

INDEX OF PLANS

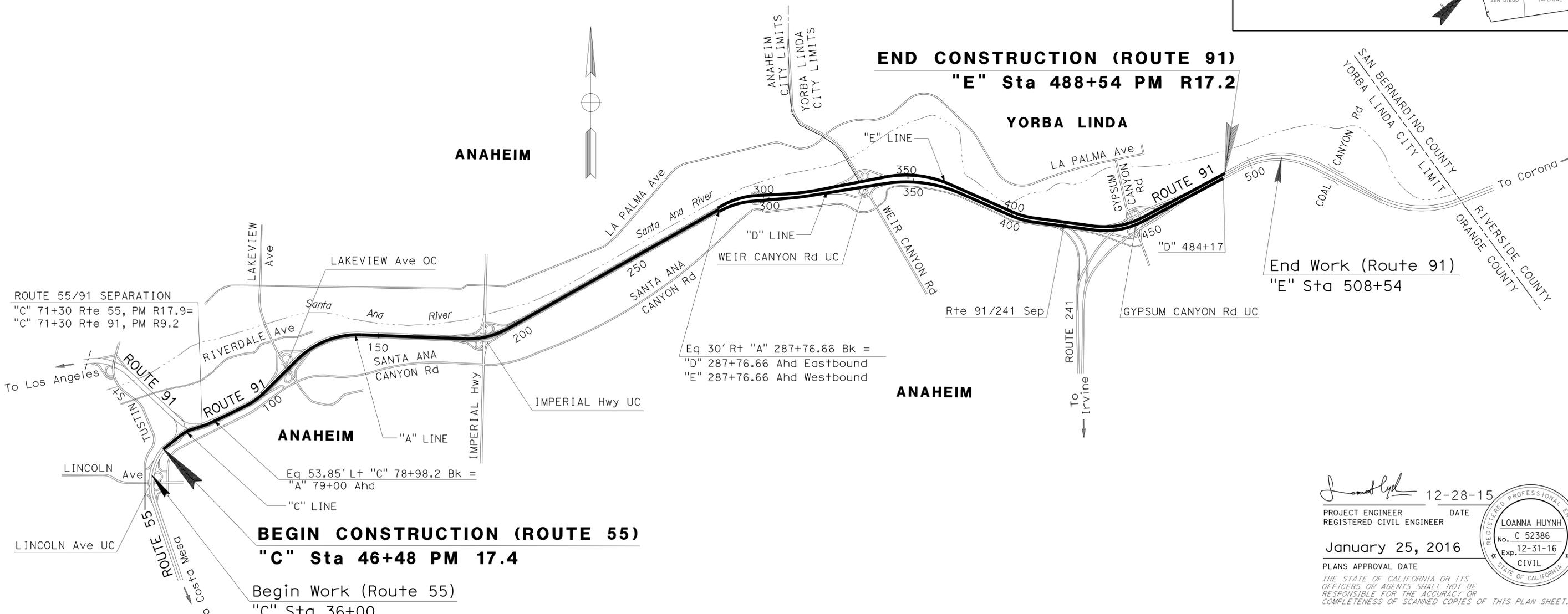
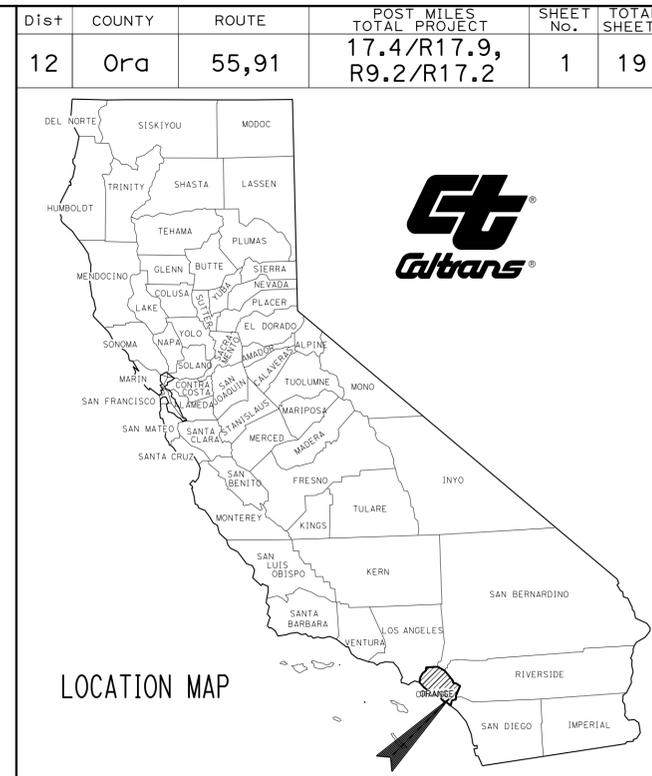
SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	CONSTRUCTION AREA SIGNS
3	TRAFFIC HANDLING PLAN
4-10	PAVEMENT DELINEATION DETAILS AND QUANTITIES
11-19	REVISED STANDARD PLANS

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 ORANGE COUNTY  
IN ANAHEIM AND YORBA LINDA  
ON ROUTE 55 FROM 0.2 MILE NORTH OF LINCOLN AVENUE  
UNDERCROSSING TO ROUTE 55/91 SEPARATION AND  
ON ROUTE 91 FROM ROUTE 55/91 SEPARATION  
TO 0.8 MILE EAST OF GYPSUM CANYON ROAD UNDERCROSSING

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



PROJECT MANAGER  
MASSOUD TAJIK

DESIGN MANAGER  
MASSOUD TAJIK

ROUTE 55/91 SEPARATION  
"C" 71+30 Rte 55, PM R17.9=  
"C" 71+30 Rte 91, PM R9.2

**BEGIN CONSTRUCTION (ROUTE 55)**  
"C" Sta 46+48 PM 17.4

Begin Work (Route 55)  
"C" Sta 36+00

**END CONSTRUCTION (ROUTE 91)**  
"E" Sta 488+54 PM R17.2

End Work (Route 91)  
"E" Sta 508+54

Eq 30' Rt "A" 287+76.66 Bk =  
"D" 287+76.66 Ahd Eastbound  
"E" 287+76.66 Ahd Westbound

Eq 53.85' L+ "C" 78+98.2 Bk =  
"A" 79+00 Ahd  
"C" LINE

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

NO SCALE



USERNAME => s129866  
DGN FILE => 1215000113ab001.dgn

12-28-15  
PROJECT ENGINEER DATE  
REGISTERED CIVIL ENGINEER  
January 25, 2016  
PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTRACT No.	<b>12-0P4804</b>
PROJECT ID	<b>1215000113</b>

DATE PLOTTED => 28-JAN-2016  
TIME PLOTTED => 10:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	2	19
			12-28-15	REGISTERED CIVIL ENGINEER DATE	
			01-25-16	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

**NOTES:**

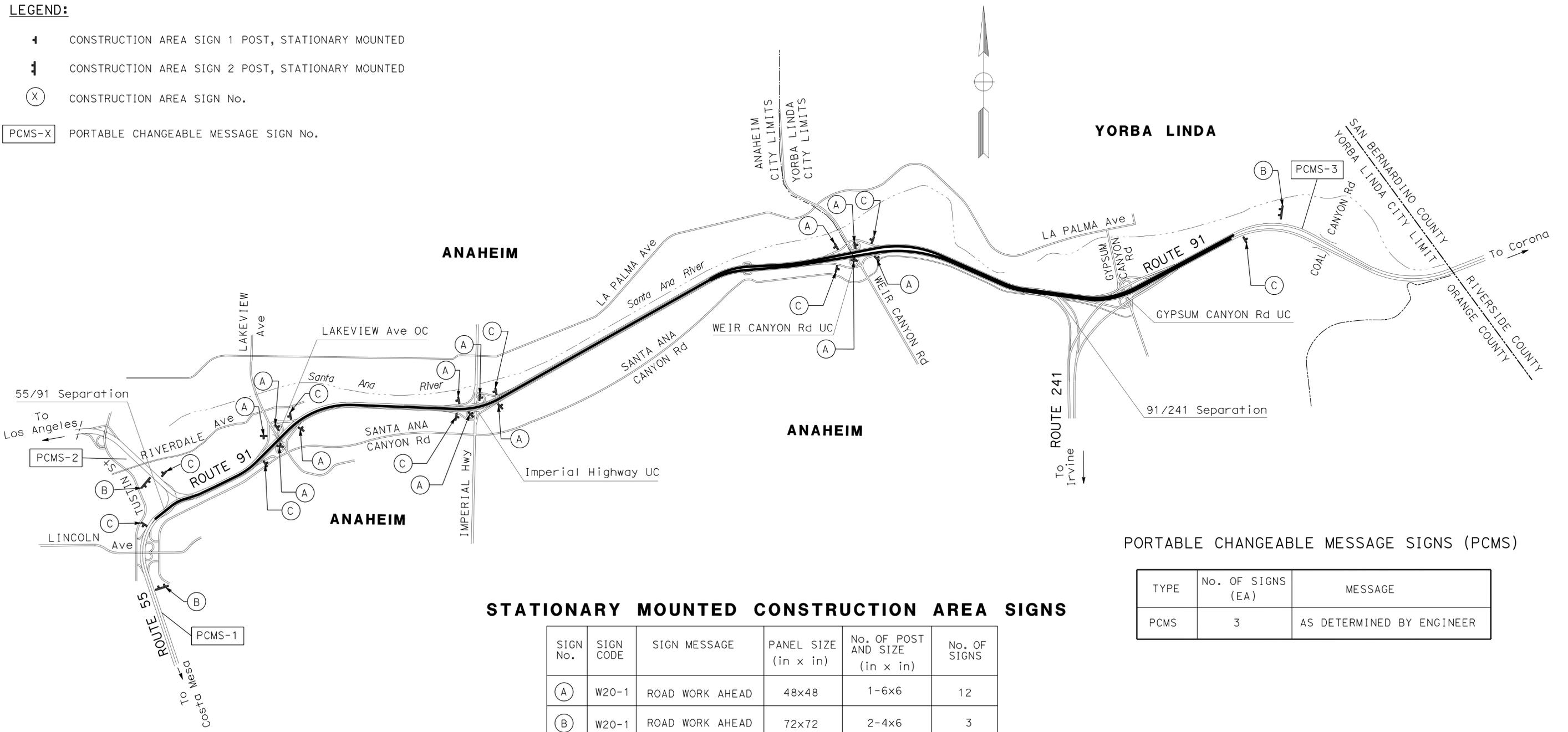
1. LOCATIONS OF CONSTRUCTION AREA SIGNS AND PCMS ARE APPROXIMATE, EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. FOR ADDITIONAL QUANTITIES OF CONSTRUCTION AREA SIGNS AND PCMS, SEE SHEET TH-1.
3. EXACT MESSAGE ON THE PCMS TO BE DETERMINED BY THE ENGINEER.

**ABBREVIATION:**

PCMS: PORTABLE CHANGEABLE MESSAGE SIGN

**LEGEND:**

- CONSTRUCTION AREA SIGN 1 POST, STATIONARY MOUNTED
- CONSTRUCTION AREA SIGN 2 POST, STATIONARY MOUNTED
- CONSTRUCTION AREA SIGN No.
- PORTABLE CHANGEABLE MESSAGE SIGN No.



**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

SIGN No.	SIGN CODE	SIGN MESSAGE	PANEL SIZE (in x in)	No. OF POST AND SIZE (in x in)	No. OF SIGNS
(A)	W20-1	ROAD WORK AHEAD	48x48	1-6x6	12
(B)	W20-1	ROAD WORK AHEAD	72x72	2-4x6	3
(C)	G20-2	END ROAD WORK	48x24	1-4x6	9

**PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)**

TYPE	No. OF SIGNS (EA)	MESSAGE
PCMS	3	AS DETERMINED BY ENGINEER

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-1**

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA TO DEPARTMENT OF TRANSPORTATION MAINTENANCE  
 Caltrans®  
 FUNCTIONAL SUPERVISOR MASSOUD TAJIK  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 REVISOR LOANNA HUYNH  
 DATE REVISED 12-15-15  
 REVISION BY JOSEPH TRAN

LAST REVISION DATE PLOTTED => 28-JAN-2016  
 12-15-15 TIME PLOTTED => 10:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	3	19

REGISTERED CIVIL ENGINEER DATE 12-28-15  
 LOANNA HUYNH No. C52386 Exp. 12-31-16 CIVIL  
 PLANS APPROVAL DATE 01-25-16  
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 (DETOUR ) AND PCMS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. EXACT MESSAGE ON THE PCMS TO BE DETERMINED BY THE ENGINEER.

