

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTION
3-8	CONSTRUCTION DETAILS
9	CONSTRUCTION AREA SIGNS
10-11	PAVEMENT DELINEATION DETAILS AND QUANTITIES
12-14	SUMMARY OF QUANTITIES
15	EROSION CONTROL LEGEND
16	EROSION CONTROL QUANTITIES AND DETAILS
17-40	REVISED STANDARD PLANS

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

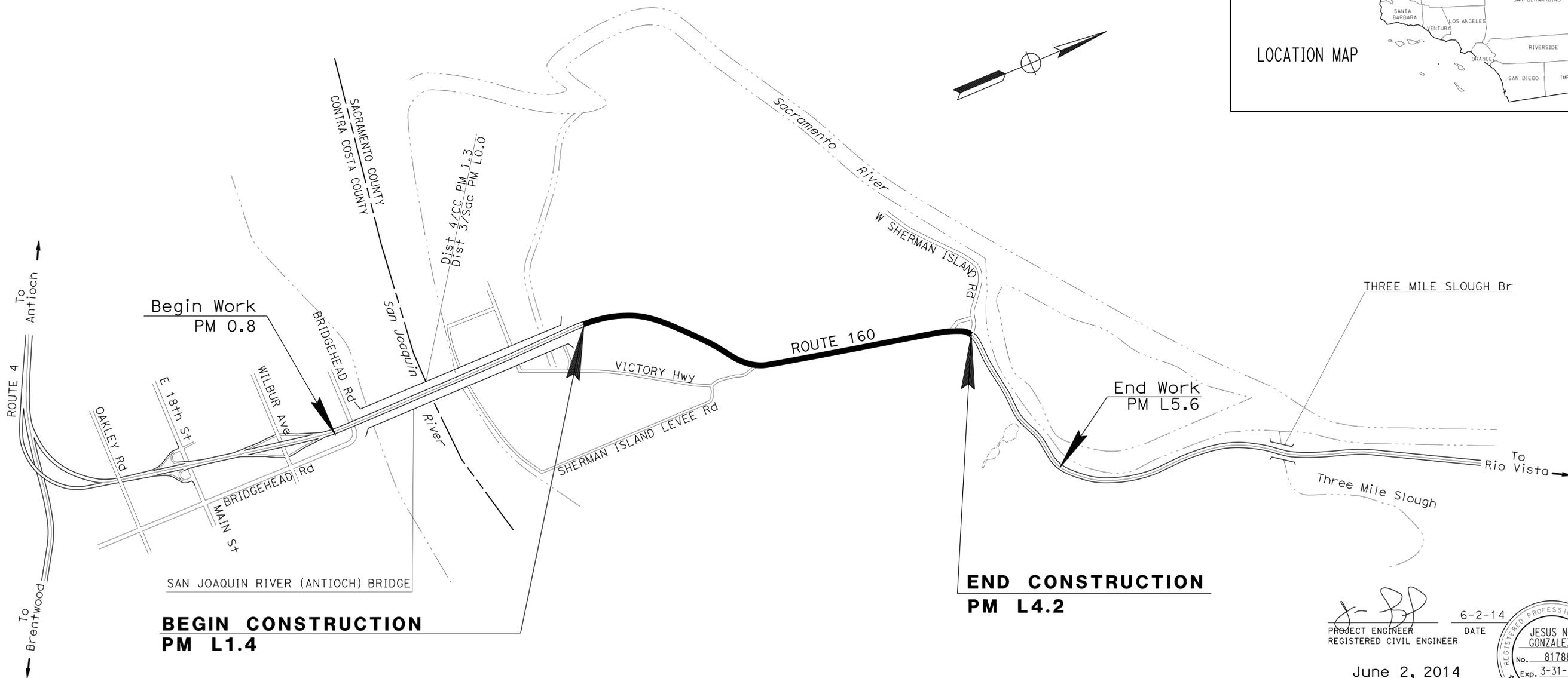
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ACNH-P160(023)

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN SACRAMENTO COUNTY
NEAR ANTIOCH
FROM 1.2 MILES SOUTH OF SHERMAN ISLAND LEVEE ROAD
TO WEST SHERMAN ISLAND ROAD

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



BEGIN CONSTRUCTION
PM L1.4

END CONSTRUCTION
PM L4.2

PROJECT ENGINEER: JESUS N. GONZALEZ
DATE: 6-2-14



PLANS APPROVAL DATE: June 2, 2014

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

CONTRACT No.	03-3F6604
PROJECT ID	0313000039

PROJECT MANAGER	J. AVILA
DESIGN ENGINEER	T. TABSHOURI

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

NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	2	40

REGISTERED CIVIL ENGINEER		DATE	6-2-14
PLANS APPROVAL DATE		6-2-14	

ADT (2015)	12,900	D	65%
ADT (2025)	17,800	T	6.0%
DHV	15,400	V	55 mph
ESAL	3,652,400	TI ₁₀	10.5

DESIGN DESIGNATION

PAVEMENT CLIMATE REGION

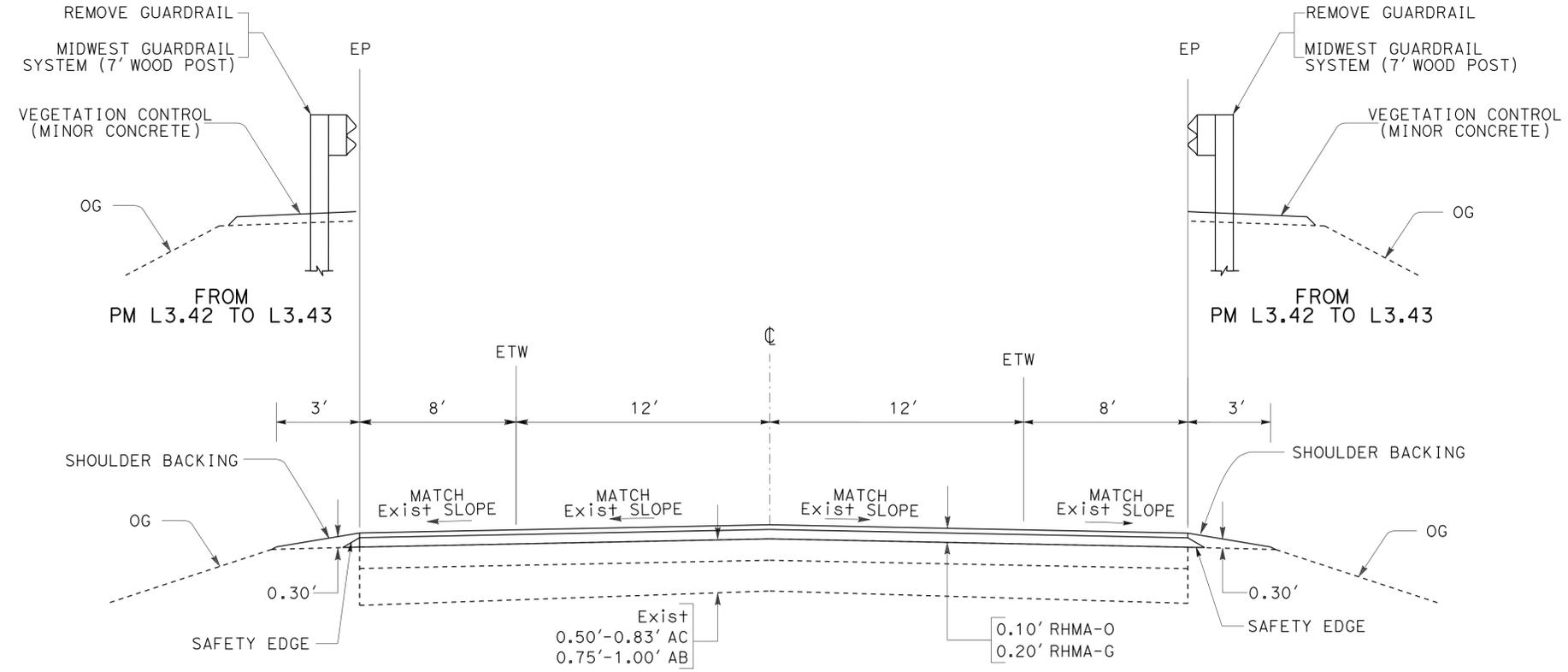
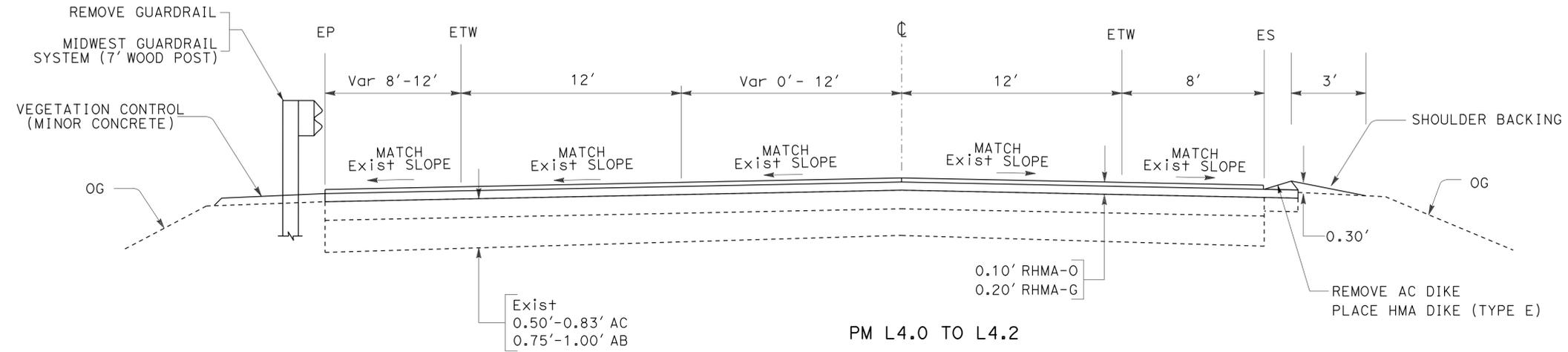
INLAND VALLEY

NOTES:

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTION) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- FOR ROADWAY EXCAVATION FROM POST MILE L4.04 TO L4.07 SEE CONSTRUCTION DETAILS.
- FOR REPLACE ASPHALT CONCRETE SURFACING, SEE CONSTRUCTION DETAILS AND SUMMARY OF QUANTITIES.
- FOR CRACK TREATMENT, SEE CONSTRUCTION DETAILS AND SUMMARY OF QUANTITIES.

