



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 MAINTENANCE  
 FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN  
 CALCULATED/DESIGNED BY: JHOANNA OAMILDA  
 CHECKED BY: RHODEL DE CLARO  
 REVISED BY: JO  
 DATE REVISED: 05/19/15

**NOTES:**

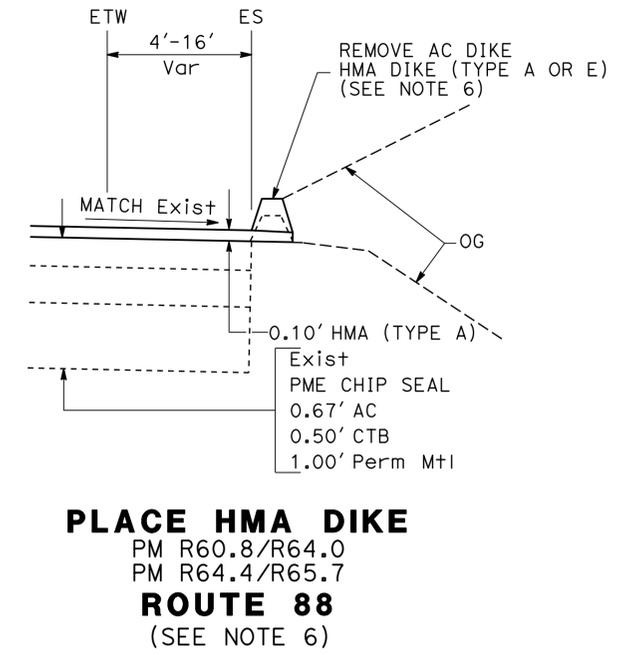
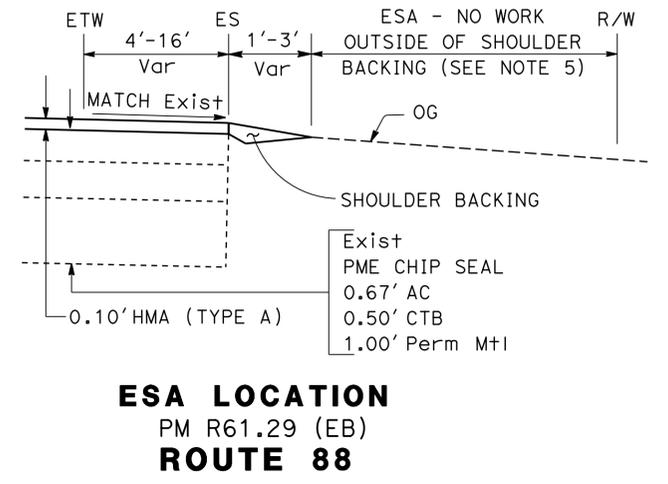
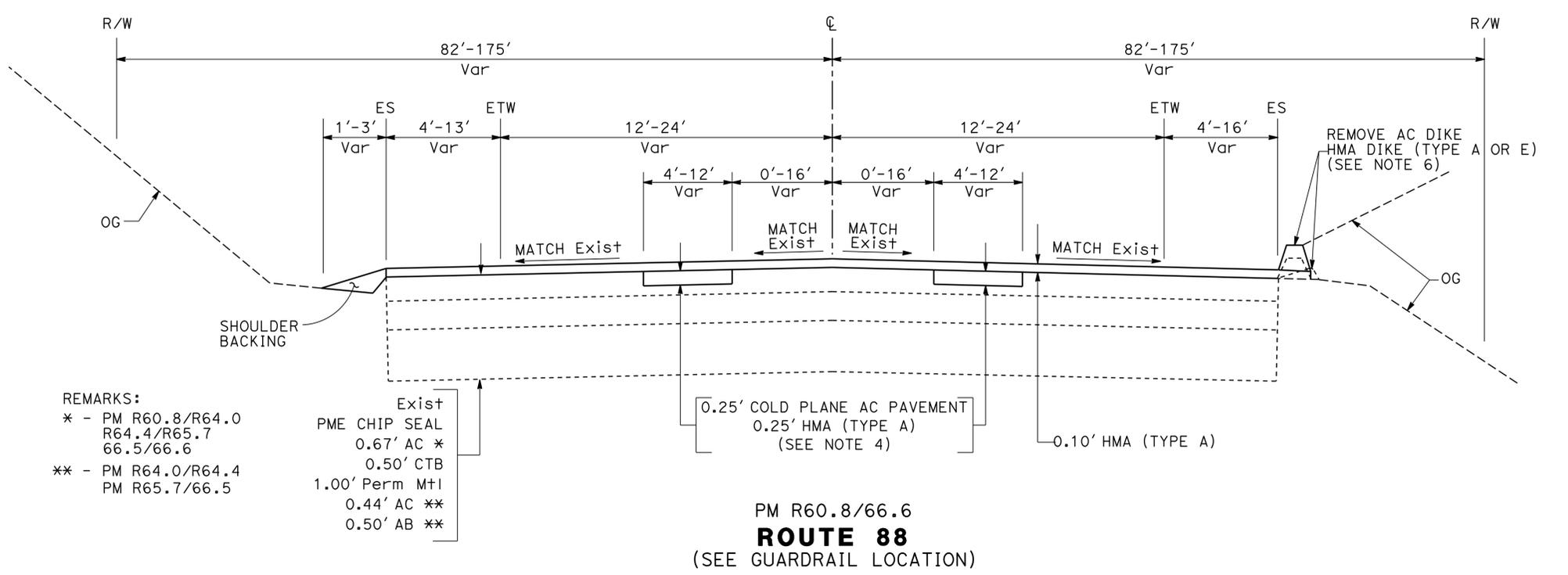
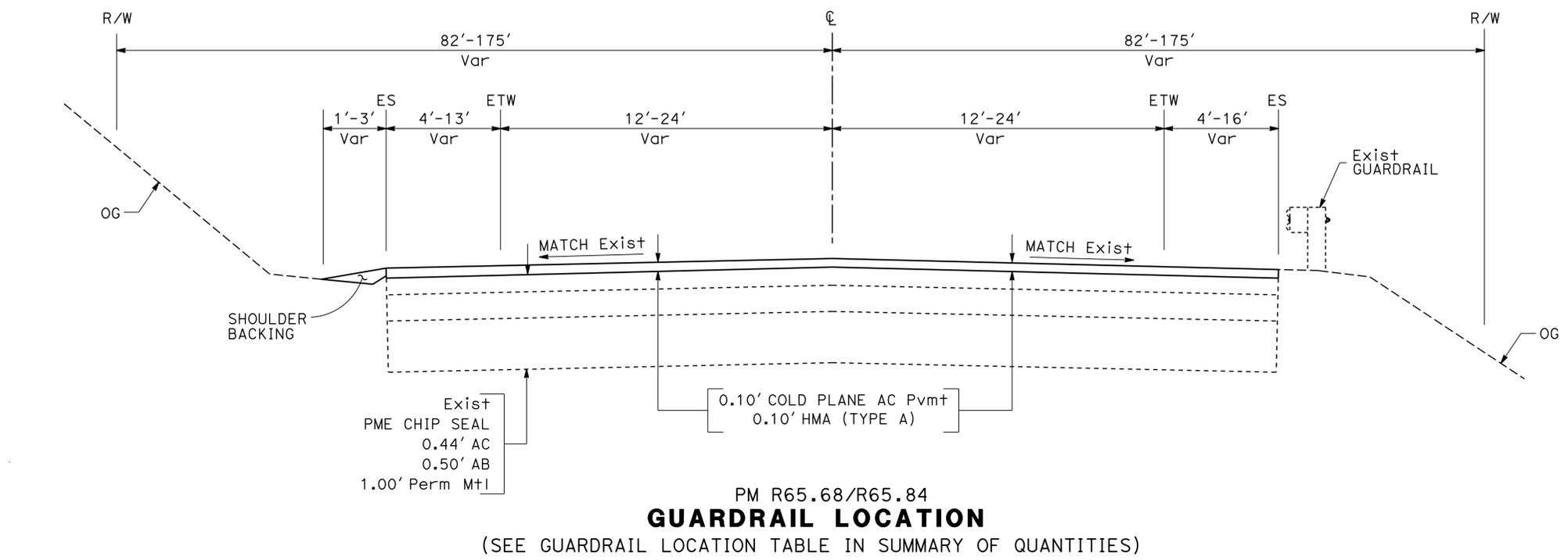
- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
- FOR COLD PLANE AC PAVEMENT DIMENSIONS AND LOCATIONS, SEE SUMMARY OF QUANTITIES SHEET.
- NO WORK, STAGING, STORAGE, OR GROUND DISTURBANCE MUST BE PERFORMED BEYOND SHOULDER BACKING AT ENVIRONMENTALLY SENSITIVE AREA (ESA).
- FOR HMA DIKE TYPE AND LOCATIONS, SEE SUMMARY OF QUANTITIES SHEET.