**LEGEND:**

- DIRECTION OF TRAVEL THROUGH DETOUR
- ⊥ CONSTRUCTION AREA SIGN (DETOUR ), 1-POST
- PCMS-X PORTABLE CHANGEABLE MESSAGE SIGN No.
- X CONSTRUCTION AREA SIGN (DETOUR) No.
- CONNECTOR CLOSURE

DURING ROUTE 91 TO ROUTE 55 CONNECTOR CLOSURES, THE PCMS SHALL READ:

PCMS-X	MESSAGE
PCMS-4	1ST FRAME: W91 TO S55 CLOSED 2ND FRAME: USE TUSTIN Ave
PCMS-5	1ST FRAME: DETOUR TO S55 2ND FRAME: EXIT HERE
PCMS-6	1ST FRAME: E91 TO S55 CLOSED 2ND FRAME: USE TUSTIN Ave
PCMS-7	1ST FRAME: DETOUR TO S55 2ND FRAME: EXIT HERE

**CLOSURE 1:**

WB Rte 91 TO SB Rte 55 CONNECTOR

**DETOUR 1:**

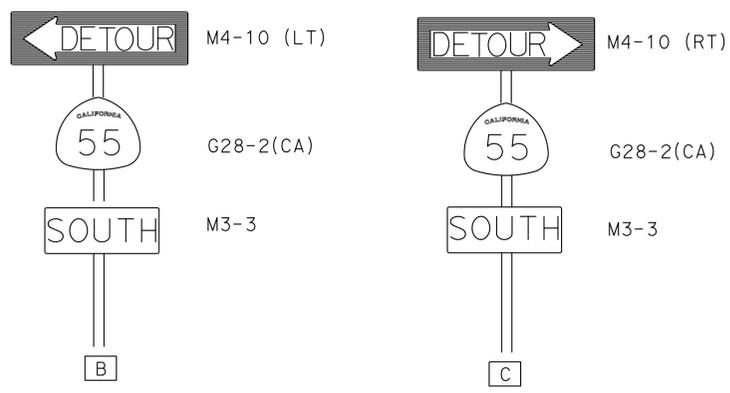
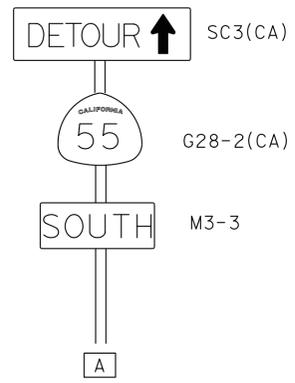
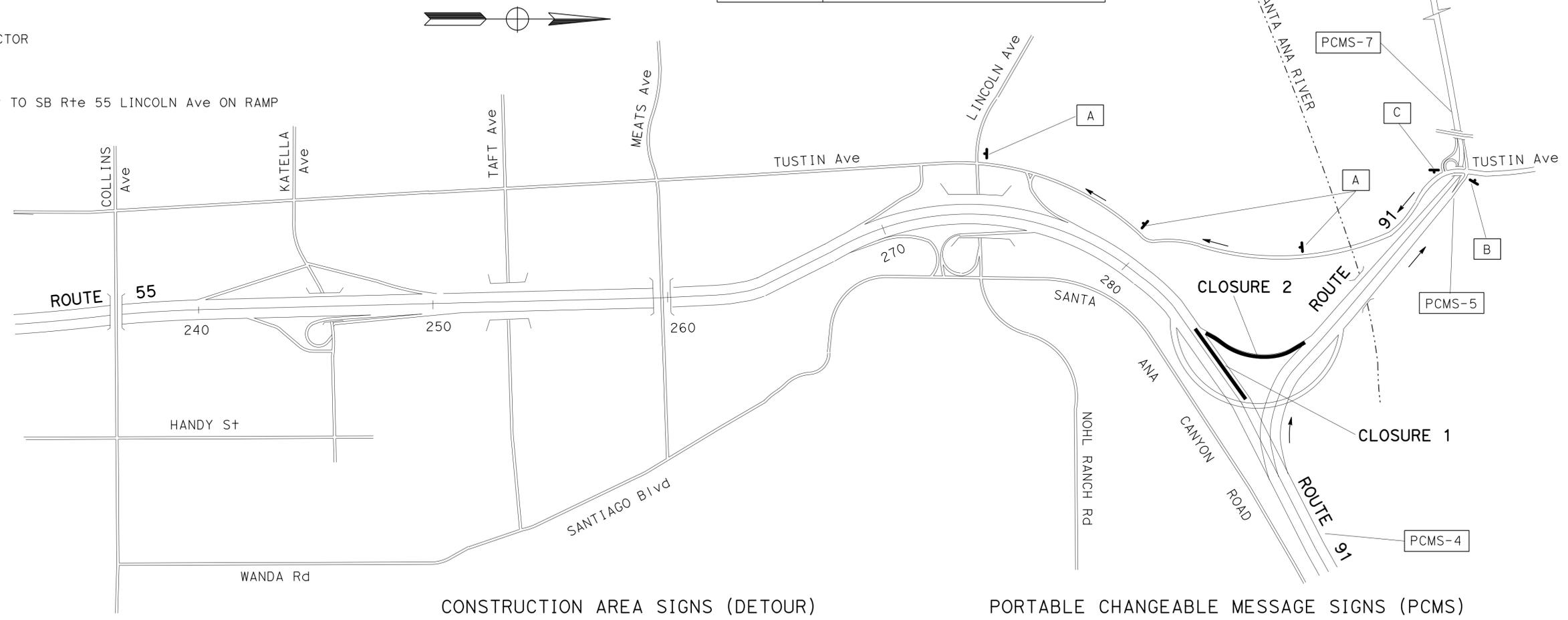
WB Rte 91 TUSTIN Ave OFF RAMP TO SB Rte 55 LINCOLN Ave ON RAMP

**CLOSURE 2:**

EB Rte 91 TO SB Rte 55 CONNECTOR

**DETOUR 2:**

EB Rte 91 TUSTIN Ave OFF RAMP TO SB Rte 55 LINCOLN Ave ON RAMP



CONSTRUCTION AREA SIGNS (DETOUR)

PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)

SIGN No.	SIGN CODE	PANEL SIGN	No. OF POST AND SIZE	No. OF SIGNS
A	SC3(CA)	24" x 12"	1-4" X 6"	3
	G28-2(CA)	30" x 24"		
	M3-3	24" x 12"		
B	M4-10(Lt)	24" x 12"	1-4" X 6"	1
	G28-2(CA)	30" x 24"		
	M3-3	24" x 12"		
C	M4-10(Rt)	24" x 12"	1-4" X 6"	1
	G28-2(CA)	30" x 24"		
	M3-3	24" x 12"		

TYPE	No. OF SIGNS (EA)	MESSAGE
PCMS	4	AS SHOWN ON TRAFFIC HANDLING PLANS

**TRAFFIC HANDLING PLAN (DETOUR)**

NO SCALE

**TH-1**

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA TO DEPARTMENT OF TRANSPORTATION MAINTENANCE  
 Caltrans®  
 LOANNA HUYNH  
 JOSEPH TRAN  
 MASSOUD TAJIK  
 REVISOR: LH  
 DATE: 12-15-15  
 REVISIONS:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R16.9	4	19
			12-28-15	DATE	
			01-25-16	PLANS APPROVAL DATE	
REGISTERED CIVIL ENGINEER LOANNA HUYNH No. C52386 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

**NOTES:**

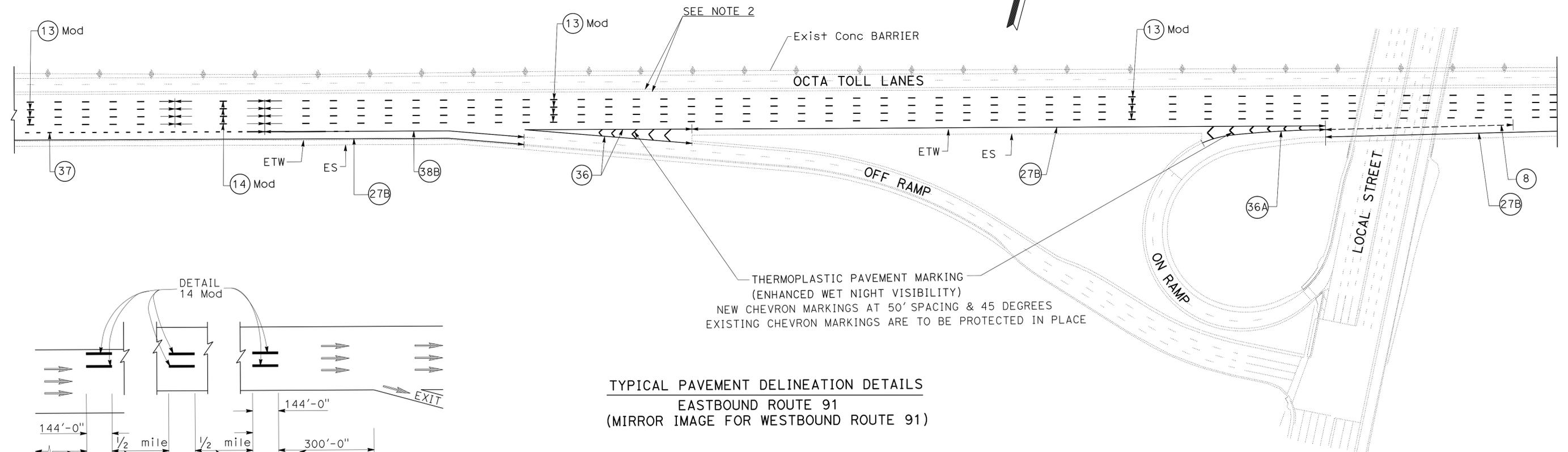
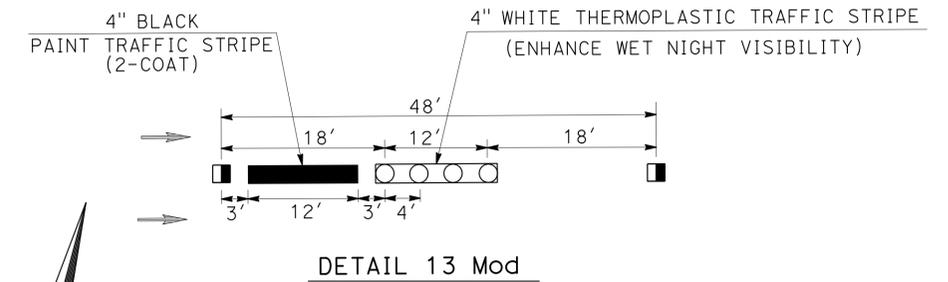
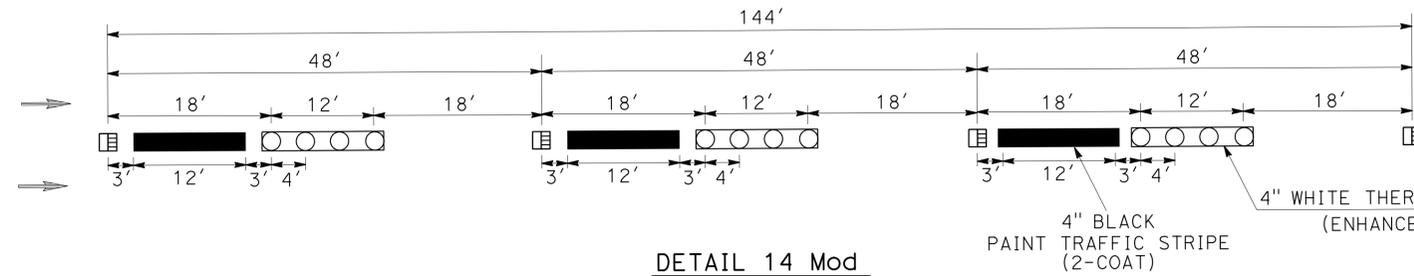
- EXISTING PAVEMENT DELINEATION SHALL BE REMOVED AND REPLACED WITH ENHANCE WET NIGHT VISIBILITY TYPE AT THE SAME LOCATION. NEW PAINT TRAFFIC STRIPE (2-COAT) SHALL APPLY OVER EXISTING PAINT TRAFFIC STRIPE WITHOUT REMOVING.
- OCTA EXPRESS LANES TO BE DONE BY CONTRACT NO. 12-0N040K.
- CONCRETE BARRIER MARKERS, WHERE MISSING, SHALL BE CEMENTED TO ALL EXISTING CONCRTE BARRIER AND CONCRETE BARRIER MOUNTED ON RETAINING WALLS/SOUND WALLS AT 48' SPACING.
- GUARD RAILING DELINEATORS (TYPE F) AND (TYPE G), WHERE MISSING, SHALL BE INSTALLED ON ALL EXISTING MBGR AT 25' SPACING.
- OBJECT MARKER (TYPE P), WHERE MISSING, SHALL BE INSTALLED ON ALL EXISTING MBGR.

**LEGENDS:**

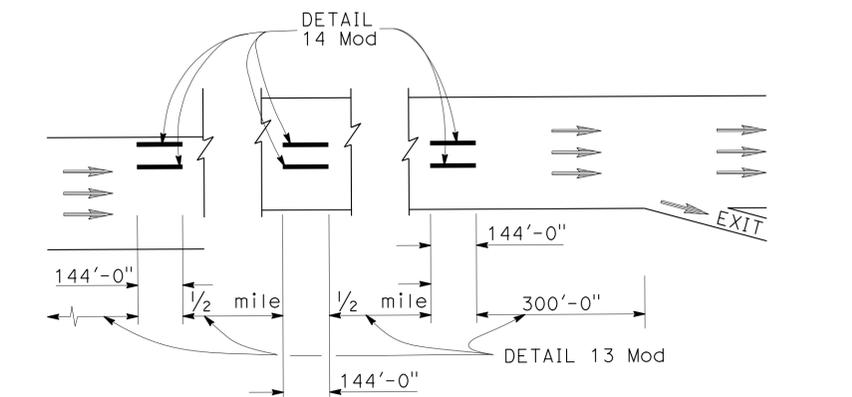
- TRAFFIC DIRECTION
- +— CHANGE IN PAVEMENT DELINEATION DETAILS
- (X) PAVEMENT DELINEATION DETAIL

**ABBREVIATION:**

OCTA: Orange County Transportation Authority



**TYPICAL PAVEMENT DELINEATION DETAILS**  
 EASTBOUND ROUTE 91  
 (MIRROR IMAGE FOR WESTBOUND ROUTE 91)



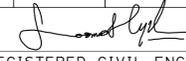
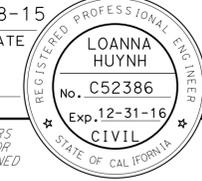
**TYPICAL LANE LINE DELINEATION IN ADVANCE OF EXIT RAMP**  
 NOTE: DETAIL 14 Mod IS TO BE USED IN COMBINATION WITH DETAIL 13 Mod.