ABBREVIATIONS:

- RHMA-O RUBBERIZED HOT MIX ASPHALT (OPEN GRADED)
 RHMA-G RUBBERIZED HOT MIX ASPHALT (GAP GRADED)



TYPICAL CROSS SECTIONS

NO SCALE X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans

LAST REVISION DATE PLOTTED => 01-JUL-2014
 00-00-00 TIME PLOTTED => 13:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	3	40

REGISTERED CIVIL ENGINEER: **JESUS N. GONZALEZ**
 No. 81788
 Exp. 3-31-16
 CIVIL
 DATE: 6-2-14
 PLANS APPROVAL DATE: 6-2-14

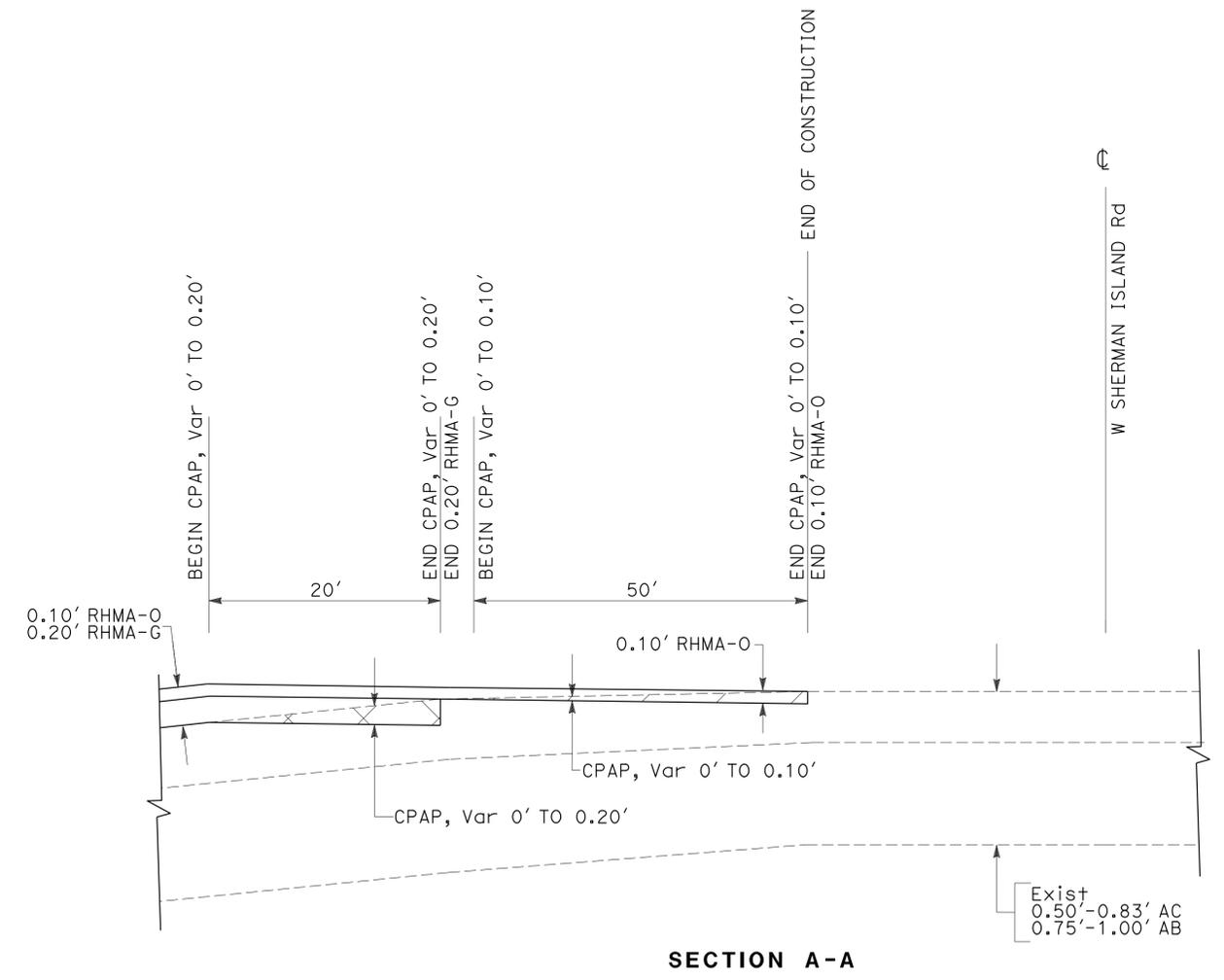
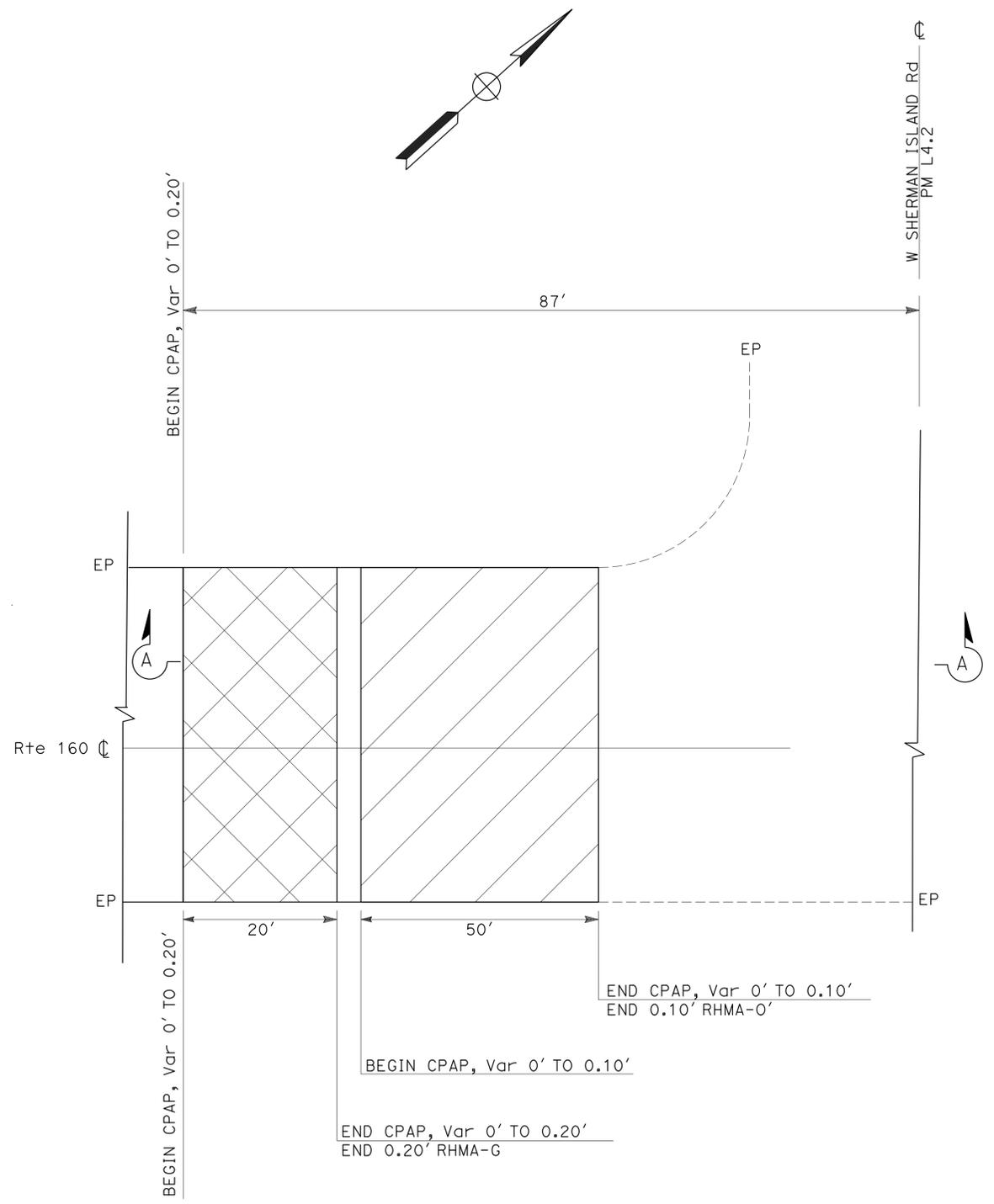
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

ABBREVIATIONS:
 RHMA-O RUBBERIZED HOT MIX ASPHALT (OPEN GRADED)
 RHMA-G RUBBERIZED HOT MIX ASPHALT (GAP GRADED)
 CPAP COLD PLANE AC PAVEMENT

LEGEND:

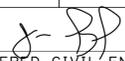
 CPAP, Var 0' TO 0.20'

 CPAP, Var 0' TO 0.10'



**PLAN
 MAINLINE CONFORM
 AT W SHERMAN ISLAND Rd
 PM L4.2**

**CONSTRUCTION DETAILS
 NO SCALE
 C-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	4	40
			6-2-14	DATE	
REGISTERED CIVIL ENGINEER					
PLANS APPROVAL DATE			6-2-14		
<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>					

ABBREVIATIONS:
RHMA-O RUBBERIZED HOT MIX ASPHALT (OPEN GRADED)
RHMA-G RUBBERIZED HOT MIX ASPHALT (GAP GRADED)
CPAP COLD PLANE AC PAVEMENT

