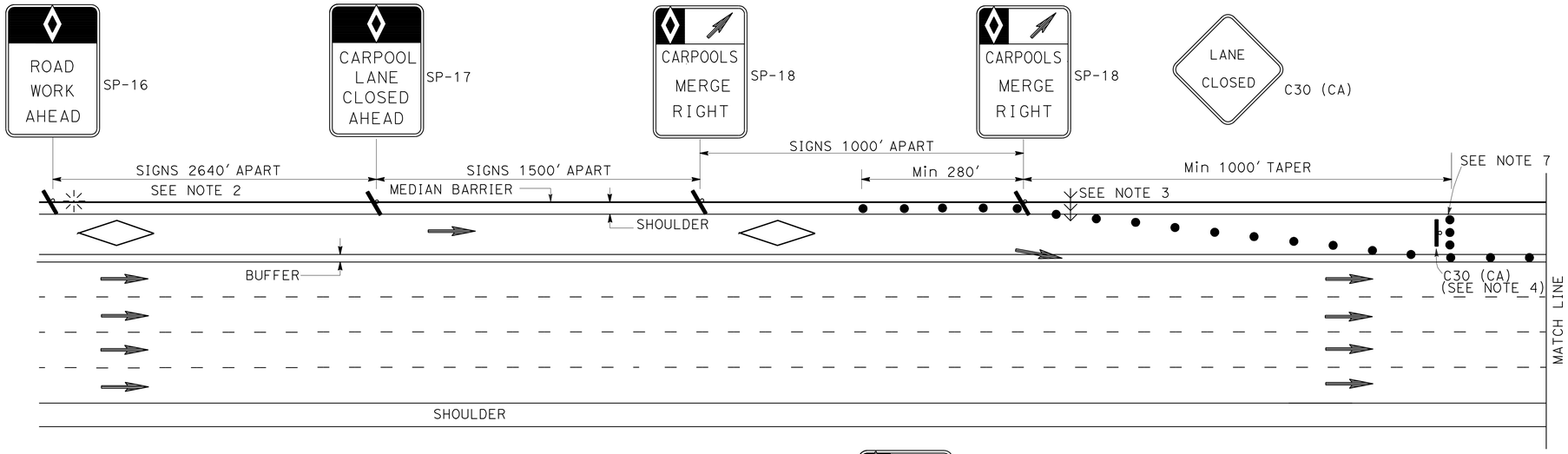
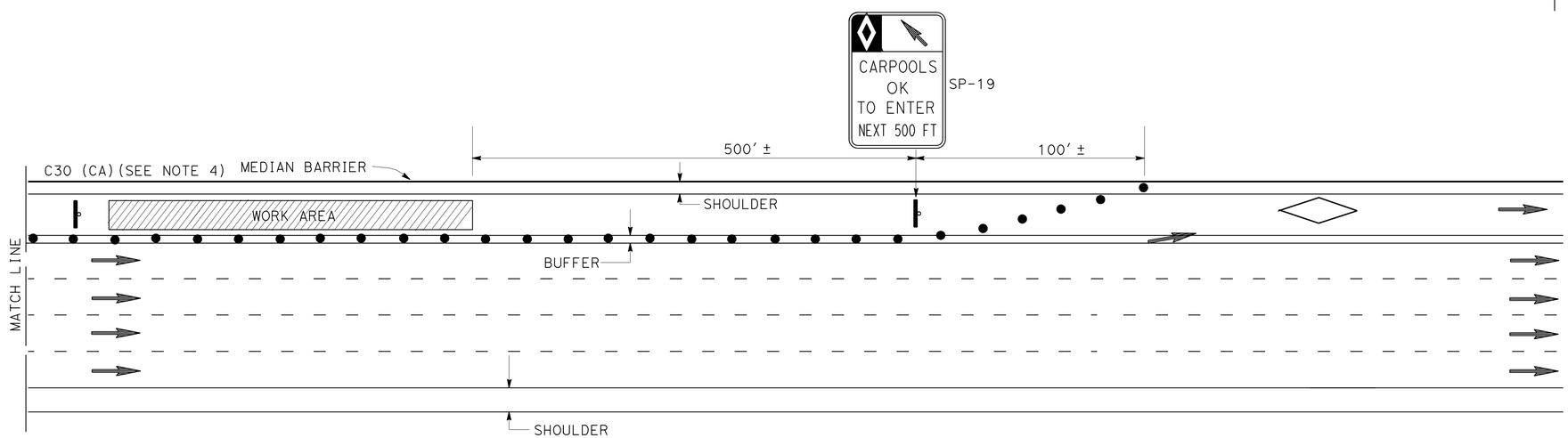




ABBREVIATIONS

(CA) CALIFORNIA CODE

HOV HIGH OCCUPANCY VEHICLE

NOTES: FOR CASE I AND CASE II

1. AT LEAST ONE PERSON SHALL BE ASSIGNED TO FULL TIME MAINTENANCE OF TRAFFIC CONTROL DEVICES ON NIGHT LANE CLOSURES OR DAY-TIME CLOSURES EXCEEDING 1 MILE LENGTH, INCLUDING TAPERS.
2. ADVANCE WARNING SIGN INSTALLATIONS SHALL BE EQUIPPED WITH FLAGS FOR DAYTIME CLOSURES. TYPE B HIGH INTENSITY FLASHING WARNING LIGHTS SHALL BE USED ON SP-16 SIGNS DURING NIGHT LANE CLOSURES. FLAGS AND WARNING LIGHTS SHALL BE ATTACHED TO SIGNS AS APPROVED BY THE ENGINEER.
3. THE FLASHING ARROW SIGN SHALL BE TYPE I.
4. PLACE C30 (CA) SIGNS EVERY 2000' THROUGHOUT THE LENGTH OF LANE CLOSURE.
5. A MINIMUM 1500' OF SIGHT DISTANCE SHALL BE PROVIDED WHERE POSSIBLE FOR VEHICLES APPROACHING THE FLASHING ARROW SIGN. LANE CLOSURES SHALL NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
6. PORTABLE DELINEATORS PLACED AT ONE-HALF THE SPACING INDICATED FOR TRAFFIC CONES MAY BE USED INSTEAD OF CONES FOR DAYTIME CLOSURES.
7. A MINIMUM OF 3 CONES SHALL BE PLACED TRANSVERSELY ACROSS CLOSED LANES WHERE TAPERS END AND EVERY 2000'. TWO TYPE II BARRICADES MAY BE USED INSTEAD OF 3 CONES. THE ALIGNMENT OF CONES OR BARRICADES MAY BE SHIFTED FROM THE TRANSVERSE ALIGNMENT TO PROVIDE ACCESS TO WORK.
8. IF AN INGRESS/EGRESS AREA IS WITHIN 5250' UPSTREAM OR DOWNSTREAM OF THE WORK AREA, LANE CLOSURES SHALL BE EXTENDED TO THAT AREA AS SHOWN IN CASE II.
9. SIGNS SP-16, 17, 18, AND 19 MAY BE OVERLAID ON EXISTING CARPOOL SIGNS IN MEDIANS AS APPROVED BY THE ENGINEER.
10. SIGNS SP-16, 17, 18, AND C30 (CA) SHALL BE BLACK ON ORANGE BACKGROUND. SIGN SP-19 SHALL BE BLACK ON WHITE BACKGROUND. DIAMONDS ON SIGNS SHALL BE WHITE.
11. FOR CLOSURE OF LANE(S) ADJACENT TO HOV LANES, SEE CASE II.
12. THE MAXIMUM SPACING BETWEEN CONES SHALL BE APPROXIMATELY 50' IN TAPERS AND 100' ON TANGENTS.

LEGEND

- CONE
- FLASHING BEACON
- HOV LANE
- FLASHING ARROW SIGN
- PORTABLE SIGN
- DIRECTION OF TRAVEL

SIGN PANEL

SIZE (MIN)

SP-16 36" X 54"
SP-17 36" X 54"
SP-18 36" X 48"
SP-19 36" X 60"
C30 (CA) 30" X 30"
G20-2 48" X 24"

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR HIGH OCCUPANCY VEHICLE LANES AT NON-INGRESS/EGRESS AREAS
CASE I
NO SCALE

THD-4

FUNCTIONAL SUPERVISOR	JOHN YANG
CALCULATED-DESIGNED BY	ALBERT K YU
CHECKED BY	JOCELYN C CHIANG
REVISED BY	JC
DATE REVISED	7/10