**ABBREVIATION:**  
 PME - POLYMER MODIFIED EMULSION

**PAVEMENT CLIMATE REGION:**  
 HIGH MOUNTAIN

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	88	R60.8/66.6	2	13

Rhodel De Claro 12/10/15  
 REGISTERED CIVIL ENGINEER DATE  
 No. 74058  
 Exp. 6/30/17  
 CIVIL  
 STATE OF CALIFORNIA  
 4-4-16  
 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.



**TYPICAL CROSS SECTIONS**  
 NO SCALE  
**X-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	88	R60.8/66.6	3	13

Rhodel DeClaro 12/10/15  
 REGISTERED CIVIL ENGINEER DATE  
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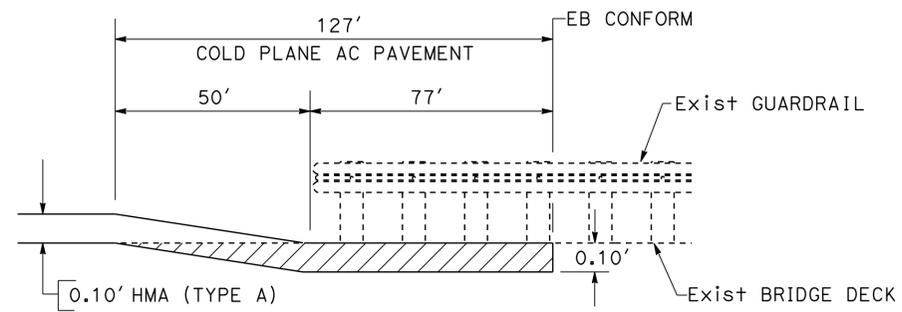
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**LEGEND:**

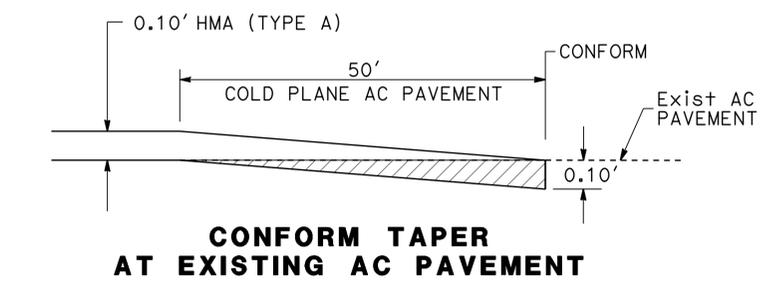
 - 0.10' COLD PLANE AC PAVEMENT  
 - 0.10' HMA (TYPE A)

**TABLE OF BRIDGE**

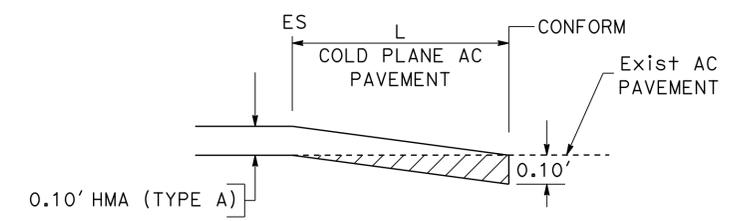
PM	BRIDGE NAME	BRIDGE No.
R65.82	SILVER LAKE SPILLWAY	26-0049



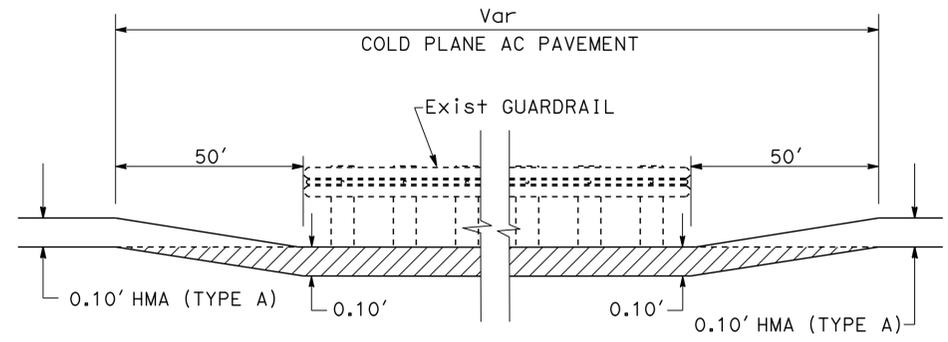
PM R65.84  
**CONFORM TAPER AT BRIDGE DECK**  
 (BRIDGE No. 26-0049)  
 (SEE SUMMARY OF QUANTITIES (CONFORM TAPER TABLE))



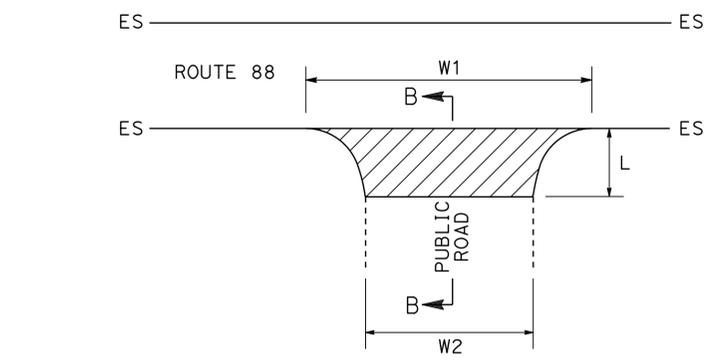
**CONFORM TAPER AT EXISTING AC PAVEMENT**



SECTION B-B  
**PUBLIC ROAD CONFORM TAPER**



PM R65.68/R65.84  
**CONFORM TAPER AT GUARDRAIL**  
 (SEE SUMMARY OF QUANTITIES (CONFORM TAPER AT GUARDRAIL))