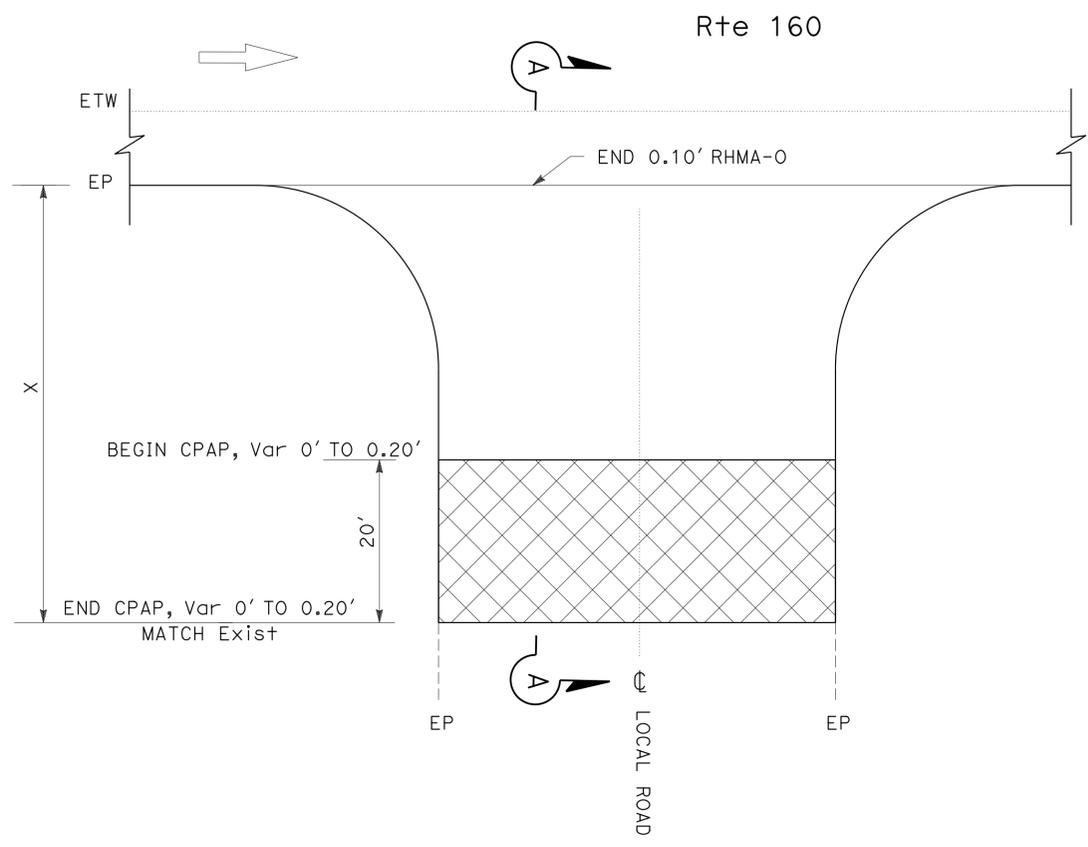
LEGEND:

 CPAP, Var 0' TO 0.20'

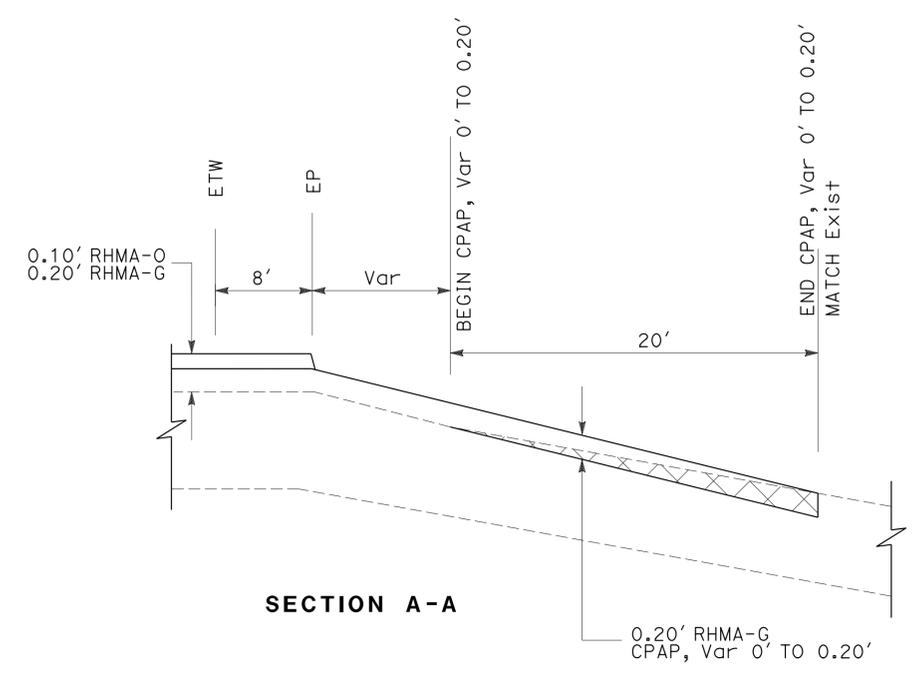
 CPAP, Var 0' TO 0.10'

LOCAL ROAD CONFORM

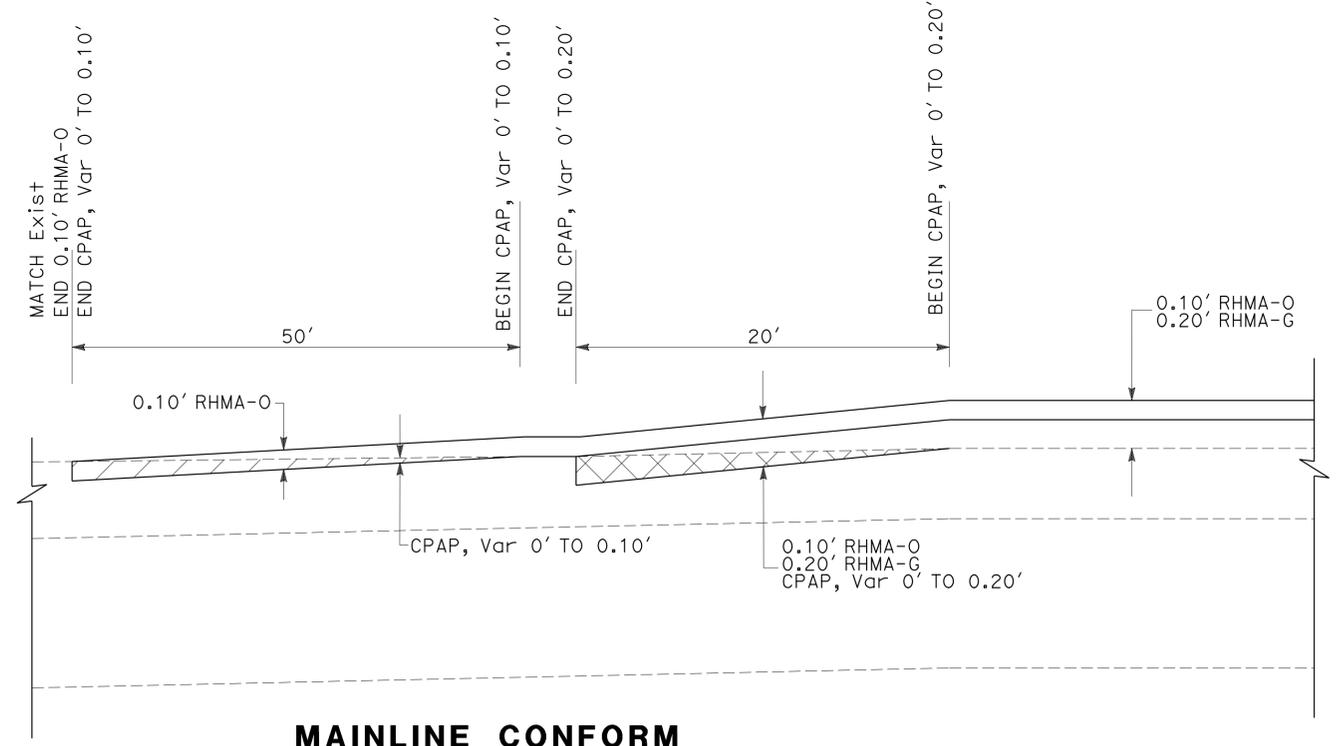
POST MILE	SIDE	"X"
	L+/R+	
L2.62	L+	44'
L4.1	L+	41'



PLAN LOCAL ROAD CONNECTION CONFORM
PM L2.6 AND PM L4.1



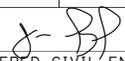
SECTION A-A



MAINLINE CONFORM
PM L1.45

CONSTRUCTION DETAILS
NO SCALE **C-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
TAREK TABSHOURI
FUNCTIONAL SUPERVISOR
TAREK TABSHOURI
CALCULATED/DESIGNED BY
CHECKED BY
JESUS GONZALEZ
TAREK TABSHOURI
REVISED BY
DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	5	40
			6-2-14	DATE	
REGISTERED CIVIL ENGINEER			No. 81788		
PLANS APPROVAL DATE			Exp. 3-31-16		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

