



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	2	26

REGISTERED CIVIL ENGINEER DATE 4-28-14  
 MATTHEW A. SMITH  
 No. 79116  
 Exp. 3-31-16  
 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:**

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTION) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXISTING UTILITIES HAVE NOT BEEN INCLUDED ON THESE PLANS.

**LEGEND**

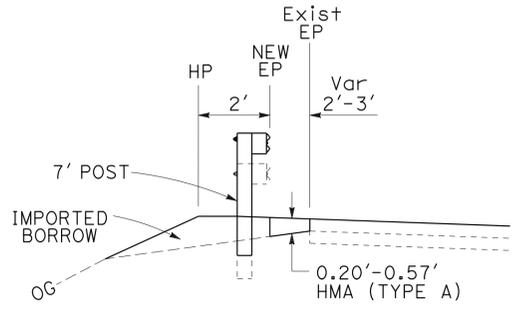
HMA-OG HMA-OPEN GRADED (BONDED WEARING COURSE)  
 SR SUPERELEVATION RATE

DESIGN DESIGNATION (Men-101-50.7/51.2)

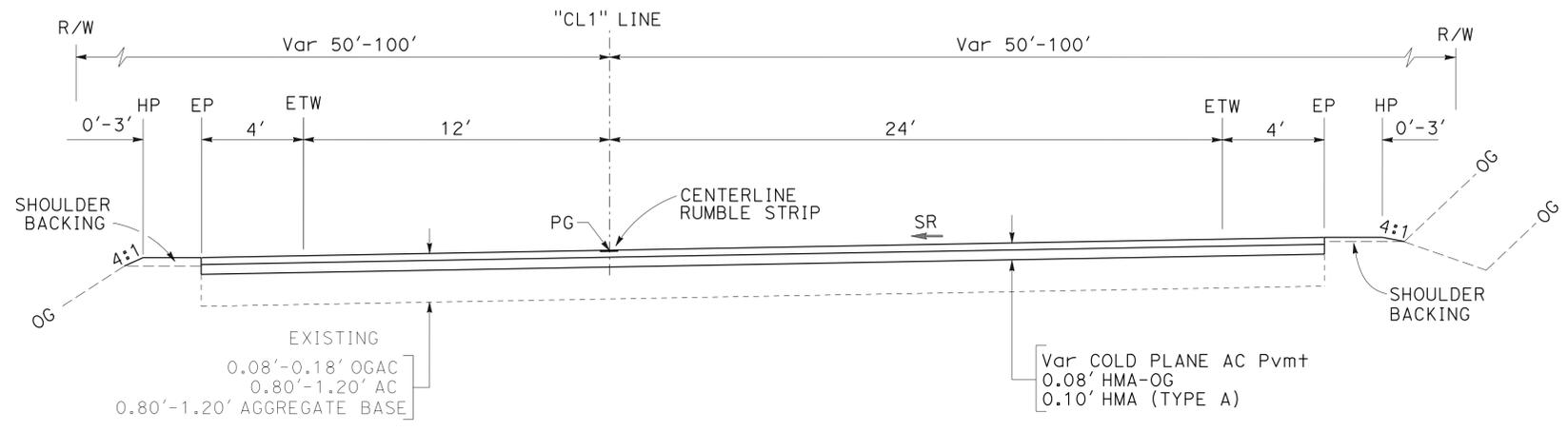
2011 ADT = 7100 D = 60% T = 10%  
 2024 ADT = 8480 V = 55 MPH  
 2011 DHV = 860 T<sub>10%</sub> = 10.0  
 2024 DHV = 1030 T<sub>10%</sub> = 10.5

PAVEMENT CLIMATE REGION

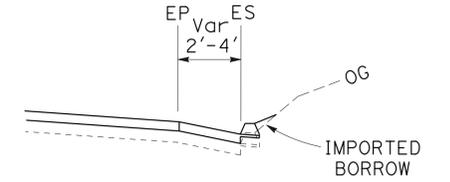
LOW MOUNTAIN



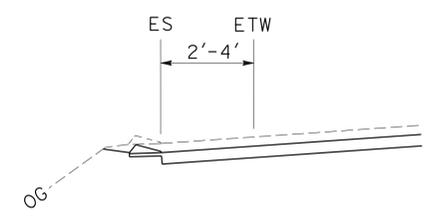
**RECONSTRUCT GUARDRAIL**  
 "CL1" 115+08 TO "CL1" 117+97



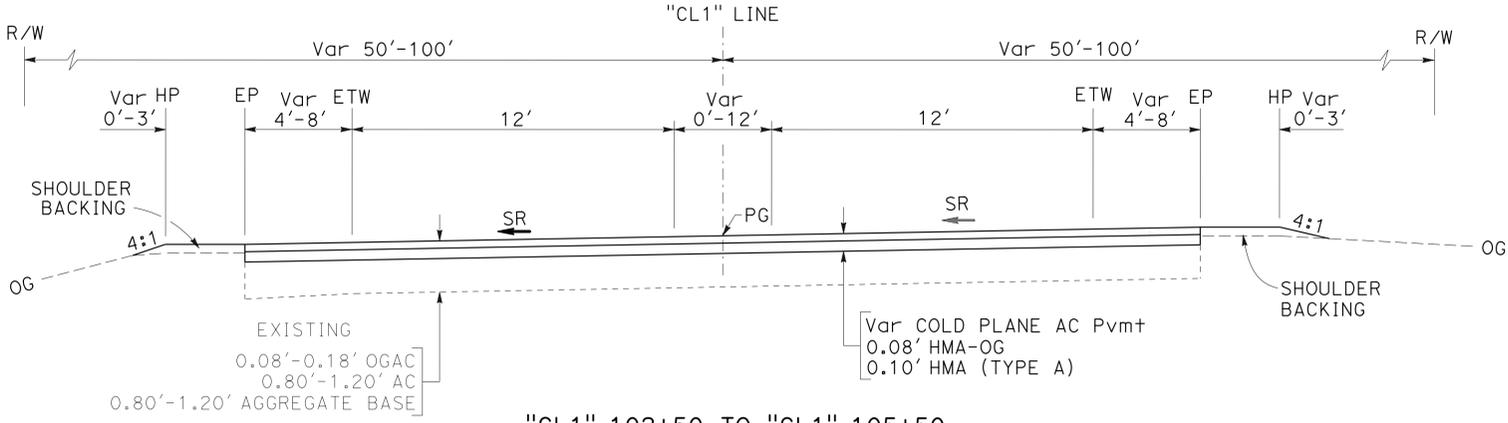
"CL1" 105+50 TO "CL1" 125+00



**REPLACE DIKE**  
 "CL1" 112+75 TO "CL1" 122+02 Rt



**REPLACE DIKE**  
 "CL1" 103+96.8 TO "CL1" 110+83.7 Lt  
 "CL1" 122+06.2 TO "CL1" 124+96.5 Lt



"CL1" 102+50 TO "CL1" 105+50

**ROUTE 101**

**TYPICAL CROSS SECTIONS**

NO SCALE

**X-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 MATTHEW A. SMITH  
 KELLY B. TIMMONS  
 KELLY B. TIMMONS  
 KELLY B. TIMMONS

LAST REVISION DATE PLOTTED => 01-JUL-2014  
 00-00-00 TIME PLOTTED => 09:00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: KELLY B. TIMMONS  
 REVISIONS: MATTHEW A. SMITH, KELLY B. TIMMONS  
 CALCULATED/DESIGNED BY: CHECKED BY:  
 REVISIONS: MATTHEW A. SMITH, KELLY B. TIMMONS  
 DATE: 4-28-14

**NOTES:**

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- LOCATIONS OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

**LEGEND**

- COLD PLANE AC PAVEMENT
- HMA-OG HMA-OPEN GRADED (BONDED WEARING COURSE)

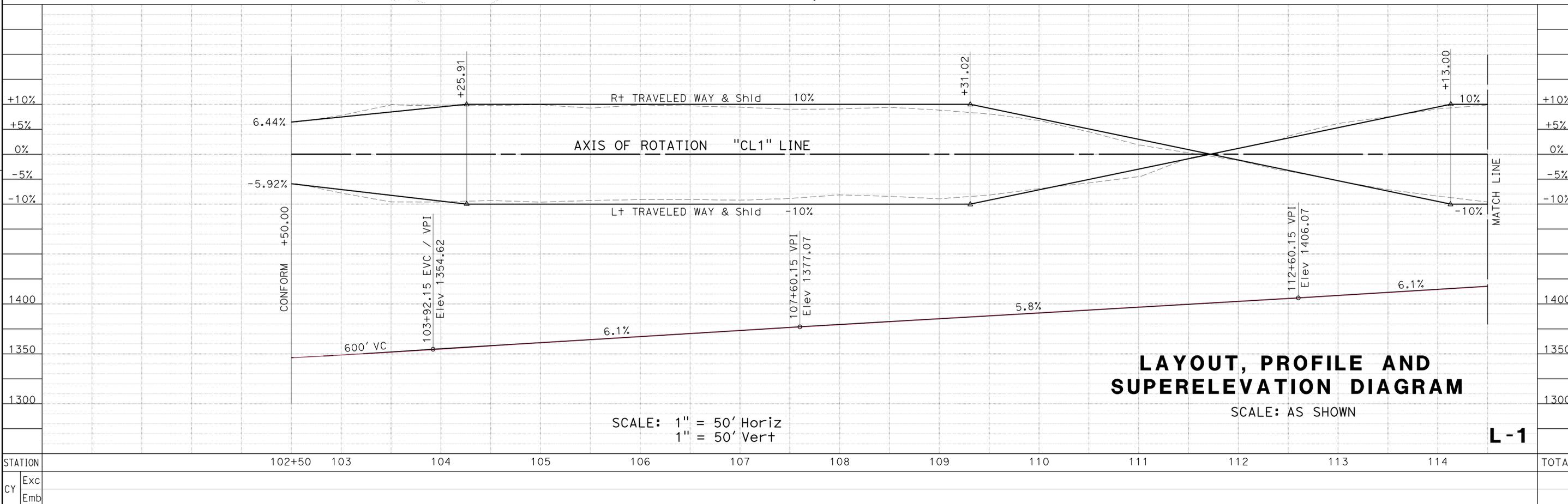
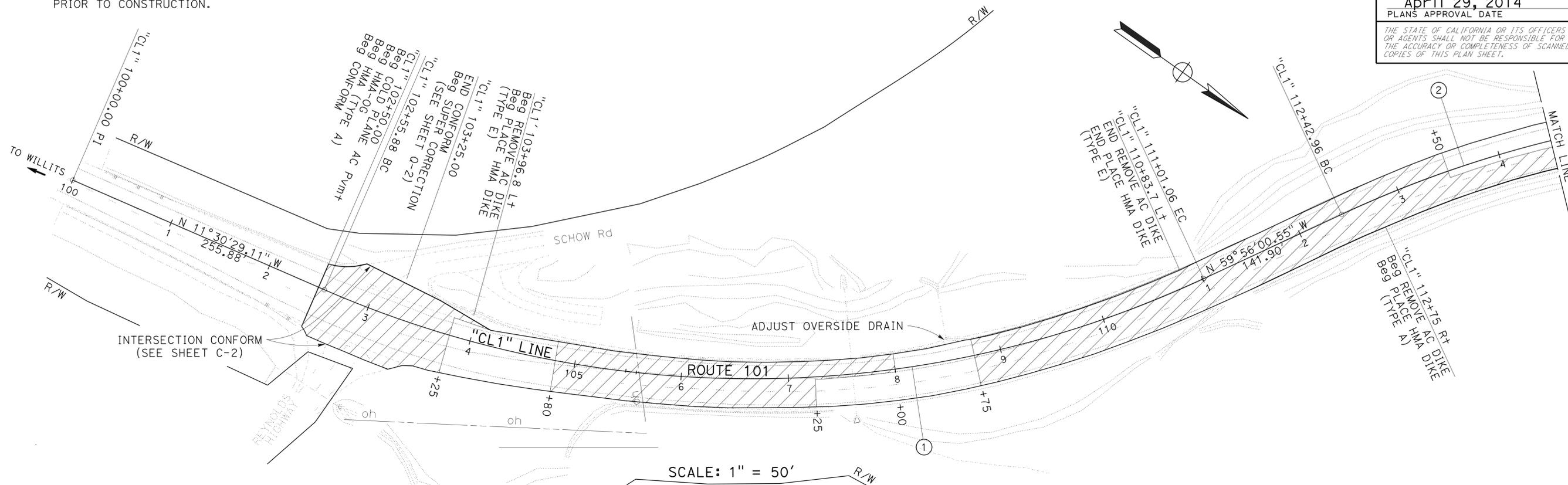
**CURVE DATA**

No.	R	Δ	T	L
①	1000'	48°25'31"	449.68'	845.18'
②	1070'	18°23'23"	173.20'	343.43'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	3	26

REGISTERED CIVIL ENGINEER  
 DATE: 4-28-14  
**April 29, 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.



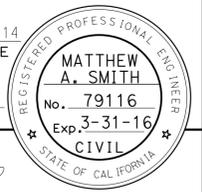
**LAYOUT, PROFILE AND SUPERELEVATION DIAGRAM**  
 SCALE: AS SHOWN

**L-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	4	26

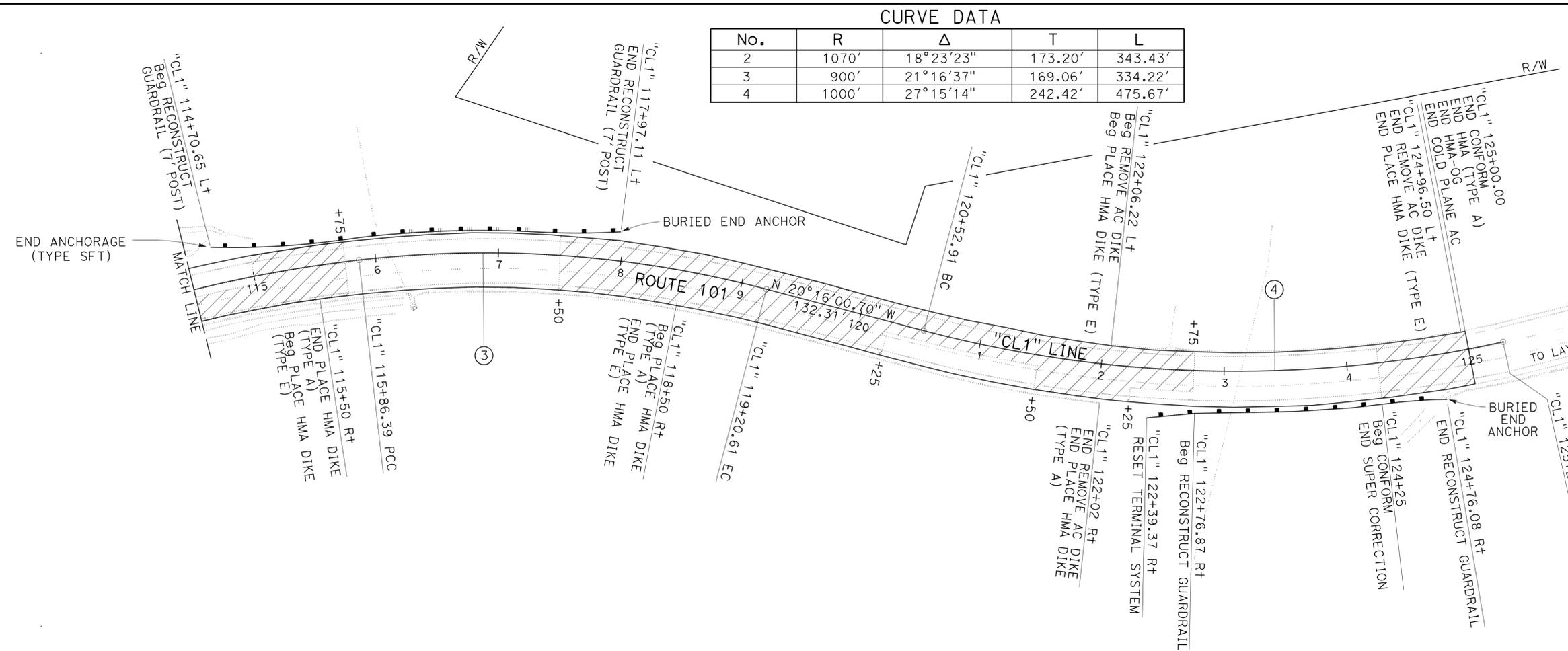
REGISTERED CIVIL ENGINEER  
 DATE 4-28-14  
**April 29, 2014**  
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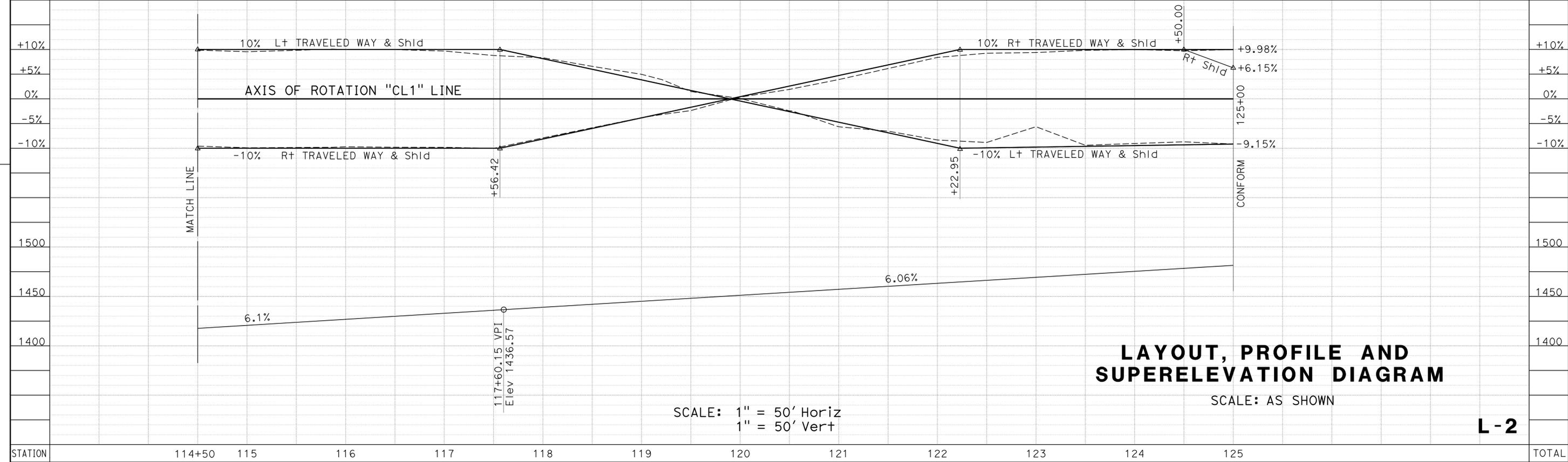


### CURVE DATA

No.	R	Δ	T	L
2	1070'	18°23'23"	173.20'	343.43'
3	900'	21°16'37"	169.06'	334.22'
4	1000'	27°15'14"	242.42'	475.67'



SCALE: 1" = 50'

