

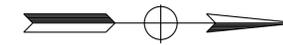
INDEX OF PLANS

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

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

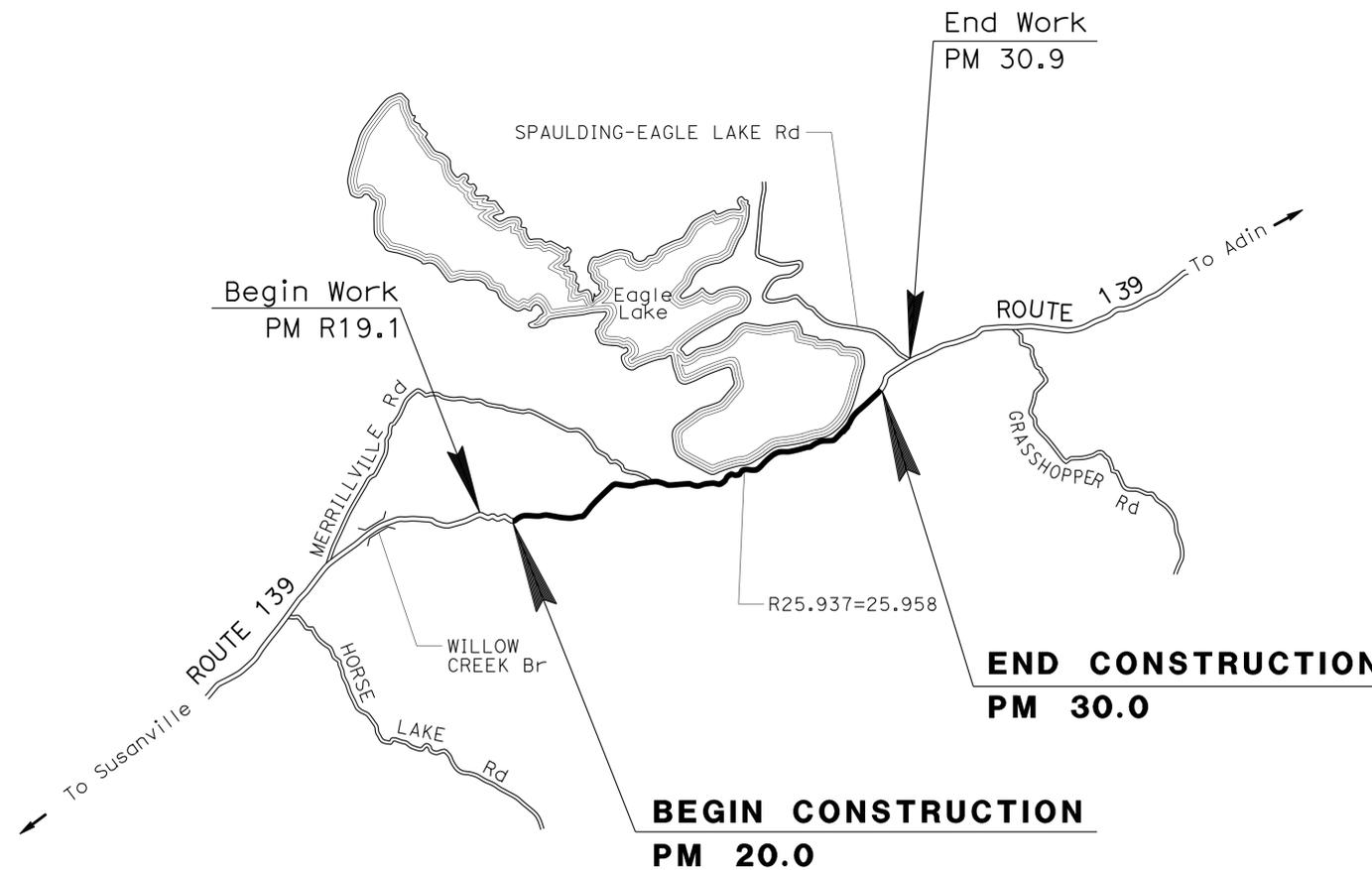
STATE OF CALIFORNIA  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN LASSEN COUNTY ABOUT 20 MILES NORTH**  
**OF SUSANVILLE FROM 3.0 MILES NORTH OF**  
**WILLOW CREEK BRIDGE TO 0.8 MILE SOUTH**  
**OF SPAULDING-EAGLE LAKE ROAD**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las	139	20.0/30.0	1	9

LOCATION MAP



PROJECT MANAGER  
**MICHAEL CONNER**  
 DESIGN ENGINEER  
**MICHAEL CONNER**

08-31-15  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER  
**August 31, 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.