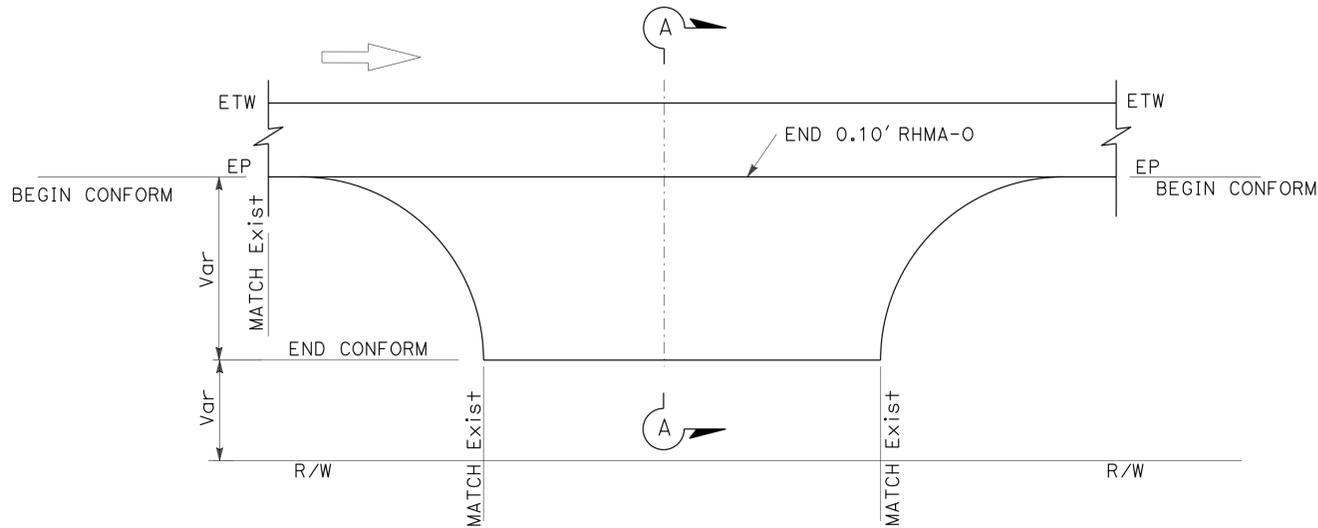


NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. CRACK TREATMENT IS APPLIED TO AREAS HAVING REPLACE AC SURFACING AT 0.25' DEPTH.
3. SUBGRADE ENHANCEMENT GEOTEXTILE, CLASS B2 IS APPLIED TO AREAS HAVING REPLACE AC SURFACING AT 0.83' DEPTH.

ABBREVIATIONS:

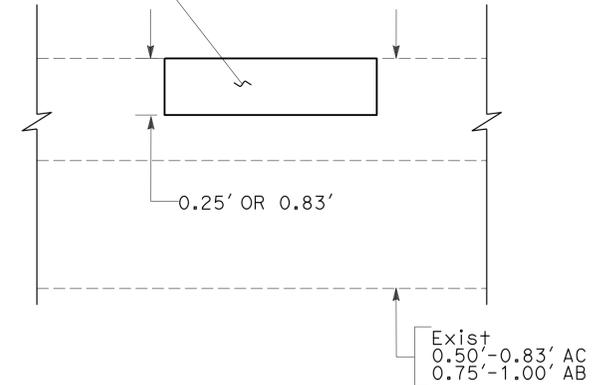
- RHMA-O RUBBERIZED HOT MIX ASPHALT (OPEN GRADED)
 RHMA-G RUBBERIZED HOT MIX ASPHALT (GAP GRADED)



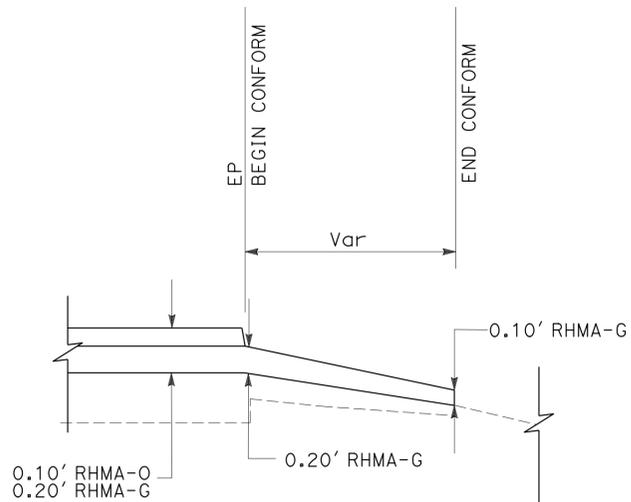
**PLAN
DRIVEWAY CONFORM**

L3.38 TO L3.39
 L3.41 TO L3.42
 L3.43 TO L3.44
 L4.09 TO L4.10

REPLACE AC SURFACING
NOTE 2



**REPLACE AC SURFACING
DETAIL**



SECTION A-A

DRIVEWAY CONFORM

POST MILE	SIDE		RUBBERIZED HOT MIX ASPHALT (GAP GRADED) TON
	L+	R+	
L3.38 TO L3.39	L+		7
L3.41 TO L3.42	L+		6
L3.43 TO L3.44		R+	5
L4.09 TO L4.10		R+	4
*SUBTOTAL			22

* SEE ROADWAY QUANTITIES FOR TOTAL.

CONSTRUCTION DETAILS

NO SCALE **C-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN
 Caltrans®
 FUNCTIONAL SUPERVISOR TAREK TABSHOURI
 CALCULATED/DESIGNED BY CHECKED BY
 JESUS GONZALEZ TAREK TABSHOURI
 REVISED BY DATE REVISED
 JESUS GONZALEZ TAREK TABSHOURI



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	6	40

REGISTERED CIVIL ENGINEER	DATE	6-2-14
PLANS APPROVAL DATE		
6-2-14		

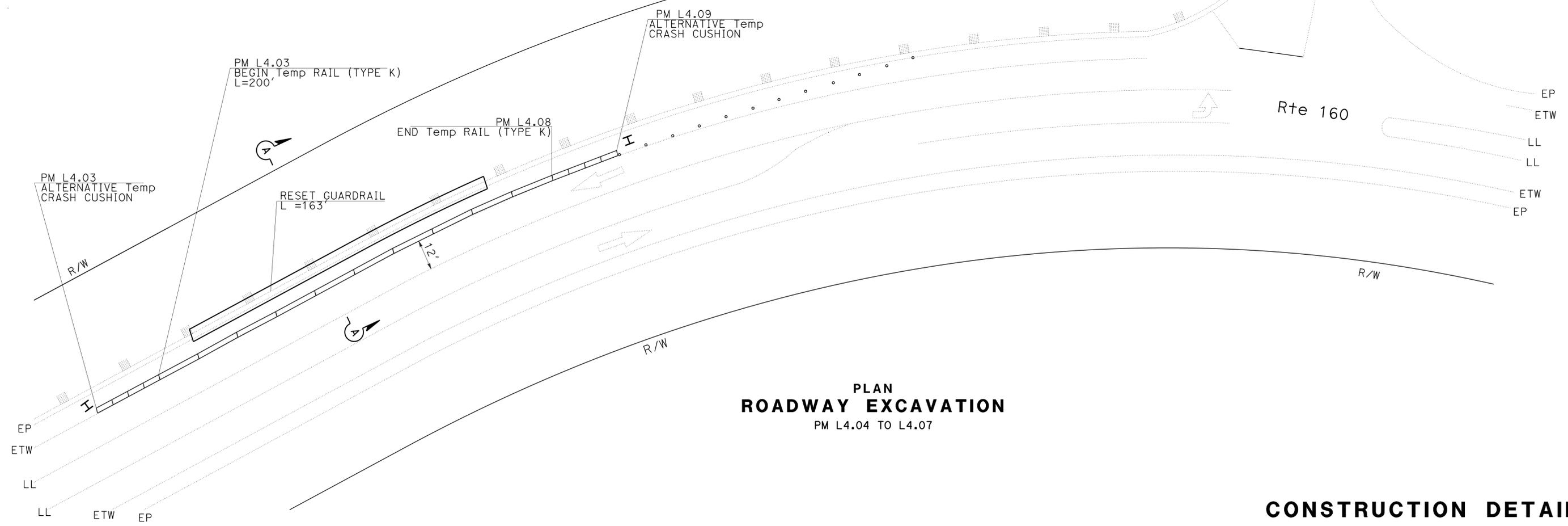
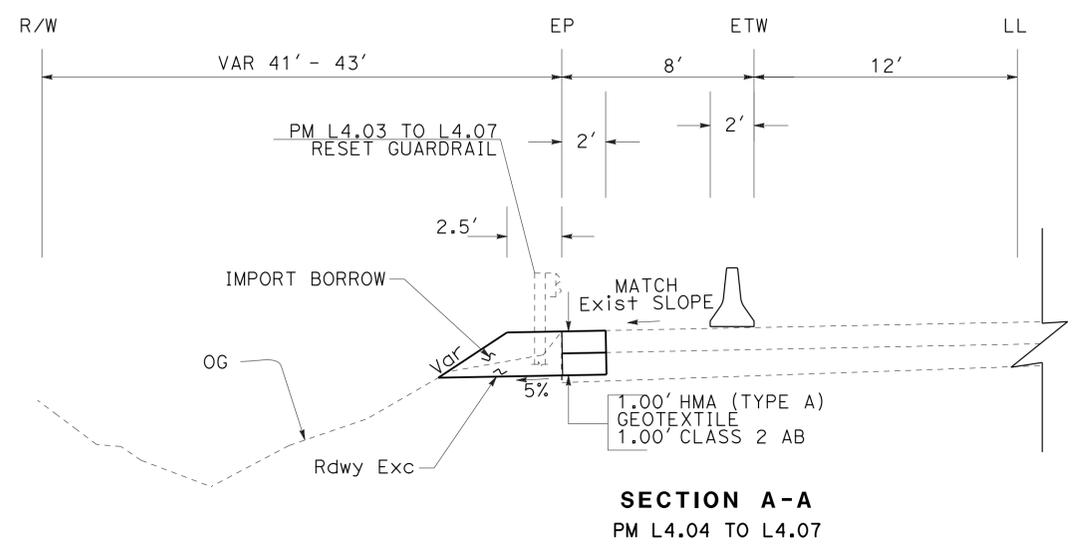
REGISTERED PROFESSIONAL ENGINEER	JESUS N. GONZALEZ
No.	81788
Exp.	3-31-16
CIVIL	

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.

- NOTES:**
1. RESET GUARDRAIL FACILITATES ROADWAY EXCAVATION.
 2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

ABBREVIATION:
 GEOTEXTILE SUBGRADE ENHANCEMENT GEOTEXTILE, CLASS B2

- LEGEND:**
- I TYPE III BARRICADE, REPRESENTS 3 EACH.
 - CHANNELIZER (SURFACE MOUNTED), AT 27 FT INTERVALS.