**PAVEMENT DELINEATION DETAILS**

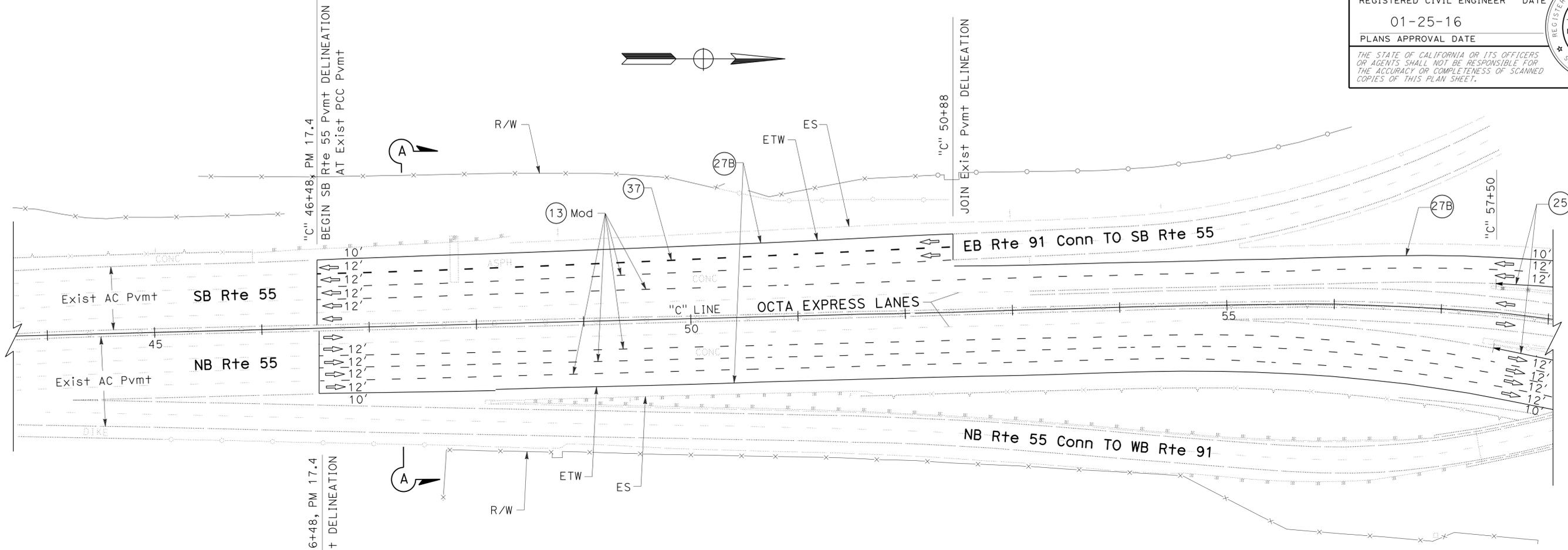
NO SCALE

**PDD-1**

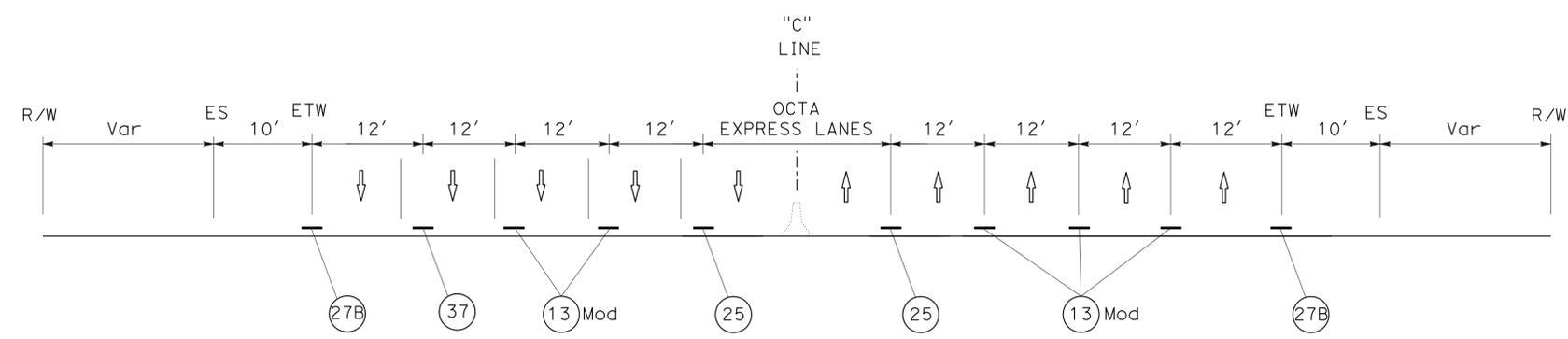
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 MAINTENANCE  
 FUNCTIONAL SUPERVISOR: MASSOUD TAJIK  
 CALCULATED/DESIGNED BY: LOANNA HUYNH  
 CHECKED BY: JOSEPH TRAN  
 REVISED BY: LH  
 DATE REVISED: 12-15-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	5	19
 REGISTERED CIVIL ENGINEER			12-28-15	DATE	
01-25-16 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
<b>Caltrans</b>	MASSOUD TAJIK	MASSOUD TAJIK	LOANNA HUYNH	12-15-15
MAINTENANCE		CHECKED BY	JOSEPH TRAN	



**ROUTE 55**  
"C" 46+48 TO "C" 71+30



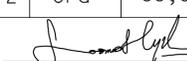
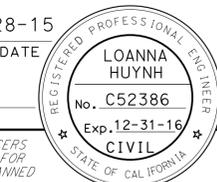
SECTION A-A

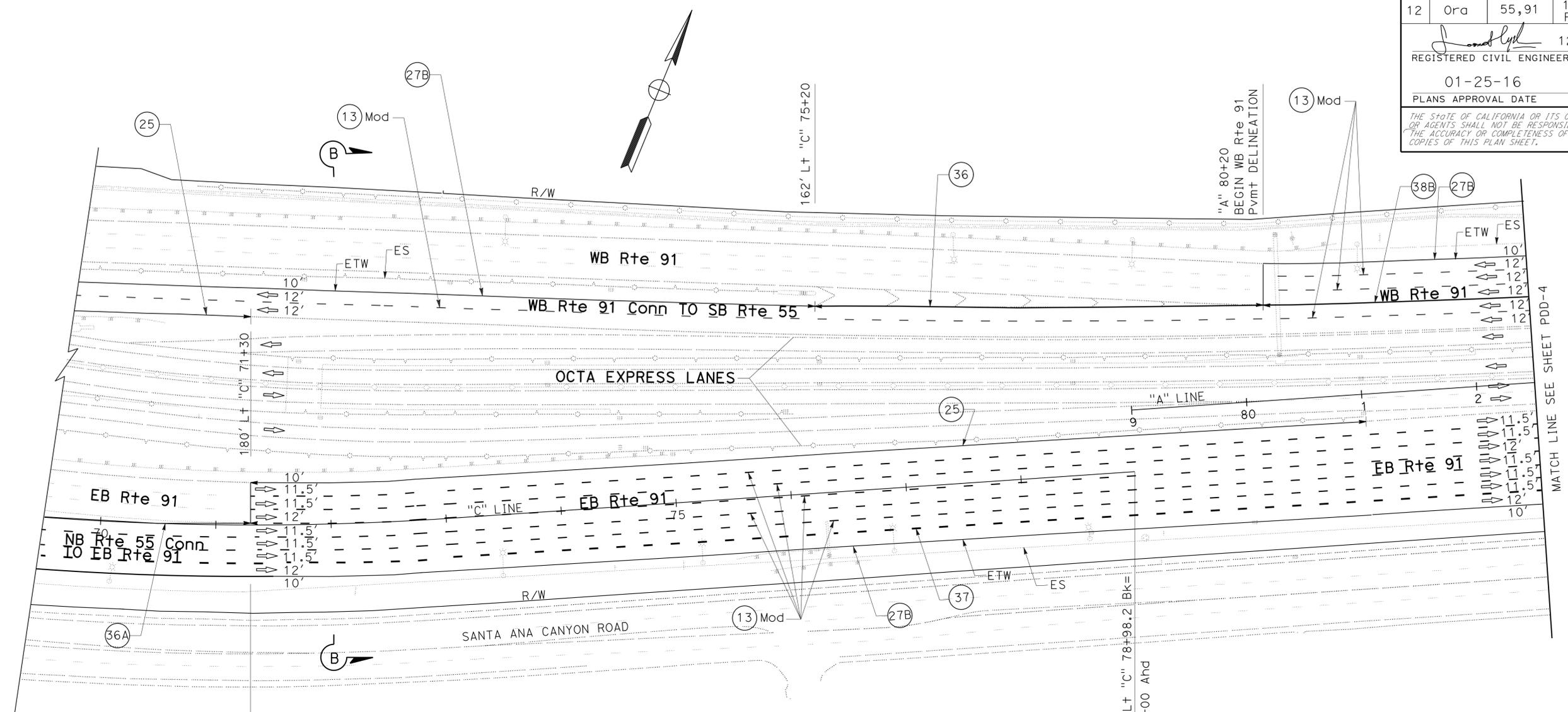
**PAVEMENT DELINEATION DETAILS**

NO SCALE

**PDD-2**

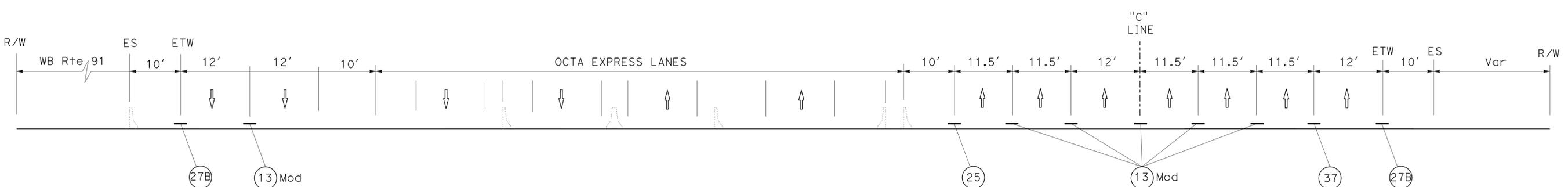
LAST REVISION | DATE PLOTTED => 28-JAN-2016 | TIME PLOTTED => 10:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	6	19
			12-28-15		
REGISTERED CIVIL ENGINEER			DATE		
01-25-16			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



END NB Rte 55 Pvm+ DELINEATION  
"C" 71+30 NB Rte 55, PM R17.9 =  
"C" 71+30 EB Rte 91, PM R9.2  
BEGIN EB Rte 91 Pvm+ DELINEATION

**ROUTE 91**  
"C" 71+30 TO "C" 78+98.2



SECTION B-B

**PAVEMENT DELINEATION DETAILS**  
NO SCALE  
**PDD-3**

STATE OF CALIFORNIA TO DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE

FUNCTIONAL SUPERVISOR: MASSOUD TAJIK  
CALCULATED/DESIGNED BY: JOSEPH TRAN  
CHECKED BY: LOANNA HUYNH  
REVISOR: LH  
DATE REVISED: 12-15-15

USERNAME => s129866  
DGN FILE => 1215000113nb003.dgn

RELATIVE BORDER SCALE 1" = 10' INCHES  
0 1 2 3

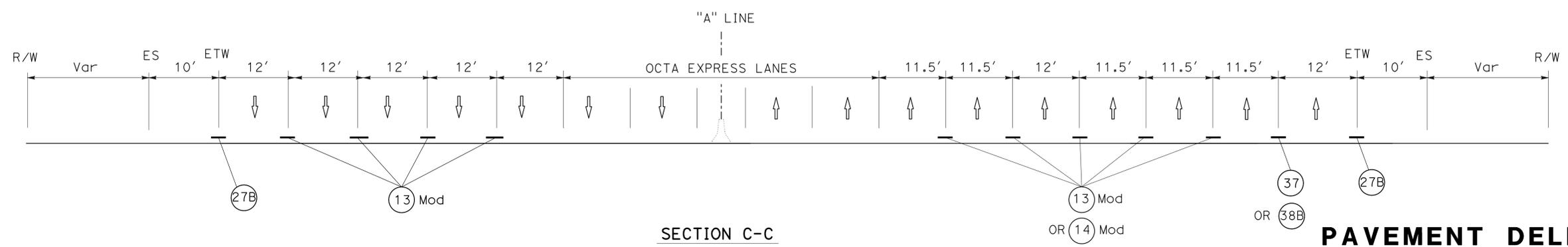
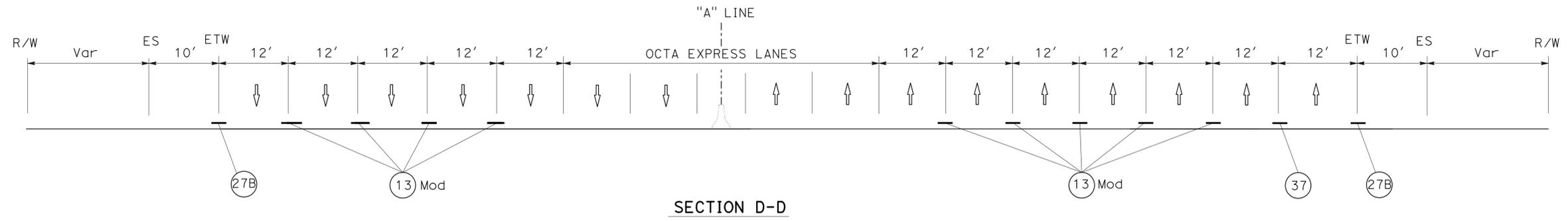
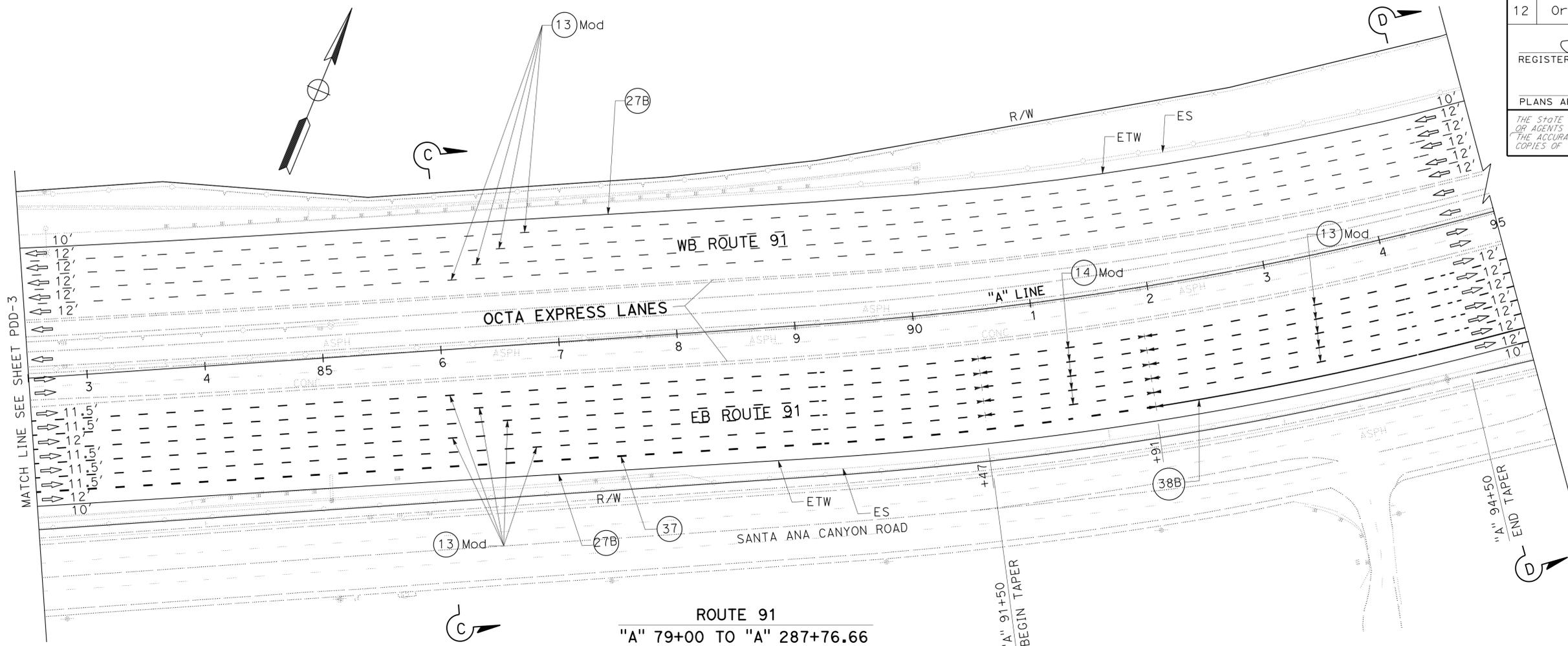
UNIT 3064