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:02

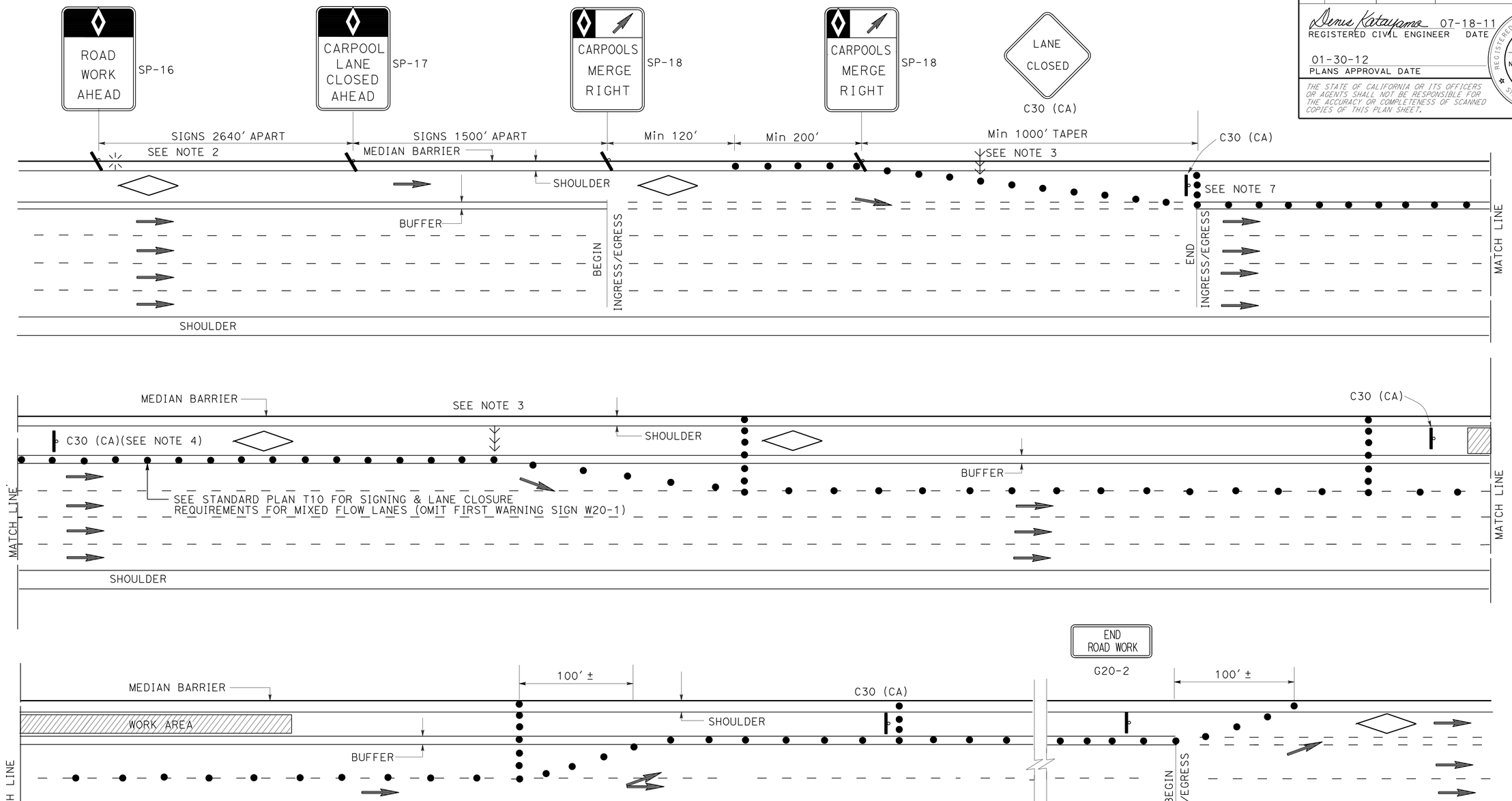
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	27	45

Denis Katayama 07-18-11
REGISTERED CIVIL ENGINEER DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 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. SEE CASE I FOR NOTES, LEGENDS AND ABBREVIATIONS FOR THIS SHEET.
2. CLOSURES OF ONE MIXED FLOW TRAFFIC LANE ADJACENT TO HOV LANE SHOWN. MULTIPLE MIXED FLOW LANE CLOSURES ARE SIMILAR.

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR HIGH OCCUPANCY VEHICLE LANES AND ADJACENT FREEWAY LANES BETWEEN INGRESS/EGRESS AREAS
CASE II

NO SCALE

THD-5

REVISED BY	DATE REVISED
JC	7/10

CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
FUNCTIONAL SUPERVISOR: JOHN YANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:02

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	28	45

Denis Katayama 06-14-11
REGISTERED CIVIL ENGINEER DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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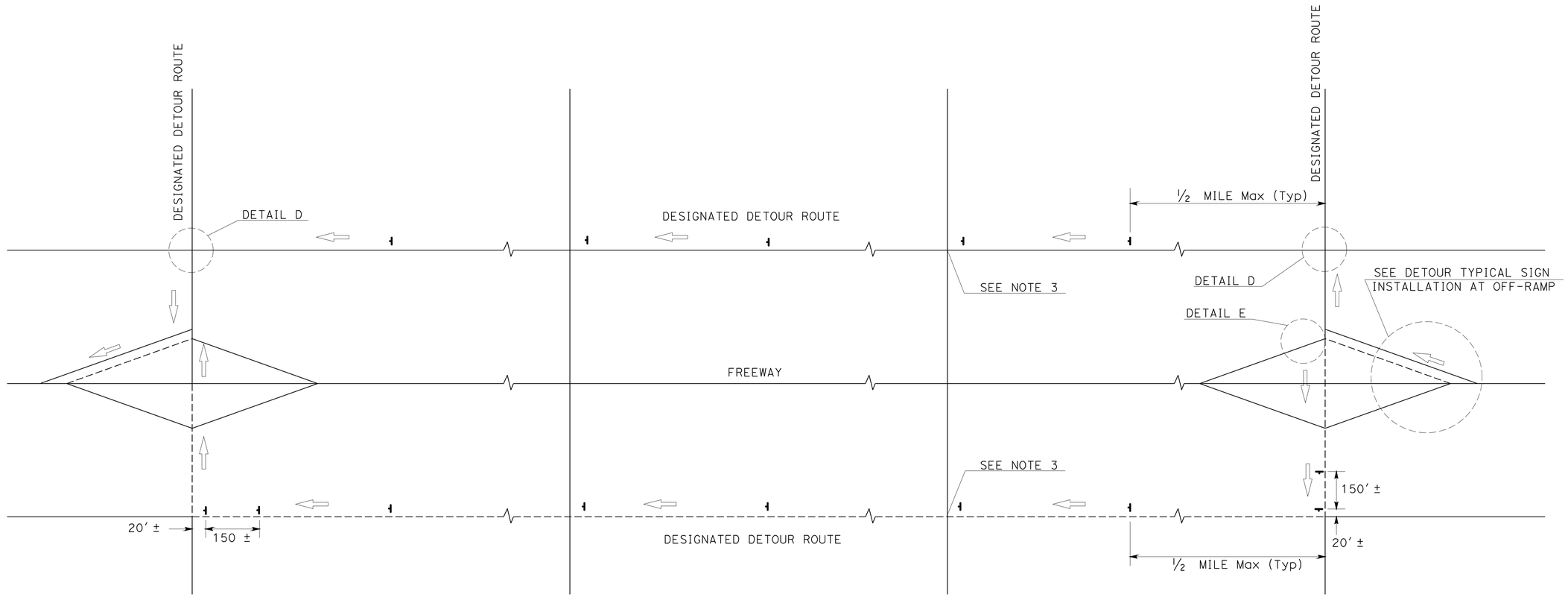

TYPICAL DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

LEGEND

- TEMPORARY SIGN (SP-2)
- AND/OR DESIGNATED DETOUR ROUTE
- DIRECTION OF TRAVEL

NOTES:

1. SP-2 SIGNS SHALL NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
2. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
3. SP-2 SIGNS SHALL BE POSTED AT SIGNALIZED INTERSECTIONS ALONG THE DESIGNATED DETOUR ROUTE OR ½ MILE MAXIMUM APART.

TRAFFIC HANDLING DETAILS

TRAFFIC CONTROL SYSTEM FOR DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

SHEET 1 OF 2

NO SCALE

THD-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: JOHN YANG
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 7/10

LAST REVISION 00-00-00 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	29	45

Denis Katayama 06-14-11
REGISTERED CIVIL ENGINEER DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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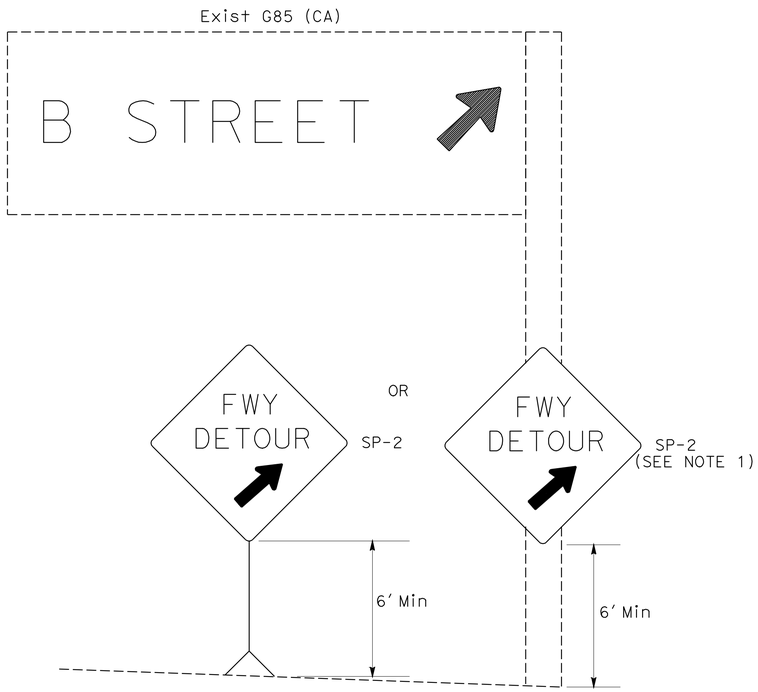
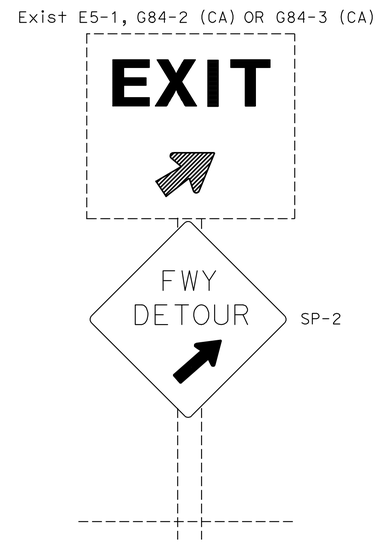
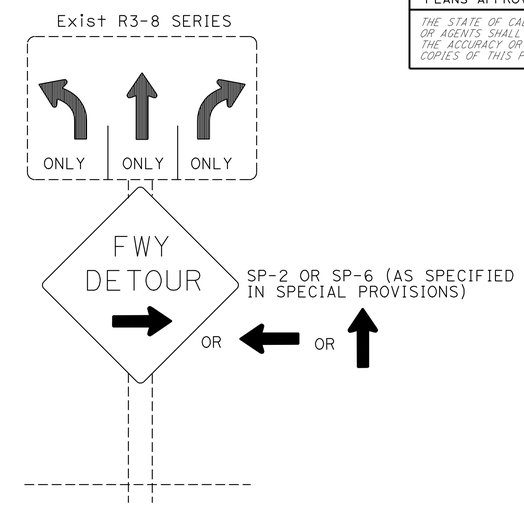