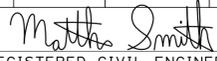


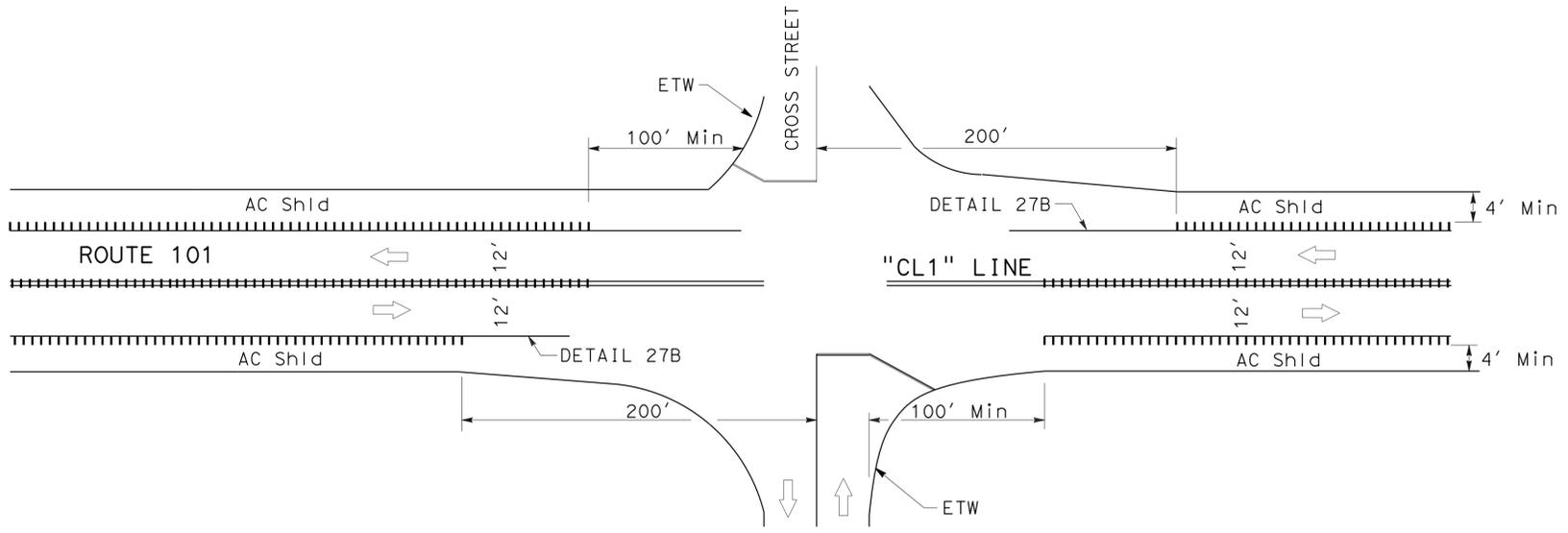
## LAYOUT, PROFILE AND SUPERELEVATION DIAGRAM

SCALE: AS SHOWN

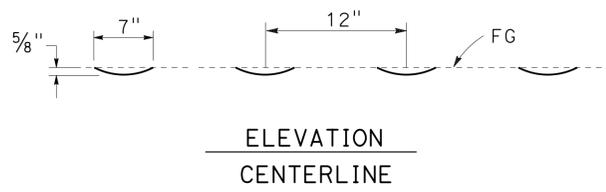
**L-2**

P:\PROJ\01\0c900\graff\ing\p\lanSet\Mat+PSE\0113000077ec002.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 FUNCTIONAL SUPERVISOR: KELLY B. TIMMONS  
 CALCULATED/DESIGNED BY: MATTHEW A. SMITH  
 CHECKED BY: KELLY B. TIMMONS  
 REVISOR: MATTHEW A. SMITH  
 DATE REVISOR: KELLY B. TIMMONS

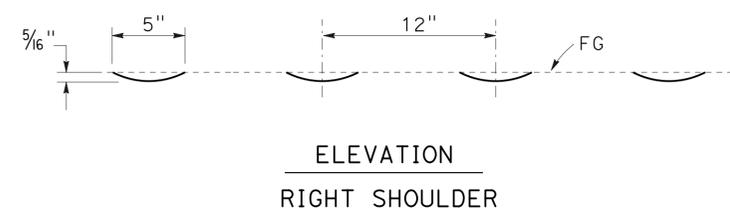
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	5	26
 REGISTERED CIVIL ENGINEER DATE 4-28-14					
April 29, 2014 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



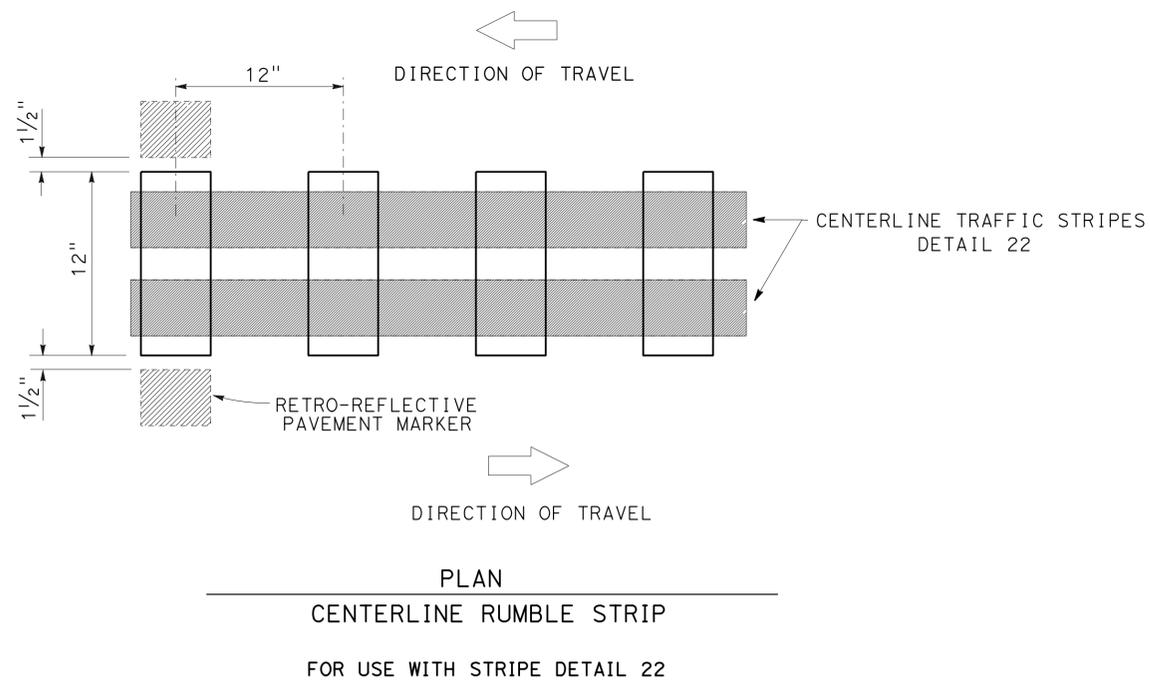
RUMBLE STRIP PLACEMENT DETAILS AT INTERSECTING ROADS



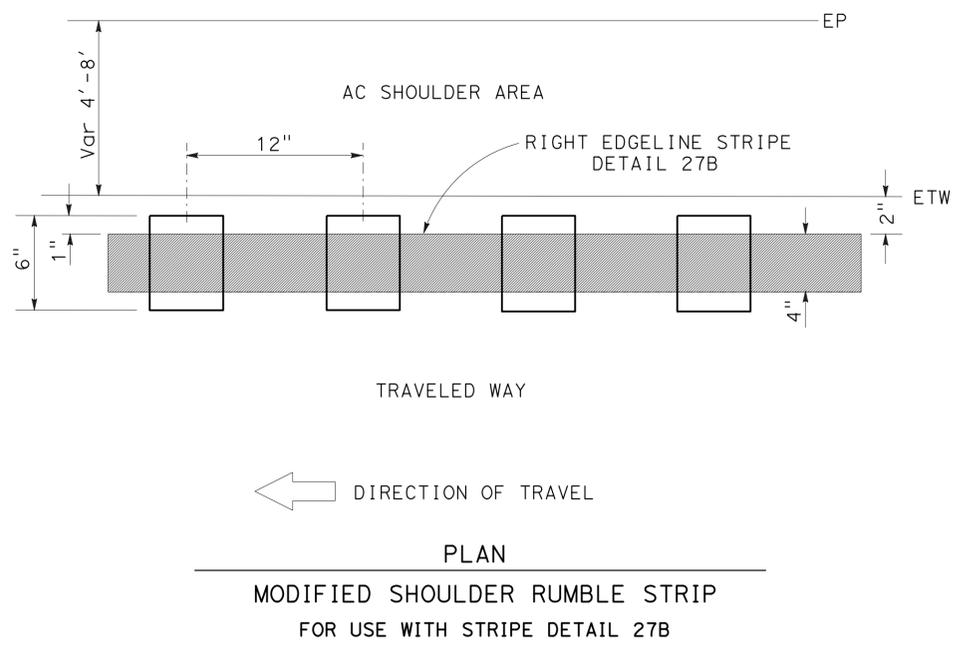
ELEVATION  
CENTERLINE



ELEVATION  
RIGHT SHOULDER



PLAN  
CENTERLINE RUMBLE STRIP  
FOR USE WITH STRIPE DETAIL 22



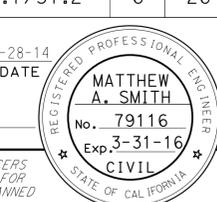
PLAN  
MODIFIED SHOULDER RUMBLE STRIP  
FOR USE WITH STRIPE DETAIL 27B

**RUMBLE STRIP**

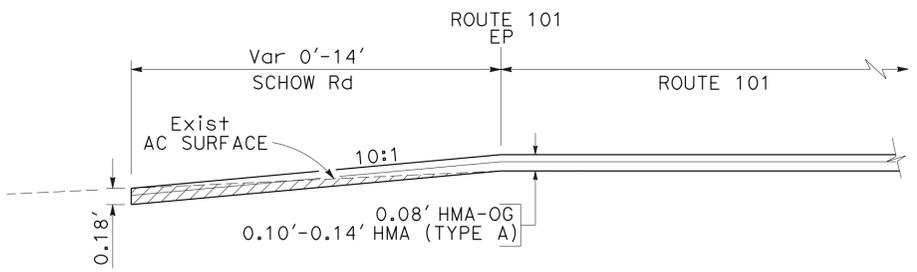
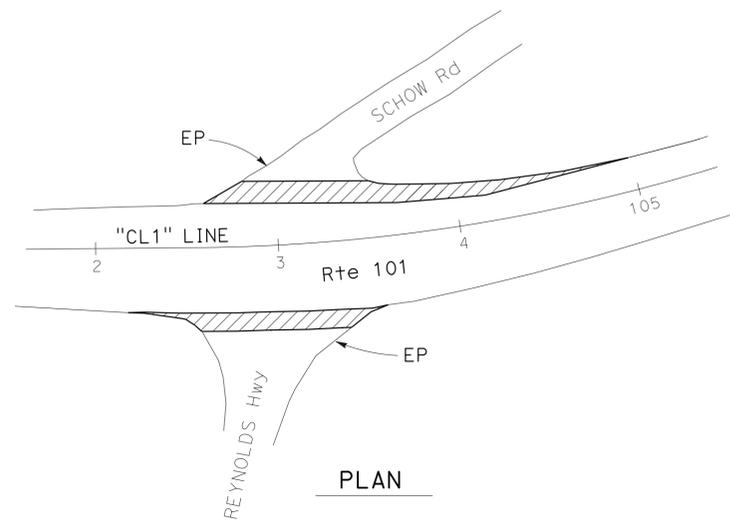
**CONSTRUCTION DETAILS**  
NO SCALE

C-1

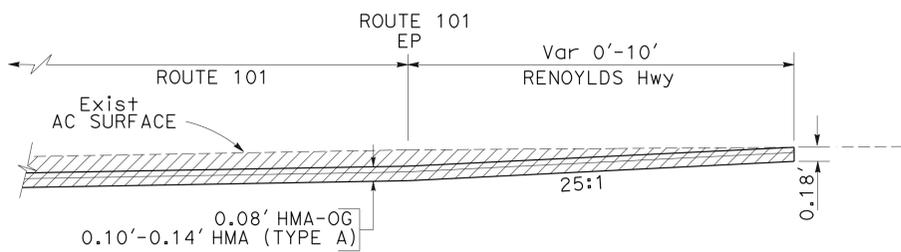
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 MATTHEW A. SMITH  
 KELLY B. TIMMONS  
 KELLY B. TIMMONS  
 KELLIE B. TIMMONS  
 KELLIE B. TIMMONS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	6	26
 REGISTERED CIVIL ENGINEER DATE 4-28-14					
April 29, 2014 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>					

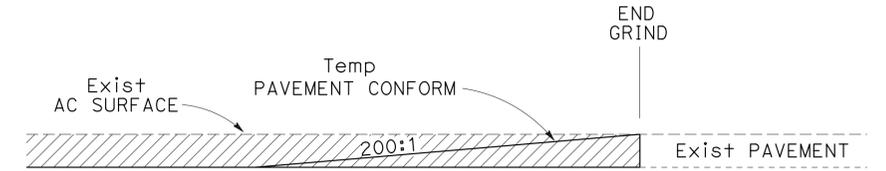
- LEGEND**
- HMA-OG HMA-OPEN GRADED (BONDED WEARING COURSE)
  -  COLD PLANE AC PAVEMENT
  -  DIRECTION OF TRAVEL
  -  RUMBLE STRIP (GROUND-IN)



PROFILE  
SCHOW Rd



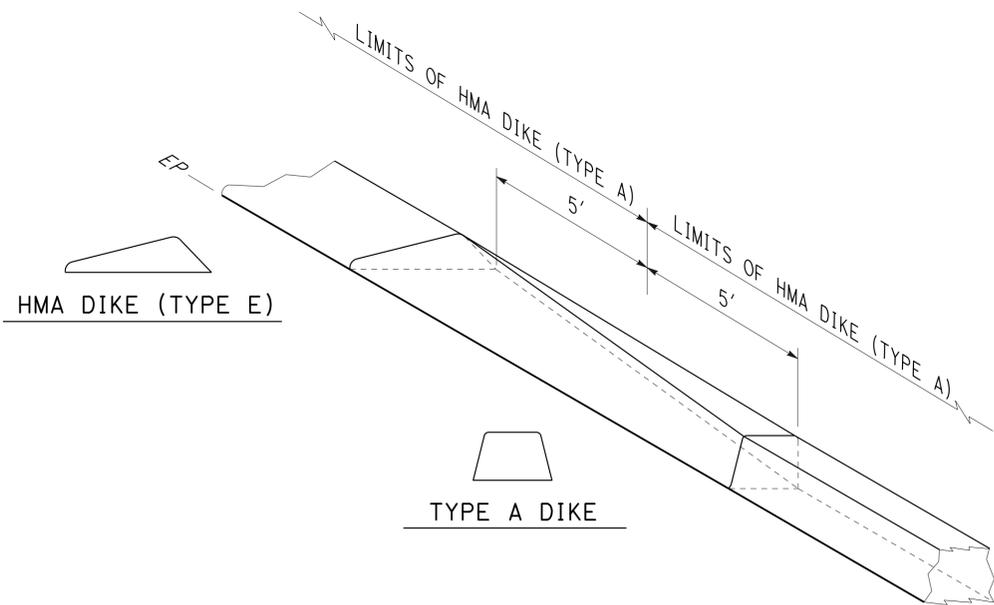
PROFILE  
RENOYLDs Hwy



PROFILE

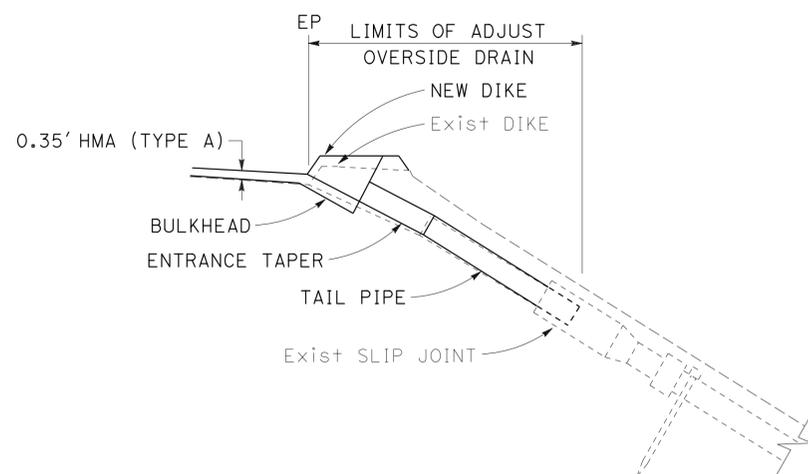
**COLD PLANE AC PAVEMENT AT PUBLIC ROAD CONNECTION**

**TEMPORARY PAVEMENT CONFORM**



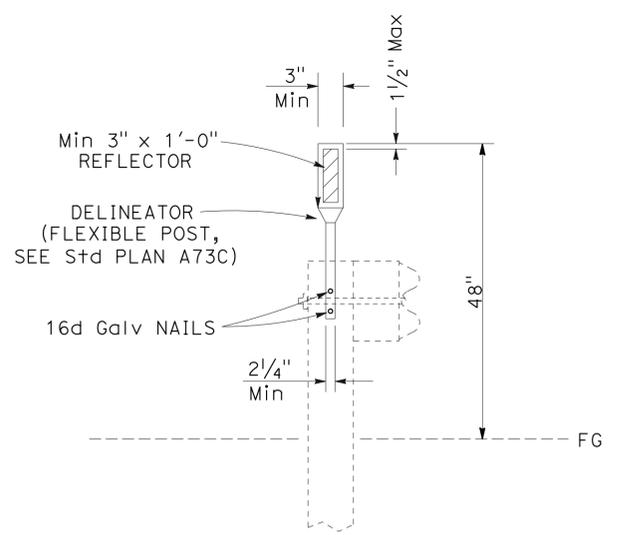
**TRANSITION  
HMA DIKE (TYPE A) TO HMA DIKE (TYPE E)**

(FOR DIKE DIMENSIONS SEE S+d PLANS)



**ADJUST OVERSIDE DRAIN**

(FOR DIMENSIONS SEE S+d PLANS)



**GUARD RAILING DELINEATOR**

**CONSTRUCTION DETAILS**

NO SCALE

P:\PROJ\01\0c900\dratf\ing\p\lanSet\Mgr\PFSE\0113000077ga002.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 MATTHEW A. SMITH  
 KELLY B. TIMMONS  
 KELLY B. TIMMONS  
 REVISOR BY DATE  
 REVISOR BY DATE  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 FUNCTIONAL SUPERVISOR  
 KELLY B. TIMMONS  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
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 REVISOR BY DATE  
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 CALCULATED/DESIGNED BY  
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 KELLY B. TIMMONS  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
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 KELLY B. TIMMONS  
 KELLY B. TIMMONS  
 REVISOR BY DATE  
 REVISOR BY DATE  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 FUNCTIONAL SUPERVISOR  
 KELLY B. TIMMONS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	7	26

REGISTERED CIVIL ENGINEER DATE 4-28-14  
 REGISTERED PROFESSIONAL ENGINEER  
**Matthew A. Smith**  
 No. 79116  
 Exp. 3-31-16  
 CIVIL  
 STATE OF CALIFORNIA