PROJECT NUMBER & PHASE

12150001131

LAST REVISION | DATE PLOTTED => 28-JAN-2016  
12-15-15 | TIME PLOTTED => 10:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	7	19
			12-28-15	REGISTERED CIVIL ENGINEER DATE	
			01-25-16	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



**PAVEMENT DELINEATION DETAILS**  
NO SCALE  
**PDD-4**

STATE OF CALIFORNIA TO DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE

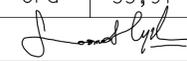
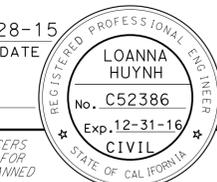
FUNCTIONAL SUPERVISOR: MASSOUD TAJIK

LOANNA HUYNH  
JOSEPH TRAN

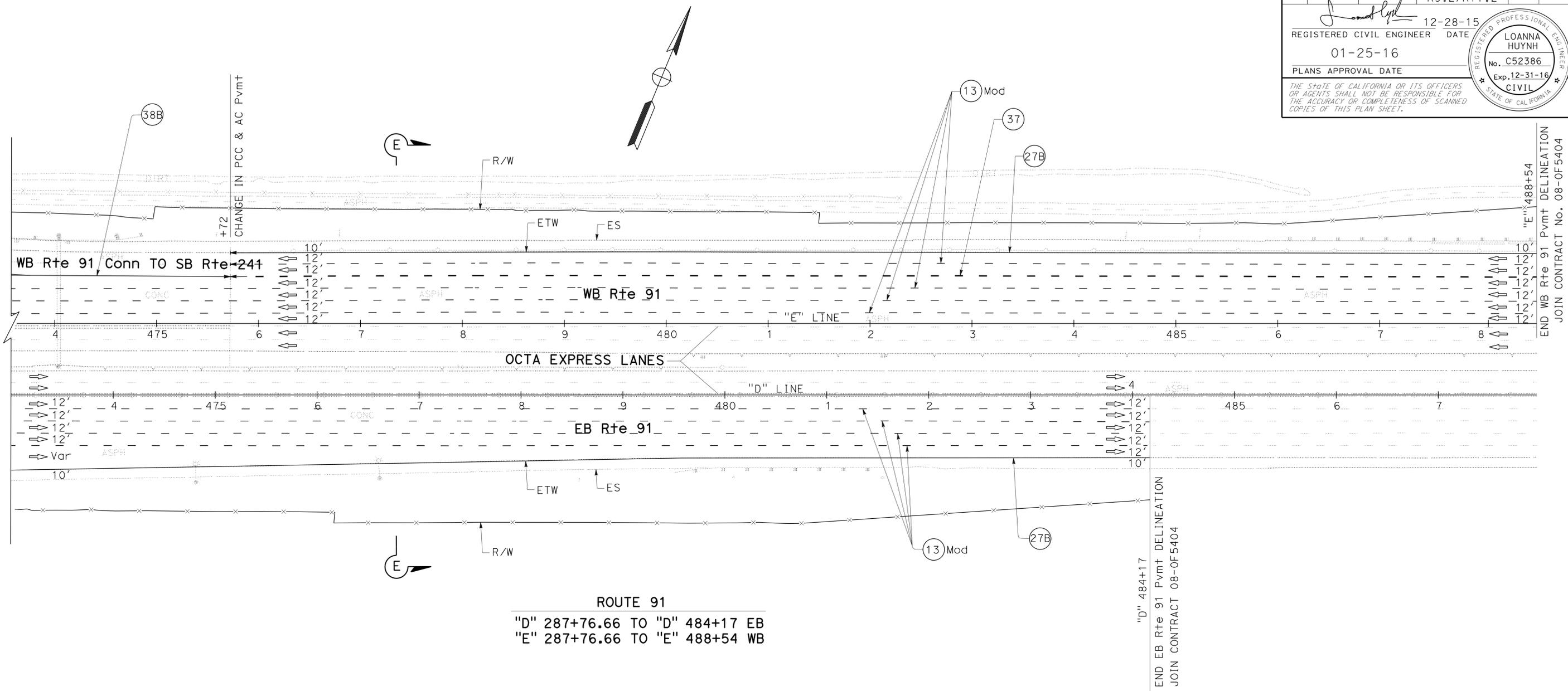
REVISOR: LH  
DATE: 12-15-15

CALCULATED/DESIGNED BY: JOSEPH TRAN  
CHECKED BY:

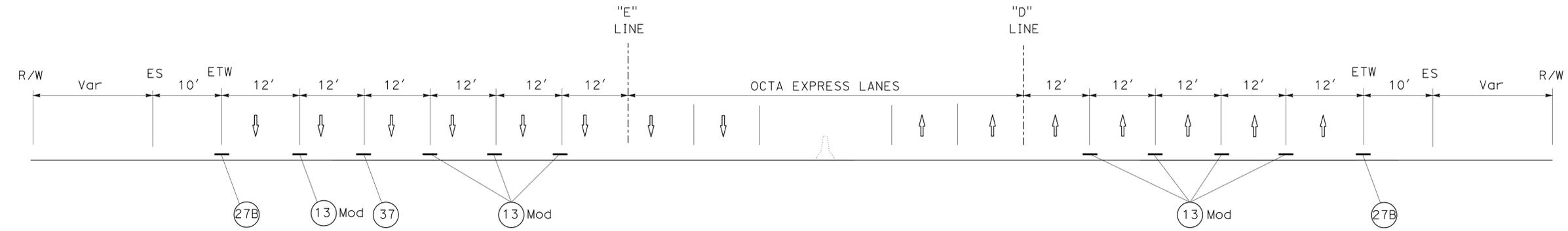
LAST REVISION DATE PLOTTED => 28-JAN-2016  
 12-15-15 TIME PLOTTED => 10:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	8	19
 REGISTERED CIVIL ENGINEER DATE 12-28-15					
PLANS APPROVAL DATE			01-25-16		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

STATE OF CALIFORNIA TO DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE  
 FUNCTIONAL SUPERVISOR MASSOUD TAJIK  
 CALCULATED/DESIGNED BY JOSEPH TRAN  
 LOANNA HUYNH  
 REVISOR BY LH  
 DATE REVISED 12-15-15



**ROUTE 91**  
 "D" 287+76.66 TO "D" 484+17 EB  
 "E" 287+76.66 TO "E" 488+54 WB



SECTION E-E

## PAVEMENT DELINEATION DETAILS

NO SCALE

### PDD-5

LAST REVISION DATE PLOTTED => 28-JAN-2016  
 12-15-15 TIME PLOTTED => 10:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R15.9	9	19

12-28-15  
 REGISTERED CIVIL ENGINEER DATE  
 01-25-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 LOANNA HUYNH  
 No. C52386  
 Exp. 12-31-16  
 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.

Rte/ DIRECTION	LOCATION DESCRIPTION	BEGIN Sta	END Sta	LENGTH FT	PAINT TRAFFIC STRIPE (2- COAT)	THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY)							PAVEMENT MARKER (NON REFLECTIVE) (RETROREFLECTIVE)				THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY)	
					4"	4"			8"				(NON REFLECTIVE)	(RETROREFLECTIVE)			ARROW	CHEVRON
					BLACK (BROKEN 36-12) DETAILS 13 Mod, 14 Mod	WHITE (BROKEN 36-12) DETAILS 13 Mod, 14 Mod	WHITE (BROKEN 17-7) DETAIL 8	SOLID YELLOW DETAIL 25	SOLID WHITE DETAIL 27B	SOLID WHITE DETAIL 36, 36A	SOLID WHITE DETAIL 38B	WHITE (BROKEN (12-3) DETAIL 37	TYPE A DETAIL 13 Mod, 14 Mod	TYPE C DETAIL 14 Mod	TYPE G DETAIL 13 Mod, 36, 36A, 38B	TYPE H DETAIL 25	EA	EA
55/NB	NB Rte 55	"C" 46+48	"C" 71+30	2482	7446	7446	826	1380	2482	424		1120	621		253	53		
91/EB	NB Rte 55 TO LAKEVIEW Ave OC	"C" 71+30	"A" 112+30	4100	16400	16400	826	970	3844	697	590	1992	1367	32	559			
	LAKEVIEW Ave OC TO IMPERIAL Hwy	"A" 112+30	"A" 188+80	7650	38250	38250	611		7400	1616	335	2560	3188	60	1069			
	IMPERIAL Hwy TO WEIGHT STATION OFF RAMP	"A" 188+80	"D" 293+00	10420	41680	41680			10118	604	232	1242	3473	64	1002			
	WEIGHT STATION OFF RAMP TO WEIR CANYON Rd UC	"D" 293+00	"D" 342+20	4920	20647	20647			4620	600	418	698	1721	32	543			
	WEIR CANYON Rd UC TO Rte 241 OFF RAMP	"D" 342+20	"D" 389+00	4680	19820	19820	303		4226	1383	522	1070	1652	32	591		126	
55/SB	SB Rte 55	"C" 46+48	"C" 71+30	2482	7446	7446		1380	2482				621		161	30		
91/WB	SB Rte 55 TO LAKEVIEW Ave OC	"C" 71+30	"A" 112+30	4100	13330	13330	192		4100	208	366	2844	1111	32	512			112
	LAKEVIEW Ave OC TO IMPERIAL Hwy	"A" 112+30	"A" 188+80	7650	30600	30600	444		7362	1997			2550	32	727		126	224
	IMPERIAL Hwy TO WEIGHT STATION ON RAMP	"A" 188+80	"E" 293+00	10420	42838	42838	184		10168	504	395	1068	3570	64	1024		126	
	WEIGHT STATION ON RAMP TO WEIR CANYON Rd UC	"E" 293+00	"E" 342+20	4920	19680	19680	618		4580	1671	506		1640	32	528			224
	WEIR CANYON Rd UC TO Rte 241 ON RAMP	"E" 342+20	"E" 389+00	4680	18720	18720	259		4680	593	715	1390	1560	32	573			320
	Rte 241 ON RAMP TO 0.8 MILE EAST OF GYPSUM CANYON Rd UC	"E" 389+00	"E" 488+54	9954	39816	39816	470		9677	1738	192	1314	3318	64	1012			656
SUB-TOTAL					346024	346024	5245	3730	84929	13204	4271	15298	28838	524	9220	83	504	2080
TOTAL					346024	346024	5245	88659		17475	15298	28838		9827		2584		

## PAVEMENT DELINEATION QUANTITIES PDQ-1

LAST REVISION | DATE PLOTTED => 28-JAN-2016  
 12-15-15 | TIME PLOTTED => 10:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R15.9	10	19
			12-28-15		
			REGISTERED CIVIL ENGINEER	DATE	
			01-25-16	PLANS APPROVAL DATE	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

Rte/ DIRECTION	LOCATION DESCRIPTION	BEGIN Sta	END Sta	LENGTH	REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE THERMOPLASTIC PAVEMENT MARKING	REMOVE PAVEMENT MARKER	CONCRETE BARRIER MARKER	GUARD RAILING DELINEATOR		OBJECT MARKER (TYPE P)
					LF	SQFT	EA	EA	TYPE F	TYPE G	EA
					FT				EA	EA	EA
55/NB	NB Rte 55	"C" 46+48	"C" 71+30	2482	7036		904	56	12	12	
91/EB	NB Rte 55 TO LAKEVIEW Ave OC	"C" 71+30	"A" 112+30	4100	12127		1957	20	10		
	LAKEVIEW Ave OC TO IMPERIAL Hwy	"A" 112+30	"A" 188+80	7650	21555		4316	14	5		3
	IMPERIAL Hwy TO WEIGHT STATION OFF RAMP	"A" 188+80	"D" 293+00	10420	22458		4539	8	10		5
	WEIGHT STATION OFF RAMP TO WEIR CANYON Rd UC	"D" 293+00	"D" 342+20	4920	11957		2295	32	6		
	WEIR CANYON Rd UC TO Rte 241 OFF RAMP	"D" 342+20	"D" 389+00	4680	13203	126	2275		20		
	Rte 241 OFF RAMP TO 0.8 MILE EAST OF GYPSUM CANYON Rd UC	"D" 389+00	"D" 484+17	9517	19015	126	3160		60		3
55/SB	SB Rte 55	"C" 46+48	"C" 71+30	2482	5724		811	20	16	24	
91/WB	SB Rte 55 TO LAKEVIEW Ave OC	"C" 71+30	"A" 112+30	4100	9205		1655	12	4		1
	LAKEVIEW Ave OC TO IMPERIAL Hwy	"A" 112+30	"A" 188+80	7650	19136	126	3309	42	4		2
	IMPERIAL Hwy TO WEIGHT STATION ON RAMP	"A" 188+80	"E" 293+00	10420	22943	126	4657		18		3
	WEIGHT STATION ON RAMP TO WEIR CANYON Rd UC	"E" 293+00	"E" 342+20	4920	14034		2200	20	24		1
	WEIR CANYON Rd UC TO Rte 241 ON RAMP	"E" 342+20	"E" 389+00	4680	12330		2165		80		2
	Rte 241 ON RAMP TO 0.8 MILE EAST OF GYPSUM CANYON Rd UC	"E" 389+00	"E" 488+54	9954	23891		4394	38	15		2
SUB-TOTAL					214614	504	38637	262	284	36	22
TOTAL					214614	504	38637	262	320		22