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

NO SCALE

CONTRACT No.	<b>02-OH9304</b>
PROJECT ID	<b>0215000089</b>

LAST REVISION | DATE PLOTTED => 01-SEP-2015  
 TIME PLOTTED => 13:16  
 08-31-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las	139	20.0/30.0	2	9

REGISTERED CIVIL ENGINEER DATE 08-31-15  
 REGISTERED CIVIL ENGINEER DATE 08-31-15  
 PLANS APPROVAL DATE 08-31-15  
 No. C52309  
 Exp. 12-31-16  
 CIVIL  
 STATE OF CALIFORNIA

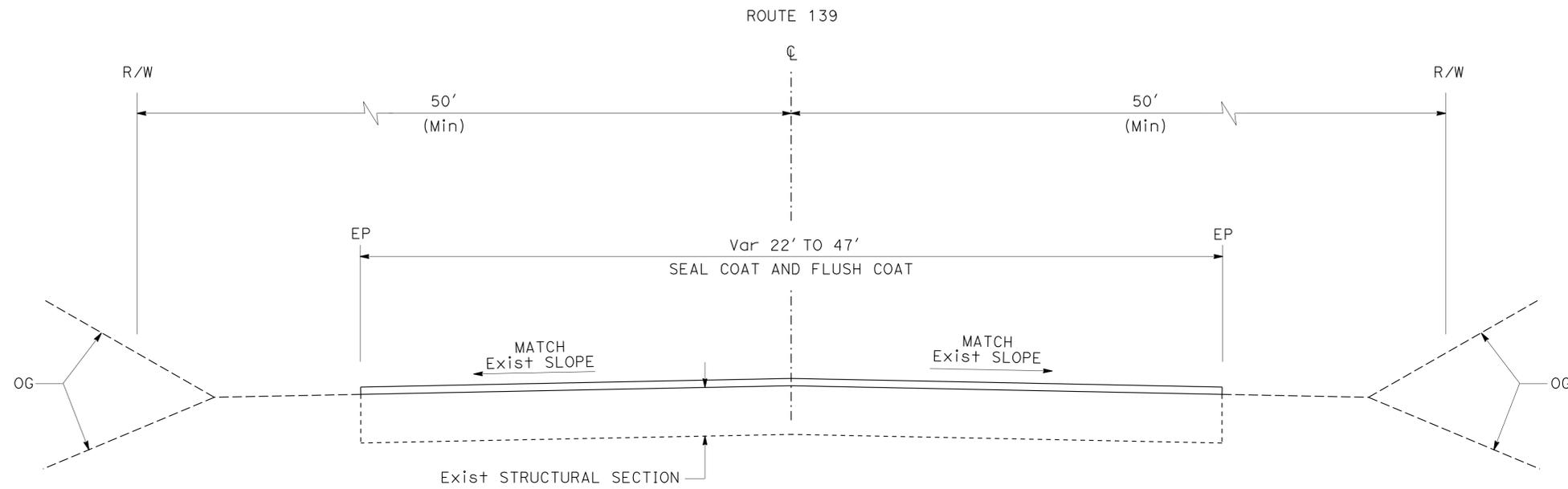
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

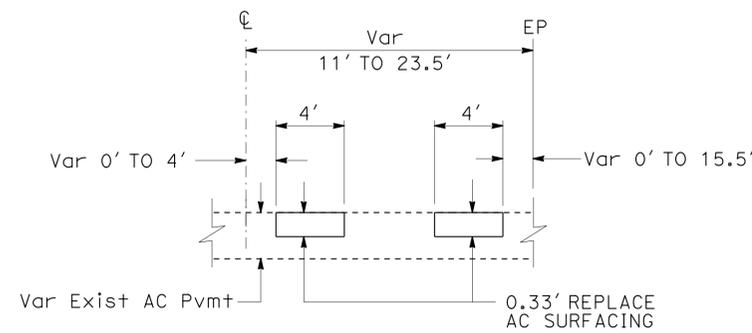
1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT R/W ENGINEERING AT THE DISTRICT OFFICE.
3. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