CONSTRUCTION DETAILS

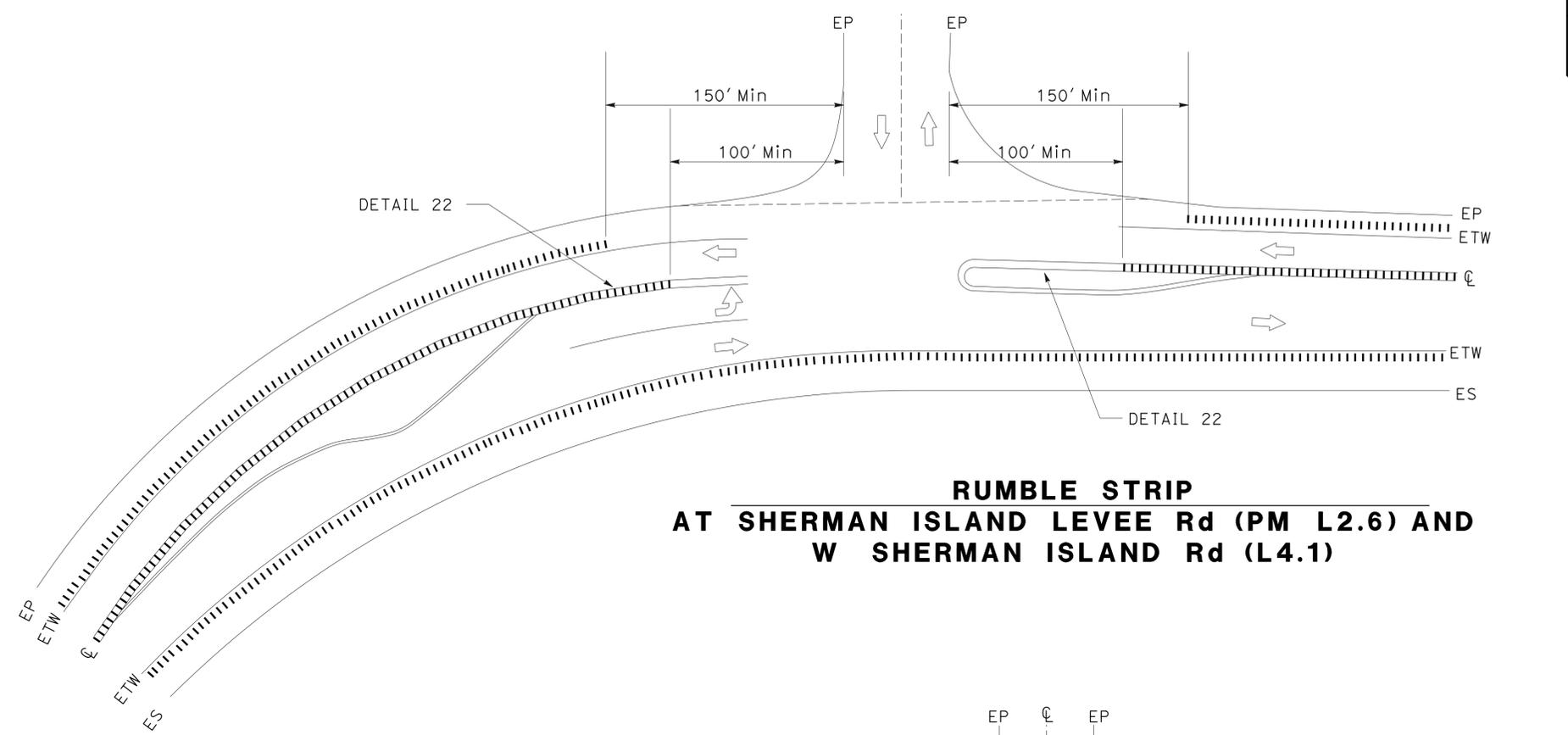
NO SCALE **C-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	TAREK TABSHOURI
CALCULATED/DESIGNED BY	CHECKED BY
JESUS GONZALEZ	TAREK TABSHOURI
REVISOR	DATE

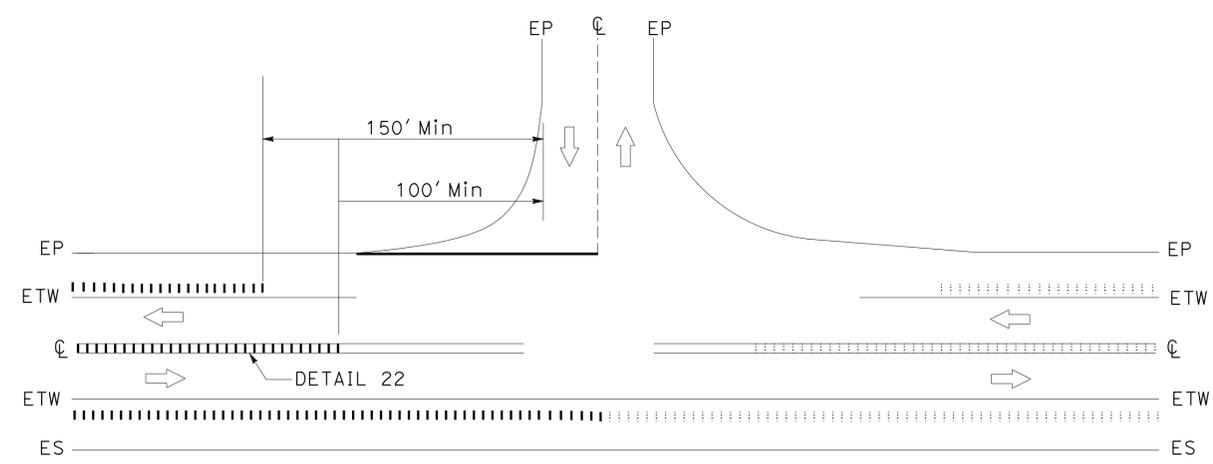
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	7	40
REGISTERED CIVIL ENGINEER JESUS N. GONZALEZ No. 81788 Exp. 3-31-16 CIVIL			6-2-14 DATE PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES:
 1. CENTERLINE RUMBLE STRIPS WILL CONTINUE THROUGH PRIVATE DRIVEWAY LOCATIONS.

LEGEND:
 ■■■■■ RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)



**RUMBLE STRIP
 AT SHERMAN ISLAND LEVEE Rd (PM L2.6) AND
 W SHERMAN ISLAND Rd (L4.1)**



**RUMBLE STRIP
 AT W SHERMAN ISLAND Rd (PM L4.2)**

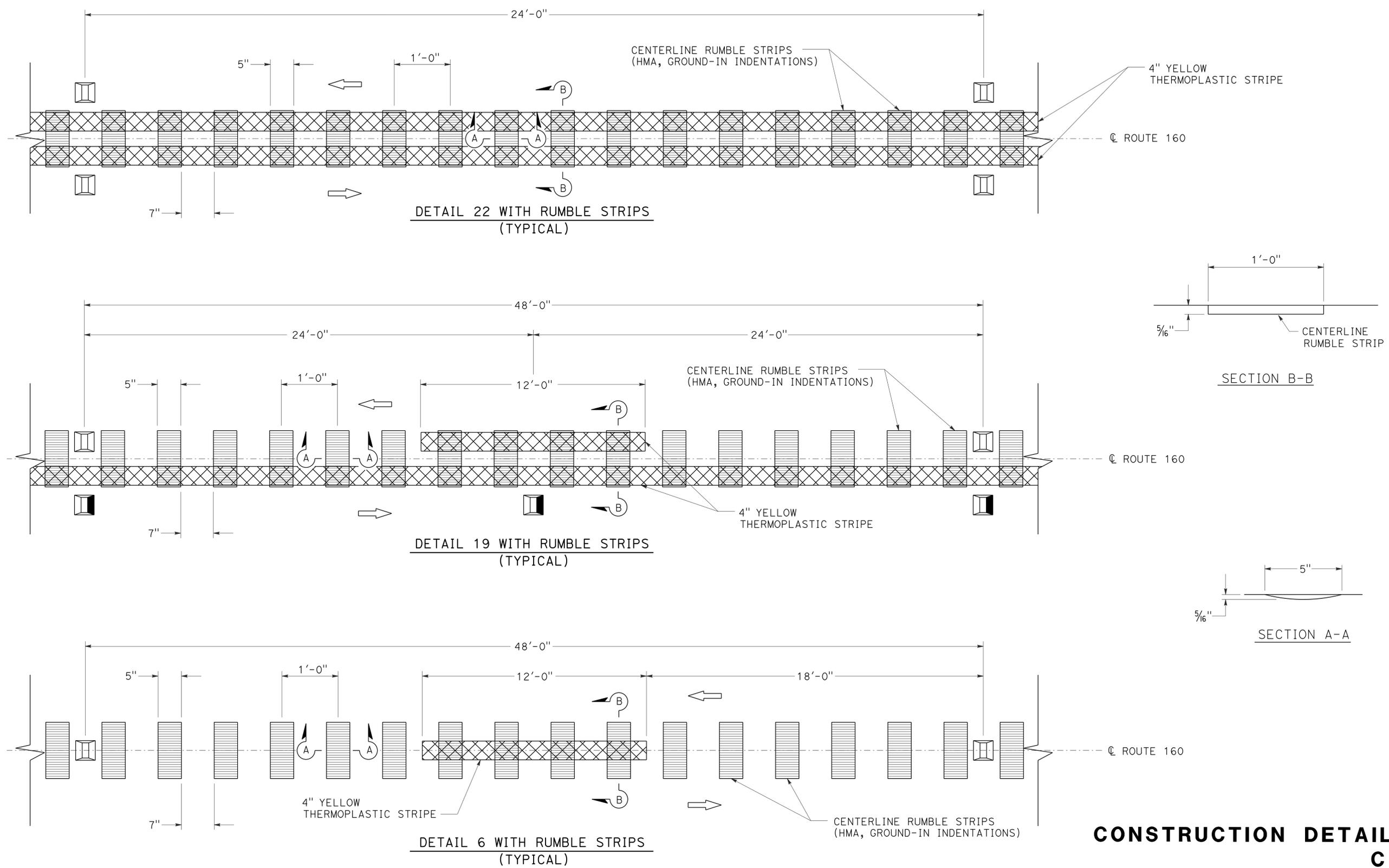
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
Caltrans	
FUNCTIONAL SUPERVISOR	TAREK TABSHOURI
CALCULATED/DESIGNED BY	CHECKED BY
JESUS GONZALEZ	TAREK TABSHOURI
REVISOR BY	DATE REVISED