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 MAINTENANCE  
 FUNCTIONAL SUPERVISOR: MASSOUD TAJIK  
 CALCULATED/DESIGNED BY: LOANNA HUYNH  
 CHECKED BY: JOSEPH TRAN  
 REVISIONS: LH 12-15-15  
 BORDER LAST REVISED 7/2/2010

## PAVEMENT DELINEATION QUANTITIES PDQ-2

LAST REVISION | DATE PLOTTED => 28-JAN-2016  
 12-15-15 | TIME PLOTTED => 10:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	11	19

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

July 19, 2013  
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 01-25-16

**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 <sup>3</sup> , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
∅	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

\* For use on a sign panel only

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

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

**REVISED STANDARD PLAN RSP A10B**

Maint	MAINTENANCE
Max	MAXIMUM
MB	METAL BEAM
MBB	METAL BEAM BARRIER
MBGR	METAL BEAM GUARD RAILING
Med	MEDIAN
MGS	MIDWEST GUARDRAIL SYSTEM
MH	MANHOLE
Min	MINIMUM
Misc	MISCELLANEOUS
Misc I & S	MISCELLANEOUS IRON AND STEEL
Mkr	MARKER
Mod	MODIFIED, MODIFY
Mon	MONUMENT
MP	METAL PLATE
MPGR	METAL PLATE GUARD RAILING
MR	MOVEMENT RATING
MSE	MECHANICALLY STABILIZED EMBANKMENT
Mt	MOUNTAIN, MOUNT
MtI	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT
N	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
Obir	OBLITERATE
OC	OVERCROSSING
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OG	ORIGINAL GROUND
OGAC	OPEN GRADED ASPHALT CONCRETE
OGFC	OPEN GRADED FRICTION COURSE
OH	OVERHEAD
OHWM	ORDINARY HIGH WATER MARK
O-O	OUT TO OUT
Opp	OPPOSITE
OSD	OVERSIDE DRAIN
p	PAGE
PAP	PERFORATED ALUMINUM PIPE
PB	PULL BOX
PC	POINT OF CURVATURE, PRECAST
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PEC	PERMIT TO ENTER AND CONSTRUCT
Ped	PEDESTRIAN
Ped OC	PEDESTRIAN OVERCROSSING
Ped UC	PEDESTRIAN UNDERCROSSING
Perm MtI	PERMEABLE MATERIAL

PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
Pkwy	PARKWAY
PL, PL	PLATE
P/L	PROPERTY LINE
PM	POST MILE, TIME FROM NOON TO MIDNIGHT
PN	PAVING NOTCH
POC	POINT OF HORIZONTAL CURVE
POT	POINT OF TANGENT
POVC	POINT OF VERTICAL CURVE
PP	PIPE PILE, PLASTIC PIPE, POWER POLE
PPL	PREFORMED PERMEABLE LINER
PPP	PERFORATED PLASTIC PIPE
PRC	POINT OF REVERSE CURVE
PRF	PAVEMENT REINFORCING FABRIC
PRVC	POINT OF REVERSE VERTICAL CURVE
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES
PS, P/S	PRESTRESSED
PSP	PERFORATED STEEL PIPE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
Pvmt	PAVEMENT
Qty	QUANTITY
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	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
SL	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	SEMI-TANGENT
Tan	TANGENT
TBB	THRIE BEAM BARRIER
Tbr	TIMBER
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TCE	TEMPORARY CONSTRUCTION EASEMENT
TeI	TELEPHONE
Temp	TEMPORARY
TG	TOP OF GRADE
Tot	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
Trans	TRANSITION

TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
Typ	TYPICAL
UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS
V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME
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
WWL	WINGWALL LAYOUT LINE
X Sec	CROSS SECTION
Xing	CROSSING
Yr	YEAR
Yrs	YEARS

**P continued**

**S**

**T continued**

**M**

**Q**

**R**

**N**

**O**

**P**

**W**

**X**

**Y**

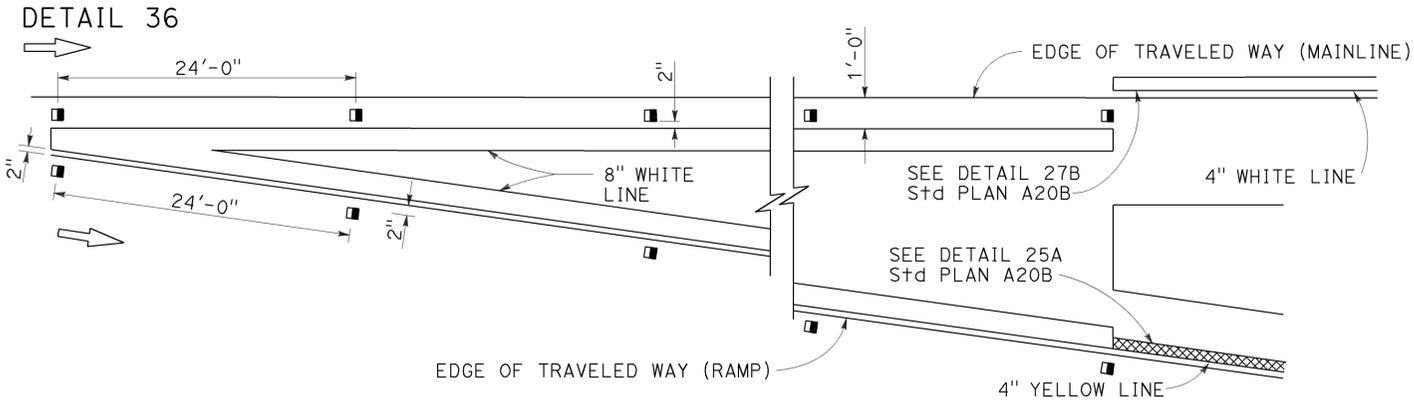
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	12	19

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

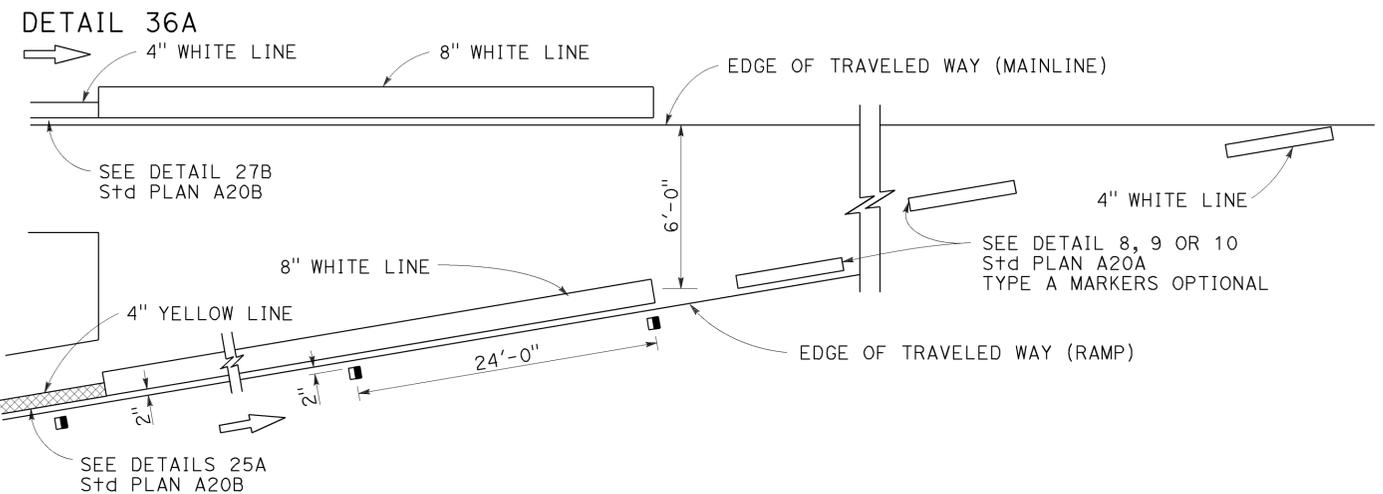
July 19, 2013  
 PLANS APPROVAL DATE

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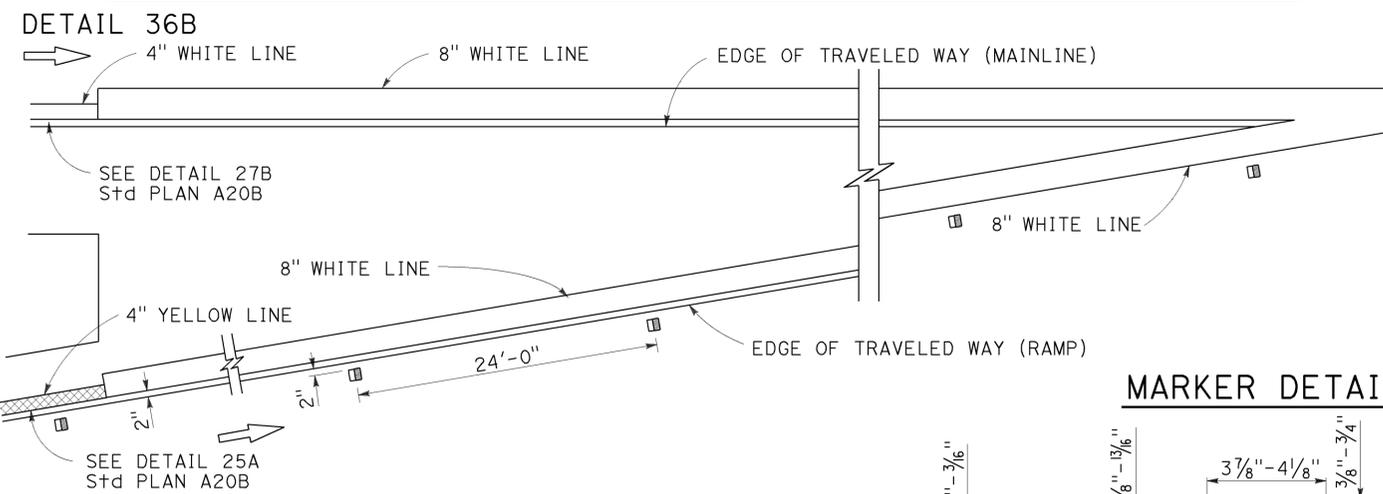
### EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



### ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



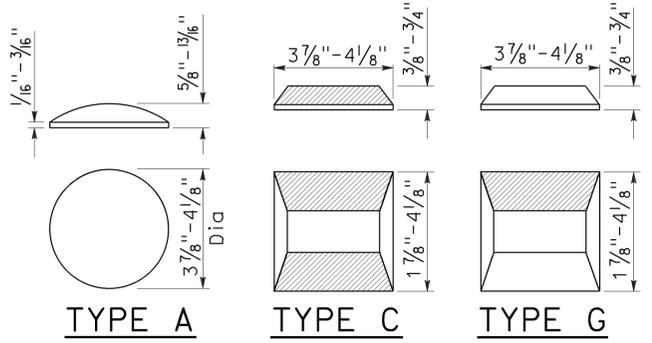
### ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT



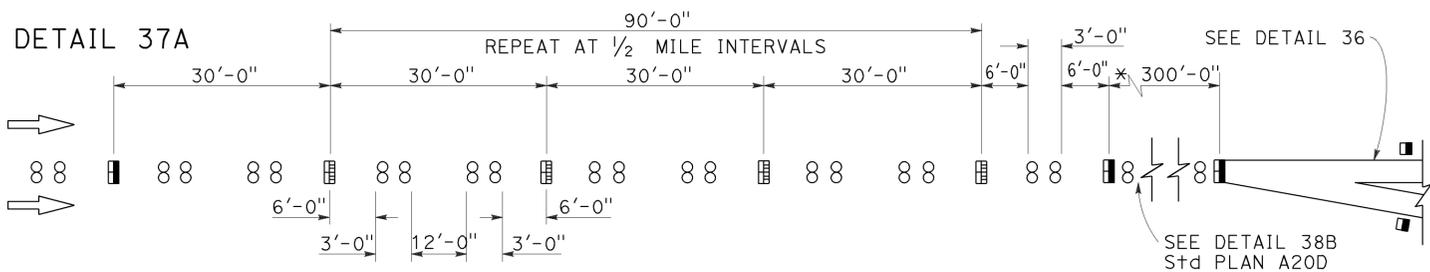
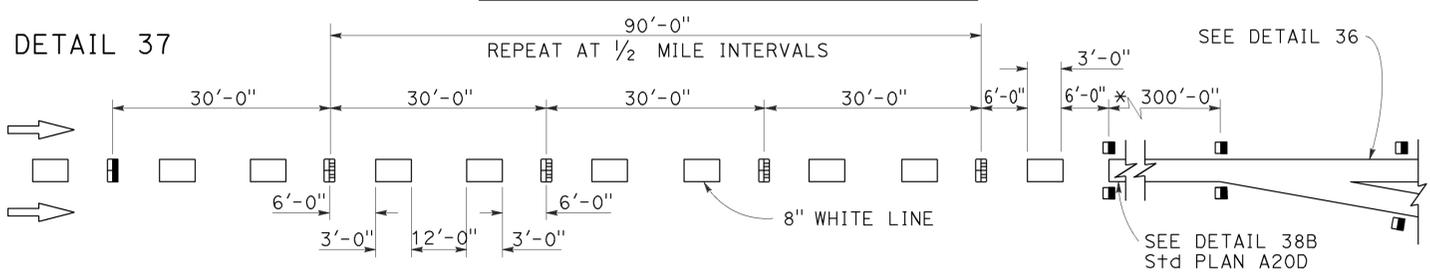
### MARKER DETAILS