April 29, 2014  
 PLANS APPROVAL DATE

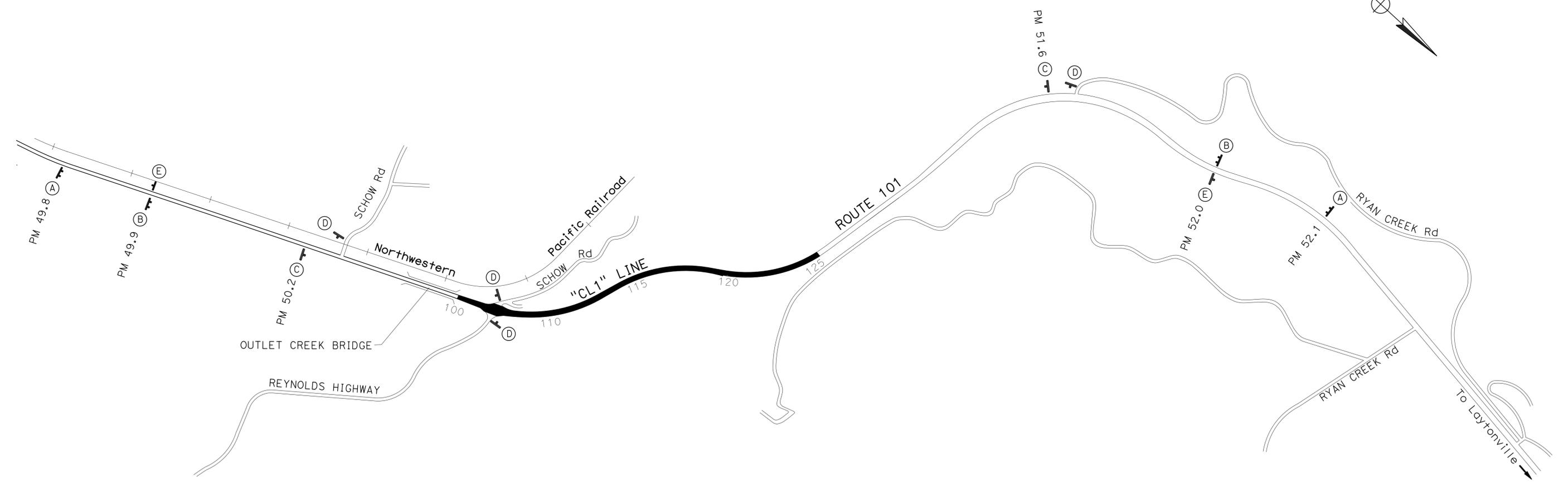
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

- EXISTING UTILITIES HAVE NOT BEEN POSITIVELY LOCATED.
- EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

○	TYPE	SIGN MESSAGE	PANEL SIZE (IN)	No. OF POSTS AND SIZE (IN)	No. OF SIGNS
A	C40(CA)	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONE	108 x 42	2 - 6 x 6	2
B	W20-1	ROAD WORK AHEAD	36 x 36	1 - 6 x 6	2
	C23B(CA)	SAFETY IMPROVEMENT	36 x 24		
C	W11-1	BICYCLE SYMBOL	36 x 36	1 - 4 x 6	2
	W16-1	SHARE THE ROAD	24 x 30		
D	W20-1	ROAD WORK AHEAD	36 x 36	1 - 4 x 6	4
E	G20-2	END ROAD WORK	36 x 18	1 - 4 x 6	2



NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

**CONSTRUCTION AREA SIGNS**

**CS-1**

P:\PROJ\01\0c900\graf+ing\p\lanSet\Mgr+PSE\01130000771a001.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 FUNCTIONAL SUPERVISOR: KELLY B. TIMMONS  
 CALCULATED/DESIGNED BY: [blank]  
 CHECKED BY: [blank]  
 MATTHEW A. SMITH  
 KELLY B. TIMMONS  
 REVISED BY: [blank]  
 DATE REVISED: [blank]

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	8	26

<i>Matthew Smith</i>		4-28-14
REGISTERED CIVIL ENGINEER	DATE	
April 29, 2014		
PLANS APPROVAL DATE		

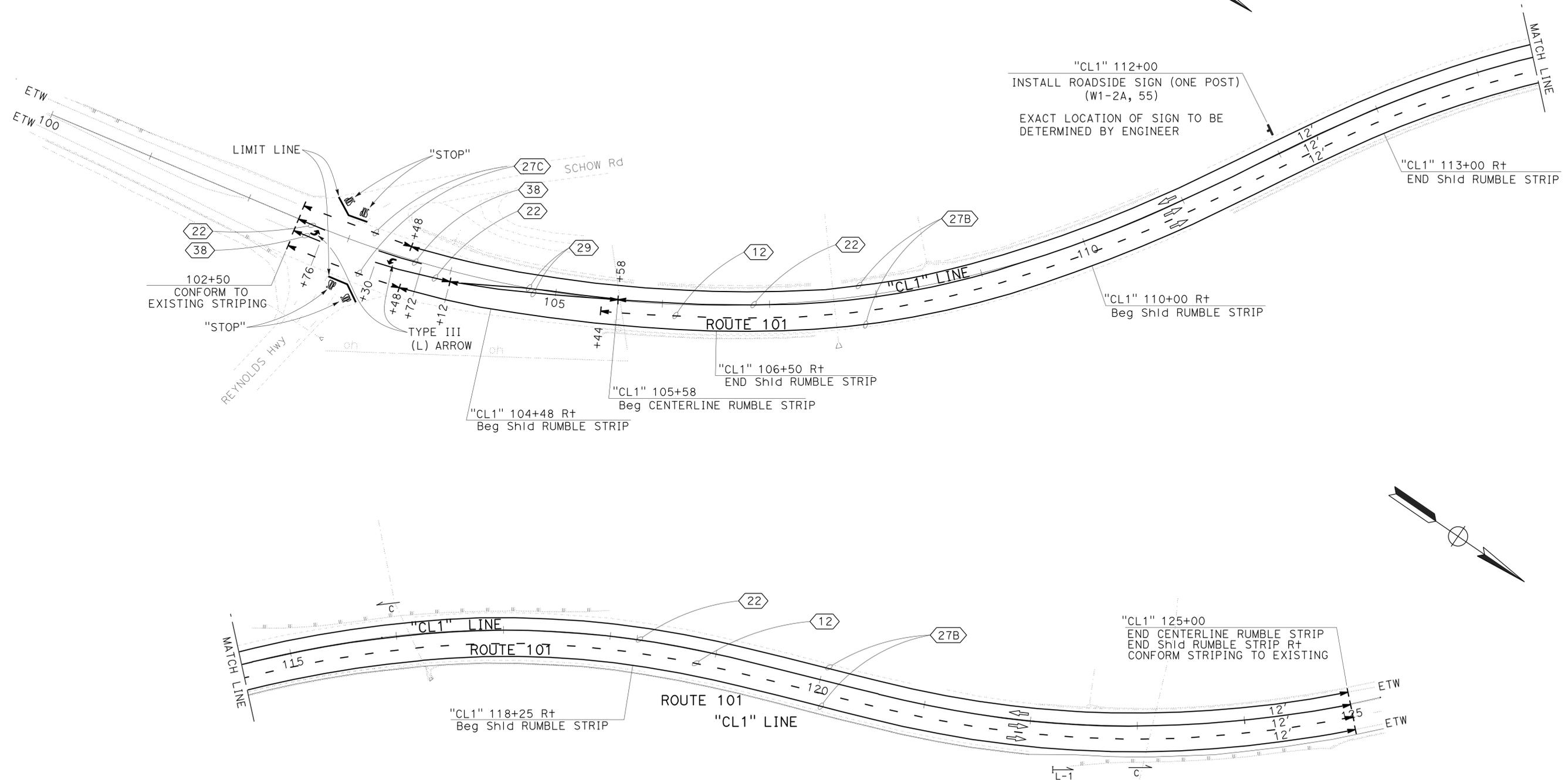
REGISTERED PROFESSIONAL ENGINEER	STATE OF CALIFORNIA
MATTHEW A. SMITH	
No. 79116	
Exp. 3-31-16	
CIVIL	

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**LEGEND**

- BEGIN/END TRAFFIC STRIPE DETAIL
- CHANGE OF TRAFFIC STRIPE DETAIL
- STRIPE DETAIL No.
- RESET MARKER (CULVERT)
- OBJECT MARKER (TYPE L)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 Et Caltrans  
 FUNCTIONAL SUPERVISOR: KELLY B. TIMMONS  
 CHECKED BY: KELLY B. TIMMONS  
 CALCULATED/DESIGNED BY: MATTHEW A. SMITH  
 REVISOR: KELLY B. TIMMONS  
 REVISION DATE:



**PAVEMENT DELINEATION  
 AND SIGN PLAN**  
 SCALE: 1" = 50'

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

**PD-1**

LAST REVISION | DATE PLOTTED => 01-JUL-2014  
 00-00-00 | TIME PLOTTED => 09:00

**THERMOPLASTIC PAVEMENT MARKING**

LOCATION STATION	L+/R+/MEDIAN	THERMOPLASTIC PAVEMENT MARKING	TYPE/LEGEND	REMARKS
		SQFT		
"CL1"102+55	MEDIAN	42	TYPE III (L) ARROW	
"CL1"103+50	MEDIAN	42	TYPE III (L) ARROW	
"CL1"103+00	R+	22	"STOP"	ON REYNOLDS HIGHWAY
"CL1"103+20	R+	22	"STOP"	ON REYNOLDS HIGHWAY
"CL1"103+00	L+	22	"STOP"	ON SCHOW ROAD
"CL1"102+80	L+	22	"STOP"	ON SCHOW ROAD
"CL1"103+00	R+	36	LIMIT LINE	ON REYNOLDS HIGHWAY
"CL1"103+00	L+	36	LIMIT LINE	ON SCHOW ROAD
TOTALS		244		

**RUMBLE STRIP**

LOCATION STATION		RUMBLE STRIP		REMARKS
FROM	TO	CENTERLINE	SHOULDER	
		STA		
"CL1"105+58	"CL1"125+00	19.4		
"CL1"104+48	"CL1"106+50		2.0	NB
"CL1"110+00	"CL1"113+00		3.0	NB
"CL1"118+25	"CL1"125+00		6.8	NB
TOTALS		19.4	11.8	

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*Matthew Smith*  
 REGISTERED CIVIL ENGINEER 4-28-14 DATE  
**April 29, 2014**  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
**MATTHEW A. SMITH**  
 No. 79116  
 Exp. 3-31-16  
 CIVIL  
 STATE OF CALIFORNIA

**TRAFFIC STRIPE AND PAVEMENT MARKER QUANTITIES**

LOCATION STATION	DIRECTION	DETAIL No.	DETAIL LENGTH	REMOVE THERMOPLASTIC TRAFFIC STRIPE		4" THERMOPLASTIC TRAFFIC STRIPE				8" THERMO PLASTIC STRIPE	PAVEMENT MARKER (RETROREFLECTIVE-RECESSED)		REMOVE PAVEMENT MARKER	REMARKS	
				WHITE	YELLOW (H)	WHITE	YELLOW	WHITE (BROKEN 36-12)	WHITE (BROKEN 12-3)		TYPE D	TYPE G			
															LF
"CL1"102+50	"CL1"102+76	CL	22	26				52				4		4	
"CL1"102+50	"CL1"102+76	NB	38	26						26			2		LEFT TURN POCKET
"CL1"102+50	"CL1"103+48	NB	27C	98							98				
"CL1"102+50	"CL1"103+48	SB	27C	98							98				
"CL1"103+30	"CL1"103+72	SB	38	42						42			3		LEFT TURN POCKET
"CL1"103+30	"CL1"104+12	CL	22	82				164				8		8	
"CL1"103+48	"CL1"125+00	NB	27B	2152				2152							
"CL1"103+48	"CL1"125+00	SB	27B	2152				2152							
"CL1"103+75	"CL1"104+80	CL	22	37											
		NB	27B	105	105										
"CL1"103+75	"CL1"104+80	SB	27B	105	105										
		CL	22	37											
"CL1"104+12	"CL1"105+58	CL	29	146				584				12		12	
"CL1"105+44	"CL1"125+00	NB	12	1956					1956				43	43	
"CL1"105+58	"CL1"125+00	CL	22	1942				3884				164		164	
"CL1"107+25	"CL1"108+75	CL	22	150											
		NB	27B	150	150										
"CL1"108+00	"CL1"108+75	NB	12	150	48										
		SB	27B	75	75										
"CL1"113+50	"CL1"115+00	SB	27B	150	150										
"CL1"115+75	"CL1"117+50	CL	22	175											
		NB	27B	175	175										
		SB	27B	175	175										
"CL1"120+25	"CL1"121+50	NB	12	125	36										
		NB	27B	125	125										
"CL1"122+25	"CL1"124+25	NB	27B	200	200										
		CL	22	150											
"CL1"122+75	"CL1"124+25	NB	12	150	48										
		SB	27B	150	150										
SUBTOTALS				1590	1296	4304	4684	1956	196	68	188	48	231		
TOTALS				1590	1296			11140		68	236		231		

(H) HAZARDOUS WASTE

**ROADSIDE SIGNS**

LOCATION STATION	OBJECT MARKER (TYPE L)	RESET MARKER	ROADSIDE SIGN ONE POST	FURNISH	SIGN CODE	PANEL SIZE	No. OF POSTS AND SIZE (INCHES)	REMARKS
				SINGLE SHEET ALUMINUM SIGN (0.080" UNFRAMED) SQFT				
"CL1"112+00			1	16	W1-2a	48"x48"	1 - 4 x 6	"55 MPH"
"CL1"116+05		1						
"CL1"122+40	1							
"CL1"123+20		1						
TOTALS	1	2	1	16				

**PAVEMENT DELINEATION AND SIGN QUANTITIES**

**PDQ-1**

P:\PROJ\01\0c900\graf+ing\p\lanSet\Mgr+PSE\0113000077nc001.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 FUNCTIONAL SUPERVISOR: KELLY B. TIMMONS  
 CALCULATED/DESIGNED BY: MATTHEW A. SMITH  
 CHECKED BY: KELLY B. TIMMONS  
 REVISIONS: REVISED BY: DATE REVISIONS:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	10	26

REGISTERED CIVIL ENGINEER  
 DATE 4-28-14  
 MATTHEW A. SMITH  
 No. 79116  
 Exp. 3-31-16  
 CIVIL  
 STATE OF CALIFORNIA

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### HMA DIKE

LOCATION STATION		L+/R+	REMOVE AC DIKE	PLACE HMA DIKE (TYPE E)	PLACE HMA DIKE (TYPE A)	HMA	IMPORTED BORROW	ADJUST OVERSIDE DRAIN	REMARKS
FROM	TO		LF	LF	EA	TON	CY	EA	
"CL1"103+97	"CL1"110+84	L+	687	687		18	4	1	OVERSIDE DRAIN AT "CL1" 108+50
"CL1"112+75	"CL1"115+50	R+	275		275	8	2		
"CL1"115+50	"CL1"118+50	R+	300	300		8	12		
"CL1"118+50	"CL1"122+02	R+	352		352	9	3		
"CL1"122+06	"CL1"124+97	L+	291	291		8	2		
TOTALS			1905	1278	627	51*	23*	1	

NOTE: \* QUANTITY INCLUDED IN ROADWAY QUANTITIES SUMMARY.

### GUARDRAIL

LOCATION STATION		L+/R+	EXISTING LENGTH	RECONSTRUCT GUARDRAIL (7' WOOD POST)	RECONSTRUCT GUARDRAIL (WOOD POST)	RESET TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT (N))	GUARD RAILING DELINEATOR (TYPE F)	TREATED WOOD WASTE	REMARKS
FROM	TO		LF	LF	EA	EA	LB			
"CL1"114+71	"CL1"117+98	L+	327	327			1	5	3770	TYPE FLEAT
"CL1"122+77	"CL1"124+77	R+	200		200	1		5	2600	
TOTALS			327	327	200	1	1	10	6370	

### ROADWAY

LOCATION STATION		PLACE HMA (Misc AREA)	HMA (TYPE A)	HMA-OPEN GRADED (BONDED WEARING COURSE)	TACK COAT	ASPHALTIC EMULSION MEMBRANE (BONDED WEARING COURSE)	SHOULDER BACKING	IMPORTED BORROW	REMARKS
FROM	TO	SQYD	TON	TON	TON	CY			
"CL1"102+50	"CL1"125+00		1383	532	2.4	5.2			
"CL1"104+00	"CL1"105+50						32		
"CL1"105+47	"CL1"107+40	63	4						PAVED DITCH AREA R+
"CL1"107+45	"CL1"109+31						21		
"CL1"108+42	"CL1"108+77	7	3						DRAINAGE INLET AREA L+
"CL1"112+00	"CL1"122+23	309	72						PAVED DITCH AREA R+
"CL1"113+50	"CL1"115+25						30		
"CL1"115+25	"CL1"117+98	56	15					37	MBGR AREA L+
"CL1"118+00	"CL1"119+00						4		
"CL1"119+50	"CL1"122+00						6		
"CL1"122+00	"CL1"125+00						47		
TOTAL FROM HMA DIKE				51*				23*	
TOTALS			435	1528	532	2.4	5.2	140	60

### TEMPORARY EROSION CONTROL

LOCATION STATION		L+/R+	Temp DI PROTECTION	Temp GRAVEL BAG BERM	REMARKS
FROM	TO		EA	LF	
"CL1"103+97	"CL1"103+97	L+	1		OVERSIDE DRAIN
"CL1"103+97	"CL1"110+84	L+		687	
"CL1"108+50	"CL1"108+50	L+	1		OVERSIDE DRAIN
"CL1"112+75	"CL1"122+02	R+		927	
"CL1"116+28	"CL1"116+28	R+	1		OVERSIDE DRAIN
"CL1"122+06	"CL1"124+97	L+		291	
"CL1"122+56	"CL1"122+56	L+	1		OVERSIDE DRAIN
TOTALS			4	1905	

### COLD PLANE AC PAVEMENT

LOCATION STATION		COLD PLANE AC PAVEMENT	MAXIMUM DEPTH (N)	REMARKS
FROM	TO			
"CL1"102+50	"CL1"103+25	656	0.30'	CONFORM
"CL1"103+25	"CL1"103+75	450	0.30'	SUPER REPAIR AND PROFILE GRIND
"CL1"104+80	"CL1"108+00	1333	0.45'	SUPER REPAIR AND PROFILE GRIND
"CL1"108+75	"CL1"115+75	3052	0.55'	SUPER REPAIR AND PROFILE GRIND
"CL1"117+50	"CL1"122+75	2245	0.25'	SUPER REPAIR AND PROFILE GRIND
"CL1"124+25	"CL1"125+00	369	0.20'	CONFORM
TOTALS		8105		

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

## SUMMARY OF QUANTITIES

P:\PROJ\01\0c900\graf+ing\p\anSet\Mgr+PSE\0113000077pa001.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 Kelly B. Timmons  
 Functional Supervisor  
 Kelly B. Timmons  
 Checked By  
 Matthew A. Smith  
 Revised By  
 Kelly B. Timmons  
 Date Revised

M

P continued

S

T continued

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
<p>N</p>	
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
<p>O</p>	
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>P</p>	
p	PAGE
PAP	PERFORATED ALUMINUM PIPE
PB	PULL BOX
PC	POINT OF CURVATURE, PRECAST
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PEC	PERMIT TO ENTER AND CONSTRUCT
Ped	PEDESTRIAN
Ped OC	PEDESTRIAN OVERCROSSING
Ped UC	PEDESTRIAN UNDERCROSSING
Perm 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
<p>Q</p>	
<p>R</p>	
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
<p>T</p>	
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

TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
Typ	TYPICAL
<p>U</p>	
UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS
<p>V</p>	
V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME
<p>W</p>	
W	WEST, WIDTH
WB	WESTBOUND
WH	WEEP HOLE
WM	WIRE MESH
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
Wt	WEIGHT
WV	WATER VALVE
WW	WINGWALL
WWLOL	WINGWALL LAYOUT LINE
<p>X</p>	
X Sec	CROSS SECTION
Xing	CROSSING
<p>Y</p>	
Yr	YEAR
Yrs	YEARS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	11	26
<i>Grace M. Tsushima</i> REGISTERED CIVIL ENGINEER					
July 19, 2013 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>					