**PAVEMENT CLIMATE ZONE:**

HIGH DESERT



**TYPICAL CROSS SECTION**  
PM 20.00 TO 30.00



**REPLACE AC SURFACING**  
(TYPICAL BOTH DIRECTIONS)

**TYPICAL CROSS SECTIONS**

NO SCALE

**X-1**

CALCULATED/DESIGNED BY	REVISOR	DATE
CHECKED BY	REVISOR	DATE
FUNCTIONAL SUPERVISOR		
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		
<b>Caltrans</b>		
<b>MAINTENANCE</b>		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las	139	20.0/30.0	3	9

REGISTERED CIVIL ENGINEER DATE 08-31-15  
 REGISTERED CIVIL ENGINEER DATE 08-31-15  
 PLANS APPROVAL DATE 08-31-15  
 No. C52309  
 Exp. 12-31-16  
 CIVIL  
 STATE OF CALIFORNIA

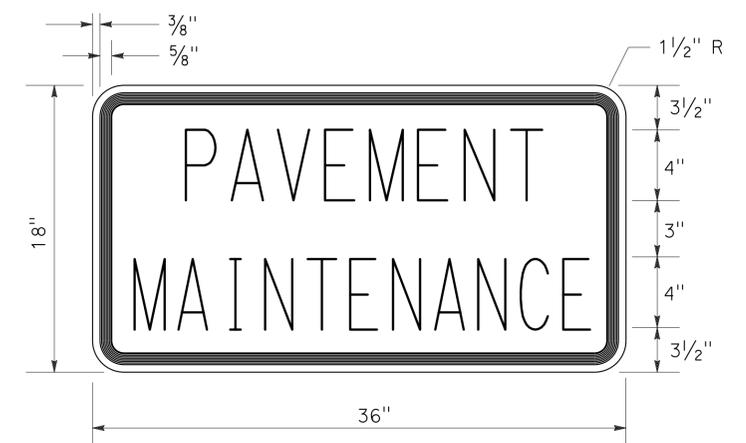
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

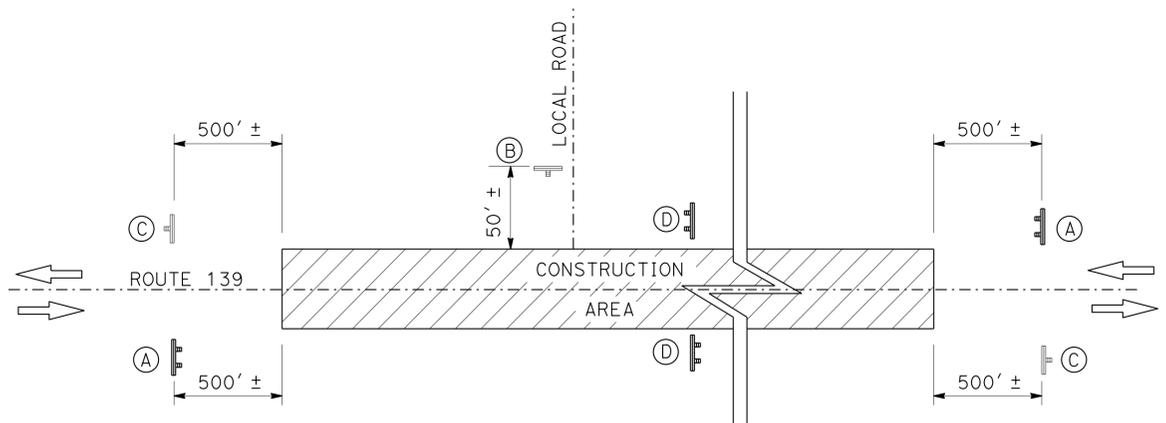
1. EXACT LOCATION OF ALL SIGNS TO BE DETERMINED BY THE ENGINEER.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
3. CALIFORNIA CODES ARE DESIGNATED BY (CA), OTHERWISE FEDERAL CODES ARE SHOWN.
4. INTERMEDIATE C11(CA) SIGNS SHOULD BE PLACED EVERY 5 MILES.