**CONFORM TAPER AT PUBLIC ROAD INTERSECTIONS**  
 (SEE SUMMARY OF QUANTITIES SHEETS)

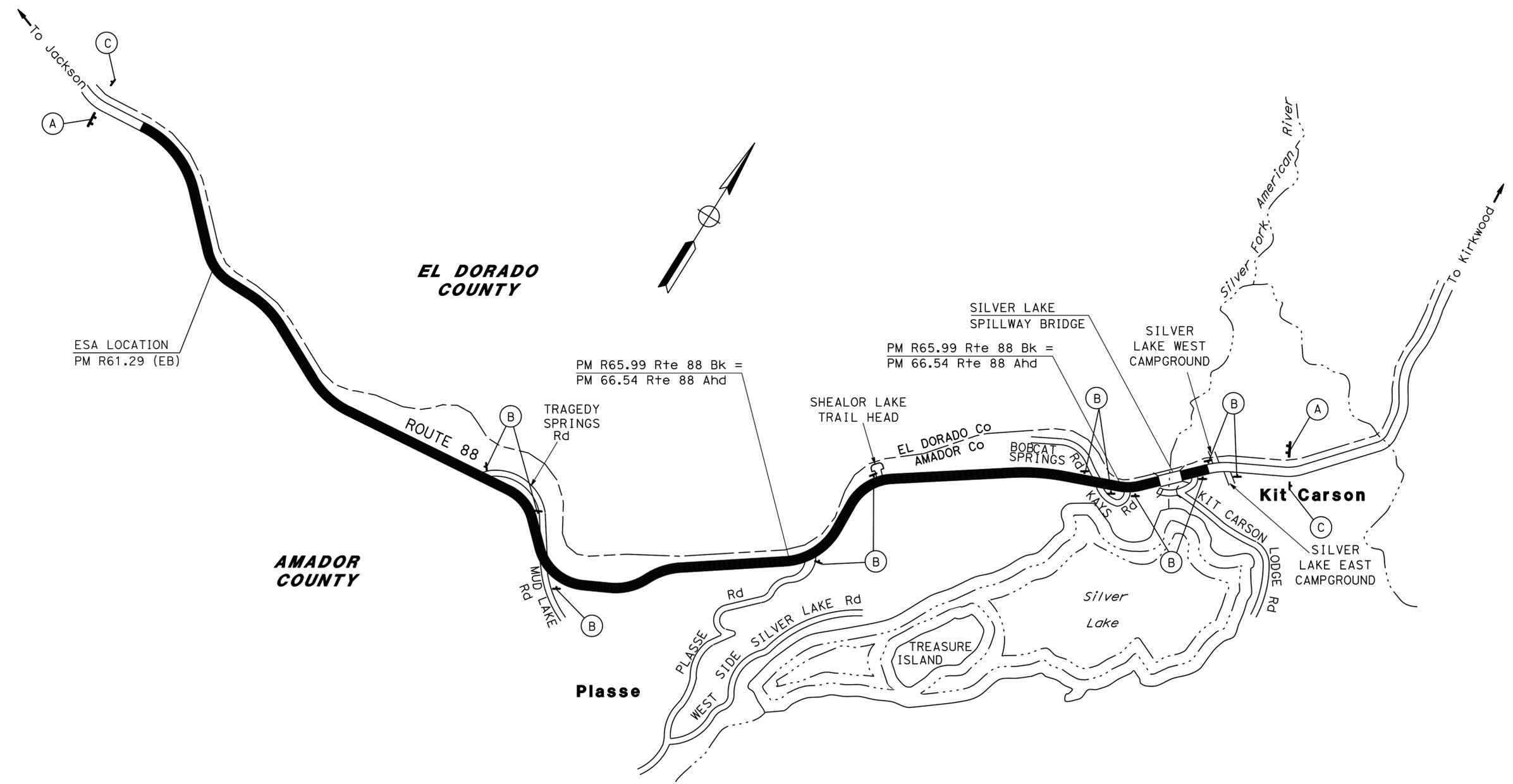
**CONSTRUCTION DETAILS**  
 NO SCALE  
**C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE  
 FUNCTIONAL SUPERVISOR ALVIN MANGINDIN  
 CALCULATED/DESIGNED BY CHECKED BY  
 JHOANNA OAMILDA RHODEL DE CLARO  
 REVISED BY DATE REVISED  
 JO 05/19/15

### STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	(X)	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
A		G20-1	60" x 36"	ROAD WORK NEXT 6 MILES	2 - 4" x 6"	2
B		W20-1	36" x 36"	ROAD WORK AHEAD	1 - 4" x 6"	11
C		G20-2	36" x 18"	END ROAD WORK	1 - 4" x 4"	2

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



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

FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN

DESIGNED BY: JHOANNA OAMILDA  
CHECKED BY: RHODEL DE CLARO

REVISOR: JO  
DATE: 05/19/15

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

**CONSTRUCTION AREA SIGNS**  
NO SCALE  
**CS-1**

LAST REVISION DATE PLOTTED => 04-APR-2016  
12-10-15 TIME PLOTTED => 13:14

**NOTES:**

- \* - TOTAL INCLUDED IN ROADWAY QUANTITIES TABLE.
- (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
- \*\* - SEE POST MILE EQUATION ON TITLE SHEET.
- \*\*\* - SEE CONSTRUCTION DETAILS SHEET.
- REPAIR FAILED AREA LOCATIONS ARE APPROXIMATE AND THE ENGINEER WILL DETERMINE THE ACTUAL LOCATIONS AND DIMENSIONS.

**CONFORM TAPER AT GUARDRAIL**

LOCATION	LENGTH (N) ***	WIDTH (N) ***	COLD PLANE AC Pvm† SQYD	HMA (TYPE A) TON	TACK COAT TON
PM/PM					
R65.67/R65.84	895'	40'	3,978*	269*	0.8*

**CONFORM TAPER**

LOCATION	LENGTH (N) ***	WIDTH (N) ***	COLD PLANE AC Pvm† SQYD	HMA (TYPE A) TON	TACK COAT TON
PM					
DESCRIPTION					
R60.80	BEGIN CONSTRUCTION	50'	32'	178	12
R65.89	SILVER LAKE SPILLWAY (DEPARTURE)	127'	38'	536	37
66.60	END CONSTRUCTION	50'	38'	211	15
TOTAL			925*	64*	0.4*

**DIKE QUANTITIES**

LOCATION	REMOVE AC DIKE LF	PLACE HMA DIKE (TYPE A) LF	PLACE HMA DIKE (TYPE E) LF	HMA (TYPE A) TON	TACK COAT TON
Dir					
PM/PM					
R60.80/R60.85	264		264	7	
R61.53/R61.65	671		671	18	
R61.75/R61.96	1,098		1,098	29	
R62.26/R62.77	2,656		2,656	70	
R62.82/R63.06	1,278		1,278	34	
R63.10/R63.28	940	940		26	
R63.60/R63.80	1,098		1,098	29	
R64.47/R64.64	887		887	24	
R65.45/R65.61	829		829	22	
<b>EASTBOUND</b>					
R61.03/R61.25	1,167	1167		32	
R61.31/R61.36	248	248		7	
R61.65/R61.85	1,040	1040		29	
R61.95/R62.10	829	829		23	
R62.19/R62.29	560	560		16	
R62.31/R62.38	359		359	10	
R62.42/R62.48	301	301		9	
R62.70/R62.72	111		111	3	
R62.74/R62.75	48		48	2	
R62.92/R63.07	829		829	22	
R63.10/R63.30	1,072	1072		30	
R63.31/R63.40	480		480	13	
R63.54/R63.64	486	486		14	
R64.73/R64.88	781	781		22	
R64.91/R64.94	169	169		5	
R65.39/R65.43	201	201		6	
TOTAL					0.6*

**ROADWAY QUANTITIES**

LOCATION	COLD PLANE AC PAVEMENT SQYD	HOT MIX ASPHALT (TYPE A) TON	TACK COAT TON	SHOULDER BACKING TON
PM R60.8/66.6**		7631	23.7	3002
REPAIR FAILED AREAS	4,421	762	0.9	
CONFORM TAPER	925	64	0.4	
CONFORM TAPERS AT PUBLIC ROAD INTERSECTIONS	1,243	90	0.6	
CONFORM TAPER AT GUARDRAIL	3,978	269	0.8	
DIKE		502	0.6	
TOTAL	10,567	9318	27.0	3002