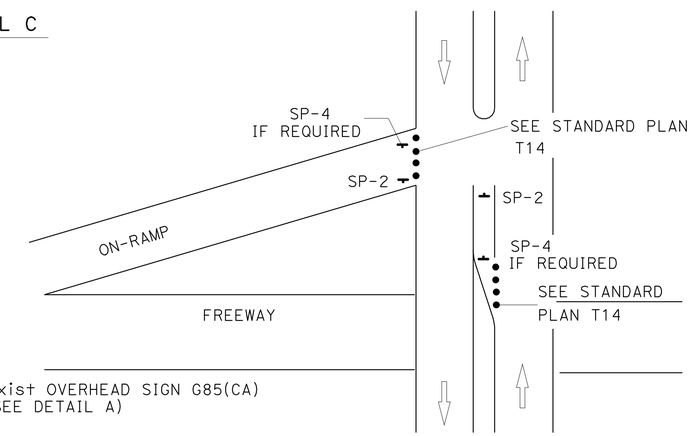
DETAIL A



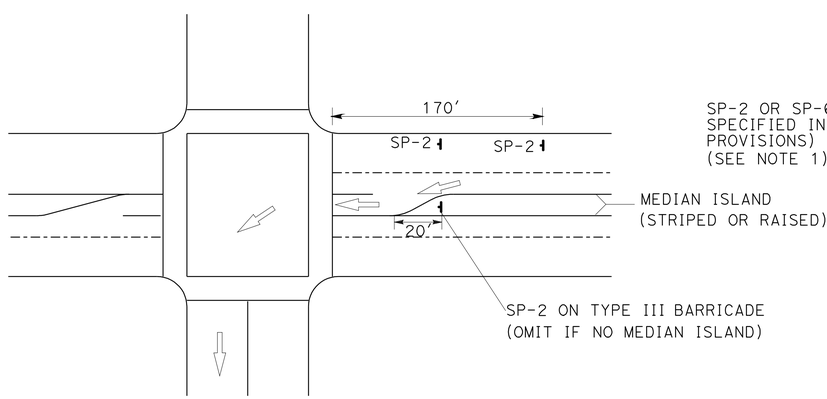
DETAIL B



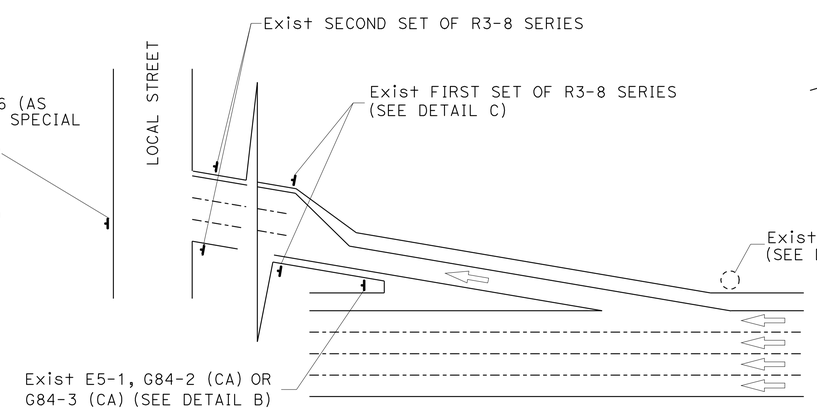
DETAIL C



DETAIL E



DETAIL D



TYPICAL DETOUR SIGN INSTALLATION AT OFF-RAMP

NOTES:

1. TEMPORARY SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POSTS, OR SIGN POSTS.
2. OMIT DETAIL A AND DETAIL B FOR FULL FREEWAY CLOSURES.
3. SEE TRAFFIC HANDLING DETAILS PLAN-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS AND MISCELLANEOUS DETAILS SHEET 2 OF 2 FOR SP-6.

ABBREVIATIONS

(CA) CALIFORNIA CODE

LEGENDS

- TRAFFIC CONE
- TEMPORARY SIGN
- DIRECTION OF TRAVEL
- EXISTING OVERHEAD SIGN

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE
SHEET 2 OF 2
NO SCALE

THD-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DTM
Caltrans®

FUNCTIONAL SUPERVISOR: JOHN YANG
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 8/10

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	30	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

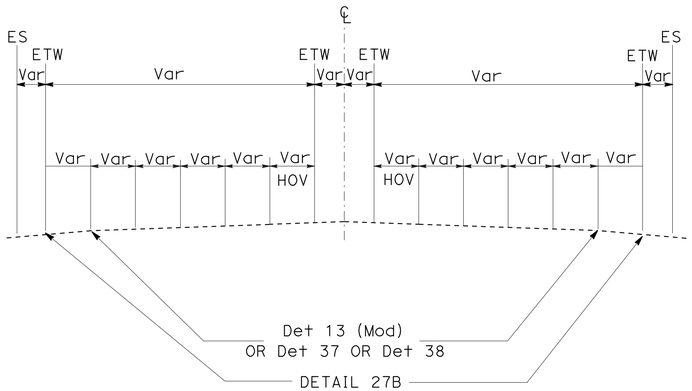
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

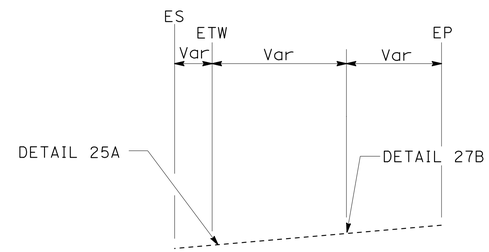
1. SEE PAVEMENT DELINEATION QUANTITIES FOR LOCATION AND TYPES OF TRAFFIC STRIPES AND PAVEMENT MARKINGS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
3. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

LEGEND:

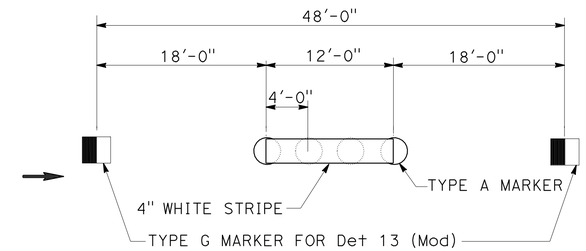
→ DIRECTION OF TRAVEL



SIX-LANE FREEWAY SEGMENT



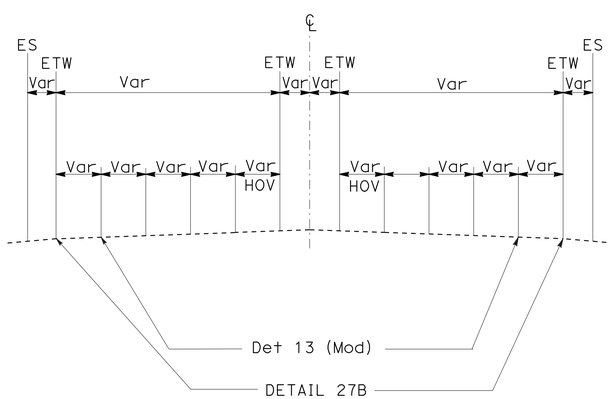
ONE-LANE CONNECTOR OR RAMP



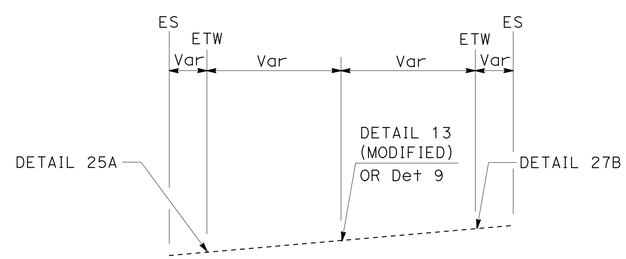
NOTES:

1. REMOVE PAVEMENT MARKERS.
2. PLACE MARKERS AS SHOWN IN THIS DETAIL.
3. APPLY 4" WIDE THERMOPLASTIC TRAFFIC STRIPE ON TOP OF TYPE A NON-REFLECTIVE MARKERS.