TO ACCOMPANY PLANS DATED 04-29-14

**UNIT OF MEASUREMENT SYMBOLS:**

Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft <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**

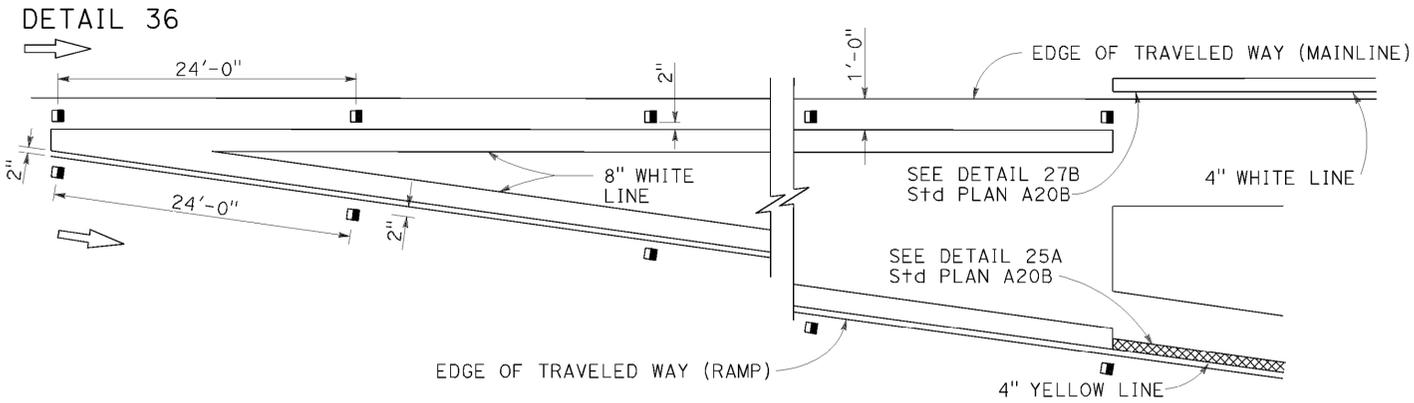
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	12	26

Registered Professional Engineer  
 Roberto L. McLaughlin  
 No. C40375  
 Exp. 3-31-15  
 CIVIL  
 STATE OF CALIFORNIA

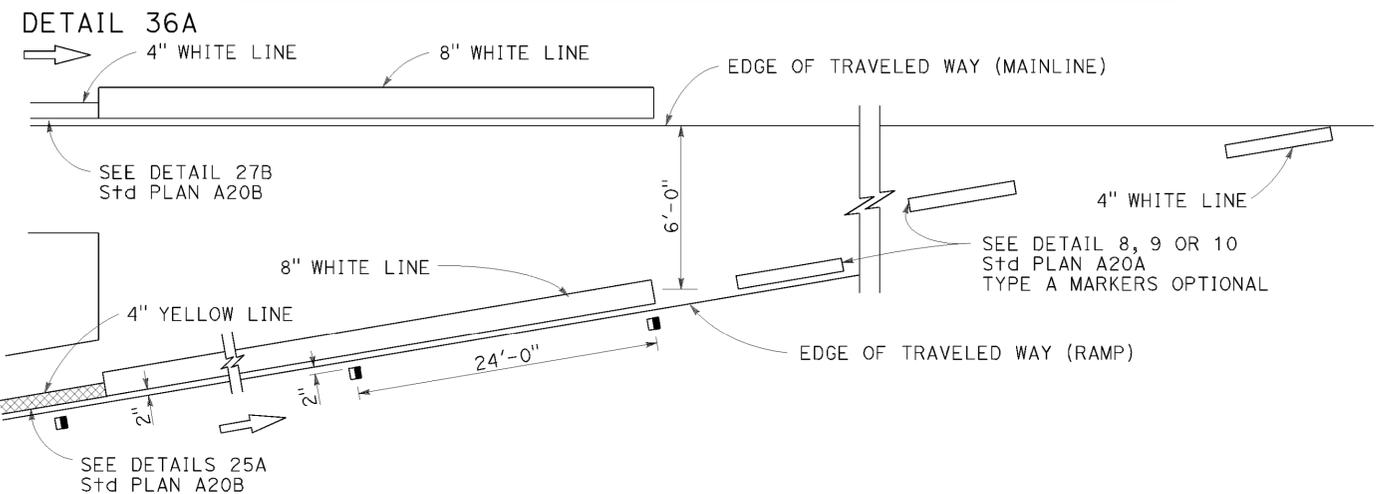
July 19, 2013  
 PLANS APPROVAL DATE

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.

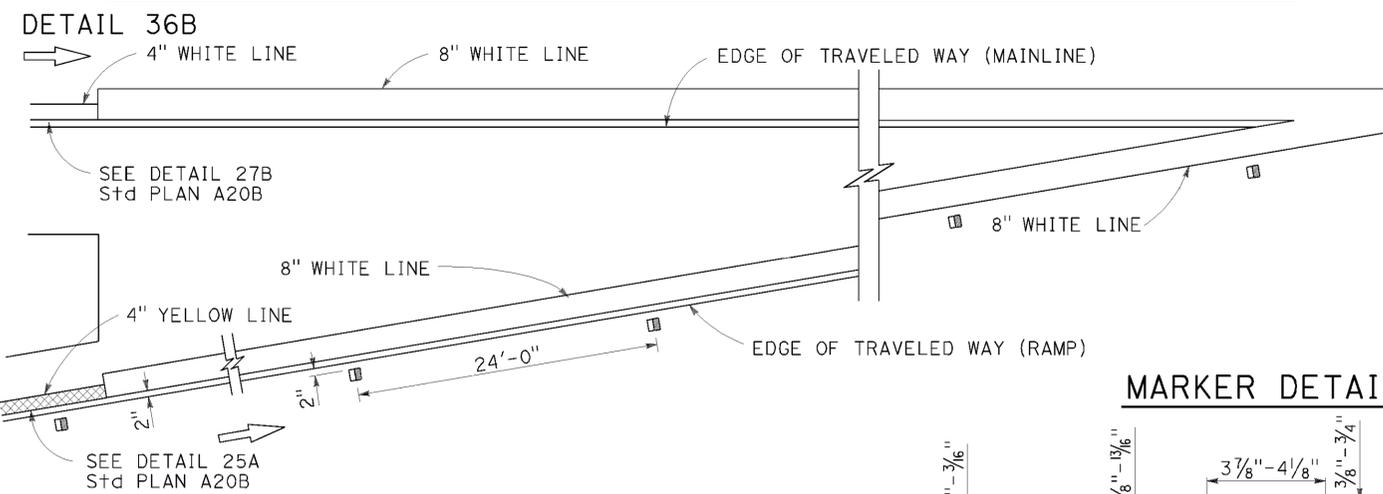
### EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



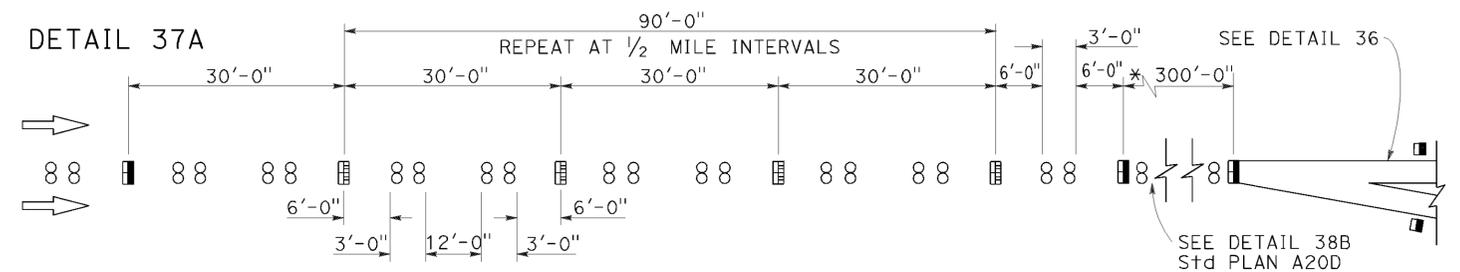
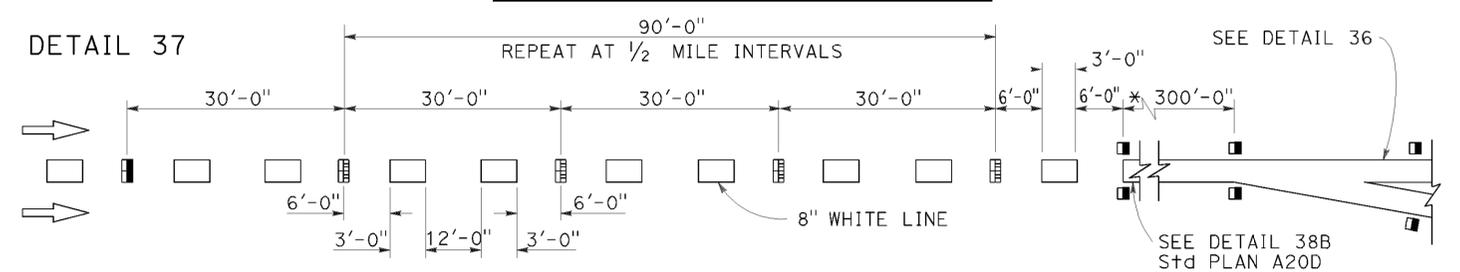
### ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



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

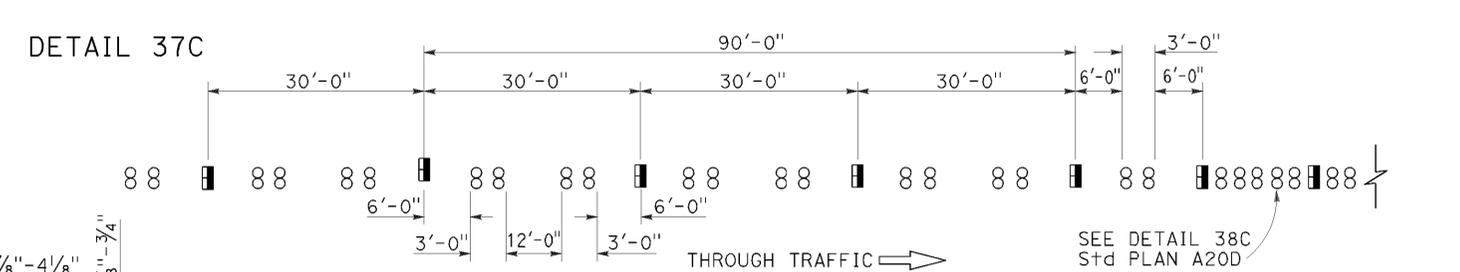
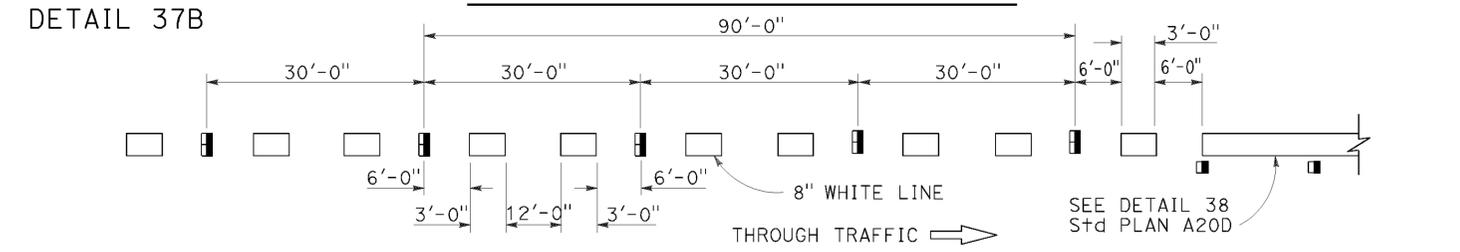


### LANE DROP AT EXIT RAMPS

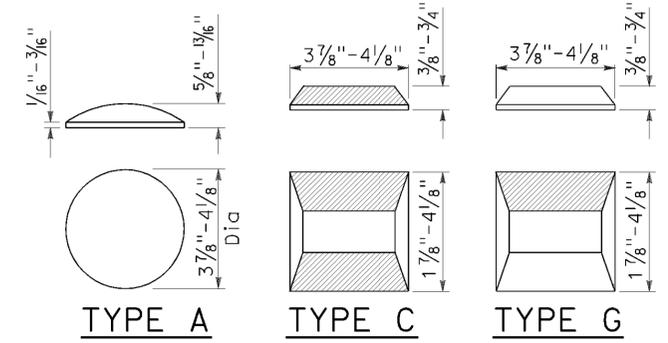


\* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

### LANE DROP AT INTERSECTIONS



### MARKER DETAILS



- LEGEND:**
- MARKERS**
- TYPE A WHITE NON-REFLECTIVE
  - ◻ TYPE C RED-CLEAR RETROREFLECTIVE
  - ◼ TYPE G ONE-WAY CLEAR RETROREFLECTIVE

RETROREFLECTIVE FACE

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

P:\PROJ\01\0c900\dr\ref\ing\PlanSet\Mat+PSE\0113000077va002.dgn

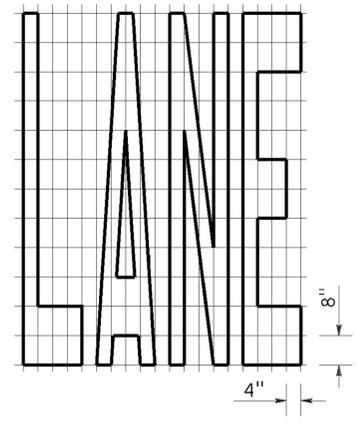
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	13	26

Registered Professional Engineer  
 Roberto L. McLaughlin  
 No. C40375  
 Exp. 3-31-13  
 CIVIL  
 STATE OF CALIFORNIA

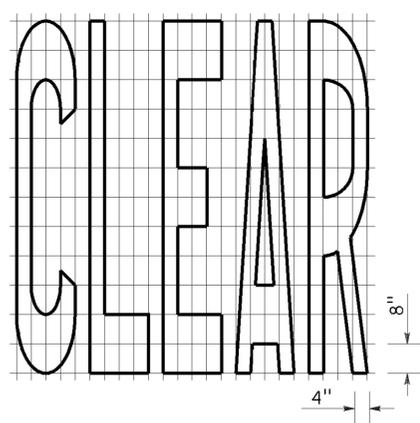
July 20, 2012  
 PLANS APPROVAL DATE

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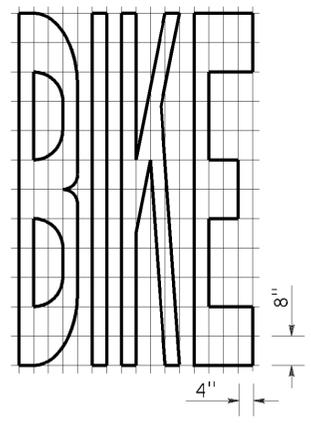
TO ACCOMPANY PLANS DATED 04-29-14



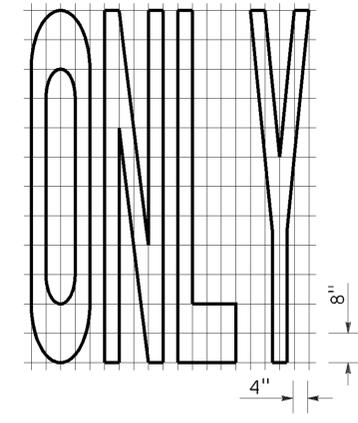
A=24 ft<sup>2</sup>



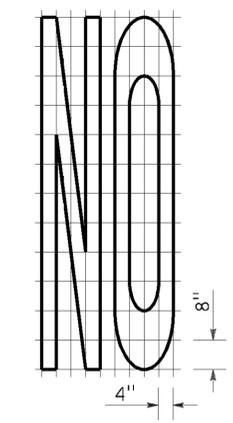
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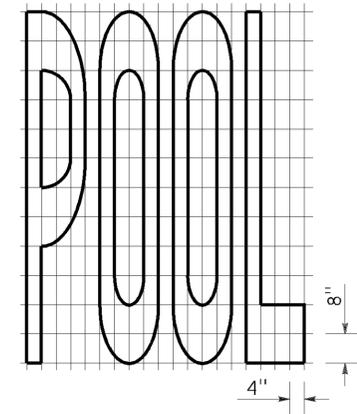
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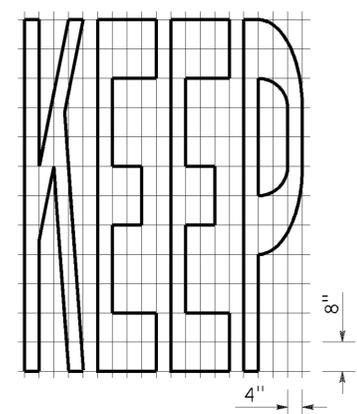
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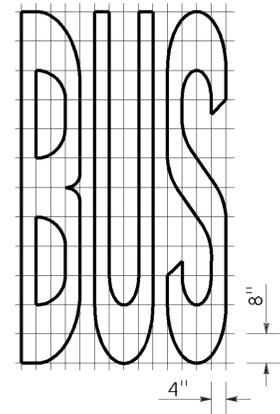
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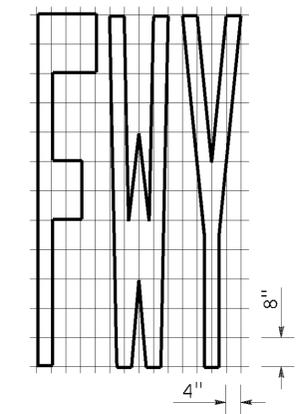
A=23 ft<sup>2</sup>



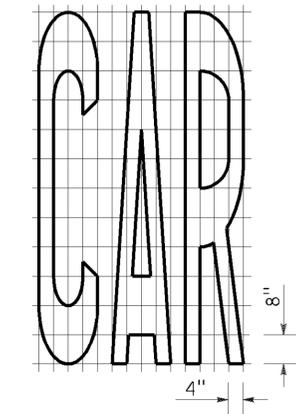
A=24 ft<sup>2</sup>



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

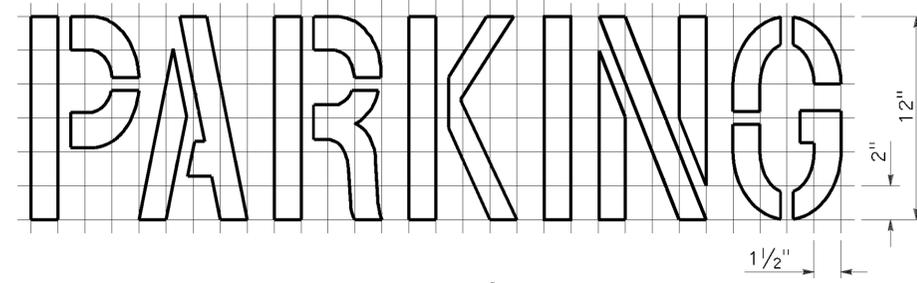
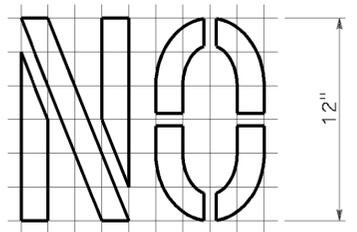