**CONSTRUCTION AREA SIGNS (STATIONARY MOUNTED)**

TYPE	CODE	PANEL SIZE	SIGN MESSAGE	NUMBER AND SIZE OF POST	No. OF SIGNS
(A)	C11(CA) C23B(CA)	60" x 36" 36" x 18"	ROAD CONSTRUCTION NEXT 10 MILES PAVEMENT MAINTENANCE	2-4" x 6"	2
(B)	W20-1	48" x 48"	ROAD WORK AHEAD	1-4" x 6"	4
(C)	G20-2	36" x 18"	END ROAD WORK	1-4" x 4"	2
(D)	C11(CA)	60" x 36"	ROAD CONSTRUCTION NEXT 5 MILES	2-4" x 4"	2



**C23B(CA) SIGN PANEL DETAIL**



**CONSTRUCTION AREA SIGNS (STATIONARY MOUNTED)**

**ROAD CONNECTIONS**

Co-Rte	PM	DESCRIPTION
Las-139	21.1	DIRT ROAD - R+
	22.4	DIRT ROAD - R+
	23.8	DIRT ROAD - L+
	R25.4	DIRT ROAD - R+

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 MATTHEW R. GOWAN  
 KARLIE J. SMITH  
 MICHAEL CONNER  
 CALTRANS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las	139	20.0/30.0	4	9

REGISTERED CIVIL ENGINEER	DATE
<i>Matthew R. Gowan</i>	08-31-15
PLANS APPROVAL DATE	
	08-31-15

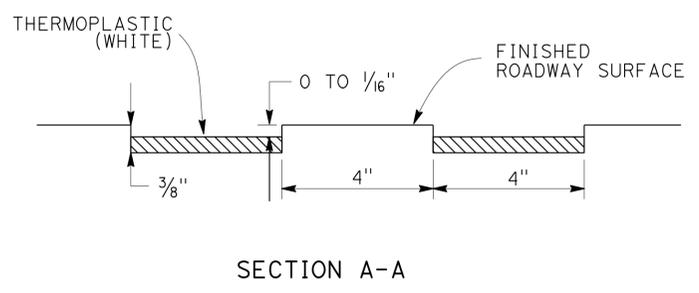
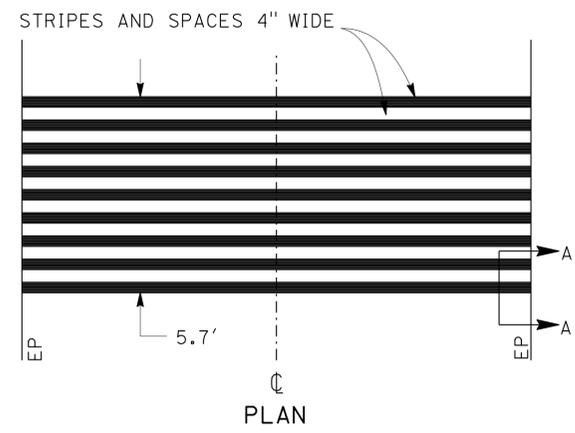
  

REGISTERED PROFESSIONAL ENGINEER	No.	Exp.
MATTHEW R. GOWAN	C52309	12-31-16
CIVIL		

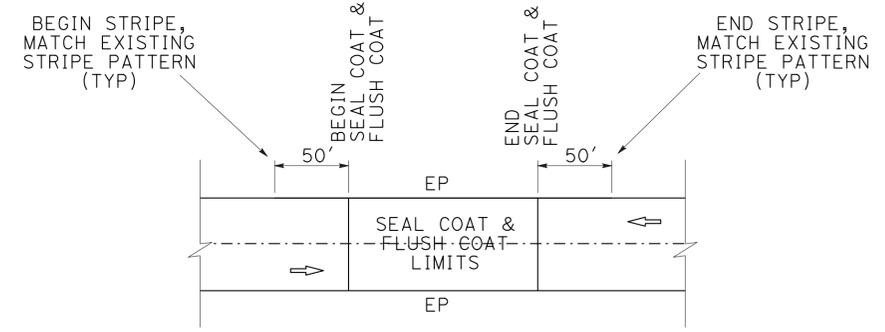
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTE:**