DETAIL 13 (MODIFIED)



FIVE-LANE FREEWAY SEGMENT



TWO-LANE CONNECTOR OR RAMP

PAVEMENT DELINEATION DETAILS

NO SCALE

PDD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI

REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	31	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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

THERMOPLASTIC TRAFFIC STRIPE

LOCATION			DETAIL 8	DETAIL 9	DETAIL 13/14 (Mod)	DETAIL 25A	DETAIL 27B	DETAIL 36A	DETAIL 36B	DETAIL 36A	DETAIL 36B	DETAIL 36	DETAIL 38B	DETAIL 37
			4" WHITE (BROKEN 17-7)	4" WHITE (BROKEN 17-7)	4" WHITE (BROKEN 36-12)	4" YELLOW	4" WHITE	4" WHITE	4" WHITE	8" WHITE	8" WHITE	8" WHITE	8" WHITE	8" WHITE (BROKEN 12-3)
PM	PM	DESCRIPTION	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF
R10.1	R10.19	0.1 MILE W OF COMPTON Cr BOH TO COMPTON Cr BOH					473							
R10.43	R10.81	COMPTON CREEK BOH TO SUSANA Rd UC					936		298		78			
R10.84	R11.10	SUSANA Rd UC TO LONG BEACH Blvd UC					1,523				127			
R11.14	R11.43	LONG BEACH Blvd UC TO BUTLER-ARTESIA UC			469		2,441							
R11.53	R11.64	BUTLER-ARTESIA UC TO ROUTE 91/710 Sep				2,079	3,037		200		200	275		
R11.71	R11.81	ROUTE 91/710 Sep TO LOS ANGELES RIVER BRIDGE				2,217	4,252		49		49			
R11.99	R12.09	LOS ANGELES RIVER BRIDGE TO ATLANTIC Ave					984		328		328	469		
R12.12	R12.34	ATLANTIC Ave UC TO MYRTLE Ave UC					1,198							
R12.36	R12.95	MYRTLE Ave UC TO ORANGE Ave UC					2,107							
R12.62	R12.84	ORANGE Ave UC TO WALNUT Ave UC					2,329							
R12.87	R13.09	WALNUT Ave UC TO CHERRY Ave UC					345							
R13.13	R13.35	CHERRY Ave UC TO N LONG BEACH OH					213							
R13.37	R13.59	N LONG BEACH OH TO PARAMOUNT Blvd UC					581							
R13.63	R13.86	PARAMOUNT Blvd UC TO OBISPO Ave UC					643							
R13.88	R14.10	OBISPO Ave UC TO DOWNEY Ave UC					617							
R14.13	R14.60	DOWNEY Ave UC TO ROUTE 91/19 Sep (LAKEWOOD)	140	2,208	1,859	2,795	8,005	415		415		1,032	300	1,810
		SUBTOTAL	140	2,208	2,328	7,001	29,684	415	875	415	782	1,776	300	1,810
		TOTAL	2,348		2,328	37,975				3,273				1,810

PAVEMENT DELINEATION QUANTITIES

PDQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	32	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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

PAVEMENT MARKER

LOCATION			DETAIL 13/14 (Mod)	RETROREFLECTIVE DETAIL 9	DETAIL 13/14 (Mod)	DETAIL 25A	DETAIL 36A	DETAIL 36B	DETAIL 36	DETAIL 38B	DETAIL 37	DETAIL 37
			TYPE A (NON-REFLECTIVE)	TYPE G	TYPE G	TYPE H	TYPE G	TYPE G	TYPE G	TYPE G	TYPE G	TYPE C
PM	PM	DESCRIPTION	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
R10.1	R10.19	0.1 MILE W OF COMPTON Cr BOH TO COMPTON Cr BOH										
R10.43	R10.81	COMPTON CREEK BOH TO SUSANA Rd UC						3				
R10.84	R11.10	SUSANA Rd UC TO LONG BEACH Blvd UC						5				
R11.14	R11.43	LONG BEACH Blvd UC TO BUTLER-ARTESIA UC	39		10							
R11.53	R11.64	BUTLER-ARTESIA UC TO ROUTE 91/710 Sep				87		8	11			
R11.71	R11.81	ROUTE 91/710 Sep TO LOS ANGELES RIVER BRIDGE				89		2				
R11.99	R12.09	LOS ANGELES RIVER BRIDGE TO ATLANTIC Ave						14	20			
R12.12	R12.34	ATLANTIC Ave UC TO MYRTLE Ave UC										
R12.36	R12.95	MYRTLE Ave UC TO ORANGE Ave UC										
R12.62	R12.84	ORANGE Ave UC TO WALNUT Ave UC										
R12.87	R13.09	WALNUT Ave UC TO CHERRY Ave UC										
R13.13	R13.35	CHERRY Ave UC TO N LONG BEACH OH										
R13.37	R13.59	N LONG BEACH OH TO PARAMOUNT Blvd UC										
R13.63	R13.86	PARAMOUNT Blvd UC TO OBISPO Ave UC										
R13.88	R14.10	OBISPO Ave UC TO DOWNEY Ave UC										
R14.13	R14.60	DOWNEY Ave UC TO ROUTE 91/19 Sep (LAKEWOOD)	157	46	39	116	17		43	25	105	16
		SUBTOTAL	196	46	49	292	17	32	74	25	105	16
		TOTAL	196	656								

PAVEMENT DELINEATION QUANTITIES

PDQ-2

REVISED BY | DATE REVISED
CAM CHAU | HAMID SAADATNEJADI
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | HAMID SAADATNEJADI
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	33	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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

THERMOPLASTIC PAVEMENT MARKING

LOCATION			DIAGONAL	CHEVRON	LIMIT LINE	CROSSWALK	◇	ARROWS							WORDS				
								TYPE I (10'-0")	TYPE I (18'-0")	TYPE III (L)	TYPE III (R)	TYPE III (B)	TYPE V	TYPE VI	CAR	POOL	LANE	SIGNAL	AHEAD
PM	PM	DESCRIPTION	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT
R10.1	R10.19	0.1 MILE W OF COMPTON Cr BOH TO COMPTON Cr BOH																	
R10.43	R10.81	COMPTON CREEK BOH TO SUSANA Rd UC																	
R10.84	R11.10	SUSANA Rd UC TO LONG BEACH Blvd UC																	
R11.14	R11.43	LONG BEACH Blvd UC TO BUTLER-ARTESIA UC																	
R11.53	R11.64	BUTLER-ARTESIA UC TO ROUTE 91/710 Sep																	
R11.71	R11.81	ROUTE 91/710 Sep TO LOS ANGELES RIVER BRIDGE																	
R11.99	R12.09	LOS ANGELES RIVER BRIDGE TO ATLANTIC Ave	185	139															
R12.12	R12.34	ATLANTIC Ave UC TO MYRTLE Ave UC																	
R12.36	R12.95	MYRTLE Ave UC TO ORANGE Ave UC																	
R12.62	R12.84	ORANGE Ave UC TO WALNUT Ave UC																	
R12.87	R13.09	WALNUT Ave UC TO CHERRY Ave UC																	
R13.13	R13.35	CHERRY Ave UC TO N LONG BEACH OH																	
R13.37	R13.59	N LONG BEACH OH TO PARAMOUNT Blvd UC																	
R13.63	R13.86	PARAMOUNT Blvd UC TO OBISPO Ave UC																	
R13.88	R14.10	OBISPO Ave UC TO DOWNEY Ave UC	84																
R14.13	R14.60	DOWNEY Ave UC TO ROUTE 91/19 Sep (LAKEWOOD)	594	60	60	362	22	14	100	84	84	73	165	126	17	23	24	64	62
		SUBTOTAL	863	199	60	362	22	14	100	84	84	73	165	126	17	23	24	64	62
		TOTAL	2,342																

PAVEMENT DELINEATION QUANTITIES

PDQ-3

REVISED BY | DATE REVISED

CAM CHAU | HAMID SAADATNEJADI

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	34	45

REGISTERED CIVIL ENGINEER 1-11-12 DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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

ROADWAY QUANTITIES

LOCATION			COLD PLANE AC PAVEMENT	RUBBERIZED HMA (GAP GRADED)	TACK COAT	CRACK TREATMENT	FOG SEAL
PM	PM	DESCRIPTION	SQYD	TON	TON	LNMI	TON
R10.1	R10.19	0.1 MILE W OF COMPTON Cr BOH TO COMPTON Cr BOH	527	36	0.2		
R10.43	R10.81	COMPTON CREEK BOH TO SUSANA Rd UC	1,646	111	0.8		
R10.84	R11.10	SUSANA Rd UC TO LONG BEACH Blvd UC	1,690	114	0.8		
R11.14	R11.43	LONG BEACH Blvd UC TO BUTLER-ARTESIA UC	4,427	299	2.0		
R11.53	R11.64	BUTLER-ARTESIA UC TO ROUTE 91/710 Sep	3,680	249	1.7	0.5	0.7
R11.71	R11.81	ROUTE 91/710 Sep TO LOS ANGELES RIVER BRIDGE	4,731	320	2.2	0.4	0.6
R11.99	R12.09	LOS ANGELES RIVER BRIDGE TO ATLANTIC Ave	1,826	123	0.8	0.1	0.1
R12.12	R12.34	ATLANTIC Ave UC TO MYRTLE Ave UC	1,488	101	0.7		
R12.36	R12.95	MYRTLE Ave UC TO ORANGE Ave UC	2,817	190	1.3		
R12.62	R12.84	ORANGE Ave UC TO WALNUT Ave UC	3,059	207	1.4		
R12.87	R13.09	WALNUT Ave UC TO CHERRY Ave UC	266	18	0.1		
R13.13	R13.35	CHERRY Ave UC TO N LONG BEACH OH	513	35	0.2		
R13.37	R13.59	N LONG BEACH OH TO PARAMOUNT Blvd UC	666	45	0.3	0.1	0.1
R13.63	R13.86	PARAMOUNT Blvd UC TO OBISPO Ave UC	714	48	0.3		
R13.88	R14.10	OBISPO Ave UC TO DOWNEY Ave UC	1,501	101	0.7		
R14.13	R14.60	DOWNEY Ave UC TO ROUTE 91/19 Sep (LAKEWOOD)	24,760	1,673	11.4		
		SUBTOTAL	54,311	3,671	24.9	1.1	1.5
		TOTAL	54,311	3,671	24.9	1.1	1.5

SUMMARY OF QUANTITIES

Q-1

REVISED BY | DATE REVISED
CAM CHAU | HAMID SAADATNEJADI
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
HAMID SAADATNEJADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 01-30-12 | DATE PLOTTED => 26-JAN-2012 | TIME PLOTTED => 11:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	35	45

Stanley L. Johnson 11-30-11
REGISTERED ELECTRICAL ENGINEER DATE

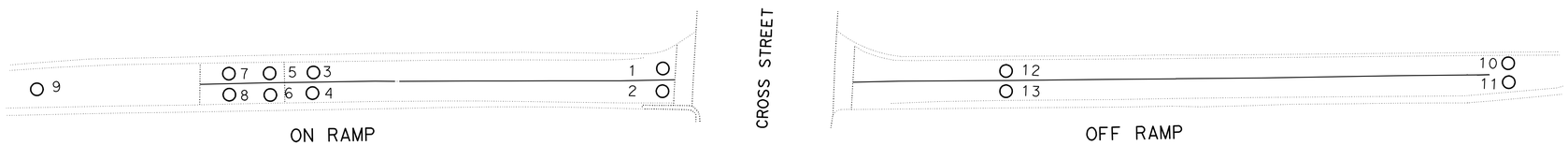
01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
STANLEY L. JOHNSON
No. E16761
Exp. 09/30/12
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.