A=16 ft<sup>2</sup>

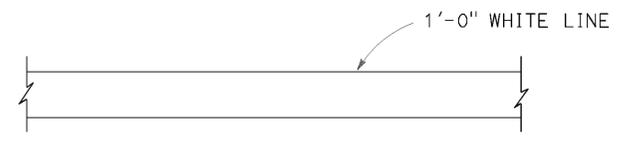


A=17 ft<sup>2</sup>

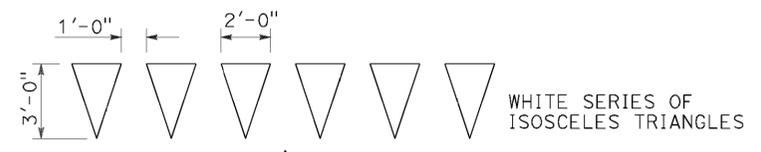
WORD MARKINGS			
ITEM	ft <sup>2</sup>	ITEM	ft <sup>2</sup>
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



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



LIMIT LINE (STOP LINE)



DIRECTION OF TRAVEL  
YIELD LINE

**NOTES:**

- If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
- 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.
- Minor variations in dimensions may be accepted by the Engineer.
- Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
- The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
- The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

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

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

**REVISED STANDARD PLAN RSP A24E**

P:\PROJ\01\0c900\dr\ref+ing\PlanSet\Mat+PSE\0113000077va003.dgn

2010 REVISED STANDARD PLAN RSP A24E

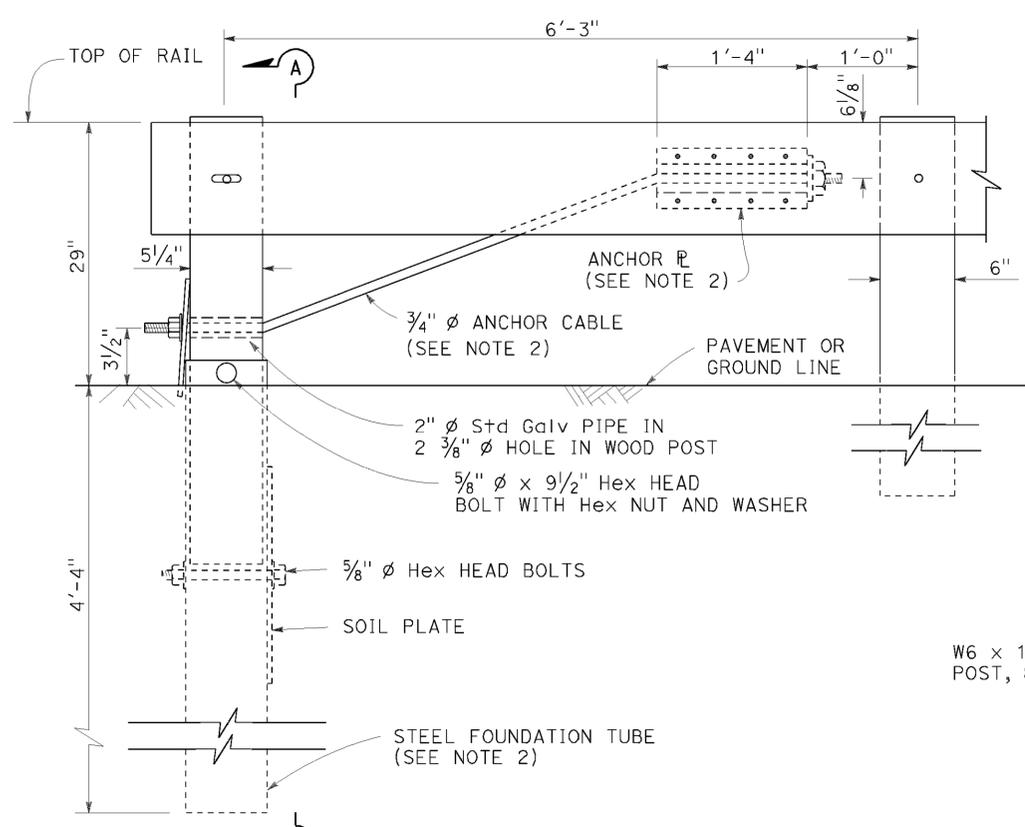
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	14	26

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

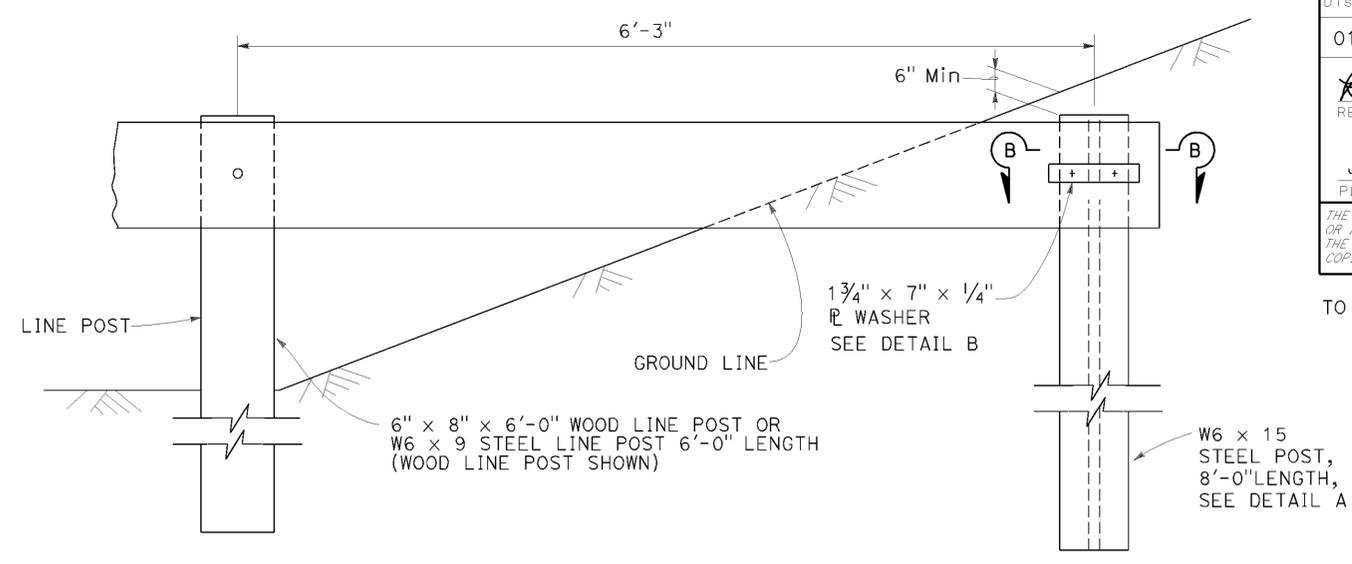
July 19, 2013  
PLANS APPROVAL DATE

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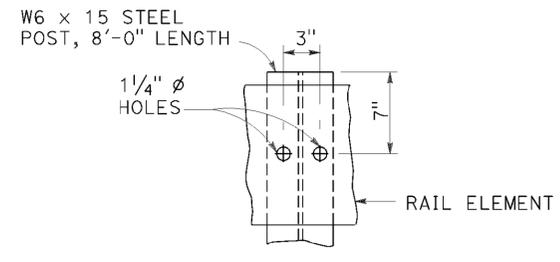
TO ACCOMPANY PLANS DATED 04-29-14



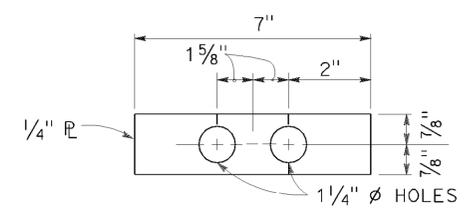
**ELEVATION  
END ANCHOR  
ASSEMBLY (TYPE SFT)**



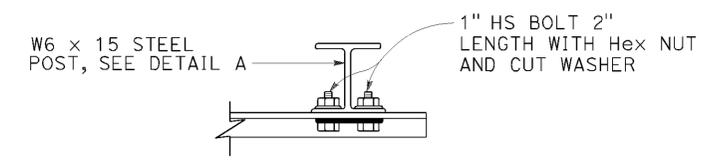
**BURIED POST END ANCHOR**



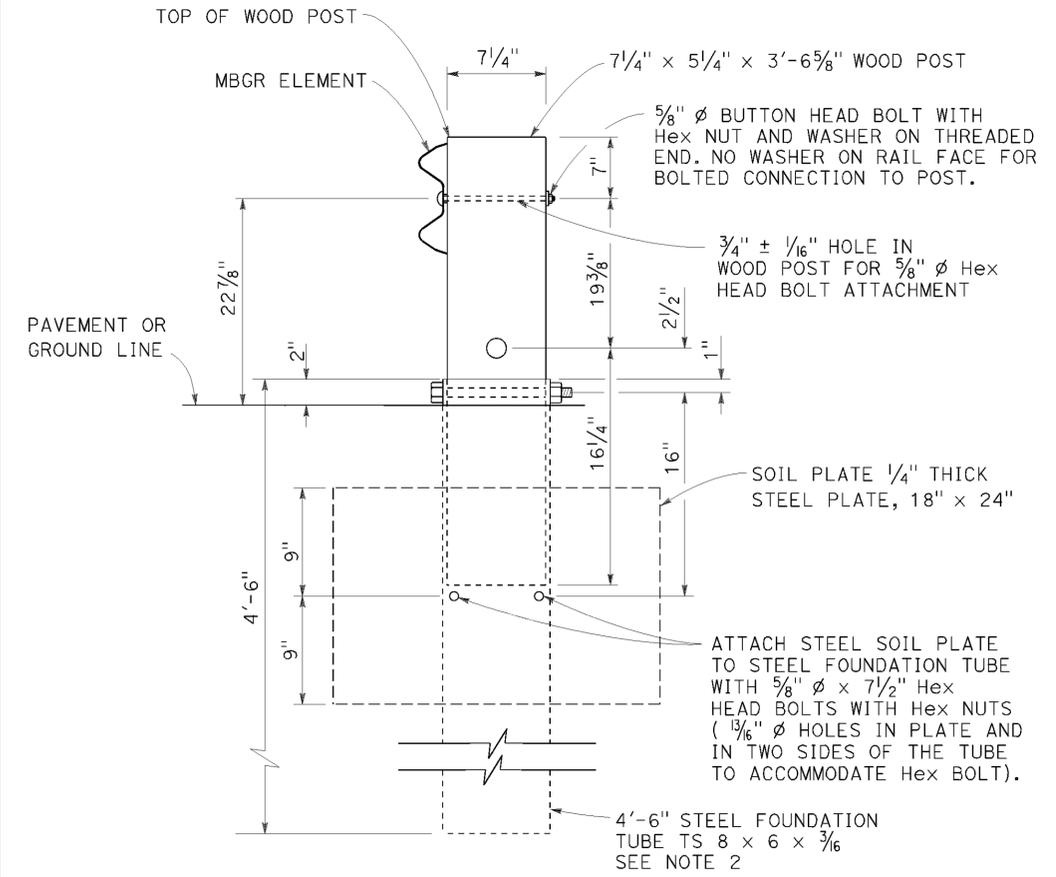
**DETAIL A**



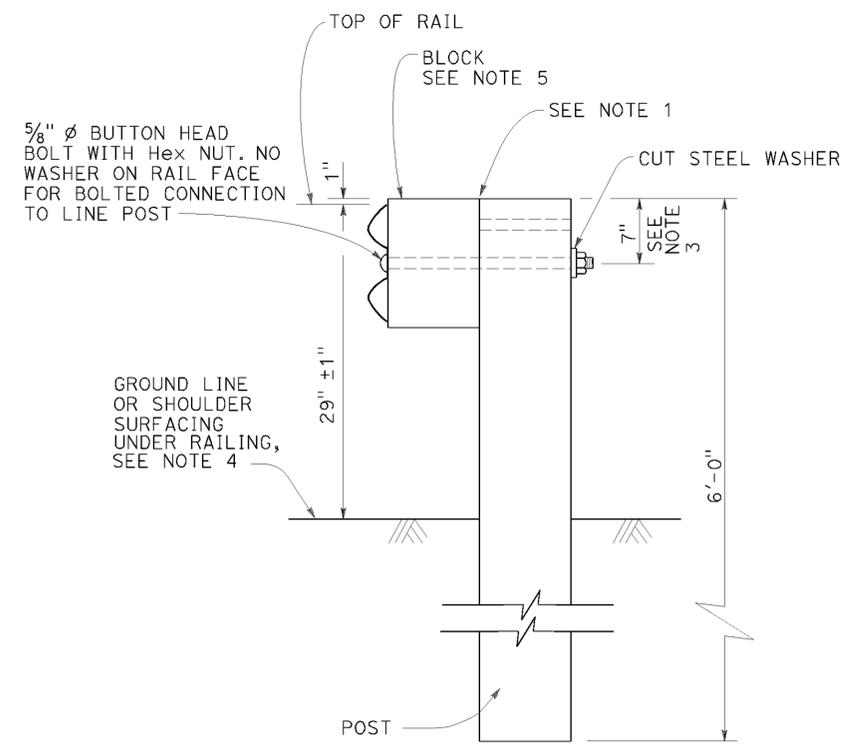
**DETAIL B**



**SECTION B-B**



**SECTION A-A**



**TYPICAL LINE  
POST INSTALLATION**

**NOTES:**

- For wood post and wood block, toenail with 2-16d Galv nails in top of block. For steel post and notched wood or plastic block, notched face of block faces steel post.
- A 6'-0" Length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8"  $\phi$  Hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
- To connect railing to 27" terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- Install posts in soil.
- See Revised Standard Plans RSP A77N1 and RSP A77N2 for details.
- Holes excavation in the slope to construct the buried post end anchor shall be backfilled with selected earth, placed in layers approximately 1'-0" thick. Each layer shall be moistened and thoroughly compacted.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING  
RECONSTRUCT INSTALLATION**

NO SCALE

RSP A77L3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77L3**

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2010 REVISED STANDARD PLAN RSP A77L3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	14	26

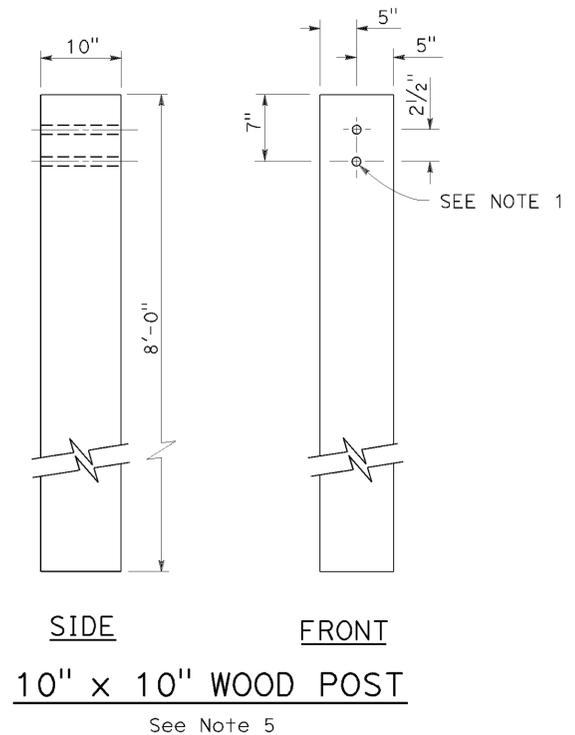
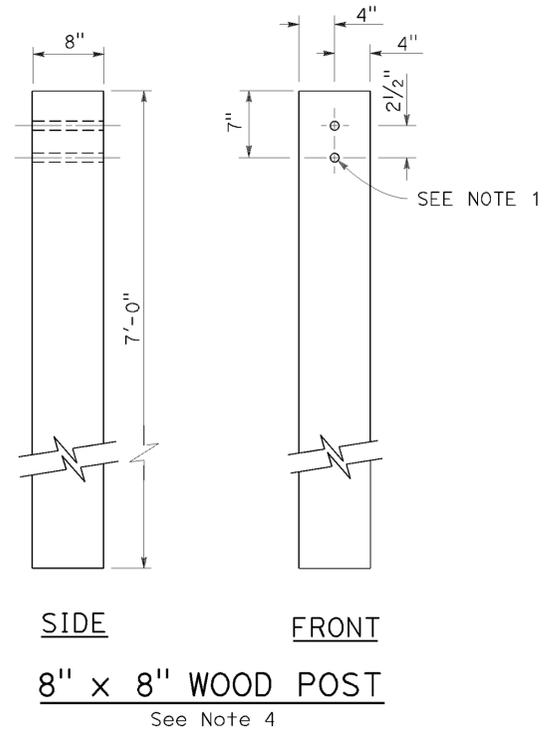
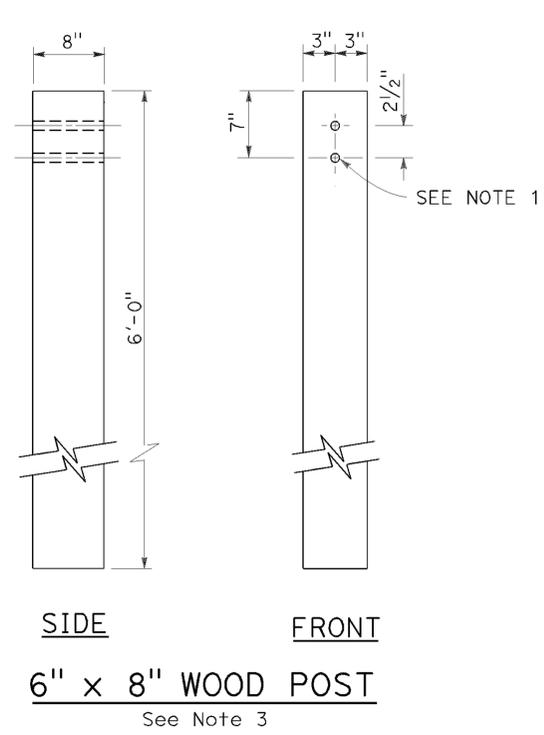
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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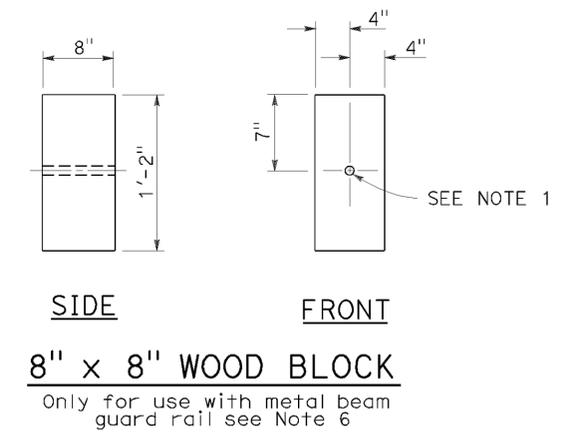
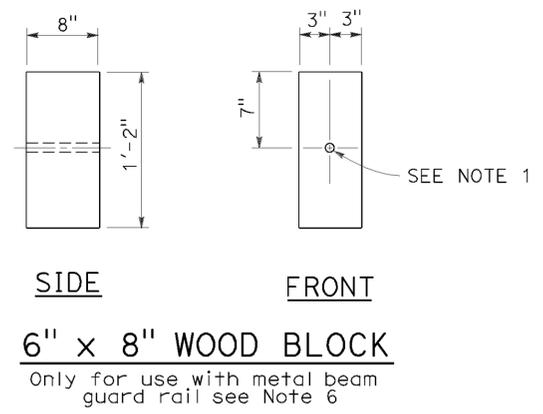
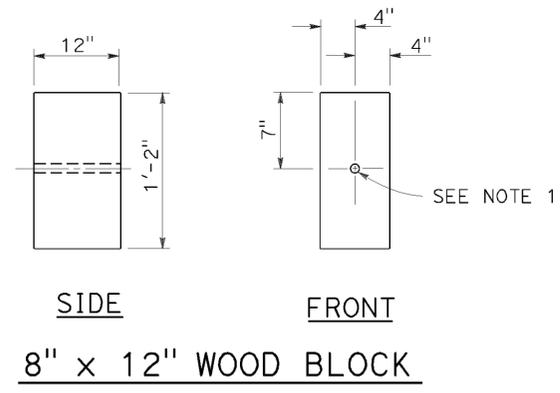
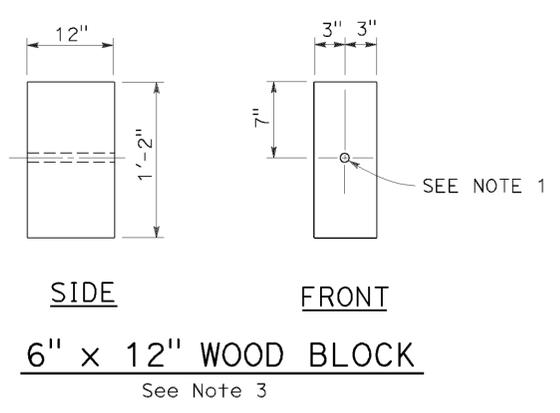
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 04-29-14