**CONFORM TAPERS AT PUBLIC ROAD INTERSECTIONS**

LOCATION	L (N) ***	W1 (N) ***	W2 (N) ***	COLD PLANE AC Pvm† SQYD	HMA (TYPE A) TON	TACK COAT TON
PM						
Dir						
DESCRIPTION						
R62.75	L+	TRAGEDY SPRINGS Rd	10'	121'	54'	98
R63.10	L+	TRAGEDY SPRINGS Rd	18'	74'	45'	119
R63.10	R+	MUD LAKE Rd	20'	155'	50'	228
M64.19	R+	PLASSE Rd	18'	111'	68'	179
R64.67	L+	SHEALOR LAKE TRAIL HEAD	15'	72'	38'	92
R65.47	L+	BOBCAT SPRINGS Rd	13'	86'	40'	91
R65.47	R+	CO Rd	15'	87'	46'	111
R65.76	R+	KAYS Rd	18'	71'	41'	112
R65.93	R+	KIT CARSON LODGE Rd	20'	120'	71'	213
TOTAL				1,243*	90*	0.6*

**SUMMARY OF QUANTITIES**

**Q-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	88	R60.8/66.6	5	13

*Rhodel DeClaro* 12/10/15  
 REGISTERED CIVIL ENGINEER DATE

4-4-16  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
 RHODEL DE CLARO  
 No. 74058  
 Exp. 6/30/17  
 CIVIL  
 STATE OF CALIFORNIA

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

FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN  
 CHECKED BY: RHODEL DE CLARO

DESIGNED BY: JHOANNA OAMILDA  
 DATE REVISOR: 05/19/15

LAST REVISION DATE PLOTTED => 04-APR-2016  
 12-10-15 TIME PLOTTED => 13:14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	88	R60.8/66.6	6	13

Rhodol De Claro 12/10/15  
REGISTERED CIVIL ENGINEER DATE

4-4-16  
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### REPAIR FAILED AREAS

LOCATION		LENGTH (N)	WIDTH (N)	COLD PLANE AC Pvm†	HMA (TYPE A)	TACK COAT
PM/PM	Dir			SQYD	TON	TON
R62.40/R62.42	EB	100'	6'	67	12	
R62.50/R62.56	EB	300'	4'	133	23	
R62.60/R62.62	EB	100'	12'	133	23	
R62.70/R62.75	EB	250'	4'	111	19	
R62.75/R62.80	EB	240'	4'	107	18	
R62.80/R62.85	EB	270'	12'	360	61	
R62.85/R62.92	EB	350'	4'	156	27	
R62.90/R62.95	EB	240'	6'	160	27	
R63.00/R63.05	EB	250'	4'	111	19	
M64.00/M64.05	EB	250'	4'	111	19	
M64.10/M64.15	EB	290'	5'	161	28	
M64.20/M64.22	EB	130'	4'	58	10	
M64.30/M64.35	EB	240'	12'	320	54	
M64.40/M64.46	EB	300'	4'	133	23	
R64.60/R64.62	EB	100'	4'	44	8	
R64.70/R64.71	EB	50'	12'	67	12	
R66.00/R66.03	EB	150'	8'	133	23	
R66.20/R66.24	EB	200'	6'	133	23	
R66.50/R66.55	EB	250'	8'	222	38	
R66.60/R66.62	EB	120'	4'	53	9	
R60.80/R60.82	WB	120'	4'	53	9	
R61.00/R61.07	WB	350'	4'	156	27	
R62.00/R62.01	WB	50'	8'	44	8	
R62.40/R62.41	WB	50'	7'	39	7	
R62.70/R62.72	WB	100'	8'	89	15	
R62.75/R62.77	WB	100'	12'	133	23	
R62.80/R62.81	WB	40'	10'	44	8	
R62.85/R62.86	WB	50'	10'	56	10	
R62.90/R62.91	WB	50'	12'	67	12	
R62.95/R63.00	WB	260'	6'	173	30	
R63.00/R63.05	WB	250'	4'	111	19	
M64.30/M64.35	WB	250'	4'	111	19	
R64.50/R64.54	WB	200'	6'	133	23	
R64.80/R64.82	WB	130'	8'	116	20	
R64.85/R64.87	WB	100'	6'	67	12	
R64.90/R64.94	WB	200'	4'	89	15	
R64.90/R64.93	WB	150'	6'	100	17	
R65.00/R65.03	WB	150'	4'	67	12	
TOTAL				4,421*	762*	0.9*

### PAVEMENT DELINEATION QUANTITIES

LOCATION	PAINT TRAFFIC STRIPE (2-COAT)						PAINT PAVEMENT MARKING (2-COAT)			REMOVE THERMOPLASTIC PAVEMENT MARKING	
	4" WHITE		8" WHITE	4" YELLOW			LIMIT LINE	STOP	TYPE III, ARROW (L)	TYPE III (L) ARROW	
	Det 27B	Det 27C	Det 38A	Det 5	Det 18	Det 21					Det 28
PM	LF						SQFT			SQFT	
R60.8/66.6**	55,304	1,006	1,409	1,272	3,041	22,391	1,890	293	198	42	42
TOTAL	86,313						533			42	

## SUMMARY OF QUANTITIES

Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE  
FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN  
CALCULATED/DESIGNED BY: RHODEL DE CLARO  
CHECKED BY: RHODEL DE CLARO  
REVISOR: JHOANNA OAMILDA  
DATE REVISOR: 05/19/15  
JOB NO: JO  
DATE: 05/19/15

LAST REVISION: DATE PLOTTED => 04-APR-2016  
12-10-15 TIME PLOTTED => 13:14

	<b>M</b>	
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	
	<b>N</b>	
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	
	<b>O</b>	
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	
	<b>P</b>	
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	

	<b>P continued</b>	
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	
	<b>Q</b>	
Qty	QUANTITY	
	<b>R</b>	
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	

	<b>S</b>	
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	
	<b>T</b>	
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	

	<b>T continued</b>	
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL	
Typ	TYPICAL	<b>U</b>
UC	UNDERCROSSING	
UD	UNDERDRAIN	
UG	UNDERGROUND	
UON	UNLESS OTHERWISE NOTED	
UP	UNDERPASS	<b>V</b>
V	VALVE, DESIGN SPEED	
Var	VARIABLE, VARIES	
VC	VERTICAL CURVE	
VCP	VITRIFIED CLAY PIPE	
Vert	VERTICAL	
Via	VIADUCT	
Vol	VOLUME	<b>W</b>
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	<b>X</b>
X Sec	CROSS SECTION	
Xing	CROSSING	<b>Y</b>
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	88	R60.8/66.6	7	13

*Grace M. Tsushima*  
REGISTERED CIVIL ENGINEER

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

July 19, 2013  
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 4-4-16

**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
ø	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.

2010 REVISED STANDARD PLAN RSP A10B

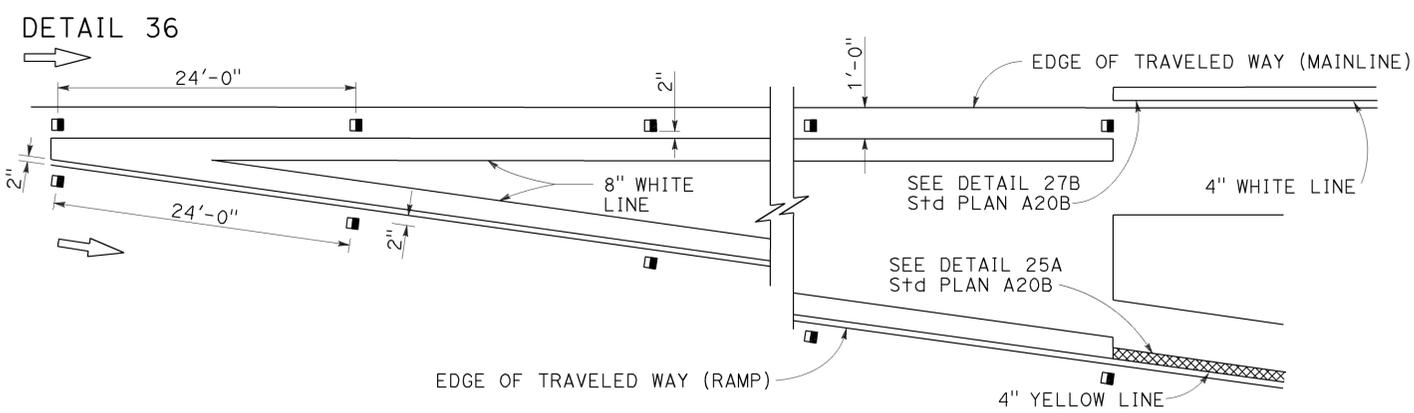
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	88	R60.8/66.6	8	13