GENERAL NOTES: (SHEETS E-1, E-2)

1. SHOULDER TERMINATION CONDUIT SHALL BE 2". ABANDON EXISTING SHOULDER TERMINATION CONDUIT.
2. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL LOCATE EXISTING INDUCTIVE LOOP DETECTORS.
3. NEW INDUCTIVE LOOP DETECTOR SHALL BE SPLICED TO EXISTING dlc IN ADJACENT PULL BOX.
4. TAG EXISTING dlc IN ADJACENT PULL BOX AND AT CONTROLLER CABINET.
5. ALL PULL BOXES SHALL BE No. 5(T) PULL BOX.



DETAIL A

TYPICAL LOCATION OF THE RAMP LOOP DETECTORS

SUMMARY OF RAMP INDUCTIVE LOOPS

	WORK LOCATION ON ROUTE 91	QUANTITY		SEE DETAIL "A" THIS SHEET FOR TYPICAL LOCATION OF INDUCTIVE LOOP DETECTORS													SHOULDER TERMINATION CONDUIT
		LOOPS	PULL BOX	1	2	3	4	5	6	7	8	9	10	11	12	13	
1	EB ON-RAMP FROM SB LAKEWOOD Blvd	4	2			X		X		X	X						2
2	EB ON-RAMP FROM DOWNEY Ave	9	4	X	X	X	X	X	X	X	X	X					4
3	WB ON-RAMP FROM LAKEWOOD Blvd	9	5	X	X	X	X	X	X	X	X	X					5
4	EB OFF-RAMP TO LAKEWOOD Blvd	2	1										X	X			1
5	W/B OFF-RAMP TO DOWNEY Ave	2	1										X	X			1

INDUCTIVE LOOP DETECTOR
(REPLACEMENT)

NO SCALE

E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: HASSAN MANNAA
CALCULATED-DESIGNED BY: MARTY MORTAZEVI
CHECKED BY: STANLEY L. JOHNSON
REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	36	45

Stanley L. Johnson 11-30-11
REGISTERED ELECTRICAL ENGINEER DATE

01-30-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
STANLEY L. JOHNSON
No. E16761
Exp. 09/30/12
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.

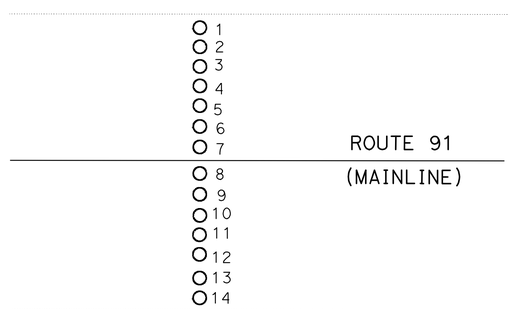
SUMMARY OF MAIN LINE INDUCTIVE LOOPS

No.	PM	WORK LOCATION ON ROUTE 91	LOOP LOCATIONS SEE DETAIL A (THIS SHEET)													QUANTITY	
			1	2	3	4	5	6	7	8	9	10	11	12	13	PULL BOX	LOOPS
1	R10.14	W/O ALAMEDA St	X	X	X	X	X			X	X	X	X	X		2	10
2	R10.50	E/O SANTA FE Ave	X	X	X	X	X			X	X	X	X	X	X	2	11
3	R11.09	W/O LONG BEACH Blvd	X	X	X	X	X	X		X	X	X	X	X	X	2	12
4	R11.40	W/O BUTLER Ave	X	X	X	X	X	X	X	X	X	X	X	X	X	2	13
5	R11.73	E/O INTERSECTION OF 91/710	X	X	X	X				X	X	X	X			2	8
6	R12.18	E/O ATLANTIC Ave	X	X	X	X	X	X		X	X	X	X	X	X	2	12
7	R12.55	BEFORE ORANGE Ave	X	X	X	X	X	X		X	X	X	X	X	X	2	12
8	R12.98	W/O CHERRY Ave	X	X	X	X	X	X		X	X	X	X	X		2	11
9	R13.23	E/O CHERRY Ave								X	X	X	X	X		1	5
10	R13.68	E/O PARAMOUNT Ave	X	X	X	X	X									1	5
11	R14.01	W/O DOWNEY Ave	X	X	X	X	X									1	5
12	R14.22	E/O DOWNEY Ave								X	X	X	X	X	X	1	6
13	R14.56	W/O LAKEWOOD Blvd	X	X	X	X	X			X	X	X	X	X		2	10

ABBREVIATIONS: (THIS SHEET ONLY)

E/O: EAST OF

W/O: WEST OF



DETAIL A

TYPICAL LOOP DETECTOR INSTALLATION ON MAINLINE

INDUCTIVE LOOP DETECTOR
(REPLACEMENT)

NO SCALE

E-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: HASSAN MANNAA
CALCULATED-DESIGNED BY: MARTY MORTAZEVI
CHECKED BY: STANLEY L. JOHNSON
REVISED BY
DATE REVISED

LAST REVISION 01-30-12
DATE PLOTTED => 26-JAN-2012
TIME PLOTTED => 11:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	37	45

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

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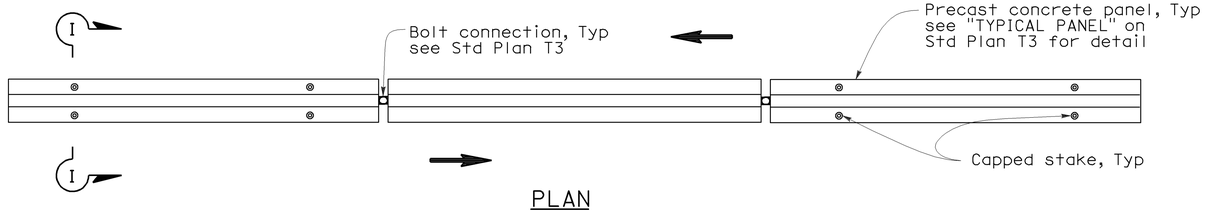
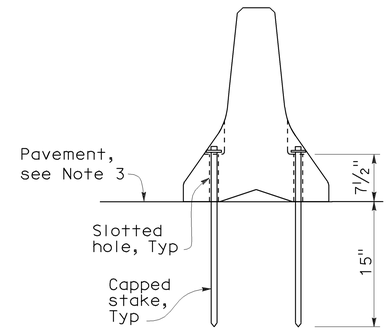
To accompany plans dated 01-30-12



PLAN

RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC

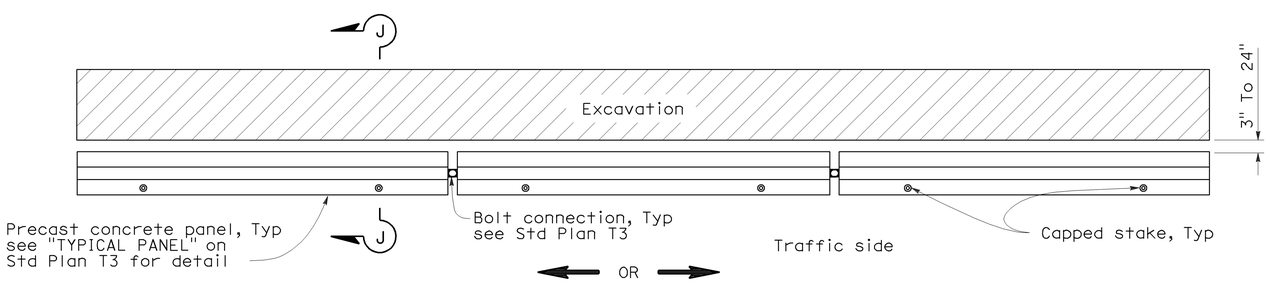
See Note 1



SECTION I-I

NOTES:

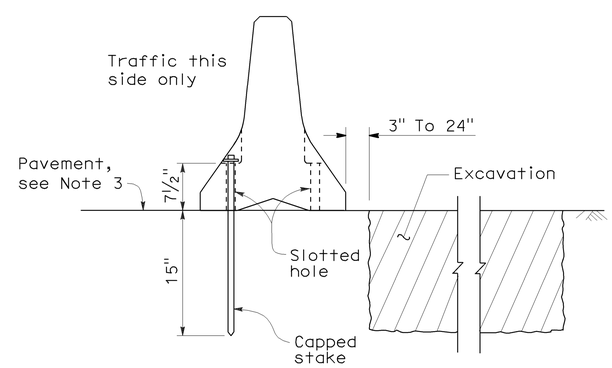
1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of an excavation on highways, use two capped stakes per panel along the traffic side.
3. Staked Type K Temporary Railing must be supported by at least 4" thick concrete, hot mix asphalt or existing asphalt concrete pavement.
4. The minimum yield strength for the washer must be 60,000 psi.
5. Direction of adjacent traffic indicated by ⟹.