**NOTES:**

1. All holes in wood posts and blocks shall be 3/4" Dia ± 1/16".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
WOOD POST AND  
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77N1**

2010 REVISED STANDARD PLAN RSP A77N1

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	15	26

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

November 15, 2013  
PLANS APPROVAL DATE

*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

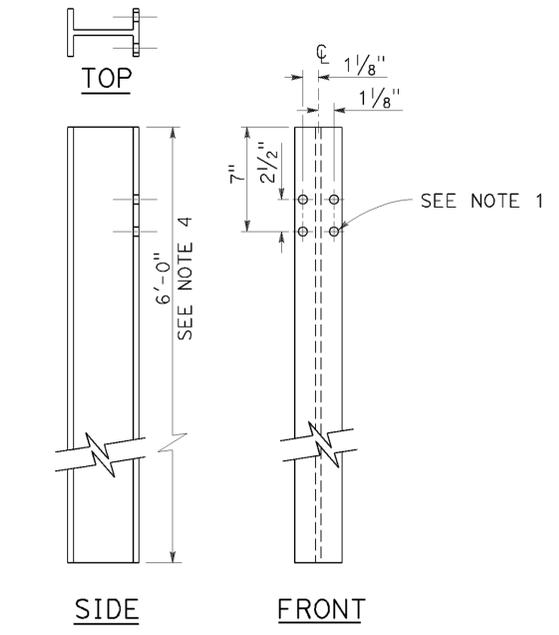
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TO ACCOMPANY PLANS DATED 04-29-14

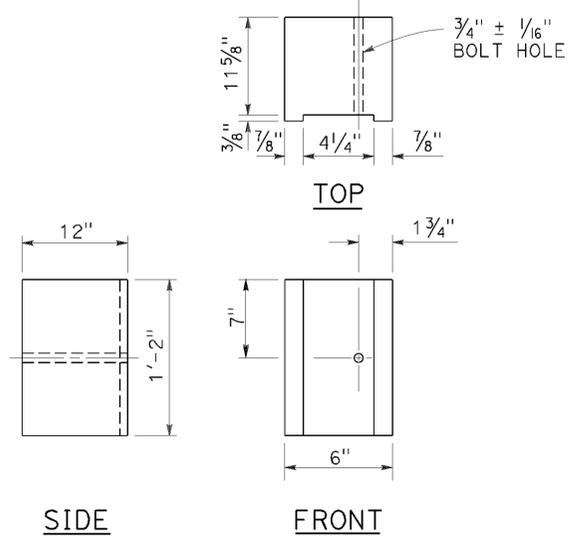
**NOTES:**

1. All holes in steel post shall be  $\frac{3}{8}$ " Dia maximum.
2. Dimensions shown for wood block are nominal.
3. Notched face of block faces steel post.
4. 6'-0" length posts to be used for typical roadway installation. See Revised Standard Plan RSP A77N3.
5. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" notched wood blocks.
6. This post and 8" x 12" block combination to be used for line post sections of MGS on narrow roadways and where strengthened line post sections of MGS are warranted to shield fixed objects.

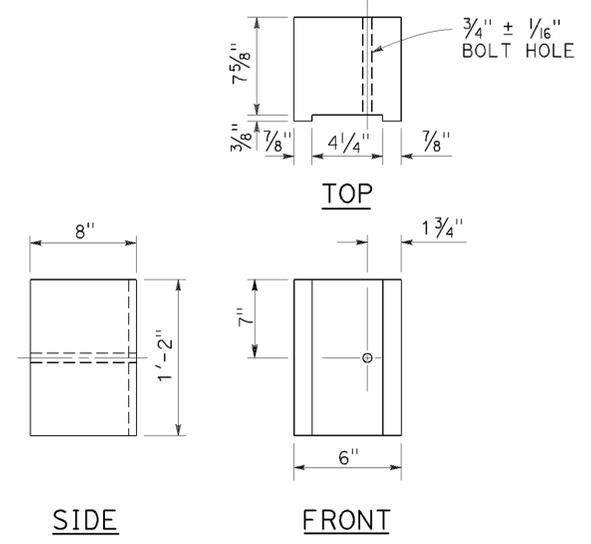
2010 REVISED STANDARD PLAN RSP A77N2



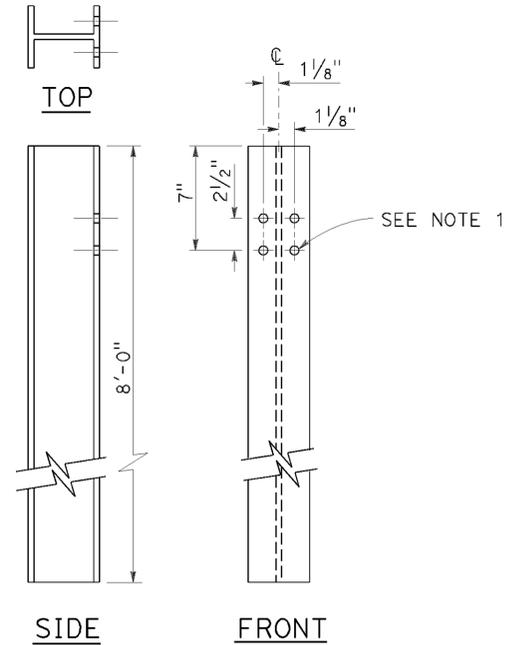
**W6 x 9 OR W6 x 8.5  
STEEL POST**  
See Note 4



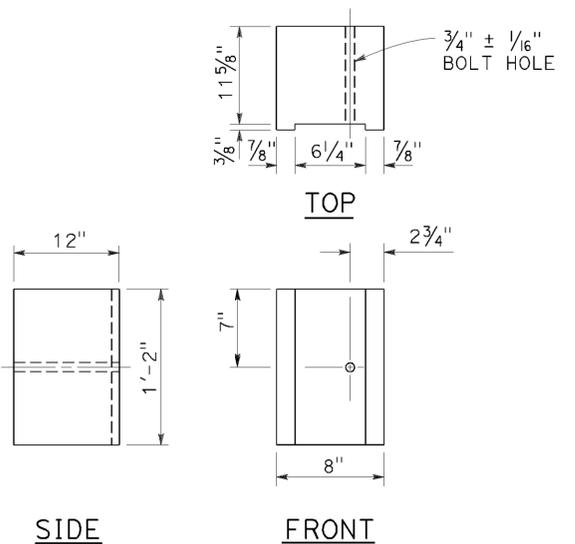
**6" x 12"  
NOTCHED WOOD BLOCK**  
See Notes 2 and 3



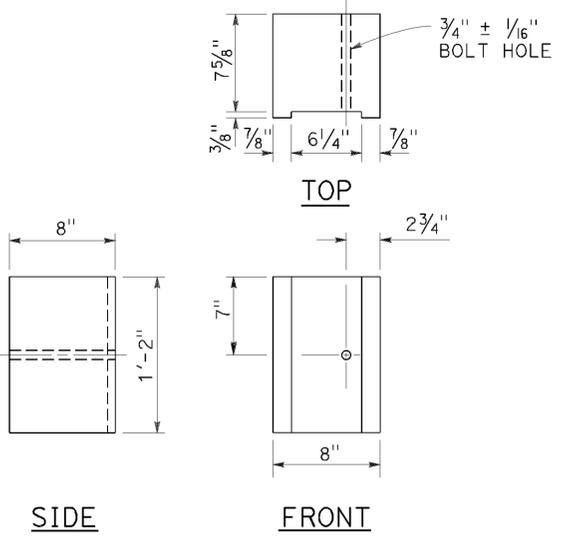
**6" x 8"  
NOTCHED WOOD BLOCK**  
Only for use with metal beam guard railing. See Note 5



**W6 x 15  
STEEL POST**  
See Note 6



**8" x 12"  
NOTCHED WOOD BLOCK**  
See Notes 2 and 3



**8" x 8"  
NOTCHED WOOD BLOCK**  
Only for use with metal beam guard railing. See Note 5

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
STEEL POST AND  
NOTCHED WOOD BLOCK DETAILS**

NO SCALE

RSP A77N2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N2  
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77N2**

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	17	26

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

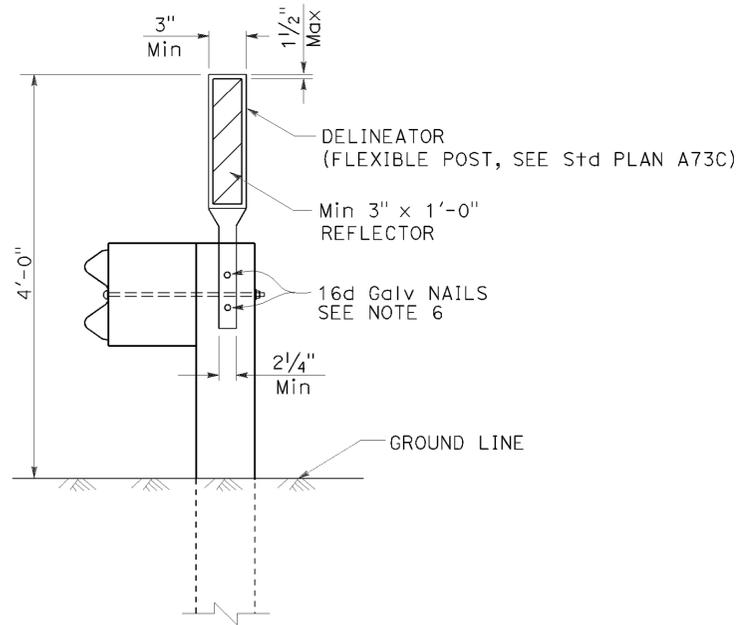
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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

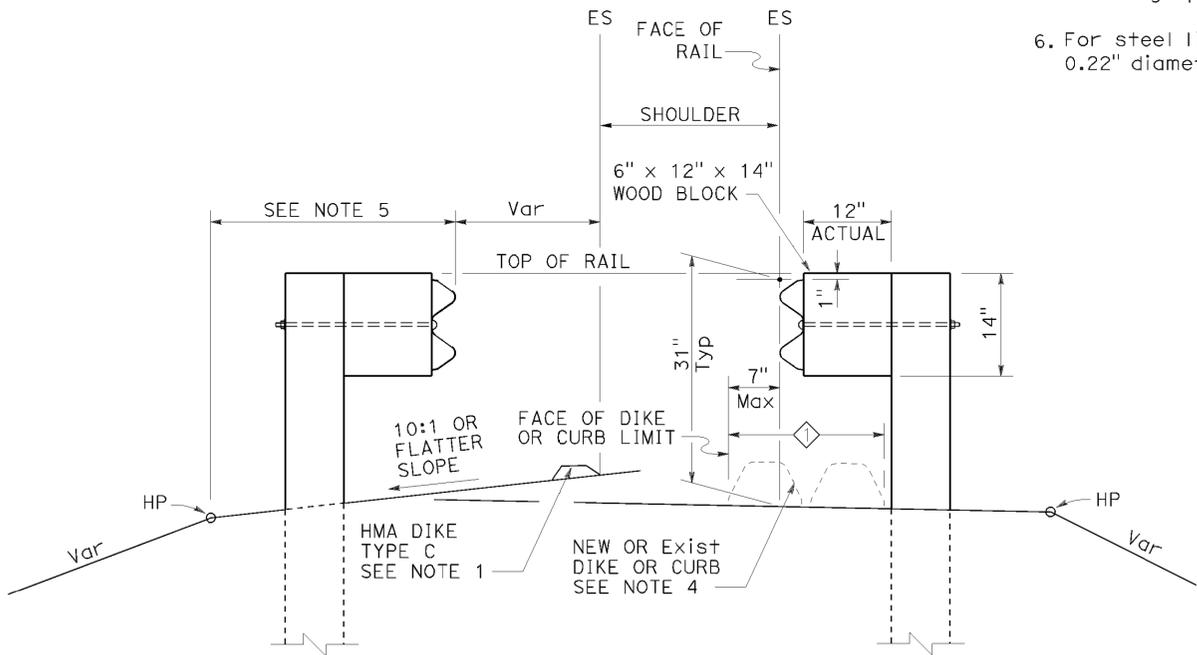
TO ACCOMPANY PLANS DATED 04-29-14

**NOTES:**

- 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.
- For standard railing post embedment, see Revised Standard Plan RSP A77N3.
- MGS delineation to be used where shown on the Project Plans.
- 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.
- For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
- 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

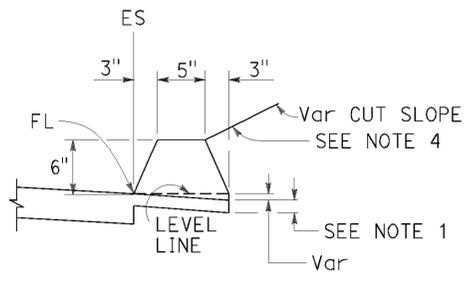
RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77N4**

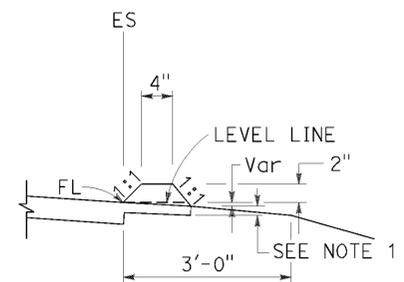
2010 REVISED STANDARD PLAN RSP A77N4

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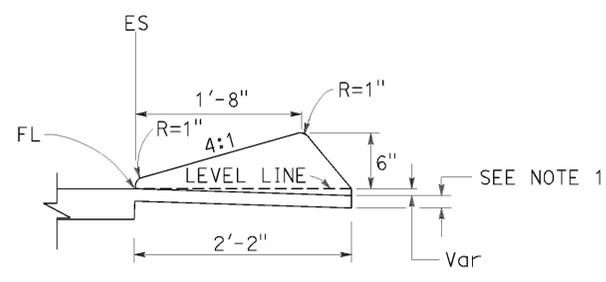
TO ACCOMPANY PLANS DATED 04-29-14



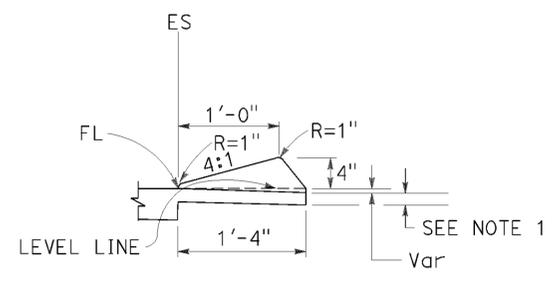
**TYPE A**  
See Note 3



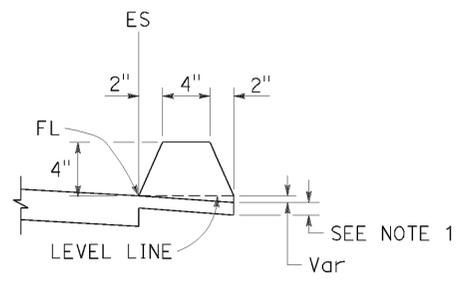
**TYPE C**



**TYPE D**

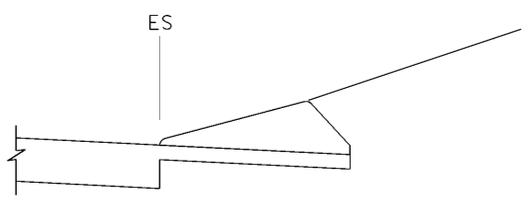


**TYPE E**

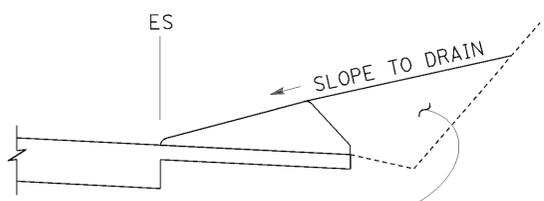


**TYPE F**  
See Note 5

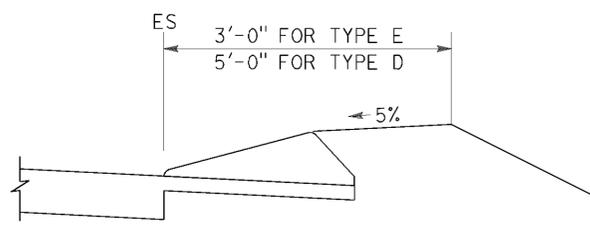
**DIKES**



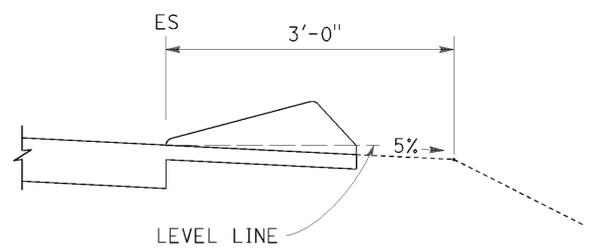
**CASE C-1**  
Cut Slope



**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 F dike, where dike is required with guard railing installations. See Revised Standard Plan RSP A77N4 for dike positioning details.