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

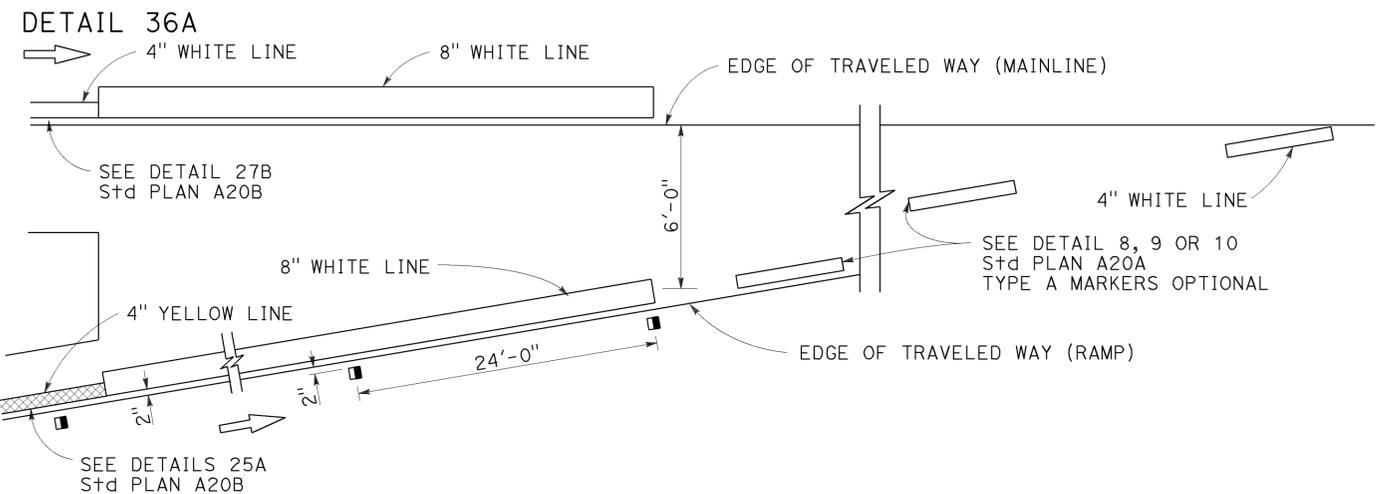
July 19, 2013  
 PLANS APPROVAL DATE

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

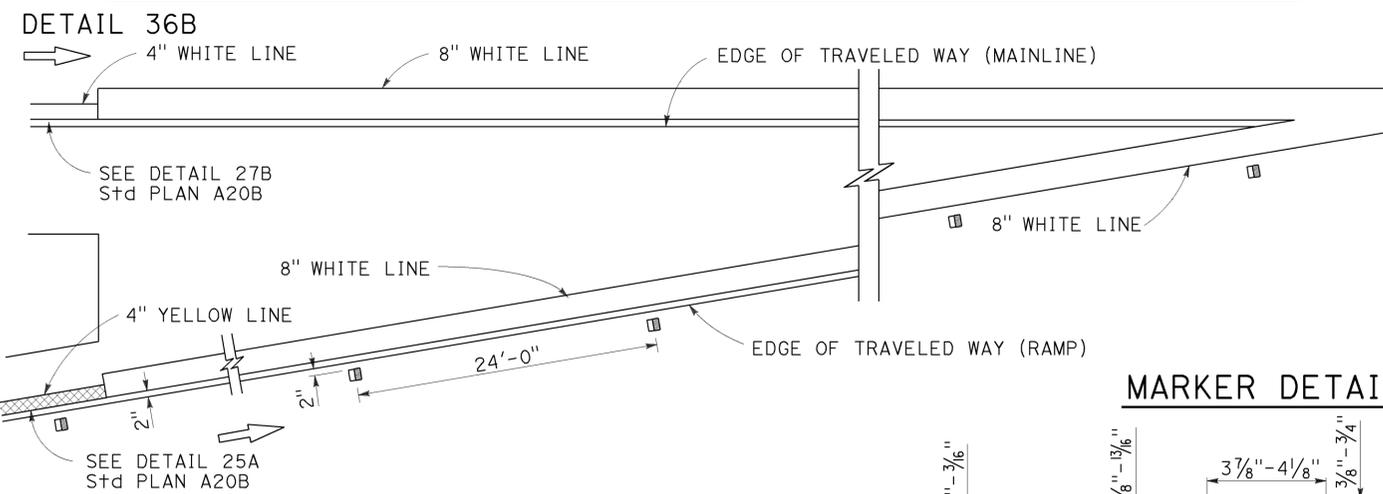
### EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



### ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



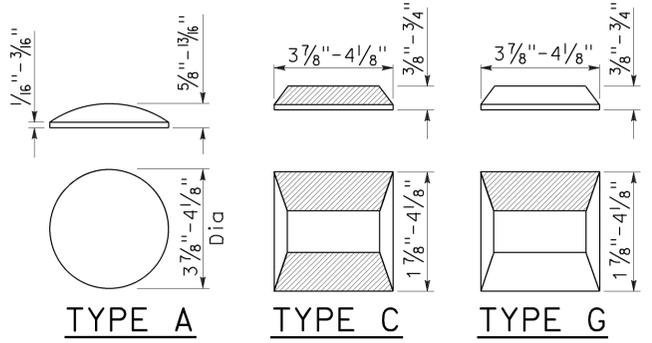
### ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT



### MARKER DETAILS

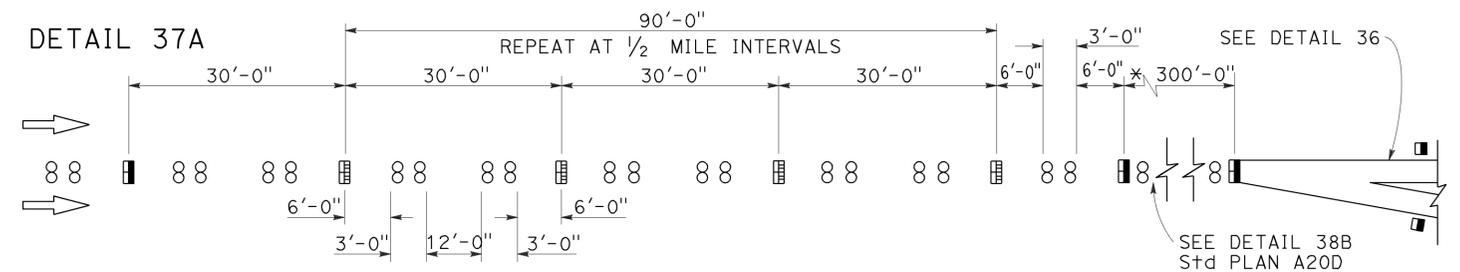
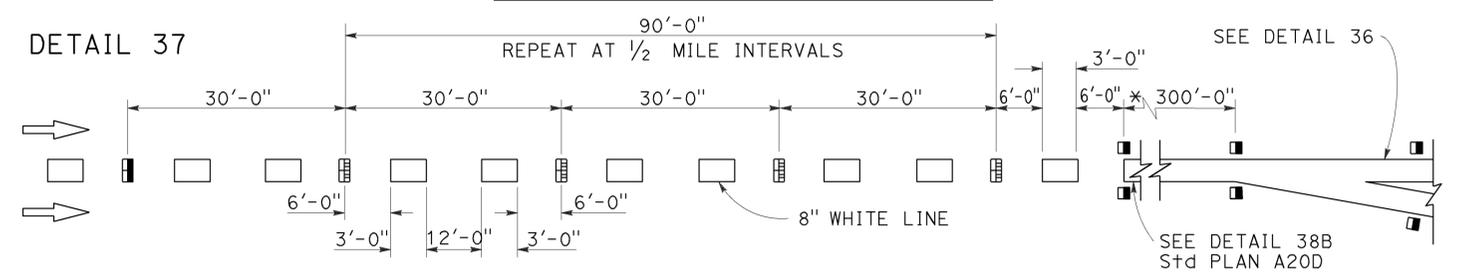
#### LEGEND:

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



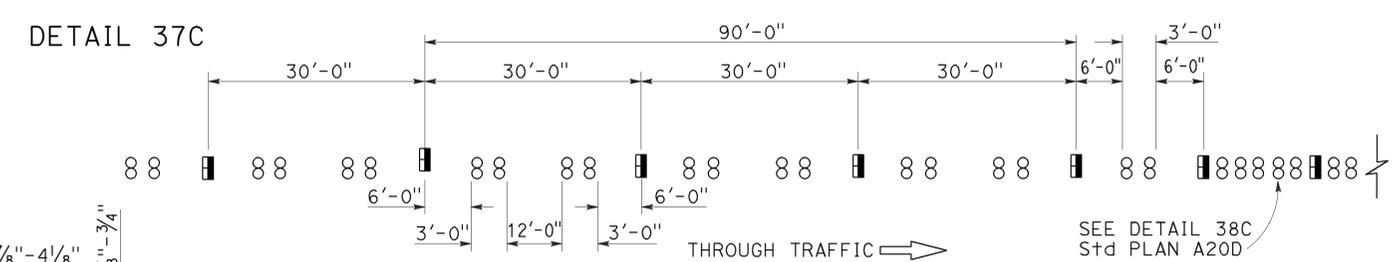
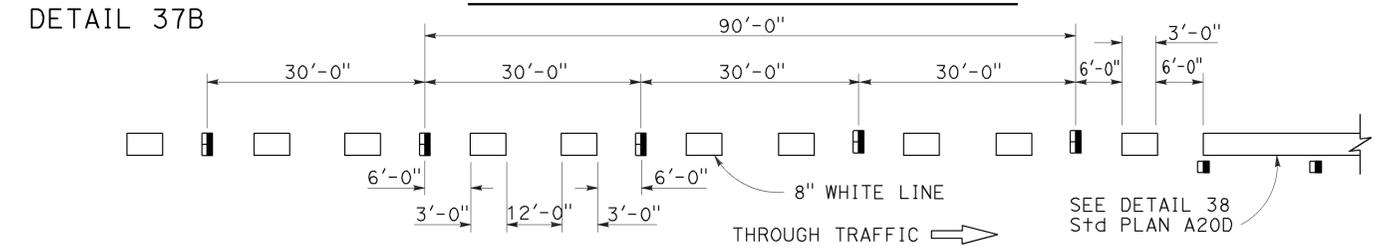
RETROREFLECTIVE FACE

### 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



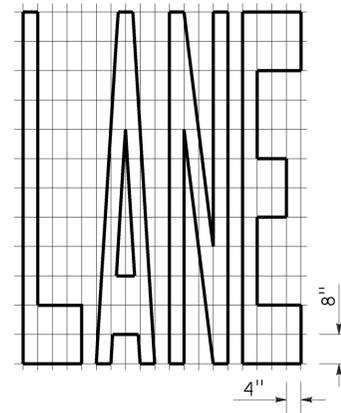
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKERS  
 AND TRAFFIC LINE  
 TYPICAL DETAILS**  
 NO SCALE