**CONSTRUCTION DETAILS
 RUMBLE STRIPS**

NO SCALE **C-5**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	8	40
			6-2-14	DATE	
REGISTERED CIVIL ENGINEER			DATE		
6-2-14			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER JESUS N. GONZALEZ No. 81788 Exp. 3-31-16 CIVIL STATE OF CALIFORNIA					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES:
 1. CONSTRUCT RUMBLE STRIP PRIOR TO PLACEMENT OF THERMOPLASTIC TRAFFIC STRIPE.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 TAREK TABSHOURI

CALCULATED/DESIGNED BY
 CHECKED BY

JESUS GONZALEZ
 TAREK TABSHOURI

REVISED BY
 DATE REVISED

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN LETTER	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POST AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
A	G20-1 [Spec] (3)		60" x 30"	ROAD WORK NEXT 3 MILES	2 - 4" x 4"	2
B		C40(Mod)	48" x 36"	TRAFFIC FINES DOUBLED IN WORK ZONES	1 - 4" x 6"	2
C	W20-1	C23	48" x 48"	ROAD WORK AHEAD	1 - 6" x 6"	3
D	G20-2	C14	36" x 18"	END ROAD WORK	1 - 4" x 4"	4

NOTE:

EXACT SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.

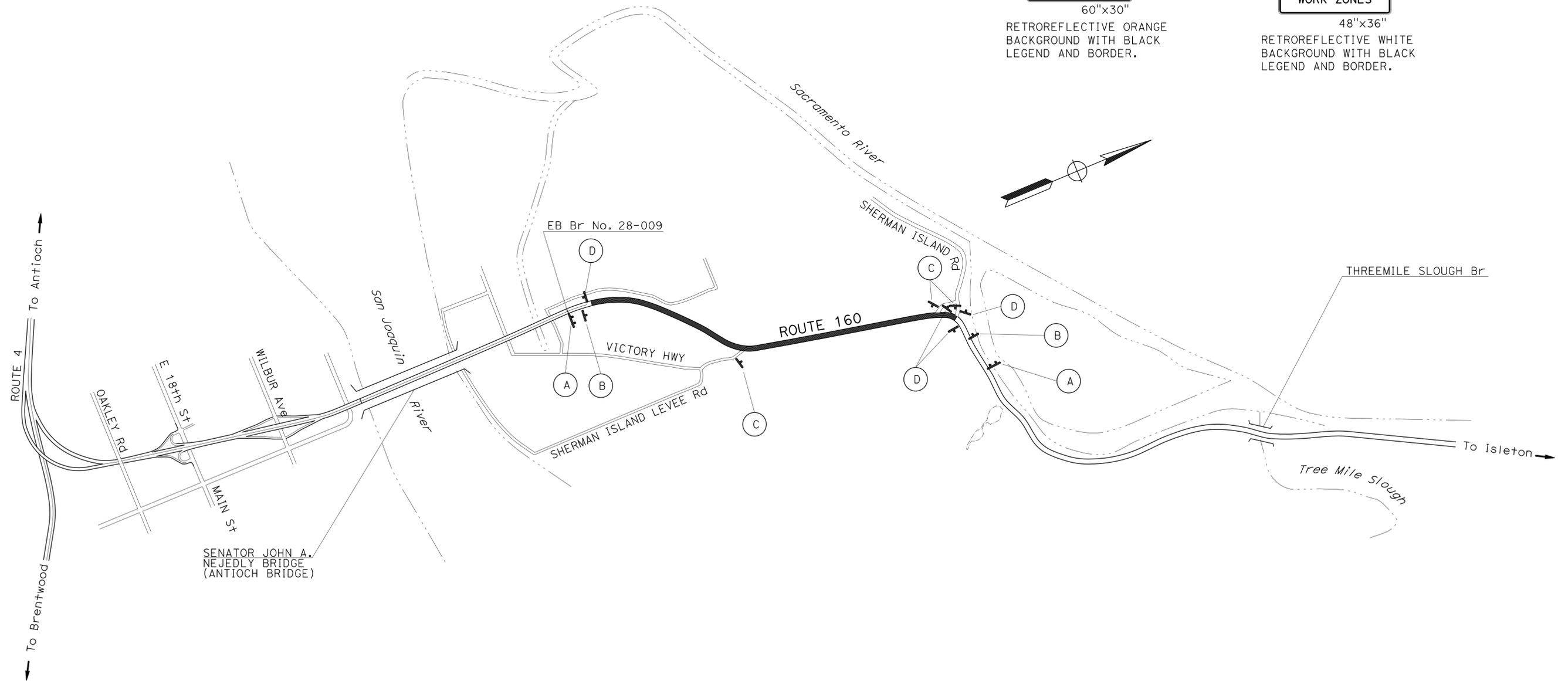
LEGEND

(X) CONSTRUCTION AREA SIGN LETTER

SIGN DETAILS

(A) G20-1 [Spec] (3)
**ROAD WORK
 NEXT 3 MILES**
 60"x30"
 6" C
 SERIES
 LETTERS
 RETROREFLECTIVE ORANGE
 BACKGROUND WITH BLACK
 LEGEND AND BORDER.

(B) C40(Mod) <CA>
**TRAFFIC FINES
 DOUBLED IN
 WORK ZONES**
 48"x36"
 4" D
 SERIES
 LETTERS
 RETROREFLECTIVE WHITE
 BACKGROUND WITH BLACK
 LEGEND AND BORDER.



CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 TRAFFIC
 FUNCTIONAL SUPERVISOR: SERGIO ACEVES
 CHECKED BY: KRIS ALBERS
 DESIGNED BY: CHUCK COOK
 REVISIONS: [None listed]
 DATE REVISION: [None listed]

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	9	40

Kris M. Albers 6-2-14
 REGISTERED CIVIL ENGINEER DATE

6-2-14
 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
 KRIS M. ALBERS
 No. 49986
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

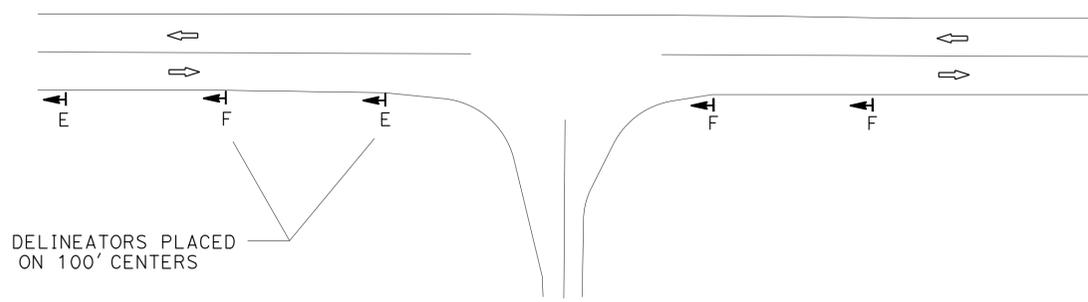
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	10	40

Kris M. Albers 6-2-14
REGISTERED CIVIL ENGINEER DATE

6-2-14
PLANS APPROVAL DATE

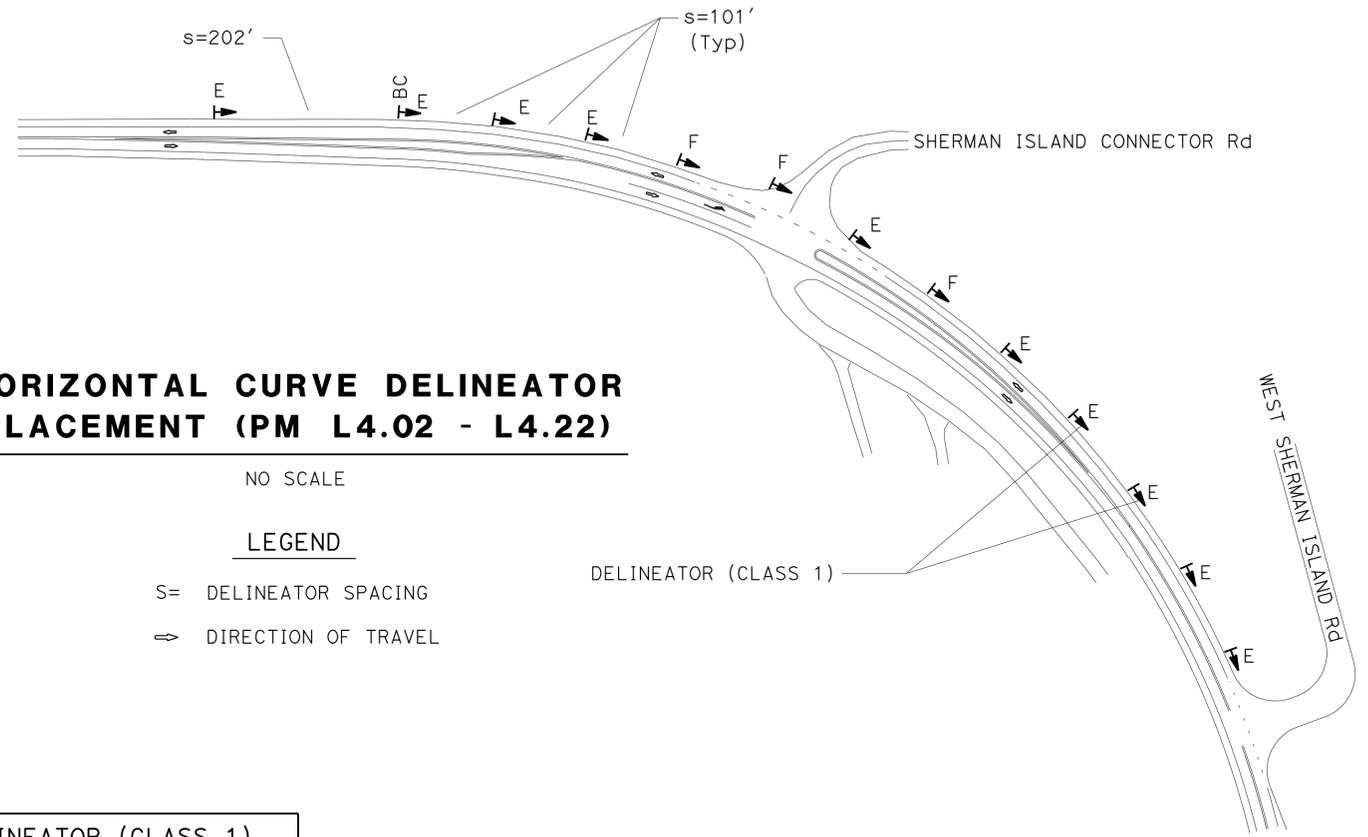
REGISTERED PROFESSIONAL ENGINEER
KRIS M. ALBERS
No. 49986
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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.