**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 JULY 19, 2013 SUPERSEDES 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

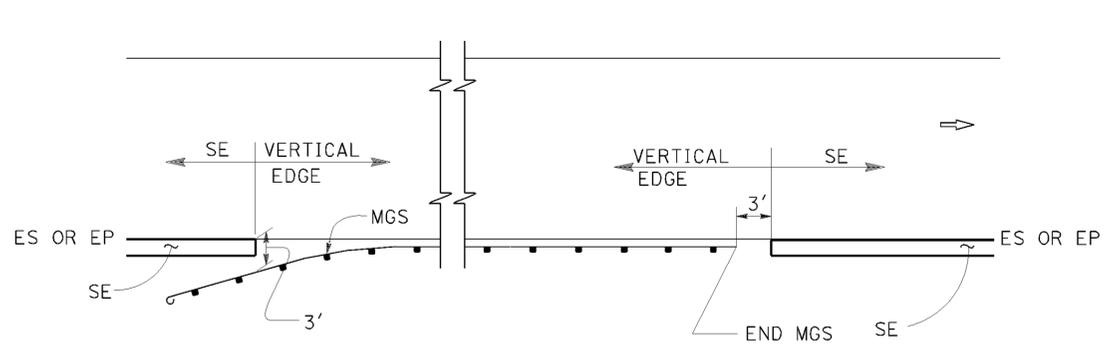
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	19	26

REGISTERED CIVIL ENGINEER  
 November 15, 2013  
 PLANS APPROVAL DATE  
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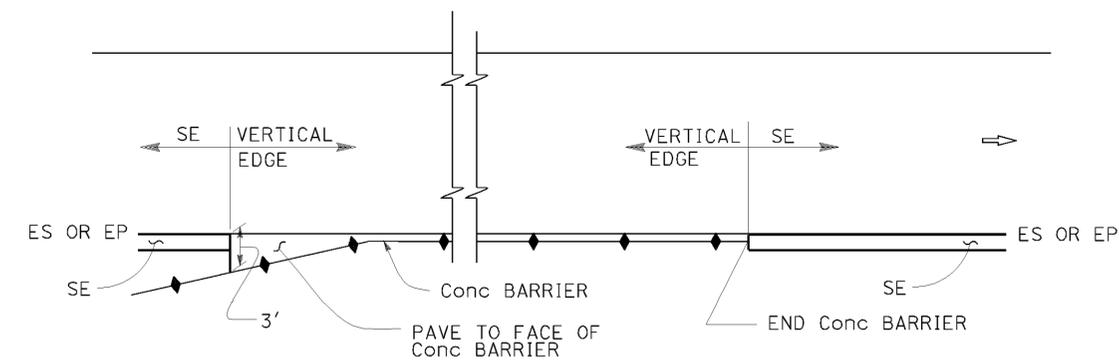
REGISTERED PROFESSIONAL ENGINEER  
 Cornelis M. Hakim  
 No. C55610  
 Exp. 12-31-14  
 CIVIL  
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 04-29-14

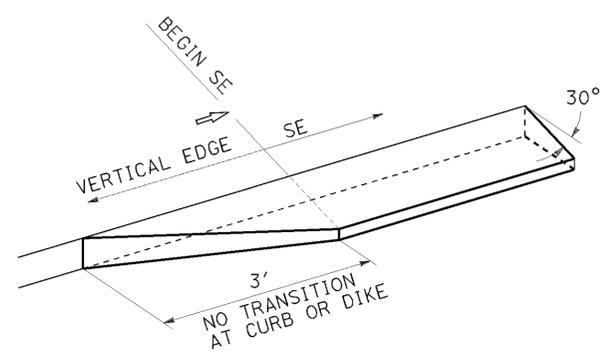
**ABBREVIATIONS:**  
SE SAFETY EDGE



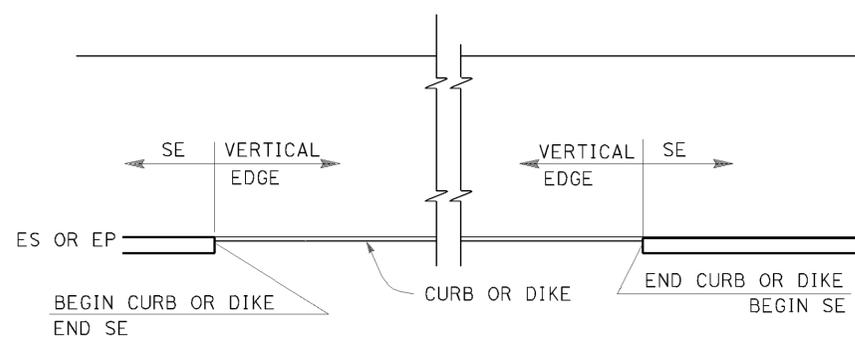
**MGS**



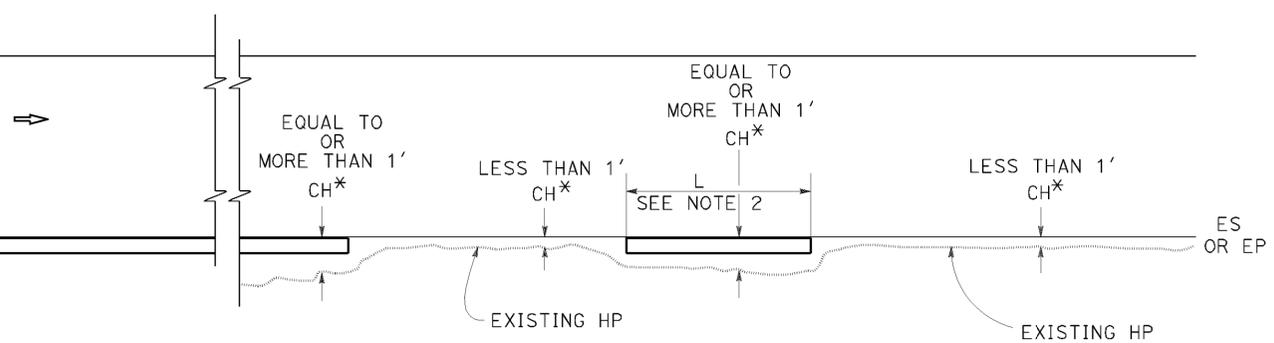
**CONCRETE BARRIER**



**TRANSITION DETAIL FOR CONCRETE ONLY**

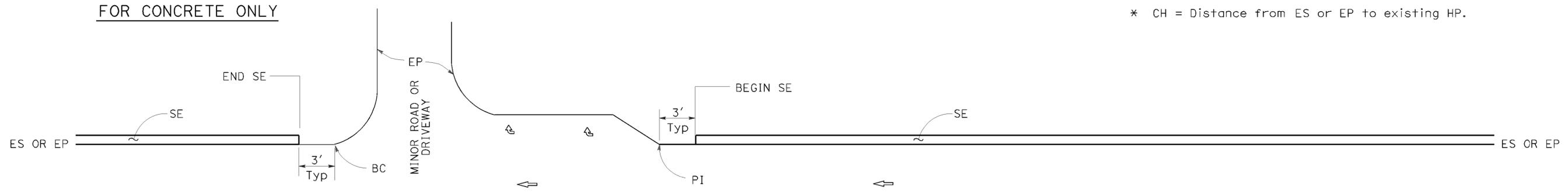


**CURB OR DIKE**



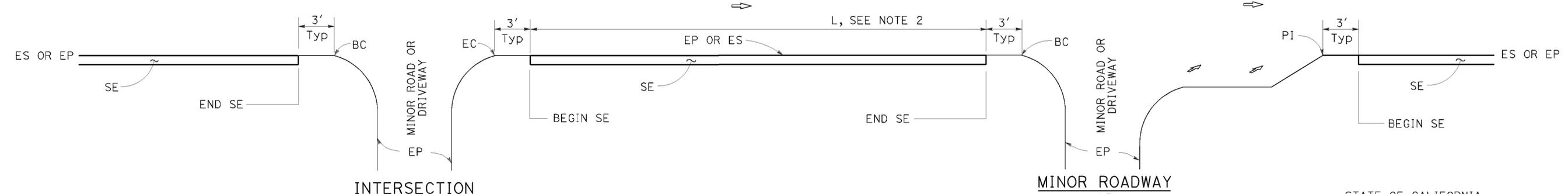
**NARROW SIDE SLOPE**

\* CH = Distance from ES or EP to existing HP.



**STATE ROUTE**

**STATE ROUTE**



**INTERSECTION**

**DRIVEWAY AND INTERSECTION**

**MINOR ROADWAY OR DRIVEWAY**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**PAVEMENT EDGE TREATMENTS**

NO SCALE

- NOTES:**
1. For details not shown, see Revised Standard Plans RSP P75 and RSP P76.
  2. Safety edge is optional when L is less than 30'.

RSP P74 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P74 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P74**

2010 REVISED STANDARD PLAN RSP P74

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	20	26


  
 REGISTERED CIVIL ENGINEER  
 November 15, 2013  
 PLANS APPROVAL DATE  
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TO ACCOMPANY PLANS DATED 04-29-14

**ADDITIONAL HMA OR CONCRETE QUANTITIES FOR SE/SIDE/MILE**

TYPICAL CROSS SECTION	TT	TOTAL ADDITIONAL MATERIAL FOR SE/SIDE/MILE		
		HMA (TON)	CONCRETE (CY)*	CONCRETE (CY)**
	0.15'	NA	NA	NA
	0.20'	13.7	NA	NA
	0.30'	30.9	NA	NA
	0.40'	54.9	NA	NA
	0.45'	69.4	NA	NA
	0.50'	84.2	NA	NA
	0.60'	113.9	NA	NA
	0.70'	143.6	70.9	94.2
	0.80'	173.3	85.6	112.2
	0.90'	203.0	100.3	130.2
	1.00'	232.7	114.9	148.2
	1.10'	262.4	129.6	166.2
1.20'	292.1	144.3	184.2	

\* For Detail "A"  
 \*\* For Optional Detail "A"

**LEGEND:**

 HMA OVERLAY

 HMA OR CONCRETE OVERLAY

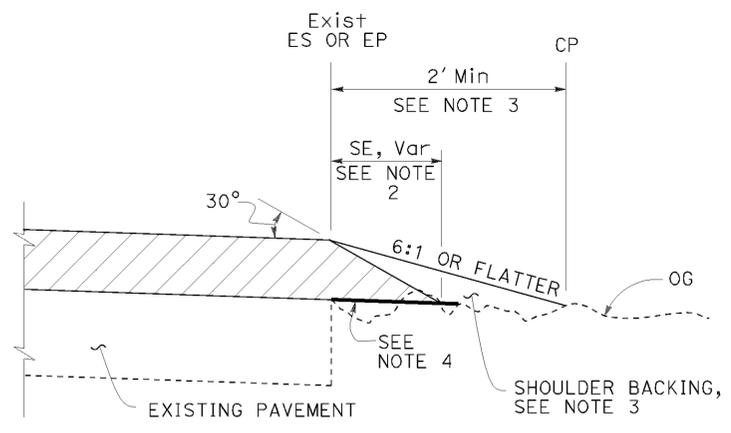
 CONCRETE OVERLAY

**ABBREVIATIONS:**

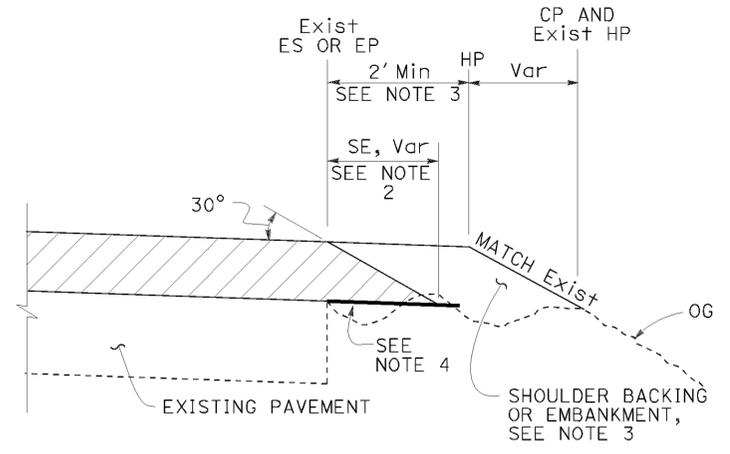
SE SAFETY EDGE  
 TT TOTAL THICKNESS OF SE

**TABLE A**  
 EDGE TREATMENT FOR VARIOUS OVERLAY THICKNESS AND CONDITIONS

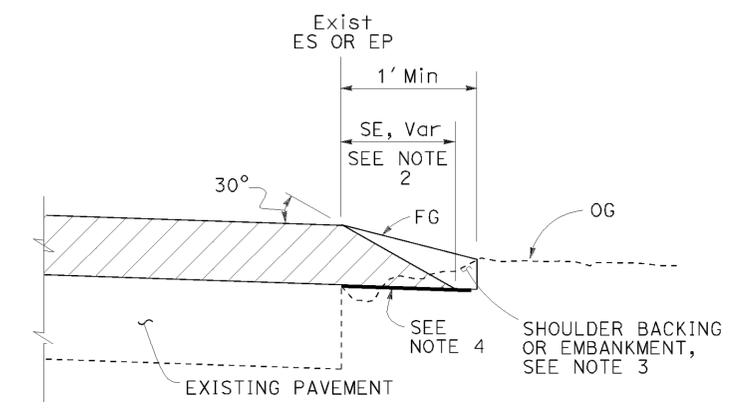
FIELD CONDITION	OVERLAY THICKNESS	
	LESS THAN 0.15'	0.15' OR MORE
Exist SLOPE 6:1 OR FLATTER	CASE E	CASE A
Exist SLOPE 3:1 TO 6:1	CASE E	CASE B
Exist SLOPE STEEPER THAN 3:1	CASE F	CASE F
CUT SECTION (REPLACE, COLD PLANE, MILL PAVEMENT)	CASE D	CASE C



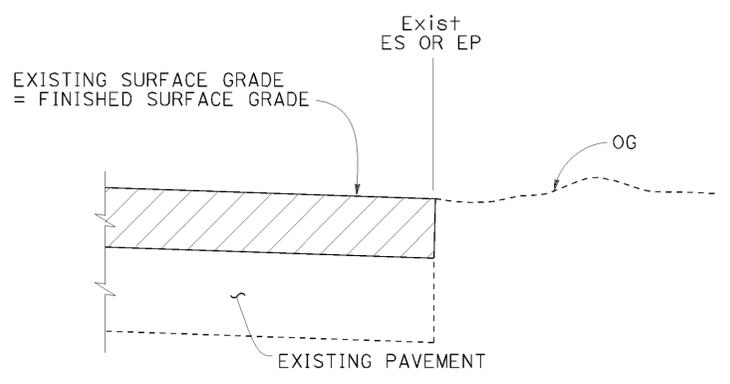
**CASE A**  
 Safety Edge



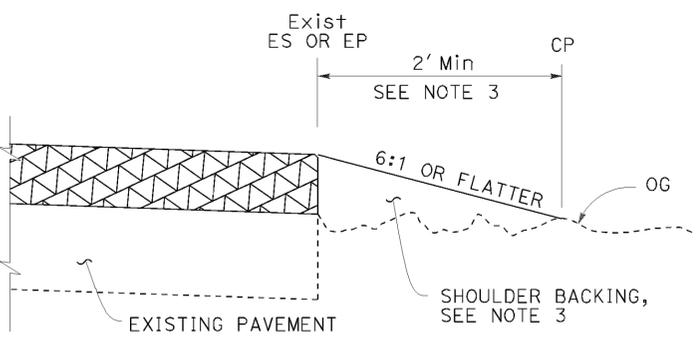
**CASE B**  
 Safety Edge



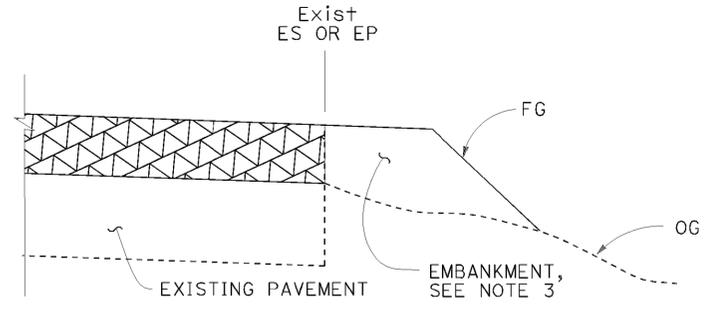
**CASE C**  
 Safety Edge



**CASE D**  
 Vertical Edge

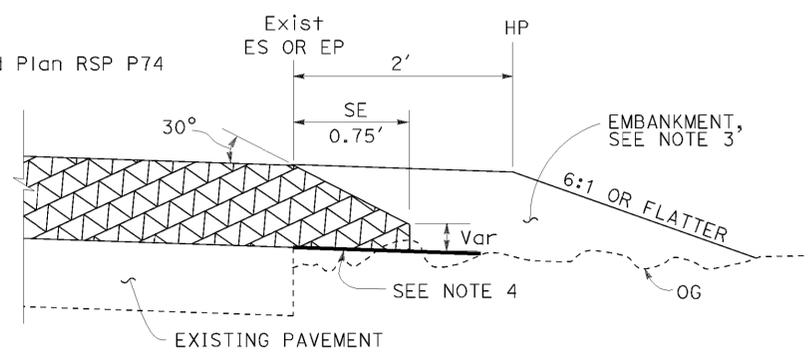


**CASE E**  
 Vertical Edge

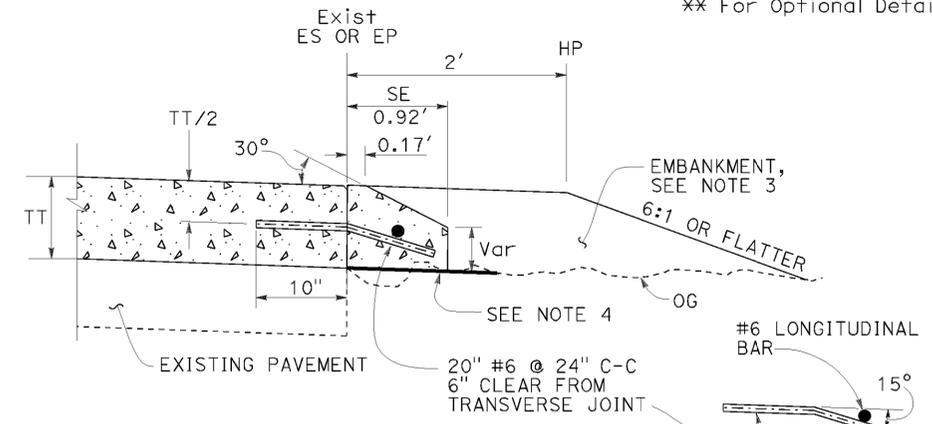


**CASE F**  
 Vertical Edge  
 \* See Table A and Revised Std Plan RSP P74

- NOTES:**
- For limits of safety edge and vertical edge treatments, see Revised Standard Plan RSP P74.
  - Details shown for HMA overlay thickness less than 0.43'. See Detail "A" for HMA overlay thickness more than 0.43' or concrete overlay.
  - For locations and limits of shoulder backing or embankment see project plans.
  - Grade existing ground to place safety edge. 1' minimum width
  - Safety edge transverse joint must match overlay transverse joint. End of #6 longitudinal bar must be 2" ± 1/2" clear from transverse joint.
  - Safety edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.