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

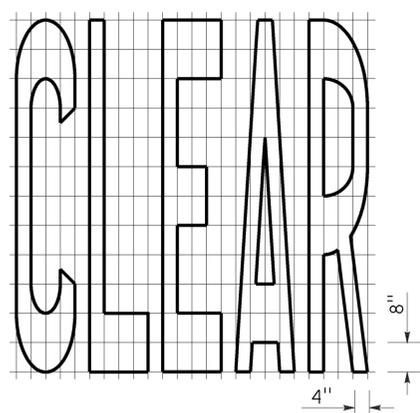
### REVISED STANDARD PLAN RSP A20C

2010 REVISED STANDARD PLAN RSP A20C

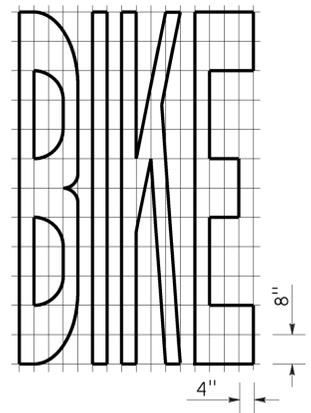
TO ACCOMPANY PLANS DATED 4-4-16



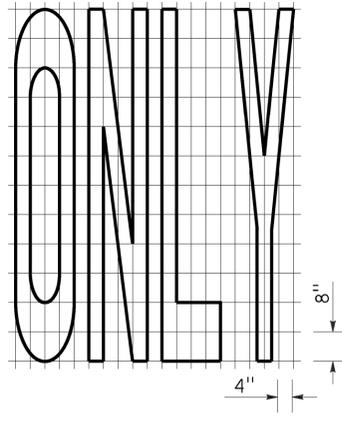
A=24 ft<sup>2</sup>



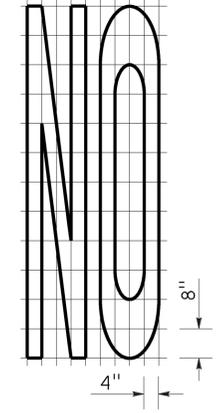
A=27 ft<sup>2</sup>



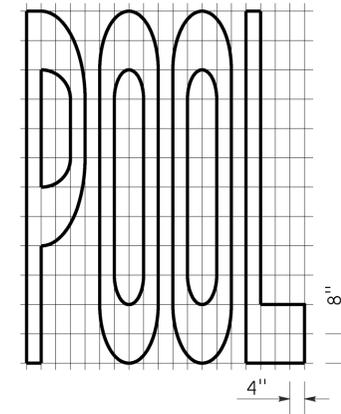
A=21 ft<sup>2</sup>



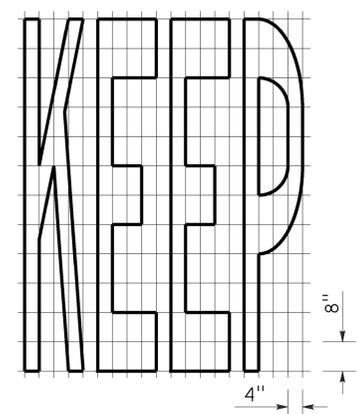
A=22 ft<sup>2</sup>



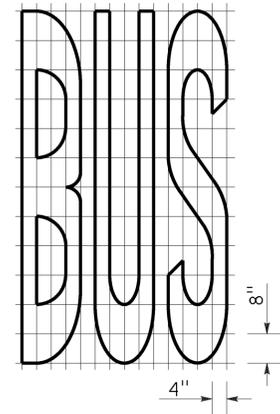
A=14 ft<sup>2</sup>



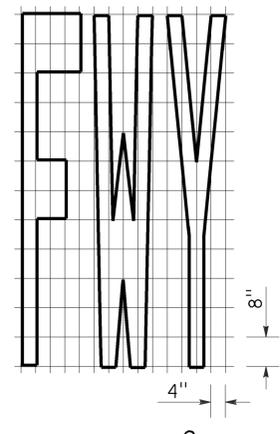
A=23 ft<sup>2</sup>



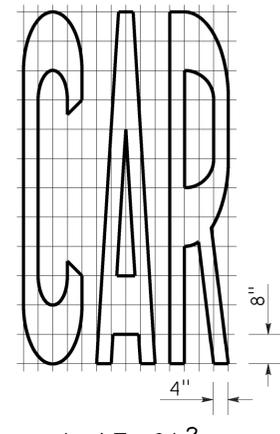
A=24 ft<sup>2</sup>



A=20 ft<sup>2</sup>

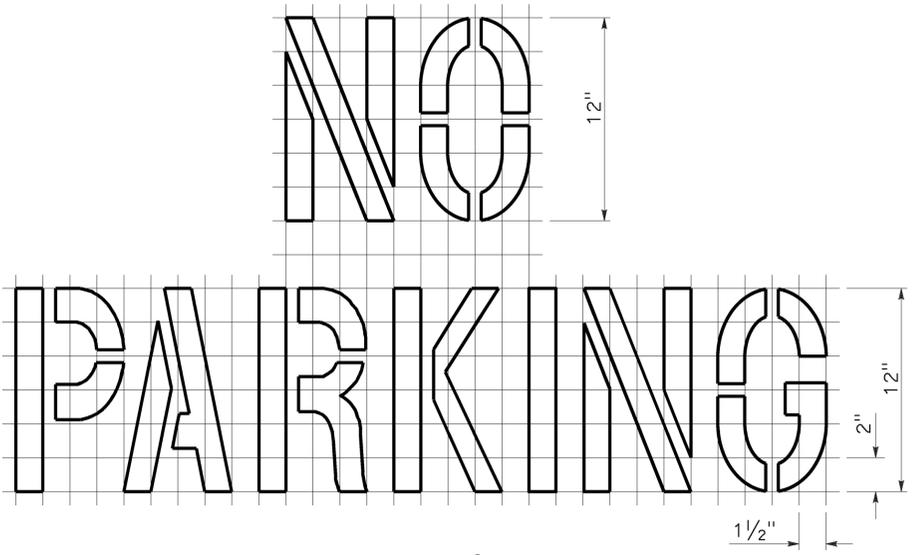


A=16 ft<sup>2</sup>

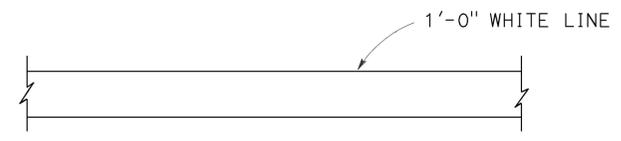


A=17 ft<sup>2</sup>

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



A=2 ft<sup>2</sup>  
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

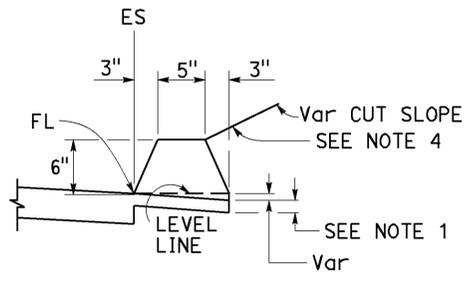
**NOTES:**

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

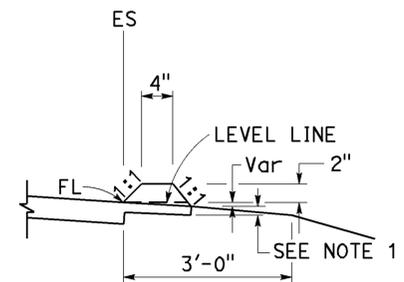
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
WORDS, LIMIT AND YIELD LINES**  
NO SCALE

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

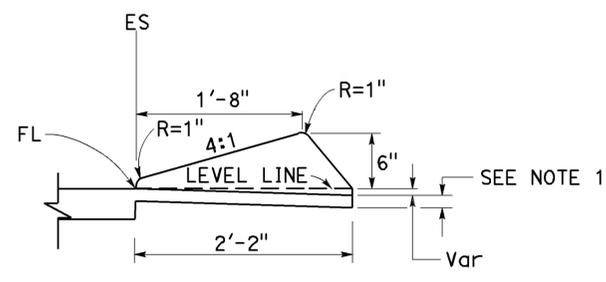
TO ACCOMPANY PLANS DATED 4-4-16



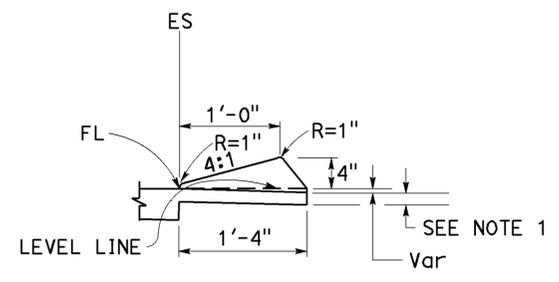
**TYPE A**  
See Notes 3 and 5



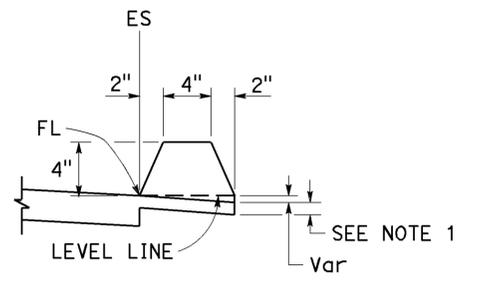
**TYPE C**



**TYPE D**

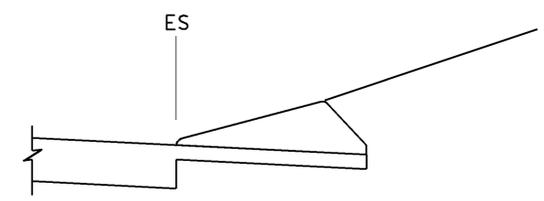


**TYPE E**

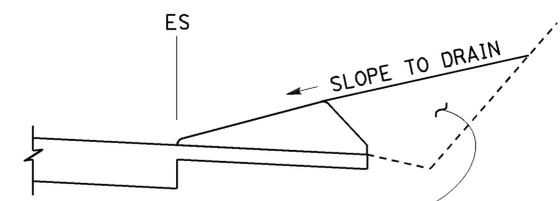


**TYPE F**  
See Note 5

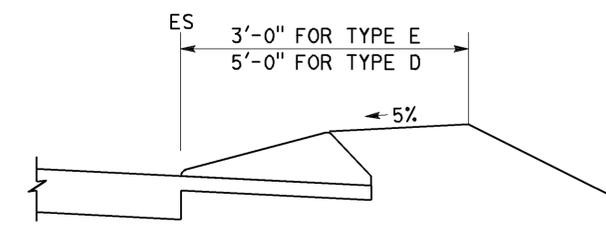
**DIKES**



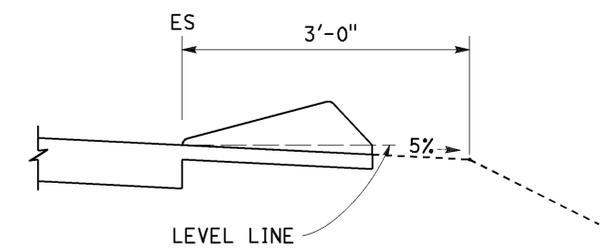
**CASE C-1**  
Cut Slope



**CASE C-2**  
Cut Slope



**CASE F**



**CASE R**  
See Note 2

**TYPE D AND E BACKFILL DETAILS**

**NOTES:**

- For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
- Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
- Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
- Fill and compact with excavated material to top of dike.
- Use Type A or F dike, where dike is required with guardrail installations. See Revised Standard Plan RSP A77N4 for dike positioning details. See Revised Standard Plan RSP A77N3 for hinge point offsets with guardrail.