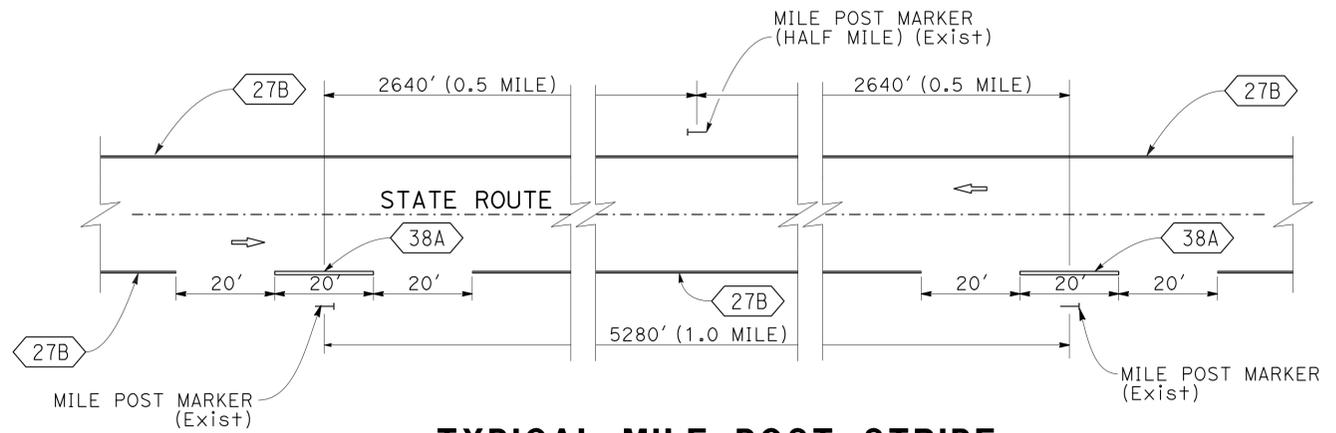
1. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.



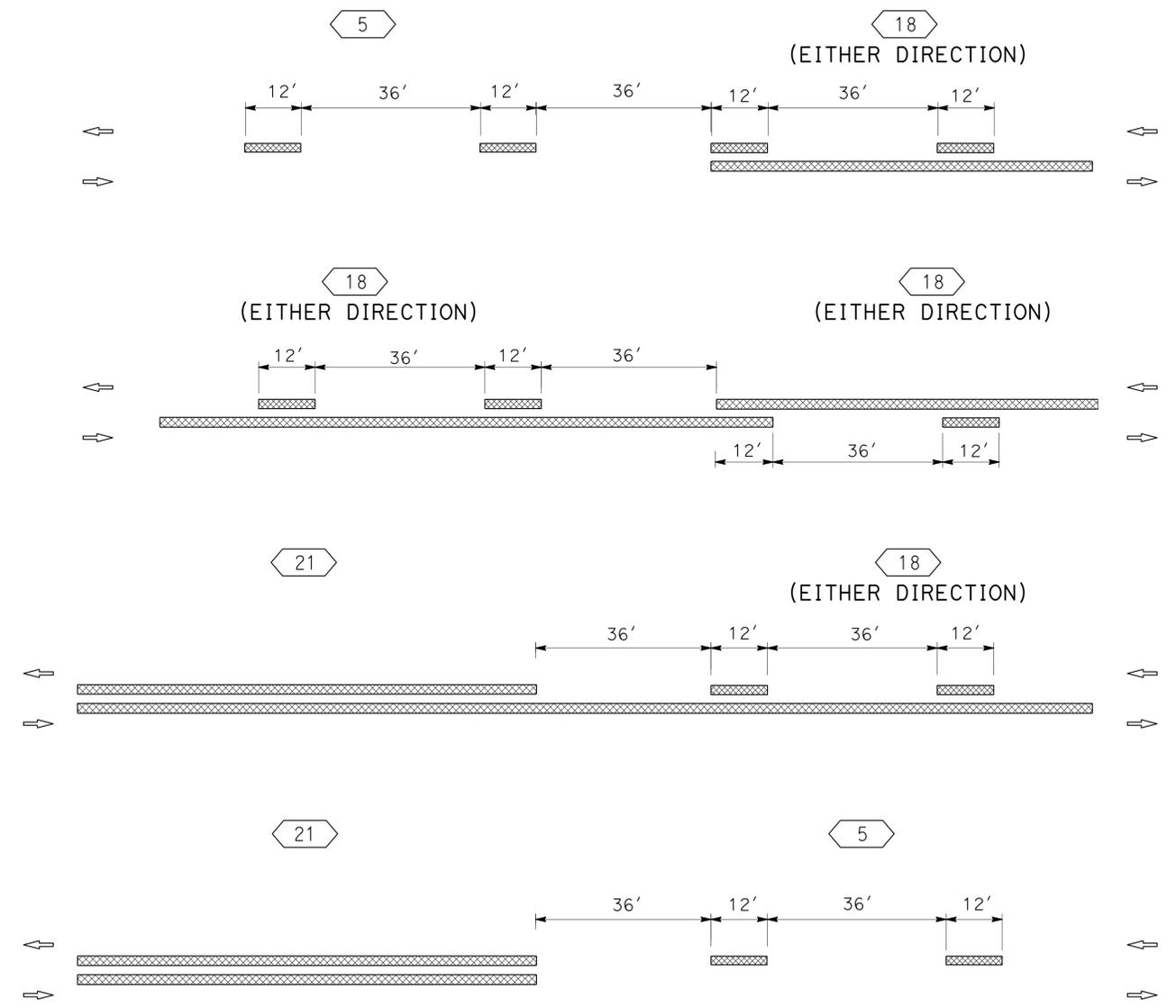
**4" THERMOPLASTIC TRAFFIC STRIPE (RECESSED)**