#### LEGEND:

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

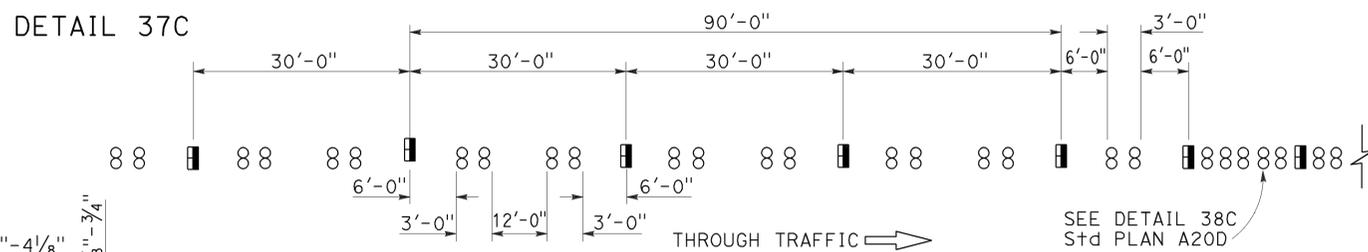
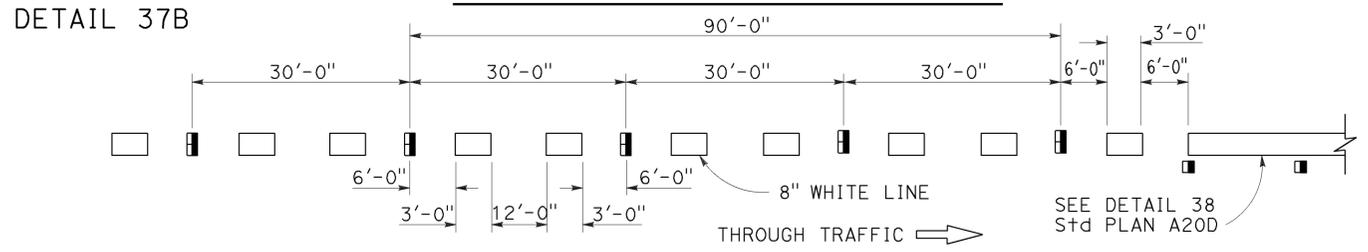


### LANE DROP AT EXIT RAMP



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

### LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

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

## REVISED STANDARD PLAN RSP A20C

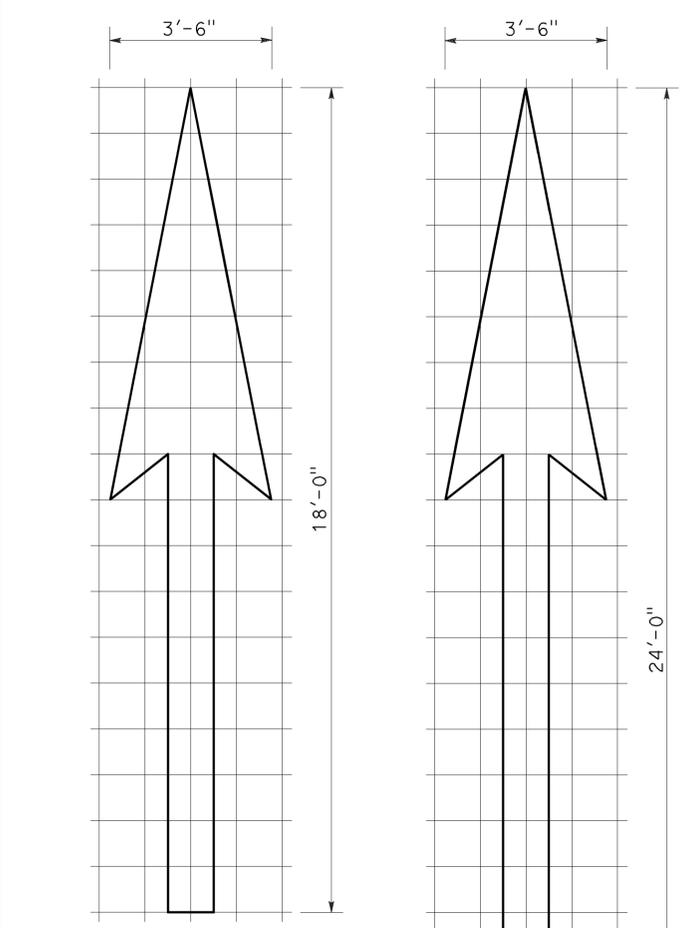
2010 REVISED STANDARD PLAN RSP A20C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	13	19

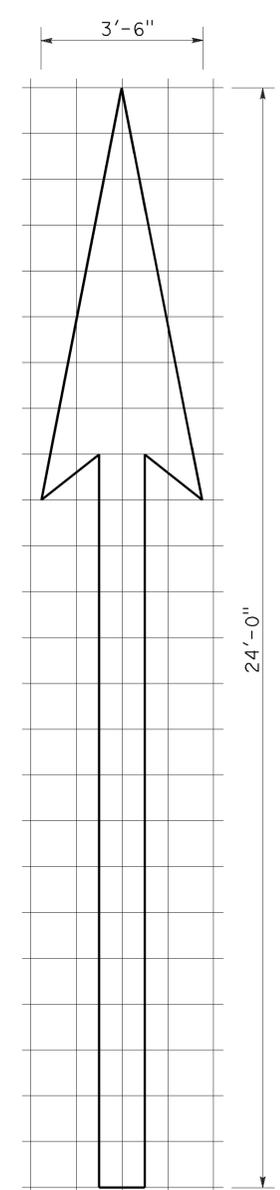
*Roberta L. McLaughlin*  
 REGISTERED CIVIL ENGINEER  
 April 20, 2012  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Roberta L. McLaughlin  
 No. C40375  
 Exp. 3-31-13  
 CIVIL  
 STATE OF CALIFORNIA

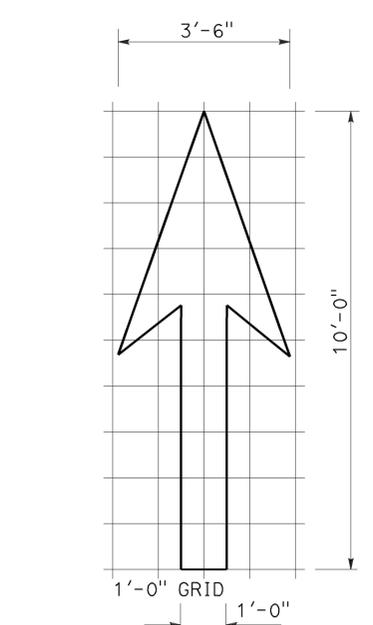
TO ACCOMPANY PLANS DATED 01-25-16



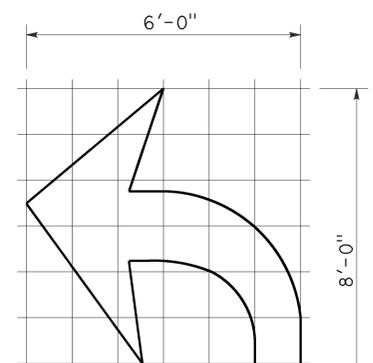
**TYPE I 18'-0" ARROW**  
A=25 ft<sup>2</sup>



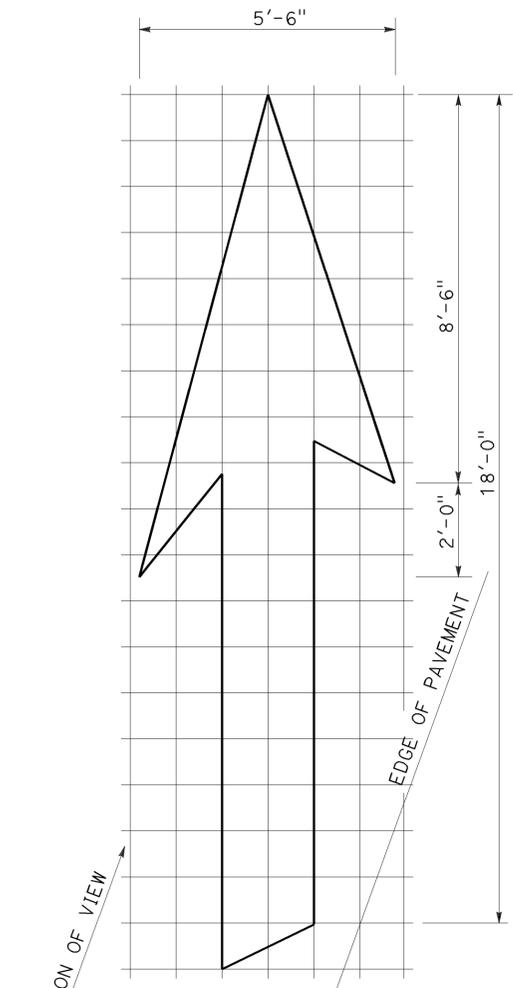
**TYPE I 24'-0" ARROW**  
A=31 ft<sup>2</sup>



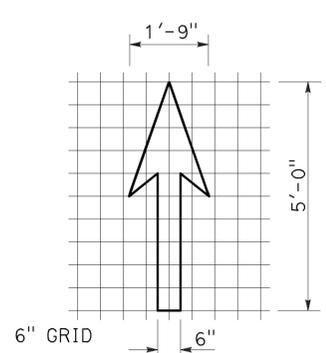
**TYPE I 10'-0" ARROW**  
A=14 ft<sup>2</sup>



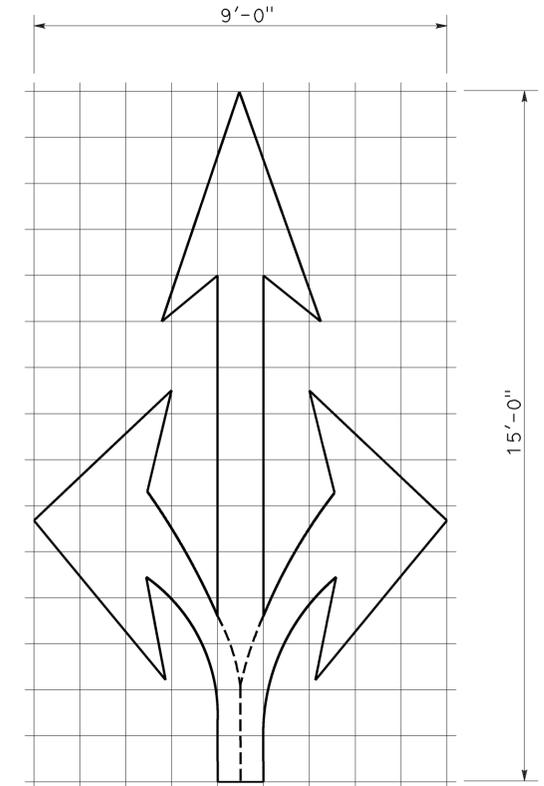
**TYPE IV (L) ARROW**  
A=15 ft<sup>2</sup>  
(For Type IV (R) arrow, use mirror image)



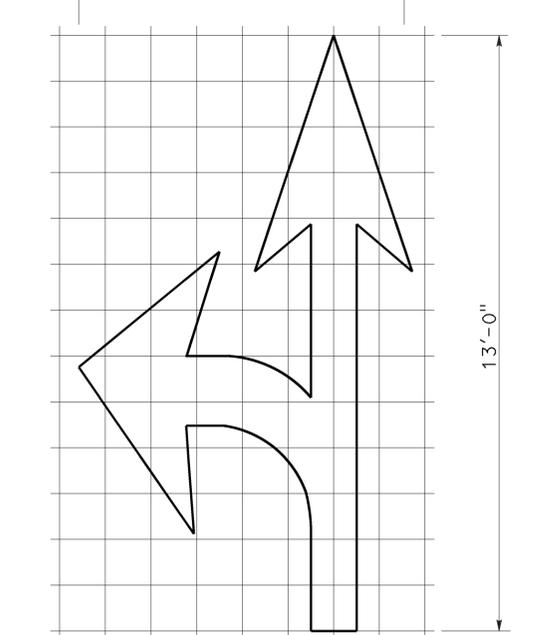
**TYPE VI ARROW**  
A=42 ft<sup>2</sup>  
Right lane drop arrow  
(For left lane, use mirror image)



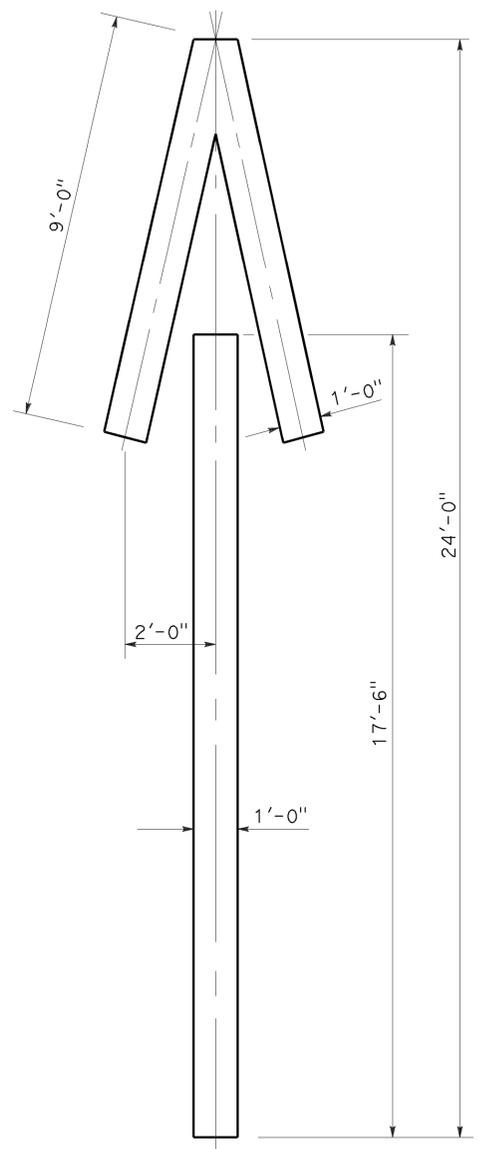
**BIKE LANE ARROW**  
A=3.5 ft<sup>2</sup>