**DIKE QUANTITIES**

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

Quantities based on 5% cross slope.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**HOT MIX ASPHALT DIKES**

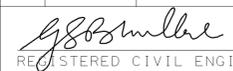
NO SCALE

RSP A87B DATED JANUARY 15, 2016 SUPERSEDES RSP A87B DATED JULY 19, 2013 AND STANDARD PLAN A87B DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A87B**

2010 REVISED STANDARD PLAN RSP A87B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	88	R60.8/66.6	11	13

  
 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 4-4-16

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
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

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

TABLE 3

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

\* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the 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
10	Ama	88	R60.8/66.6	12	13

Devinder Singh  
 REGISTERED CIVIL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 Devinder Singh  
 No. C50470  
 Exp. 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA

**NOTES:**

See Revised Standard Plan RSP T9 for tables.

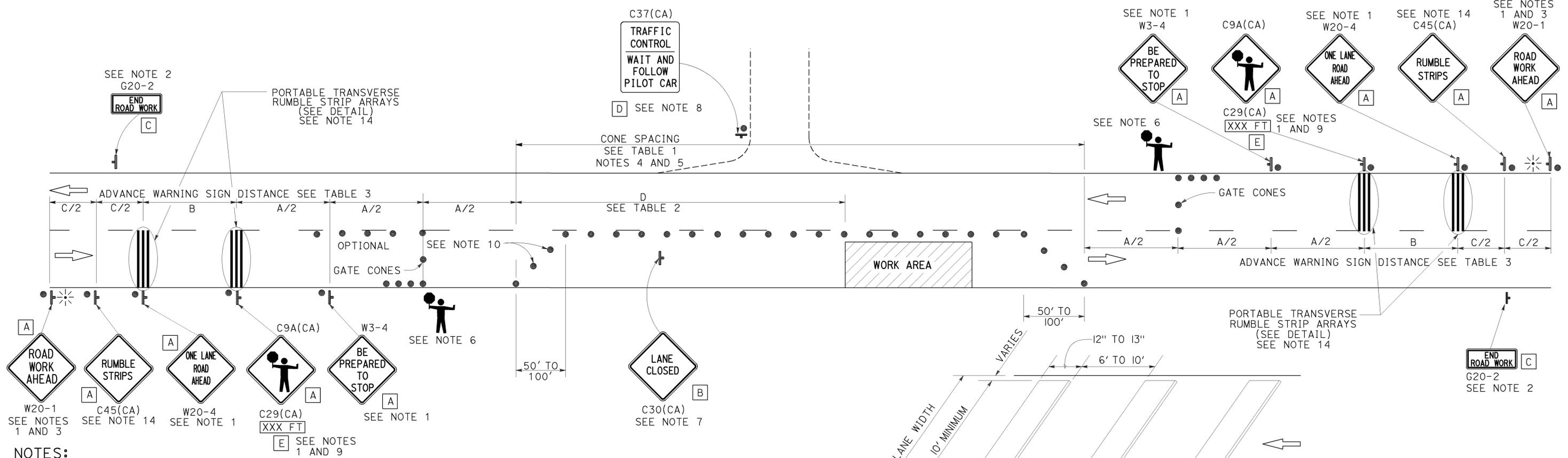
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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.

**TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL**

TO ACCOMPANY PLANS DATED 4-4-16



- NOTES:**
- Each advance warning sign in each direction of travel 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, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
  - If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a W20-4 sign for the first advance warning sign.
  - 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.
  - Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.

- Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
- When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
- An optional C29(CA) sign may be placed below the C9A(CA) sign.
- Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.
- The color of the portable transverse rumble strips shall be black or orange. Use 2 arrays, each array shall consist of 3 rumble strips.
- Portable transverse rumble strips shall not be placed on sharp horizontal or vertical curves nor shall they be placed through pedestrian crossings.
- If the portable transverse rumble strips become out of alignment (skewed) by more than 6 inches, measured from one end to the other, they shall be readjusted to bring the placement back to the original location.
- Portable transverse rumble strips are not required if any one of the following conditions is satisfied:
  - Work duration occupies a location for four hours or less
  - Posted speed limit is below 45 MPH
  - Work is of emergency nature
  - Work zone is in snow or icy weather conditions

**LEGEND**

- TRAFFIC CONE
- ⊥ TEMPORARY TRAFFIC CONTROL SIGN
- ⚡ PORTABLE FLASHING BEACON
- 🚧 FLAGGER

**PORTABLE TRANSVERSE RUMBLE STRIP ARRAY DETAIL**

LANE WIDTH 10' MINIMUM

VARIES

50' TO 100'

12" TO 13"

6' TO 10'

5/8" TO 3/4"

**SIGN PANEL SIZE (Min)**

A	48" x 48"
B	30" x 30"
C	36" x 18"
D	36" x 42"
E	20" x 7"

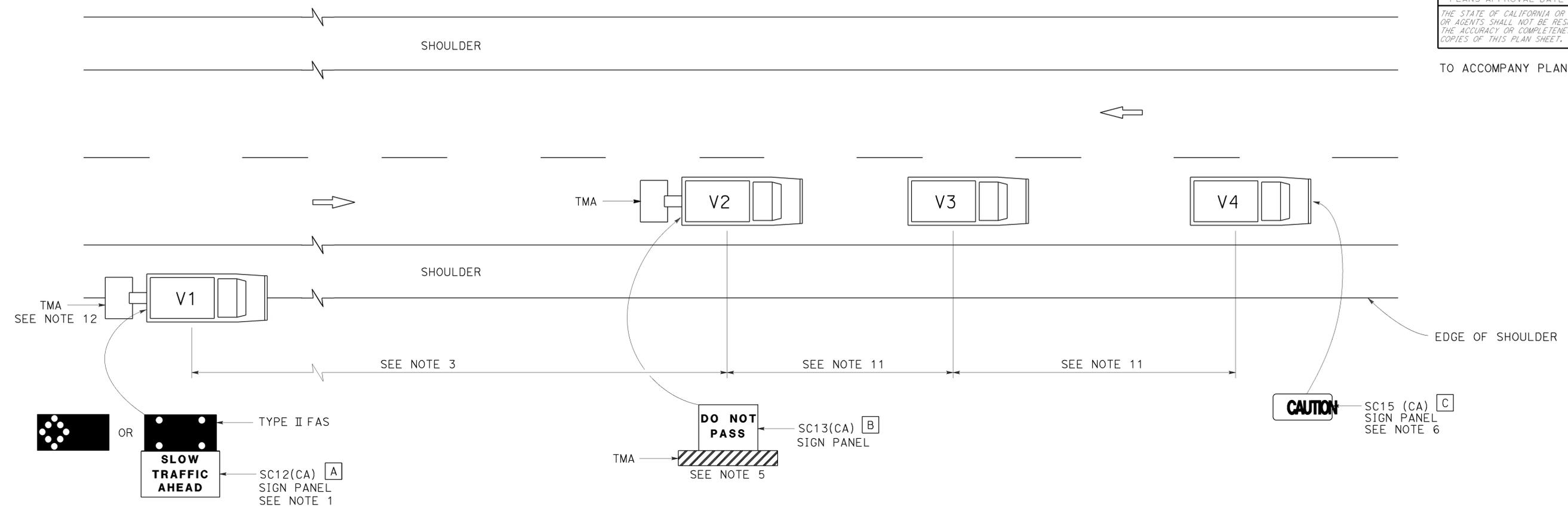
**TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS**

NO SCALE

RSP T13 DATED OCTOBER 30, 2015 SUPERSEDES RSP T13 DATED OCTOBER 17, 2014, RSP T13 DATED JULY 18, 2014 AND RSP T13 DATED APRIL 19, 2013 AND STANDARD PLAN T13 DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP T13

TO ACCOMPANY PLANS DATED 4-4-16



**NOTES:**

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

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

**LEGEND**

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

**SIGN PANEL SIZE (Min)**

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

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

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

**REVISED STANDARD PLAN RSP T17**

2010 REVISED STANDARD PLAN RSP T17