**TRAFFIC STRIPE MATCH DETAIL**



**TYPICAL MILE POST STRIPE**



**TYPICAL STRIPE TRANSITION DETAILS**

**PAVEMENT DELINEATION DETAILS**

NO SCALE

**PDD-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 MATTHEW R. GOWAN  
 KARLIE J. SMITH  
 MICHAEL CONNER  
 MAINTENANCE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las	139	20.0/30.0	5	9

08-31-15  
 REGISTERED CIVIL ENGINEER DATE  
 08-31-15  
 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.

**NOTES:**

- (N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
- EXACT LOCATIONS AND NUMBER OF DIGOUTS TO BE DETERMINED BY ENGINEER.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

**4" THERMOPLASTIC TRAFFIC STRIPE (RECESSED)**

Co-Rte	PM	LF	REMARKS
Las-139	20.62	270	(9) 30' LONG 4" STRIPES (CATTLE GUARD)
TOTAL		270	

**REMOVE PAVEMENT MARKER (N)**

Co-Rte	PM LIMITS	EA
Las-139	20.0-30.0	3544
TOTAL		3544

**THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)**

Co-Rte	POST MILE LIMITS	DETAIL 5	DETAIL 18	DETAIL 21	DETAIL 27B	DETAIL 38A
		LF	LF	LF	LF	LF
Las-139	20.00-30.00	8765	14,995	29,040	105,400	200
SUBTOTAL		8765	14,995	29,040	105,400	200
TOTAL		158,400				

**ROADWAY QUANTITIES SUMMARY**

Co-Rte	PM LIMITS	(N) LENGTH	(N) WIDTH	SEAL COAT		FLUSH COAT	
				ASPHALT-RUBBER BINDER	PRECOATED SCREENINGS	ASPHALTIC EMULSION (FOG SEAL COAT)	SAND COVER (SEAL)
				TON	TON	TON	TON
Las-139	20.00 - 20.17	897.6	32 - 32	375.8	2428.4	34.7	277.5
	20.17 - 20.20	158.4	32 - 25				
	20.20 - 20.50	1584.0	25 - 24				
	20.50 - 20.55	264.0	24 - 24				
	20.55 - 20.57	105.6	24 - 31				
	20.57 - 20.60	158.4	31 - 24				
	20.60 - 21.00	2112.0	24 - 24				
	21.00 - 21.50	2640.0	24 - 22				
	21.50 - 22.00	2640.0	22 - 23				
	22.00 - 22.50	2640.0	23 - 23				
	22.50 - 23.00	2640.0	23 - 23				
	23.00 - 23.50	2640.0	23 - 23				
	23.50 - 24.00	2640.0	23 - 22				
	24.00 - 24.50	2640.0	22 - 23				
	24.50 - R25.00	2640.0	23 - 24				
	R25.00 - R 25.47	2481.6	24 - 24				
	R25.47 - R25.49	105.6	24 - 38				
	R25.49 - R25.51	105.6	38 - 47				
	R25.51 - R25.52	52.8	47 - 47				
	R25.52 - R25.54	105.6	47 - 25				
	R25.54 - 26.00	2428.8	25 - 24				
	26.00 - 26.50	2640.0	24 - 23				
	26.50 - 27.00	2640.0	23 - 23				
	27.00 - 27.50	2640.0	23 - 23				
	27.50 - 28.00	2640.0	23 - 25				
	28.00 - 28.50	2640.0	25 - 23				
	28.50 - 29.00	2640.0	23 - 23				
	29.00 - 29.50	2640.0	23 - 24				
	29.50 - 30.00	2640.0	24 - 24				
	TOTAL						