**DELINEATOR PLACEMENT AT
SHERMAN ISLAND LEVEE Rd (PM L2.636)**

NO SCALE



**HORIZONTAL CURVE DELINEATOR
PLACEMENT (PM L4.02 - L4.22)**

NO SCALE

LEGEND

- S= DELINEATOR SPACING
- ⇨ DIRECTION OF TRAVEL

DELINEATOR

DESCRIPTION	DELINEATOR (CLASS 1)		
	TYPE E		TYPE F
	FNBT	FSBT	FNBT
SHERMAN ISLAND LEVEE Rd PM L2.636	2		3
MAINLINE CURVE (PM L4.02 - L4.22)		10	3
SUBTOTAL	2	10	6
TOTAL	18		

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

**PAVEMENT DELINEATION
DETAILS AND QUANTITIES**

PDD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
FUNCTIONAL SUPERVISOR: SERGIO ACEVES
DESIGNED BY: CHUCK COOK
CHECKED BY: KRIS ALBERS
REVISOR: CHUCK COOK
DATE: 7/2/2010
TRAFFIC

LAST REVISION | DATE PLOTTED => 01-JUL-2014
05-29-14 | TIME PLOTTED => 13:01

ABBREVIATION

EWNV = ENHANCED WET NIGHT VISIBILITY

4" THERMOPLASTIC TRAFFIC STRIPE (EWNV) (BROKEN 36 - 12)

DETAIL NUMBER	LF
6	6,373
19	1,987
TOTAL	8,360

THERMOPLASTIC PAVEMENT MARKING (EWNV)

DESCRIPTION	NUMBER	SQFT
TYPE III ARROW	2	84
"STOP"	4	88
LIMIT LINE	3	132
TOTAL	—	304

4" THERMOPLASTIC TRAFFIC STRIPE (EWNV)

DETAIL NUMBER	LF
19	1,987
22	14,331
27B	29,542
29	2,756
TOTAL	48,616

4" THERMOPLASTIC TRAFFIC STRIPE (EWNV) (BROKEN 12 - 3)

DETAIL NUMBER	LF
27C	596
TOTAL	596

PAVEMENT MARKER

DETAIL NUMBER	RETROREFLECTIVE		
	TYPE D EA	TYPE G EA	TYPE H EA
6	134		
19	43		84
22	596		
29	60		
38		18	
SUBTOTAL	833	18	84
TOTAL	935		

8" THERMOPLASTIC TRAFFIC STRIPE (EWNV)

DETAIL NUMBER	LF
38	397
TOTAL	397

HIGHWAY POST MARKER

DESCRIPTION	HIGHWAY POST MARKER	
	FNBT	FSBT
	EACH	EACH
L1.50		1
L2.00	1	
L2.50		1
L3.00	1	
L3.50		1
L4.00	1	
SUBTOTAL	3	3
TOTAL	6	

OBJECT MARKER

DESCRIPTION	OBJECT MARKER TYPE L-1
	EACH
PM L3.42 FNBT	1
PM L3.42 FSBT	1
TOTAL	2

NOTE:
 EXACT OBJECT MARKER LOCATIONS TO BE DETERMINED BY THE ENGINEER.

NOTE:
 EXACT HIGHWAY POST MARKER LOCATIONS TO BE DETERMINED BY THE ENGINEER.

PAVEMENT DELINEATION QUANTITIES

PDQ-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	12	40

REGISTERED CIVIL ENGINEER DATE 6-2-14
 PLANS APPROVAL DATE 6-2-14

REGISTERED PROFESSIONAL ENGINEER
JESUS N. GONZALEZ
 No. 81788
 Exp. 3-31-16
 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.

ROADWAY ITEMS

LOCATION / POSTMILE	COLD PLANE ASPHALT CONCRETE PAVEMENT	ROADWAY EXCAVATION	IMPORT BORROW	CLASS 2 AGGREGATE BASE	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	RUBBERIZED HOT MIX ASPHALT (OPEN GRADED)	TACK COAT	SUBGRADE ENHANCEMENT GEOTEXTILE, CLASS B2	NOTES
	SQYD	CY	CY	CY	TON	TON	TON	SQYD	
MAIN LINE - PM L1.45 TO L4.2					9,851	3,902	44.2		
PM L1.45	256								
PM L4.2	482				64	25			CONFORM TAPER AT 630' NORTH OF THE ANTIOCH Br. TO CENTERLINE OF W SHERMAN ISLAND Rd.
PM L2.6	124				16	6			SHERMAN ISLAND LEVEE Rd.
PM L4.1	133				18	7			W SHERMAN ISLAND Rd.
L+ PM L2.85 TO L2.95								205	
L+ PM L4.03 TO L4.07								454	
L+ PM L4.04 TO L4.07		27	50	13					SLOPE REPAIR
DRIVEWAYS					22		0.4		
SAFETY EDGE					70				
TOTAL	995	27	50	13	10,056	3,946	44.6	659	

CRACK TREATMENT

CRACK TREATMENT LNMI	6.0
----------------------	-----

GUARDRAIL

POST MILE	SIDE	REMOVE GUARDRAIL	TREATED WOOD WASTE	RESET GUARDRAIL	END ANCHOR ASSEMBLY (TYPE SFT) (1)	MIDWEST GUARDRAIL SYSTEM (7' WOOD POST)	ALTERNATIVE FLARED END SECTION (1)	ALTERNATIVE IN-LINE TERMINAL SYSTEM (1)	VEGETATION CONTROL (MINOR CONCRETE)
		LF	LBS	LF	EA	LF	EA	EA	SQYD
L3.42 TO L3.43	L+	94	1,279		1	57	1		24
L3.42 TO L3.43	R+	92	1,199		1	55	1		24
L4.0 TO L4.09	L+	519	6,712		1	444		1	137
L4.1 TO L4.2	L+	737	9,429		1	662		1	198
L4.03 TO L4.07	L+			163					
TOTAL		1,442	18,619	163	4	1,218	2	2	383

(1) END SYSTEM LOCATIONS TO BE DETERMINED BY ENGINEER.

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN
 FUNCTIONAL SUPERVISOR TAREK TABSHOURI
 CALCULATED/DESIGNED BY CHECKED BY
 JESUS GONZALEZ TAREK TABSHOURI
 REVISED BY DATE REVISED
 00-00-00 DATE PLOTTED => 01-JUL-2014 TIME PLOTTED => 13:01



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	13	40

REGISTERED CIVIL ENGINEER DATE 6-2-14
 PLANS APPROVAL DATE 6-2-14

REGISTERED PROFESSIONAL ENGINEER
JESUS N. GONZALEZ
 No. 81788
 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.

REPLACE ASPHALT CONCRETE SURFACING

SIDE	(1) POST MILE		(N) LENGTH	(N) WIDTH	(N) DEPTH	(N) HOT MIX ASPHALT (TYPE A)	(N) REPLACE ASPHALT CONCRETE SURFACING	NOTES
	FROM	TO	LF	FT	FT	TON	CY	
R+	L1.47	L1.49	115	12	0.25	25.0	12.8	
R+	L1.64	L1.65	52	12	0.25	11.3	5.8	
R+	L1.65	L1.66	48	6	0.25	5.2	2.7	
R+	L1.69	L1.69	30	12	0.25	6.5	3.3	
R+	L1.89	L1.9	37	6	0.25	4.0	2.1	
L+/R+	L2.08	L2.12	175	40	0.25	126.9	64.8	
L+	L2.12	L2.14	120	12	0.25	26.1	13.3	
L+/R+	L2.54	L2.56	90	32	0.25	52.2	26.7	L+ LANE / R+ LANE AND SHOULDER CENTERLINE
L+/R+	L2.63	L2.67	215	4	0.25	15.6	8.0	
R+	L2.84	L2.84	20	12	0.25	4.4	2.2	
R+	L2.84	L2.85	70	6	0.25	7.6	3.9	
L+	L2.85	L2.95	510	8	1.00	295.8	151.1	
L+	L3.99	L4.0	75	6	0.25	8.2	4.2	
L+	L4.03	L4.07	273	8	1.00	158.3	80.9	
R+	L4.2	L4.2	150	12	0.25	32.6	16.7	
TOTAL							398.5	

(N) = NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
 (1) = EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

SHOULDER BACKING

SIDE	POST MILE		(N) LENGTH	SHOULDER BACKING
	FROM	TO	FT	
R+	L1.45	L2.6	6,109	226
L+	L1.45	L3.4	10,349	383
R+	L2.6	L3.4	4,277	158
L+	L3.4	L3.4	100	4
L+	L3.4	L4.0	3,115	115
R+	L3.4	L4.1	3,485	129
R+	L4.1	L4.2	739	27
TOTAL				1,042

NOTES: PLACE SHOULDER BACKING FROM EP TO HINGE POINT.