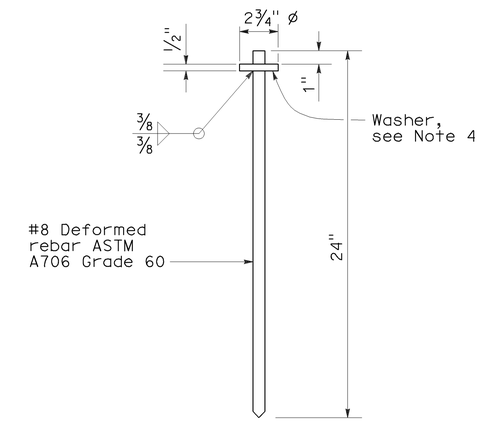
PLAN

RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION

See Note 2



SECTION J-J



CAPPED STAKE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY RAILING (TYPE K)

NO SCALE

NSP T3A DATED MAY 20, 2011 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T3A

2006 NEW STANDARD PLAN NSP T3A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	38	45

REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Donald E. Howe
No. C46402
Exp. 3-31-09
CIVIL
STATE OF CALIFORNIA

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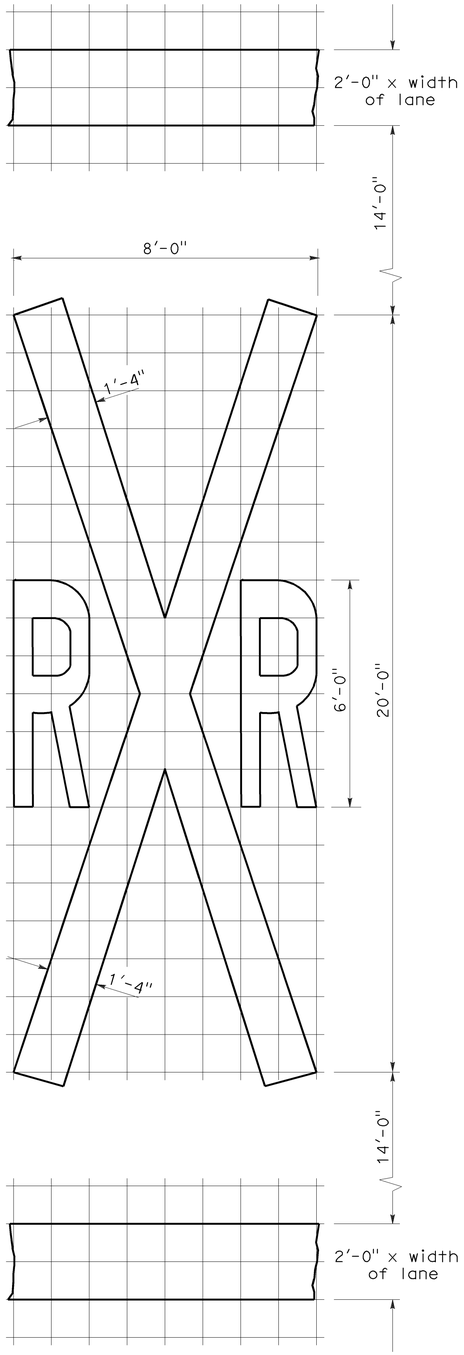
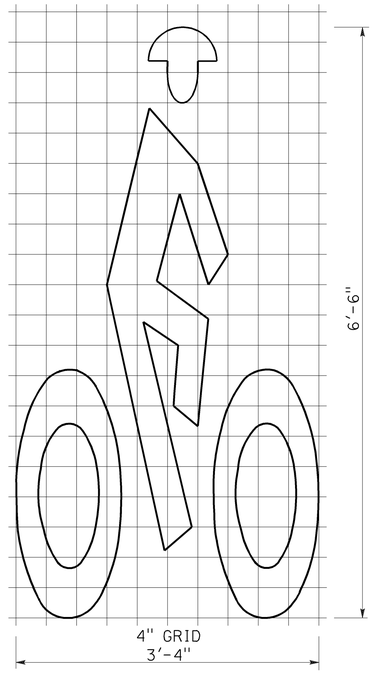
To accompany plans dated 01-30-12



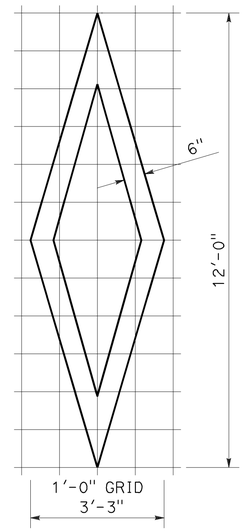
RAILROAD CROSSING SYMBOL

✳70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



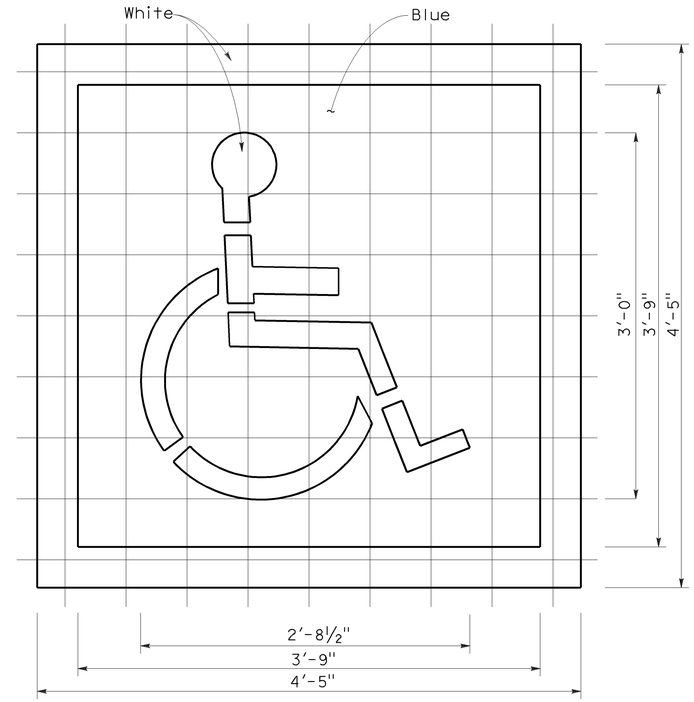
A=7 sq ft

BIKE LANE SYMBOL



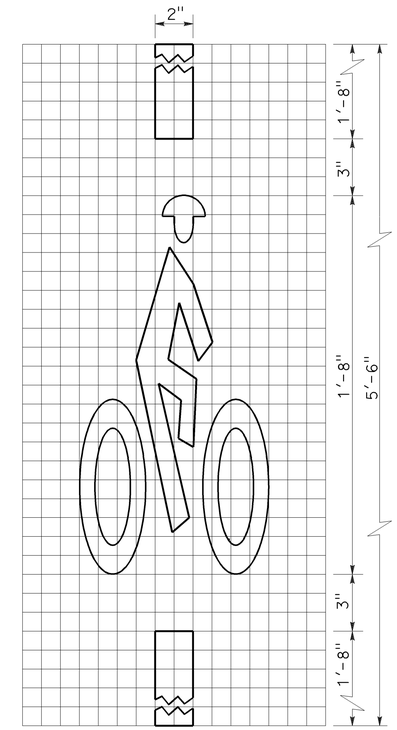
A=11 sq ft

DIAMOND SYMBOL



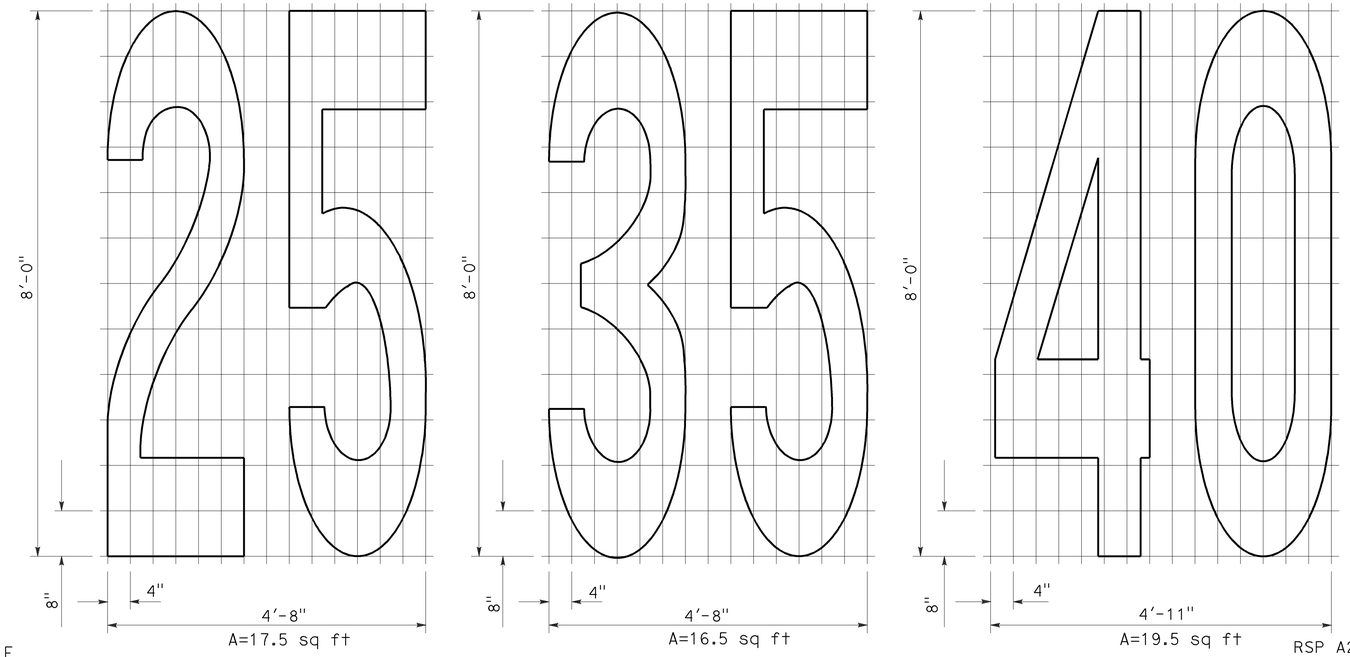
A (White) =9 sq ft
A (Blue) =14 sq ft

INTERNATIONAL SYMBOL OF ACCESSIBILITY MARKING



A=2 sq ft

BICYCLE LOOP DETECTOR SYMBOL



A=17.5 sq ft
A=16.5 sq ft
A=19.5 sq ft

NUMERALS

NOTE:

1. Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS SYMBOLS AND NUMERALS

NO SCALE

RSP A24C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A24C DATED MAY 1, 2006 - PAGE 11 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A24C

2006 REVISED STANDARD PLAN RSP A24C

5-27-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	39	45

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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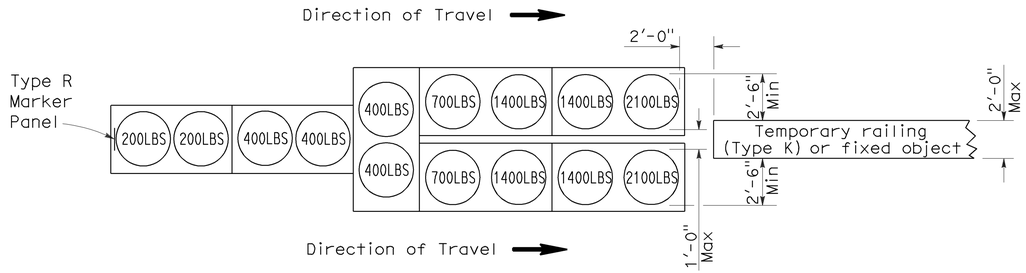
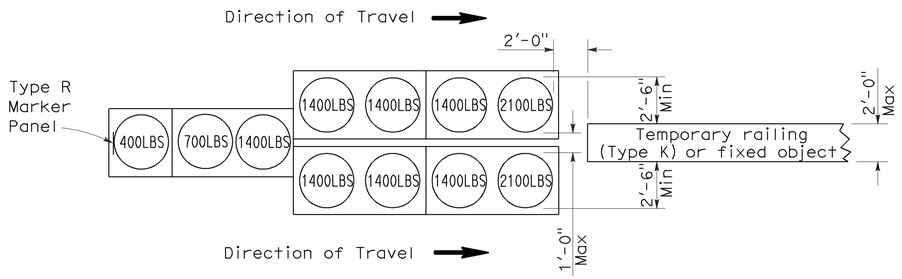
To accompany plans dated 01-30-12



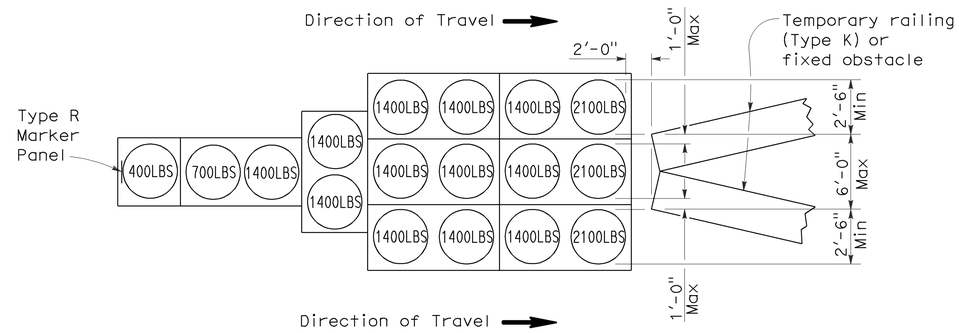
ARRAY 'TU14'

Approach speed 45 mph or more



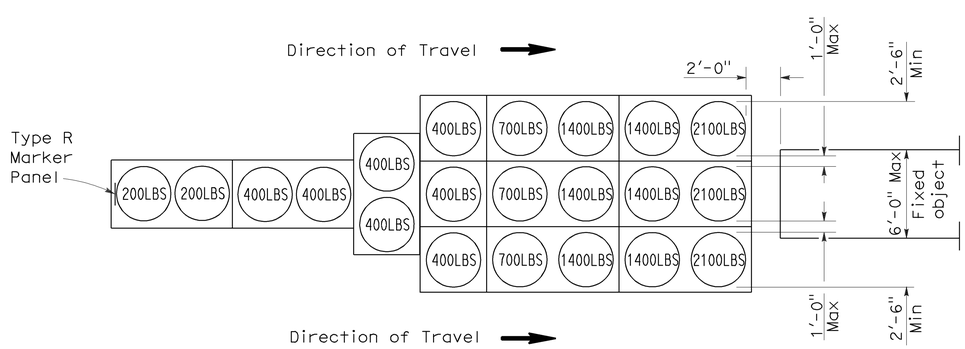
ARRAY 'TU11'

Approach speed less than 45 mph



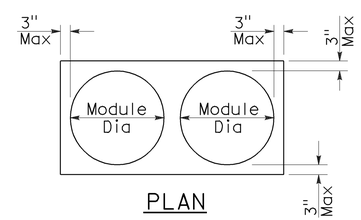
ARRAY 'TU17'

Approach speed less than 45 mph

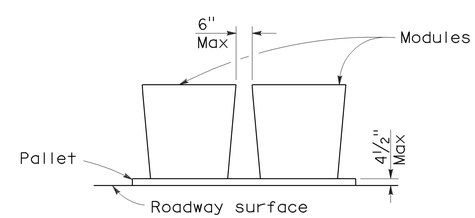


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	40	45

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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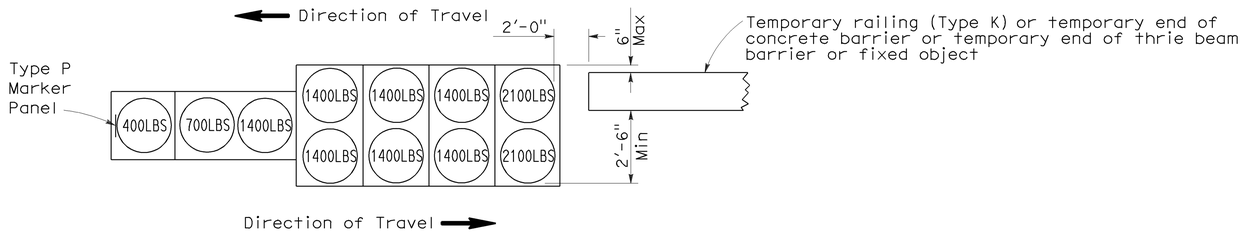
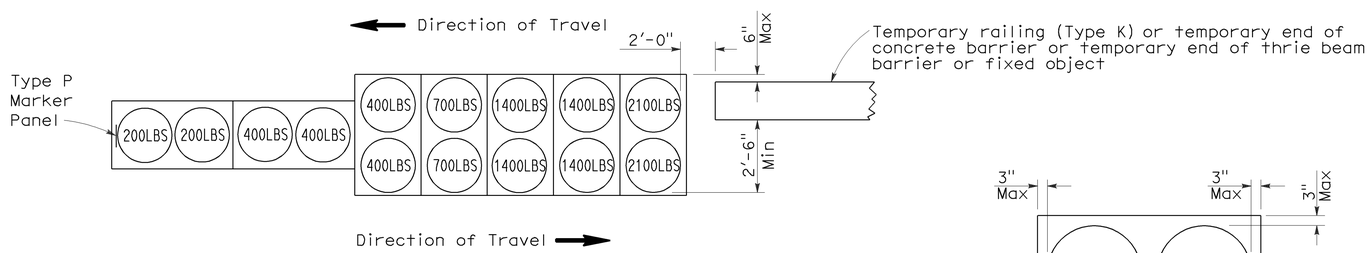
To accompany plans dated 01-30-12



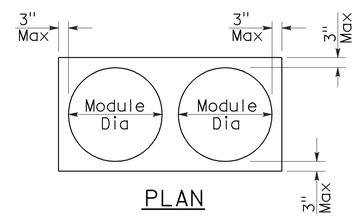
ARRAY 'TB11'

Approach speed less than 45 mph

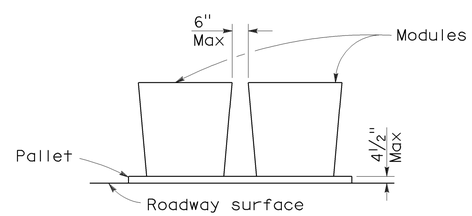


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (BIDIRECTIONAL)

NO SCALE

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

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	41	45

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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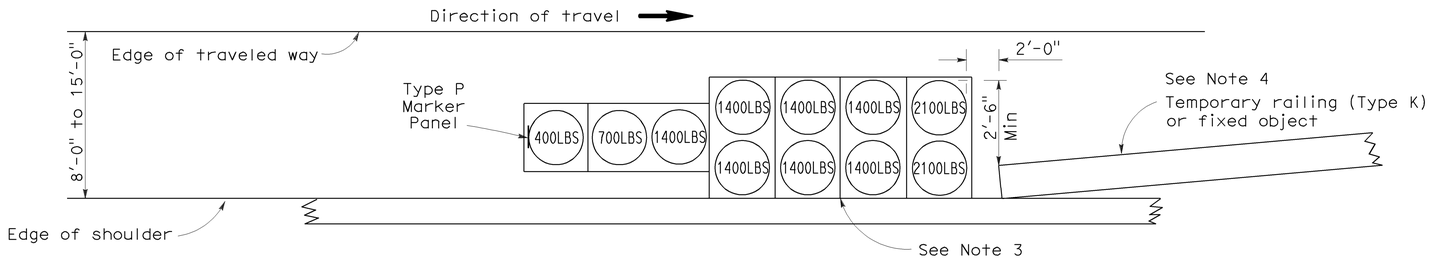
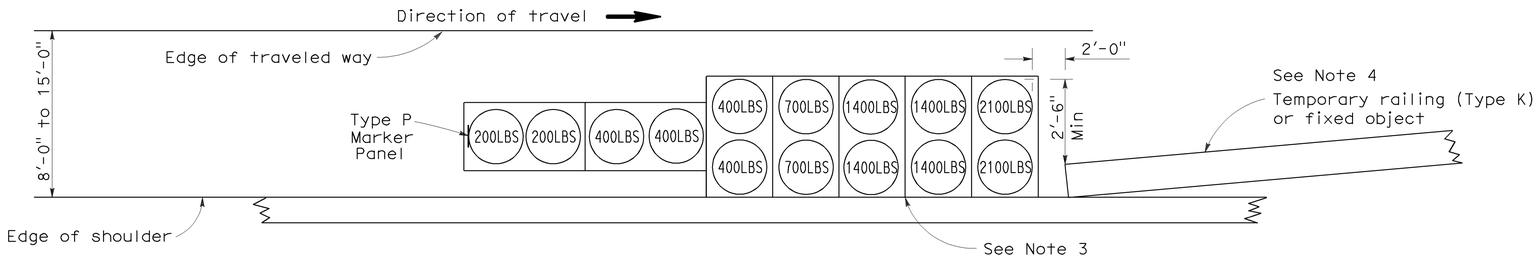
To accompany plans dated 01-30-12