**REPLACE ASPHALT CONCRETE SURFACING**

Co-Rte	PM LIMITS	(N) Approx No. OF DIGOUTS	(N) LENGTH (Avg)	(N) WIDTH	(N) DEPTH	CY
			LF	LF	LF	
Las-139	20.00 - 20.50	6	50	4	0.33	15
	20.50 - 21.00	6	50	4	0.33	15
	21.00 - 21.50	6	50	4	0.33	15
	21.50 - 22.00	6	50	4	0.33	15
	22.00 - 22.50	6	50	4	0.33	15
	22.50 - 23.00	6	50	4	0.33	15
	23.00 - 23.50	6	50	4	0.33	15
	23.50 - 24.00	6	50	4	0.33	15
	24.00 - 24.50	6	50	4	0.33	15
	24.50 - R25.00	6	50	4	0.33	15
	R25.00 - R25.50	6	50	4	0.33	15
	R25.50 - 26.00	6	50	4	0.33	15
	26.00 - 26.50	6	50	4	0.33	15
	26.50 - 27.00	6	50	4	0.33	15
	27.00 - 27.50	6	50	4	0.33	15
	27.50 - 28.00	6	50	4	0.33	15
	28.00 - 28.50	6	50	4	0.33	15
	28.50 - 29.00	6	50	4	0.33	15
	29.00 - 29.50	6	50	4	0.33	15
	29.50 - 30.00	6	50	4	0.33	15
TOTAL						300

**SUMMARY OF QUANTITIES**

**Q-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - MAINTENANCE  
 MATTHEW R. GOWAN  
 KARLIE J. SMITH  
 MICHAEL CONNER

	<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
Tel	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
02	Las	139	20.0/30.0	6	9

*Grace M. Tsushima*  
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.

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

TO ACCOMPANY PLANS DATED 08-31-15

**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

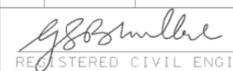
**ABBREVIATIONS  
(SHEET 2 OF 2)**

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.

**REVISED STANDARD PLAN RSP A10B**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las	139	20.0/30.0	7	9

  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 08-31-15

TABLE 1

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

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

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las	139	20.0/30.0	8	9

Devinder Singh  
 REGISTERED CIVIL ENGINEER  
 No. C50470  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

October 17, 2014  
 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.

**NOTES:**

See Revised Standard Plan RSP T9 for tables.

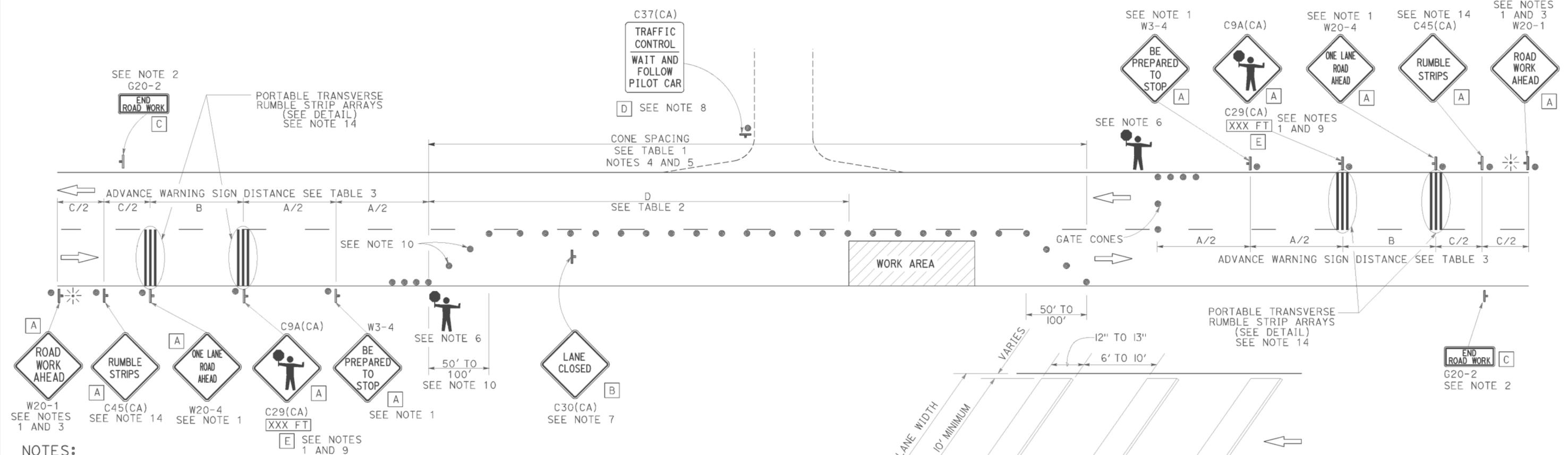
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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.