**TYPE VIII ARROW**  
A=36 ft<sup>2</sup>



**TYPE VII (L) ARROW**  
A=27 ft<sup>2</sup>  
(For Type VII (R) arrow, use mirror image)



**TYPE V ARROW**  
A=33 ft<sup>2</sup>

**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**

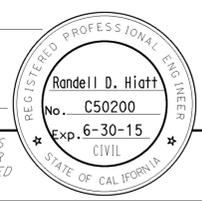
**2010 REVISED STANDARD PLAN RSP A24A**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	14	19

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

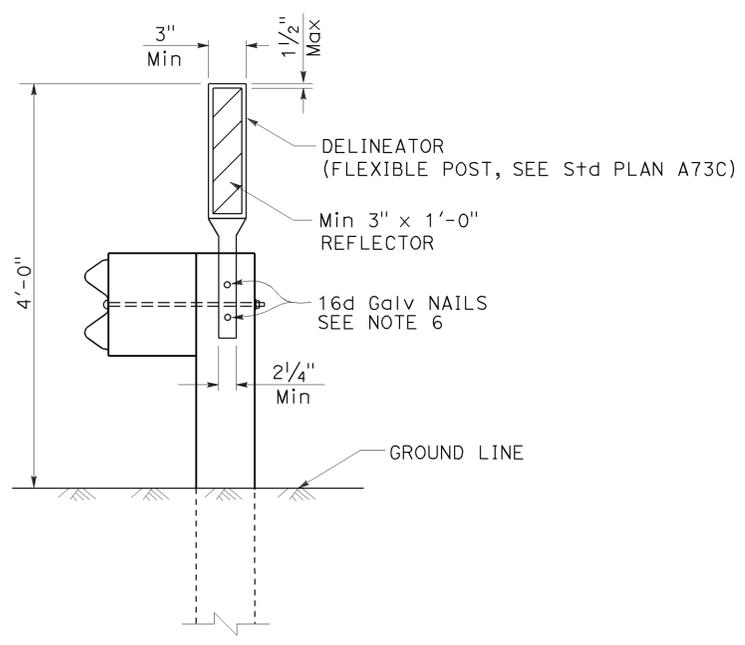
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



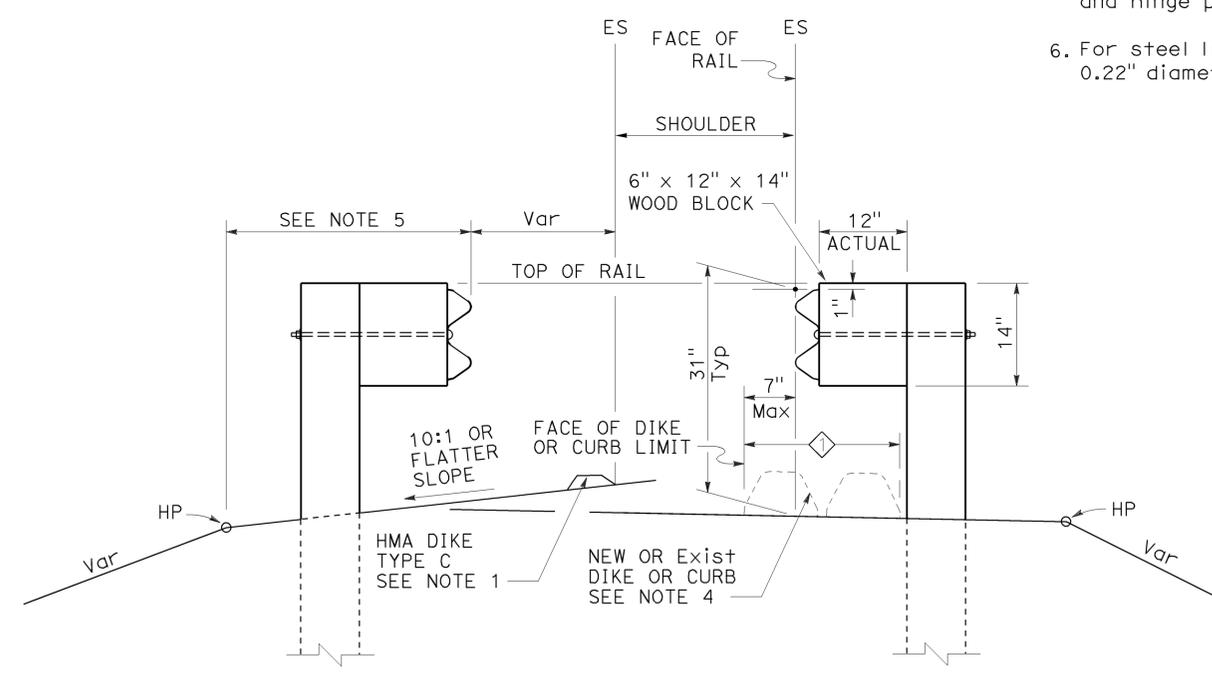
TO ACCOMPANY PLANS DATED 01-25-16

**NOTES:**

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



**MGS DELINEATION**  
See Note 3



**DIKE POSITIONING**  
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

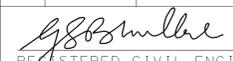
**MIDWEST GUARDRAIL SYSTEM  
TYPICAL RAILING DELINEATION  
AND DIKE POSITIONING DETAILS**  
NO SCALE

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

**REVISED STANDARD PLAN RSP A77N4**

2010 REVISED STANDARD PLAN RSP A77N4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	15	19

  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 01-25-16

TABLE 1

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

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

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

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

TABLE 2

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

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

TABLE 3

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

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

## TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

NO SCALE

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

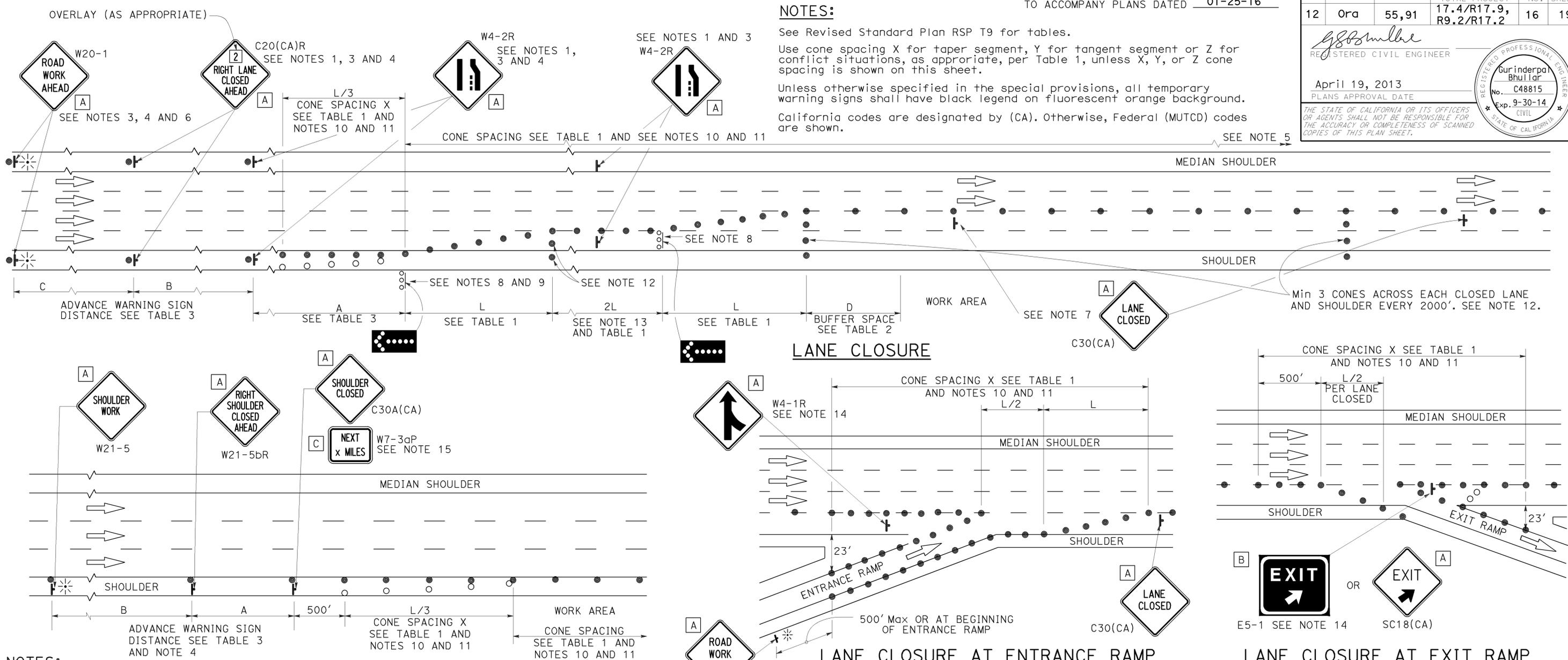
**REVISED STANDARD PLAN RSP T9**

2010 REVISED STANDARD PLAN RSP T9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	16	19

REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA



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

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

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

**LEGEND**

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

**SIGN PANEL SIZE (Min)**

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

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

# TYPICAL RAMP CLOSURES

## SIGN PANEL SIZE (Min)

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

## LEGEND

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	17	19

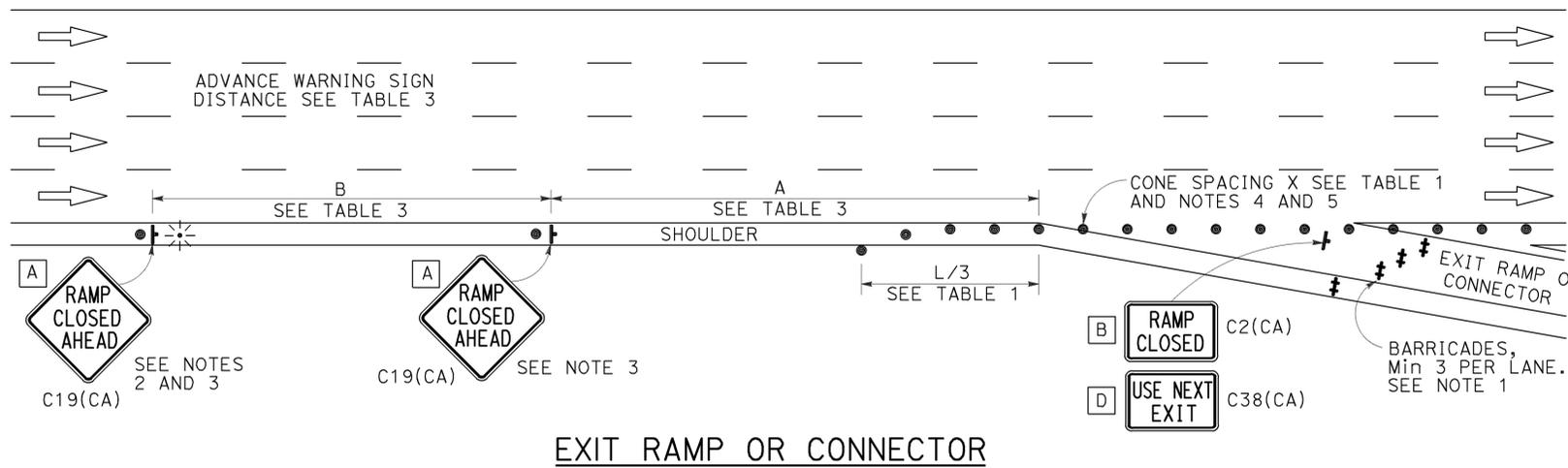
*Gurinderpal Bhullar*  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
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 Gurinderpal Bhullar  
 No. C48815  
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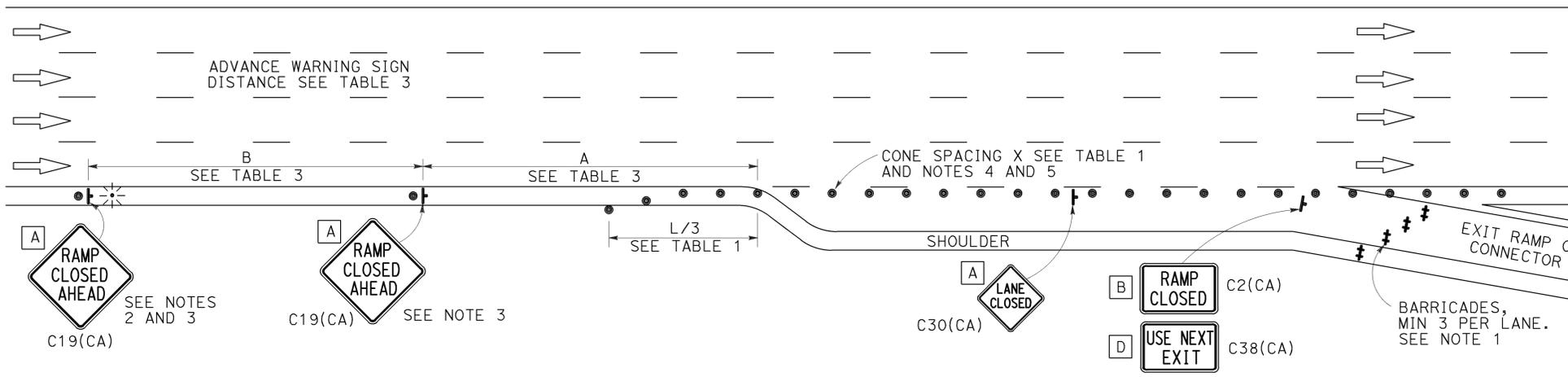
TO ACCOMPANY PLANS DATED 01-25-16