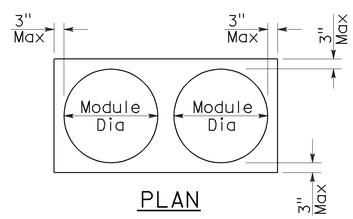
ARRAY 'TS11'

Approach speed less than 45 mph
See Note 9

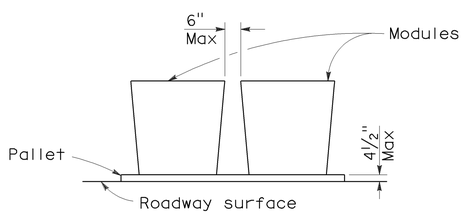


ARRAY 'TS14'

Approach speed 45 mph or more
See Note 9



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 11

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (SHOULDER INSTALLATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	42	45

REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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

To accompany plans dated 01-30-12

ELECTROLIERS

STANDARD TYPES
15, 15D
15 STRUCTURE
21, 21D STRUCTURE
30
31
32
35
36-20A

High mast light pole

Double Arm lighting standard

Existing electrolier

Electrolier foundation (Future installation)

NOTES:

1. Luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31, 32, 35 and 36-20A Standards, unless otherwise specified. Luminaires shall be 200 W HPS when installed on other type standards or poles, unless otherwise specified.
2. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.
3. Variations noted adjacent to symbol on project plans.

Electrolier (see project notes or project plans)

Luminaire on wood pole

STANDARD NOTES:

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

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

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

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.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	43	45

REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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

To accompany plans dated 01-30-12

CONDUIT

PROPOSED	EXISTING	
		Lighting Conduit, unless otherwise indicated or noted
		Traffic signal conduit
C	c	Communication conduit
T	t	Telephone conduit
F	f	Fire alarm conduit
FO	fo	Fiber optic conduit
		Conduit termination (RSP ES-9A C)
R	r	Conduit riser in/on structure or service pole

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION

Type of installation

TYPE H SERVICE - 28'-10" ← Pole height above grade

ILLUMINATED OVERHEAD SIGN

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

SIGNAL EQUIPMENT

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

SIGNAL EQUIPMENT Cont

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1B

2006 REVISED STANDARD PLAN RSP ES-1B

7-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	44	45

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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To accompany plans dated 01-30-12

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

- 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	Project note numbers
A B C	Equipment description, installation or item numbers
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 or letter

MISCELLANEOUS EQUIPMENT

PROPOSED	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

P	Pole
CB	Circuit breaker
A	Ampere
V	Volt
M	Metered
UM	Unmetered
NB	Neutral bus
GB	Ground bus
G	Equipment grounding conductor
N	Grounded conductor (Neutral)

- External conductor
- Conductor or bus
- Tie point
- Contactor coil
- Contactor, Contact NO
- Terminal blocks
- Contactor, Contact NC
- Enclosure bond
- Grounding electrode
- Circuit breaker
- Receptacle

PULL BOXES

PROPOSED 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

- U = Upper
- L = Lower
- Slot number in input file
- Input file (I or J)
- Phase

PROPOSED 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
- Detector handhole (DH / dh)
- Microwave or video detection zone

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	91	R10.1/R14.6	45	45

REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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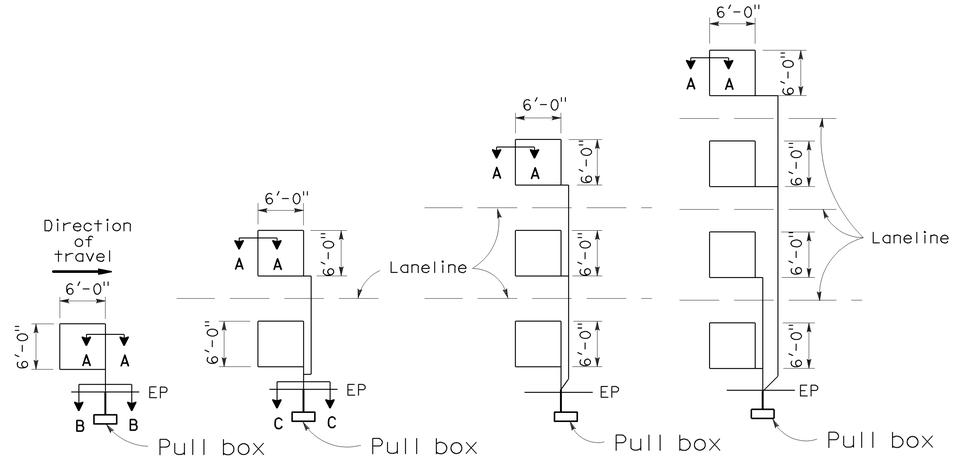
To accompany plans dated 01-30-12

LOOP INSTALLATION PROCEDURE

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

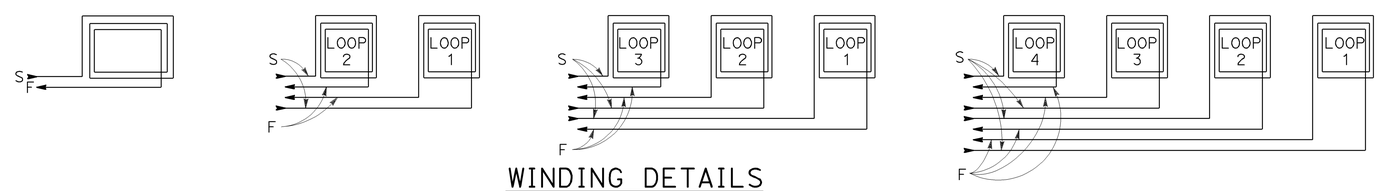


TYPE 1A INSTALLATION | TYPE 2A INSTALLATION | TYPE 3A INSTALLATION | TYPE 4A INSTALLATION

SAWCUT DETAILS

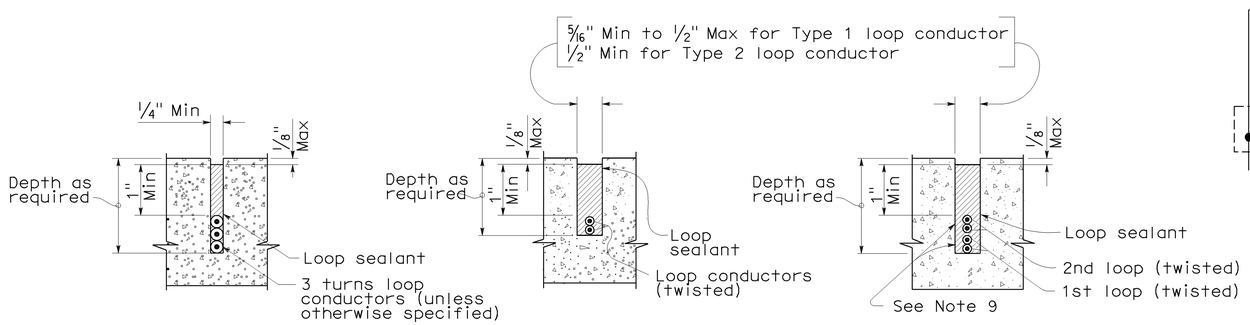
(Type A loop detector configurations illustrated)

1. 1A thru 4A = 1 Type A loop configuration in each lane.
2. 1B thru 4B = 1 Type B loop configuration in each lane.
3. 1C = 1 Type C loop configuration entering lanes as required.
4. 1D thru 4D = 1 Type D loop configuration in each lane.
5. 1E thru 4E = 1 Type E loop configuration in each lane.
6. 1Q thru 4Q = 1 Type Q loop configuration in each lane. (Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)



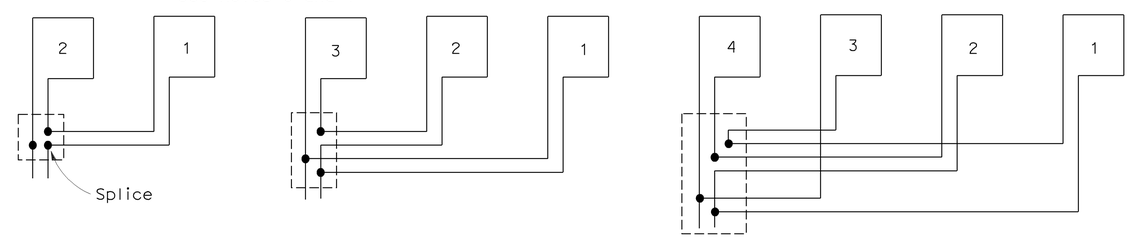
WINDING DETAILS

See Notes 6 and 7



SECTION A-A | SECTION B-B | SECTION C-C

SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-5A

2006 REVISED STANDARD PLAN RSP ES-5A

8-17-07