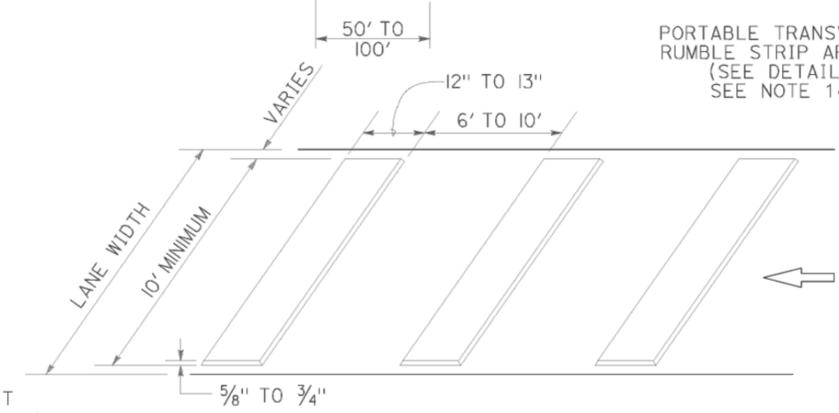
**TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL**

TO ACCOMPANY PLANS DATED 08-31-15



- 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



**SIGN PANEL SIZE (Min)**

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

**LEGEND**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

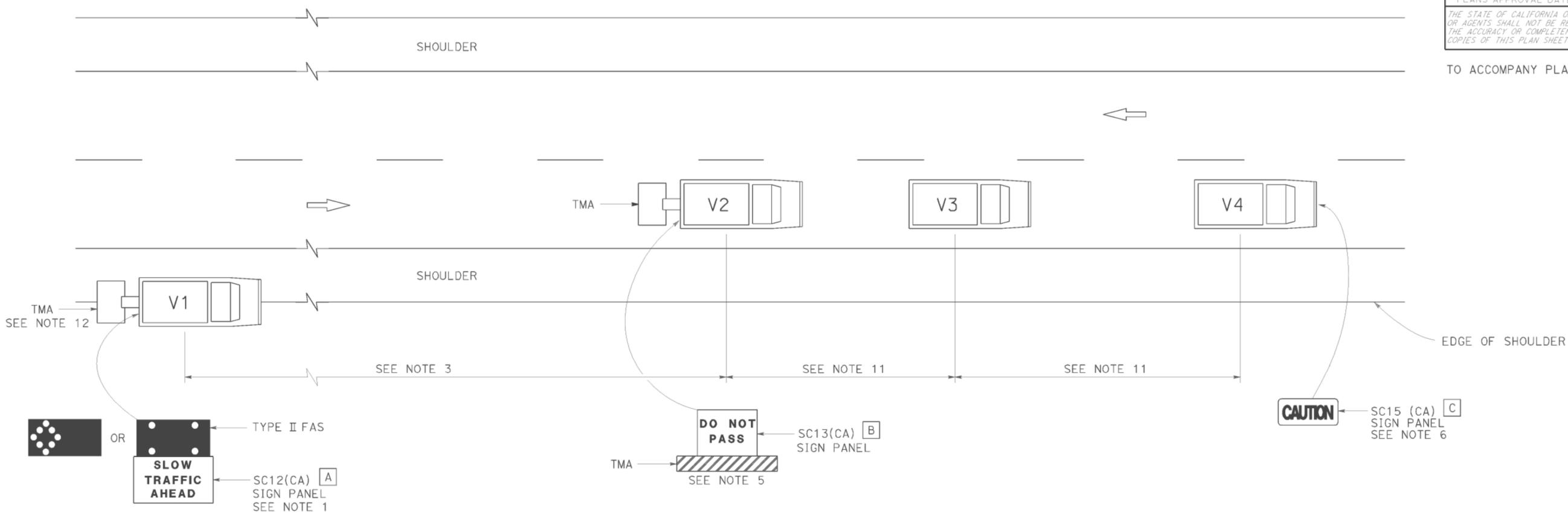
**TRAFFIC CONTROL SYSTEM  
FOR LANE CLOSURE ON  
TWO LANE CONVENTIONAL  
HIGHWAYS**

NO SCALE

RSP T13 DATED OCTOBER 17, 2014 SUPERSEDES 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.

**REVISED STANDARD PLAN RSP T13**

TO ACCOMPANY PLANS DATED 08-31-15



**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**