## NOTES:

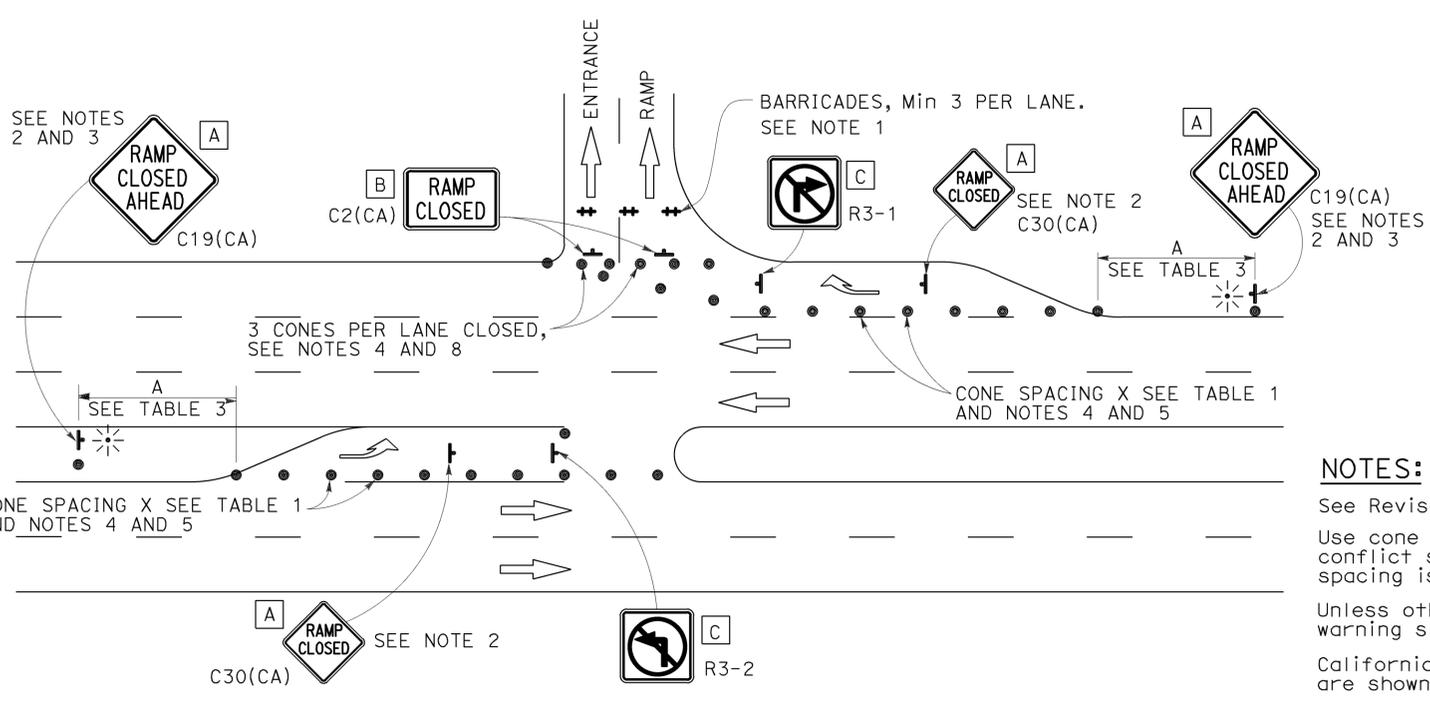
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed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



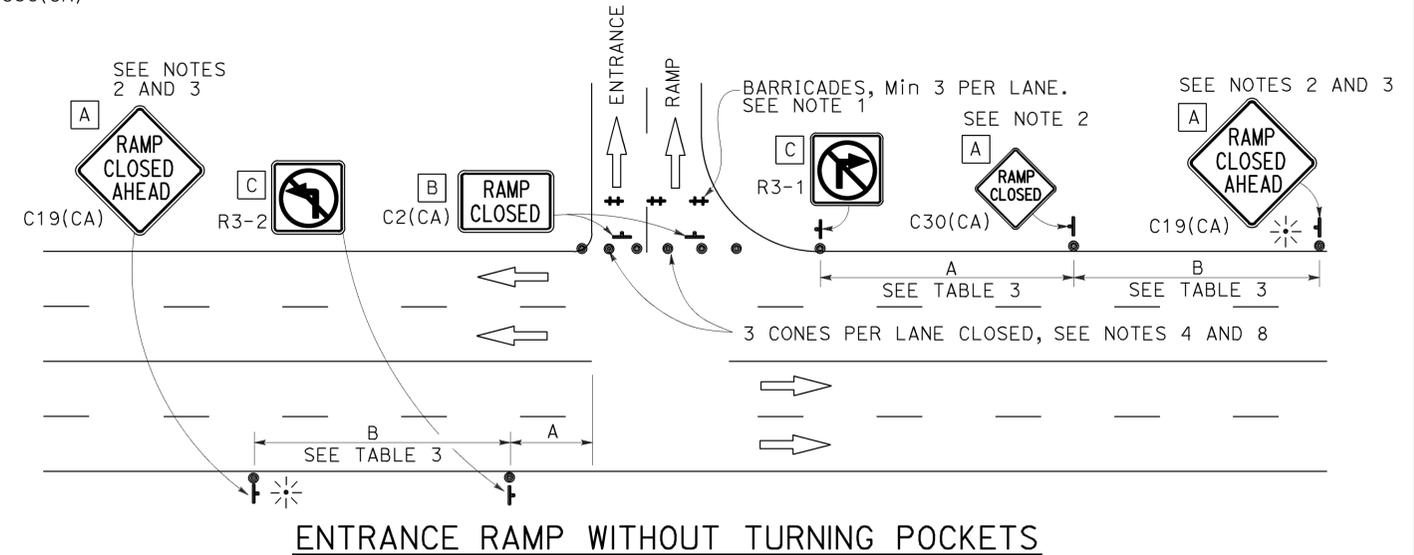
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

## NOTES:

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

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

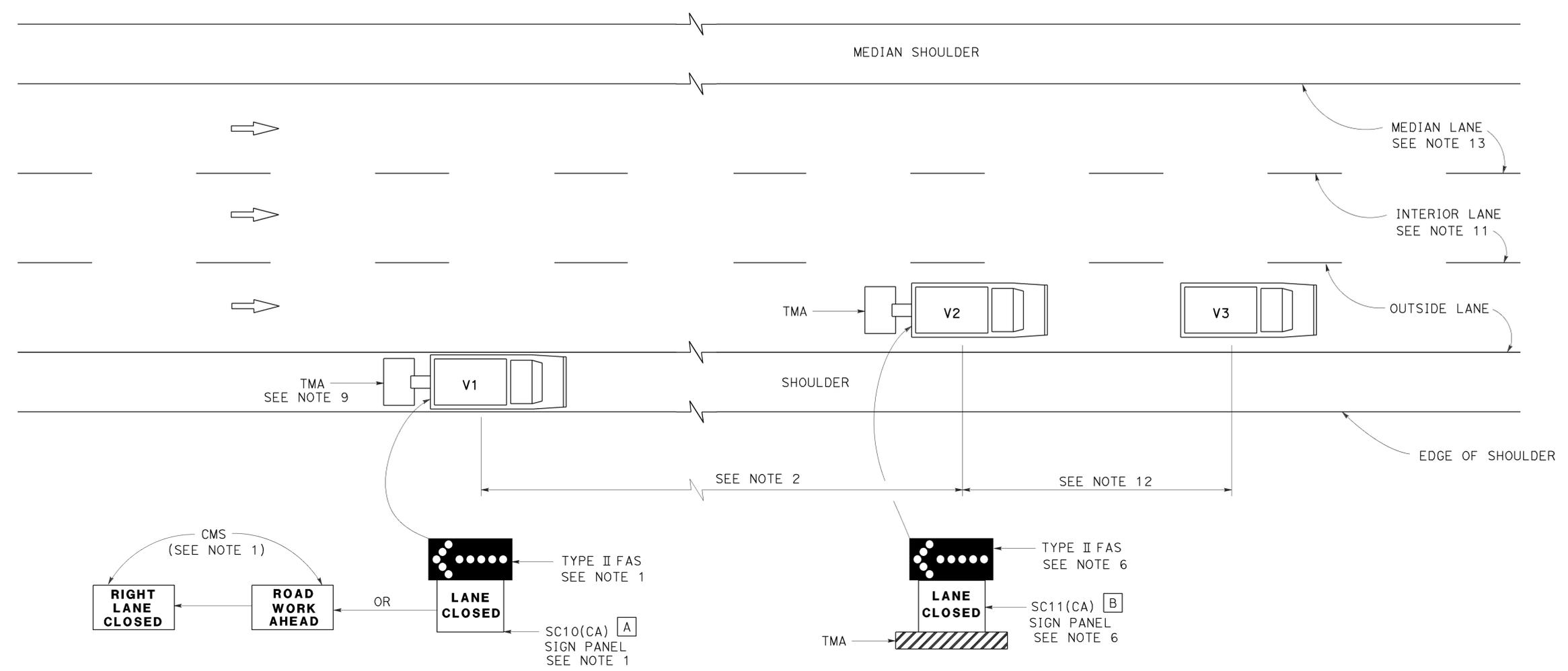
RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T14**

2010 REVISED STANDARD PLAN RSP T14



TO ACCOMPANY PLANS DATED 01-25-16



**SIGN PANEL SIZE (Min)**

- A 66" x 36"
- B 54" x 42"

**LEGEND**

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

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

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS**  
NO SCALE

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

**REVISED STANDARD PLAN RSP T15**

2010 REVISED STANDARD PLAN RSP T15

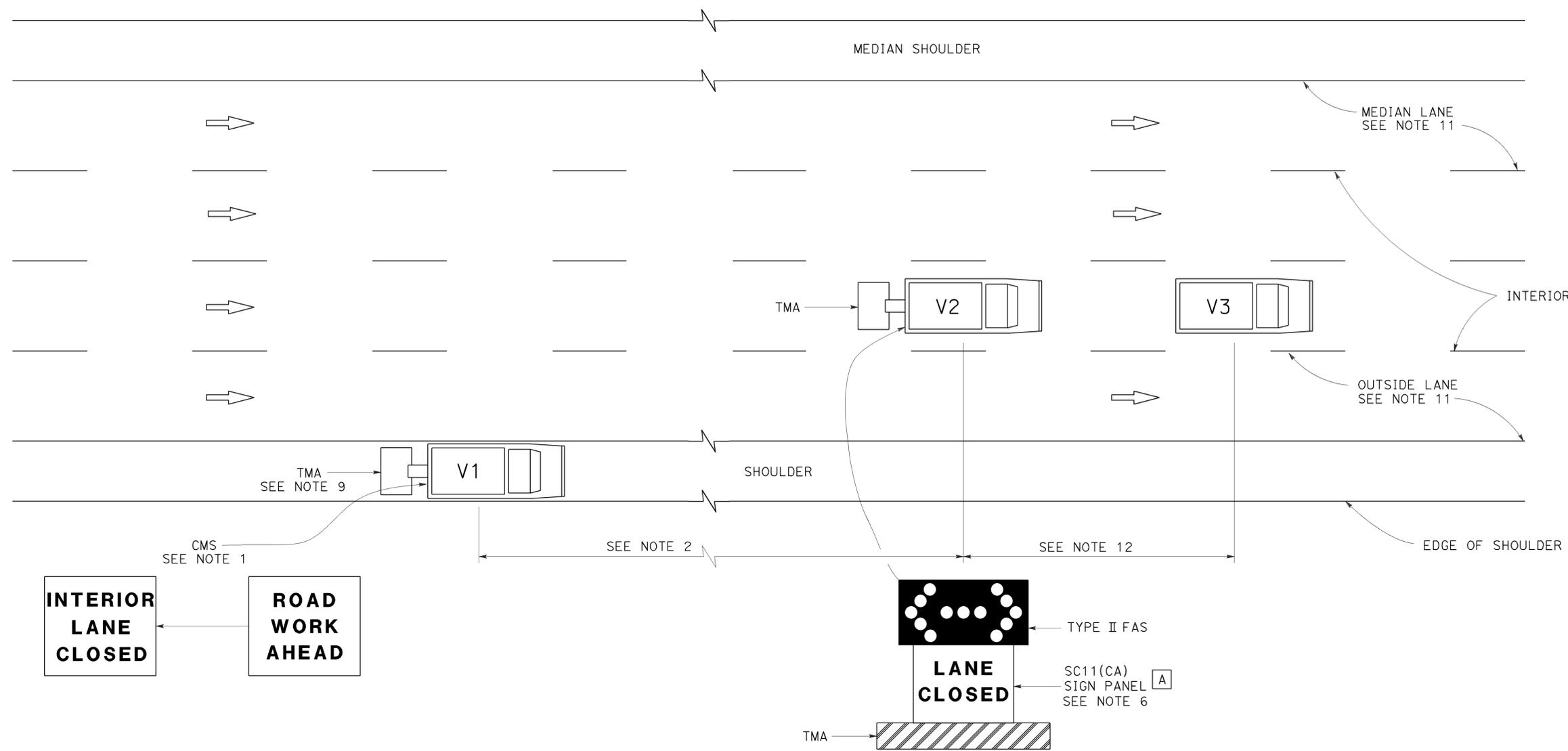
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	55,91	17.4/R17.9, R9.2/R17.2	19	19

Registered Civil Engineer  
 Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

April 19, 2013  
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 01-25-16



SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

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

MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

NOTES:

1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11 etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on median lane or outside lane of multilane highways, use Revised Standard Plan T15.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM  
 FOR MOVING LANE CLOSURE  
 ON MULTILANE HIGHWAYS**

NO SCALE

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

**REVISED STANDARD PLAN RSP T16**

2010 REVISED STANDARD PLAN RSP T16