**DETAIL "A"**  
 For HMA overlay thickness more than 0.43' or concrete overlay



**OPTIONAL DETAIL "A"**  
 For concrete overlay  
 See Note 5

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PAVEMENT EDGE TREATMENTS - OVERLAYS**  
 NO SCALE

RSP P75 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P75 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P75**

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2010 REVISED STANDARD PLAN RSP P75

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	21	26

 REGISTERED CIVIL ENGINEER		
November 15, 2013 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>		

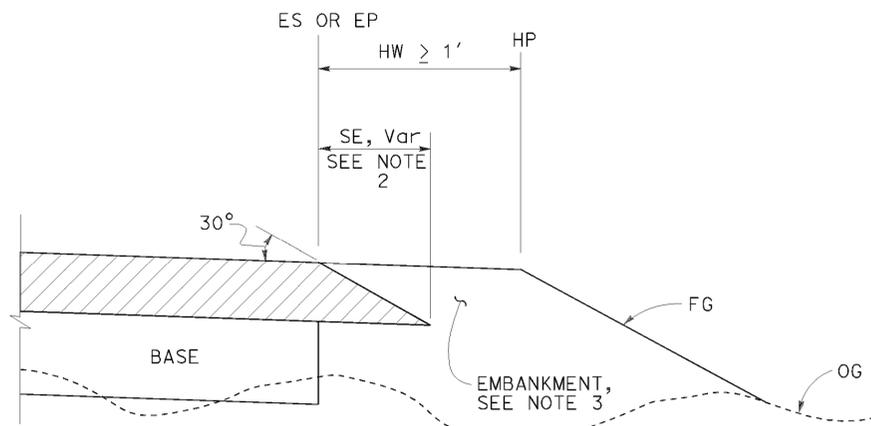
**LEGEND:**

-  HMA PAVEMENT
-  HMA OR CONCRETE PAVEMENT
-  CONCRETE PAVEMENT

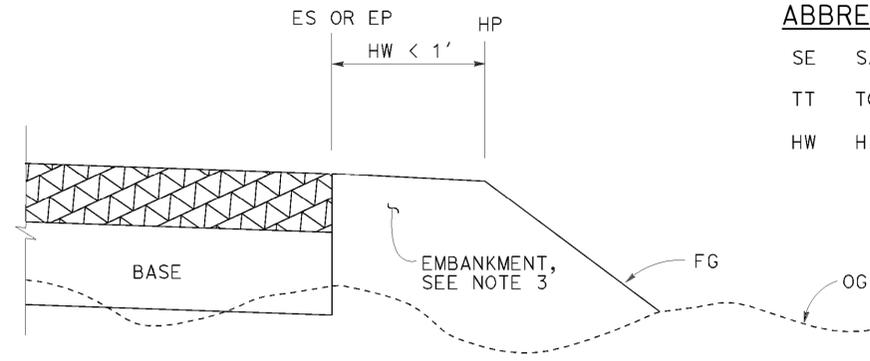
**ABBREVIATIONS:**

- SE SAFETY EDGE
- TT TOTAL THICKNESS OF SE
- HW HINGE WIDTH, DISTANCE FROM ES OR EP TO HP

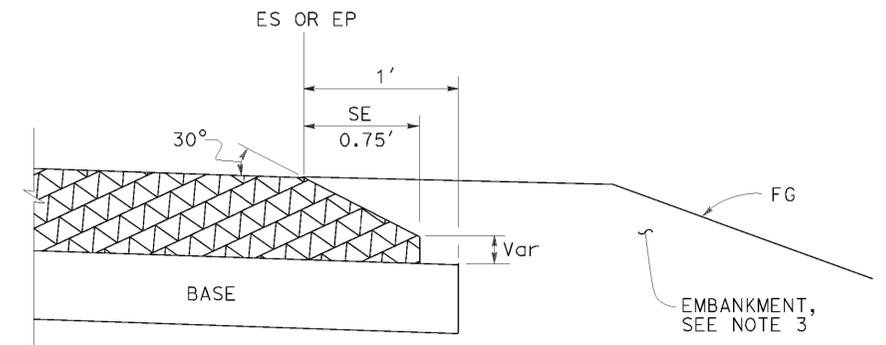
TO ACCOMPANY PLANS DATED 04-29-14



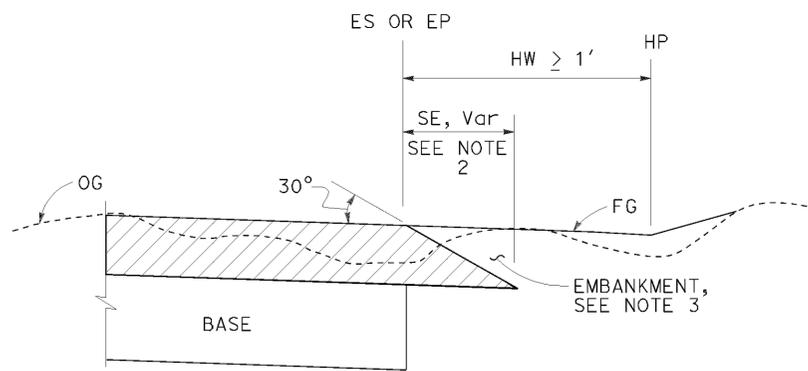
**CASE K**  
Safety Edge - Fill Section, HW  $\geq 1'$



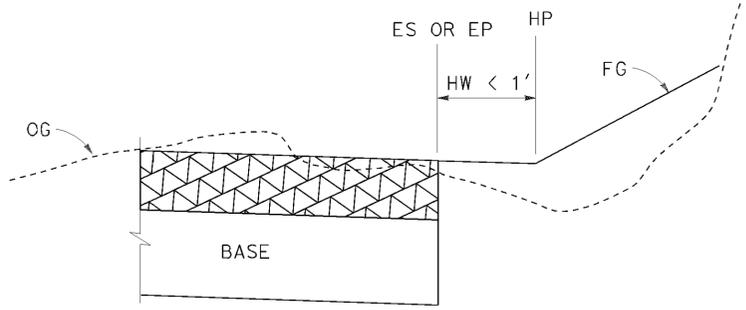
**CASE L**  
Vertical Edge - Fill Section, HW  $< 1'$



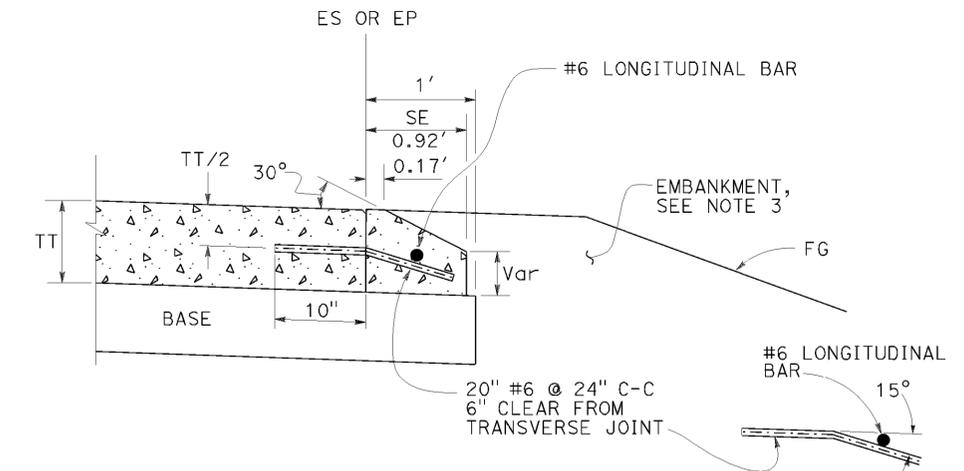
**DETAIL "B"**  
For HMA pavement thickness more than 0.43' or concrete pavement



**CASE M**  
Safety Edge - Cut Section, HW  $\geq 1'$



**CASE N**  
Vertical Edge - Cut Section, HW  $< 1'$



**OPTIONAL DETAIL "B"**  
For concrete pavement  
See Note 4

**FILL SECTION**

**CUT SECTION**

**NOTES:**

- For limits of safety edge and vertical edge treatments, see Revised Standard Plan RSP P74
- Details shown for HMA pavement thickness less than 0.43'. See Detail "B" for HMA pavement thickness more than 0.43' or concrete pavement.
- For locations and limits of embankment see project plans.
- Safety edge transverse joint must match pavement transverse joint. End of #6 longitudinal bar must be 2"  $\pm 1/2$ " clear from transverse joint.
- Safety edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT EDGE TREATMENTS-  
NEW CONSTRUCTION**  
NO SCALE

RSP P76 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P76 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.  
**REVISED STANDARD PLAN RSP P76**

2010 REVISED STANDARD PLAN RSP P76

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TO ACCOMPANY PLANS DATED 04-29-14

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

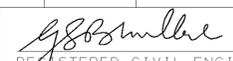
**TRAFFIC CONTROL SYSTEM TABLES  
 FOR LANE AND RAMP CLOSURES**

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**

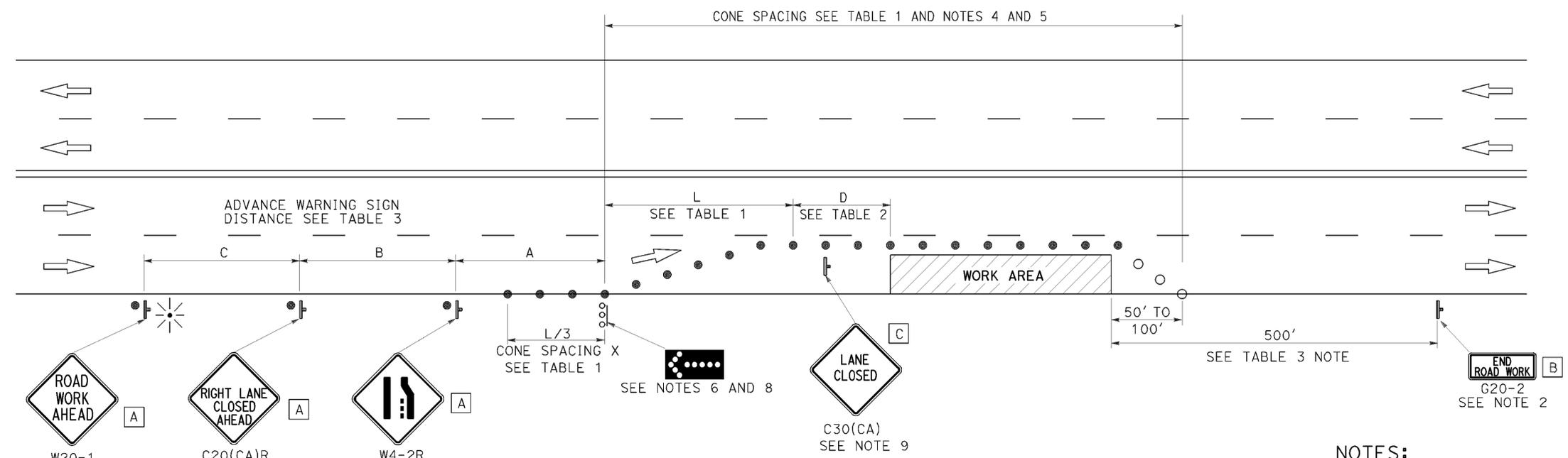
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	23	26

  
 REGISTERED CIVIL ENGINEER  
 April 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 04-29-14



**TYPICAL LANE CLOSURE**

**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.

**NOTES:**

- Each advance warning 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. 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 closure 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 C20(CA) 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.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- 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 closure unless, otherwise directed by the Engineer.

**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** 36" x 18"
- C** 30" x 30"

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR LANE CLOSURE ON  
 MULTILANE CONVENTIONAL  
 HIGHWAYS**

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T11**

2010 REVISED STANDARD PLAN RSP T11

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**NOTES:**

See Revised Standard Plan RSP T9 for tables.

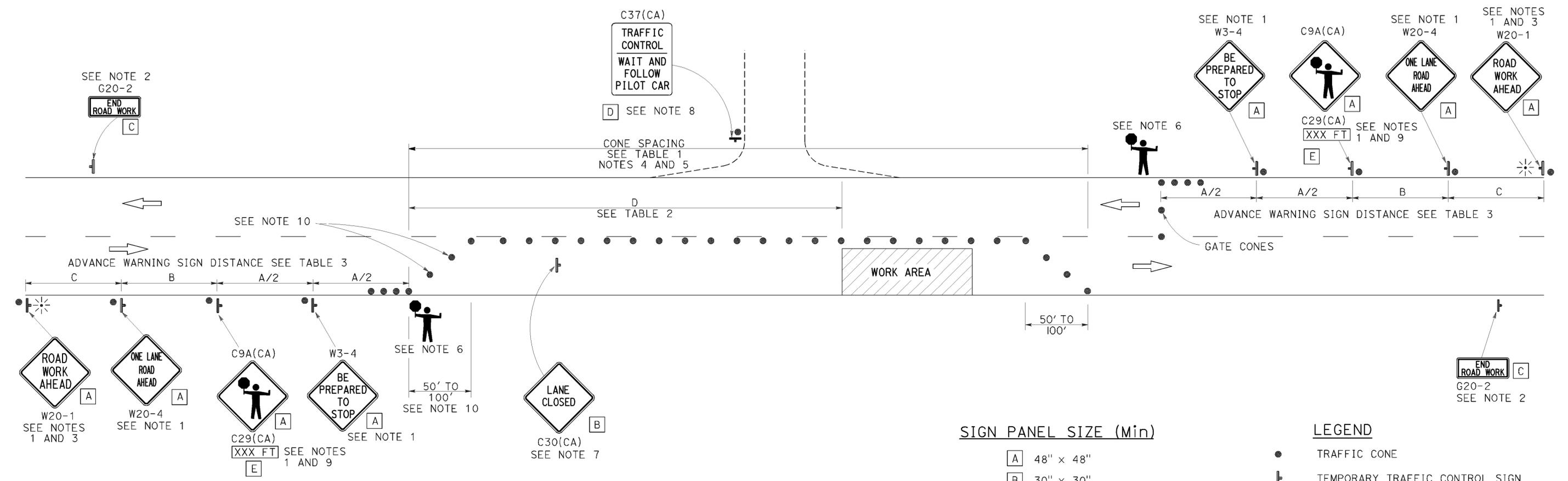
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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 04-29-14



**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.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP T13 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T13 DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T13**

2010 REVISED STANDARD PLAN RSP T13

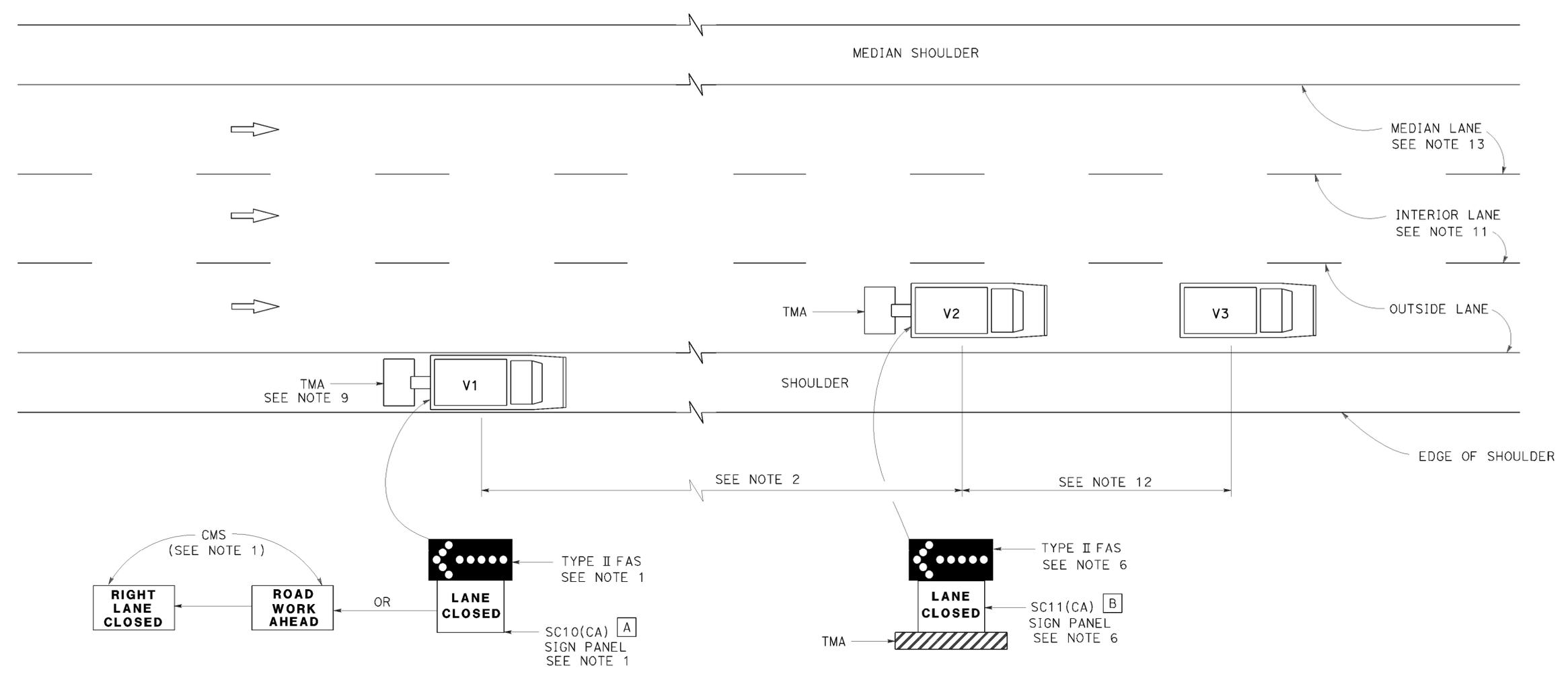
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	50.7/51.2	25	26

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 04-29-14



**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

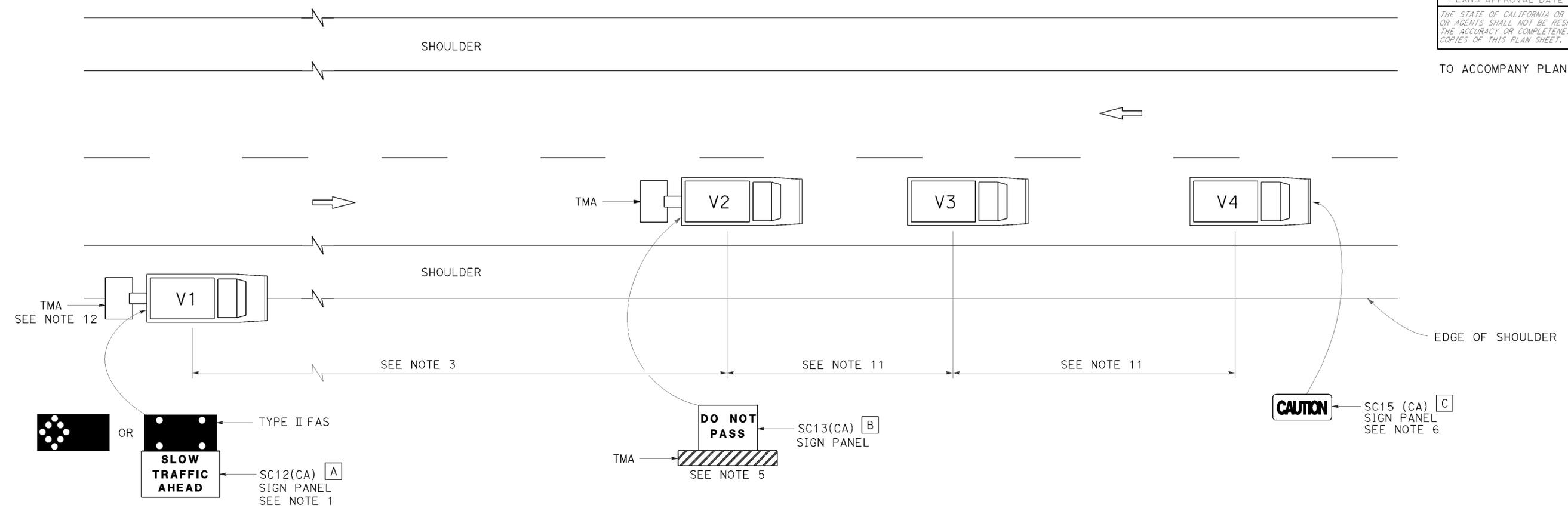
RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15 DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T15**

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2010 REVISED STANDARD PLAN RSP T15

TO ACCOMPANY PLANS DATED 04-29-14



**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**

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**2010 REVISED STANDARD PLAN RSP T17**