RUMBLE STRIP

POST MILE	CENTERLINE RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)	SHOULDER RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)		NOTES
		NB	SB	
		STA	STA	
L1.45 TO L2.57		60		BEGINNING OF PROJECT TO SHERMAN ISLAND LEVEE Rd
L1.45 TO L2.60	61			BEGINNING OF PROJECT TO SHERMAN ISLAND LEVEE Rd
L1.45 TO L4.06			138	BEGINNING OF PROJECT TO W SHERMAN ISLAND Rd
L2.69 TO L4.2		80		SHERMAN ISLAND LEVEE Rd TO MATCH Exist
L2.68 TO L4.09	74			SHERMAN ISLAND LEVEE Rd TO W SHERMAN ISLAND Rd
L4.13 TO L4.19			3	W SHERMAN ISLAND ROAD (SOUTH LEG) TO W SHERMAN ISLAND ROAD (NORTH LEG)
L4.10 TO L4.2	7			W SHERMAN ISLAND ROAD (SOUTH LEG) TO W SHERMAN ISLAND ROAD (NORTH LEG)
SUBTOTAL		140	141	
TOTAL	142	281		

SUMMARY OF QUANTITIES

Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN
 TAREK TABSHOURI
 JESUS GONZALEZ
 TAREK TABSHOURI
 REVISIONS: 00-00-00 DATE PLOTTED => 01-JUL-2014 TIME PLOTTED => 13:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	14	40

REGISTERED CIVIL ENGINEER DATE 6-2-14
 PLANS APPROVAL DATE 6-2-14

REGISTERED PROFESSIONAL ENGINEER
JESUS N. GONZALEZ
 No. 81788
 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.

SAFETY EDGE

POST MILE	DIRECTION	(N)	(N)	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)
		TOTAL THICKNESS OF SAFETY EDGE FT	LENGTH SAFETY EDGE FT	
L1.45 TO L2.6	NB	0.20	6,110	15.5
L1.45 TO L3.4	SB	0.20	10,350	26.3
L2.6 TO L3.4	NB	0.20	4,280	10.9
L3.4 TO L3.4	SB	0.20	100	0.3
L3.4 TO L4.0	SB	0.20	3,115	7.9
L3.4 TO L4.0	NB	0.20	3,485	8.9
L4.1 TO L4.1	NB	0.20	740	1.9
*SUBTOTAL				69.8

(N) = NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
 * SEE ROADWAY ITEMS TABLE FOR TOTAL QUANTITY.

TEMPORARY EROSION CONTROL

SIDE	POST MILE		TEMPORARY FIBER ROLL	TEMPORARY SILT FENCE
	Lt/Rt	FROM	TO	LF
L+	L4.03	L4.07	160	160
TOTAL			160	160

HMA DIKE AND OVERSIDE DRAIN

POST MILE	SIDE	(*)	(*)	MINOR HOT MIX ASPHALT TON	(*)	(N)	PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA) SQYD
		REMOVE AC DIKE LF	PLACE HOT MIX ASPHALT DIKE (TYPE E) LF		REMOVE AC OVERSIDE DRAIN EA	HMA OVERSIDE DRAIN LF	
L4.0 TO L4.1	R+	520	520	13.7			
L4.1 TO L4.2	R+	660	660	17.4			
L4.03	R+			4.9	1	10	3
L4.1	R+			3.9	1	8	3
L4.1	R+			5.4	1	11	4
TOTAL		1180	1180	45.3	3		10

(*) EXACT LOCATIONS TO BE DETERMINED BY ENGINEER
 (N) = NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

TRAFFIC CONTROL ITEMS

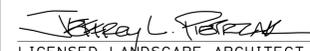
POST MILE	LOCATION	TEMPORARY RAILING (TYPE K)	ALTERNATIVE TEMPORARY CRASH CUSHION	CHANNELIZER (SURFACE MOUNTED)	TYPE III BARRICADE
	Lt/Rt	LF	EA	EA	EA
L4.02	L+		1		3
L4.02 TO L4.08	L+	200			
L4.08	L+		1		3
L4.09 TO L4.10	L+			11	
TOTAL		200	2	11	6

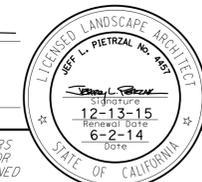
SUMMARY OF QUANTITIES

Q-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 TAREK TABSHOURI
 FUNCTIONAL SUPERVISOR
 TAREK TABSHOURI
 CALCULATED/DESIGNED BY
 CHECKED BY
 JESUS GONZALEZ
 TAREK TABSHOURI
 REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	15	40


 LICENSED LANDSCAPE ARCHITECT
 6-2-14
 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.

SEED MIX

SEED	BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
MIX-1	BROMUS CARINATUS HOOK. ET ARN. (CALIFORNIA BROME)	72	23
	ELYMUS GLAUCU BU&KLEY SUBSP. GLAUCUS (BLUE WILDRYE)	77	17
	HORDEUM BRACHYANTHERUM 3 NEVSKI SUBSP. CALIFORNICUM (BARLEY)	72	25
	MELICA IMPERFECTA TRIN. (MELIC)	72	6
	NASSELLA PULCHRA (A.S.HITCHC.) BARKWORTH' (PURPLE NEEDLEGRASS)	72	16
TOTAL			87

EROSION CONTROL

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE	DEPTH	APPLICATION TYPE
		DESCRIPTION	TYPE			
STEP 1	COMPOST	COMPOST	MEDIUM	270 CY/ACRE	2"	--
STEP 2	EROSION CONTROL (DRY SEED)	SEED	MIX-1	87 LB/ACRE	--	--
STEP 3	STRAW	STRAW	--	1,500 LB/ACRE	--	--
STEP 4	INCORPORATE MATERIALS	STRAW	--	--	--	--

FIBER ROLLS

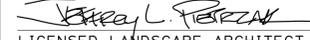
SEQUENCE	ITEM	MATERIAL		REMARKS
		DESCRIPTION	TYPE	
IN EC AREAS FIBER ROLLS MUST BE INSTALLED AFTER INCORPORATE MATERIALS	FIBER ROLLS	FIBER ROLL	TYPE A OR B 8" TO 10" Dia	TYPE 1 OR 2 FIBER ROLL INSTALLATION

EROSION CONTROL LEGEND

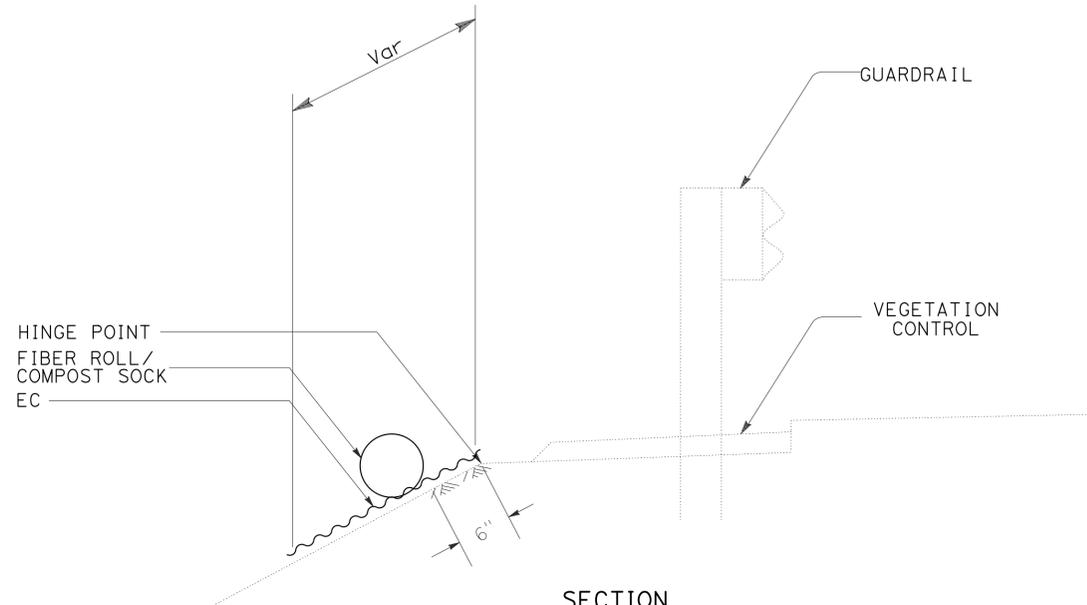
ECL-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT T. CHRIS JOHNSON
 CALCULATED/DESIGNED BY CHECKED BY
 DAN BREWER JEFF PIETRZAK
 REVISED BY DATE REVISED
 00/00/00 00/00/00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	16	40


 LICENSED LANDSCAPE ARCHITECT
 6-2-14
 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.



SECTION
EROSION CONTROL (Typ)
WITH KEY TRENCH AT UPPER CONFORM

EROSION CONTROL QUANTITIES

SHEET	EROSION CONTROL POST MILE LOCATION	COMPOST	EROSION CONTROL (DRY SEED)	STRAW	INCORPORATE MATERIALS	FIBER ROLL
		SQFT	SQFT	SQFT	SQFT	LF
C-4	PM L4.04 TO PM L4.07	500	500	500	500	300
TOTAL		500	500	500	500	300

EROSION CONTROL QUANTITIES AND DETAILS

NO SCALE

ECQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT
 T. CHRIS JOHNSON
 CALCULATED/DESIGNED BY
 CHECKED BY
 DAN BREWER
 JEFF PIETRZAK
 REVISED BY
 DATE REVISED
 00/00/00
 00/00/00



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	17	40

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Grace M. Tsushima
No. C49814
Exp. 9-30-14
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.

TO ACCOMPANY PLANS DATED 6-2-14

UNIT OF MEASUREMENT SYMBOLS:

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

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:

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

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

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

REVISED STANDARD PLAN RSP A10B

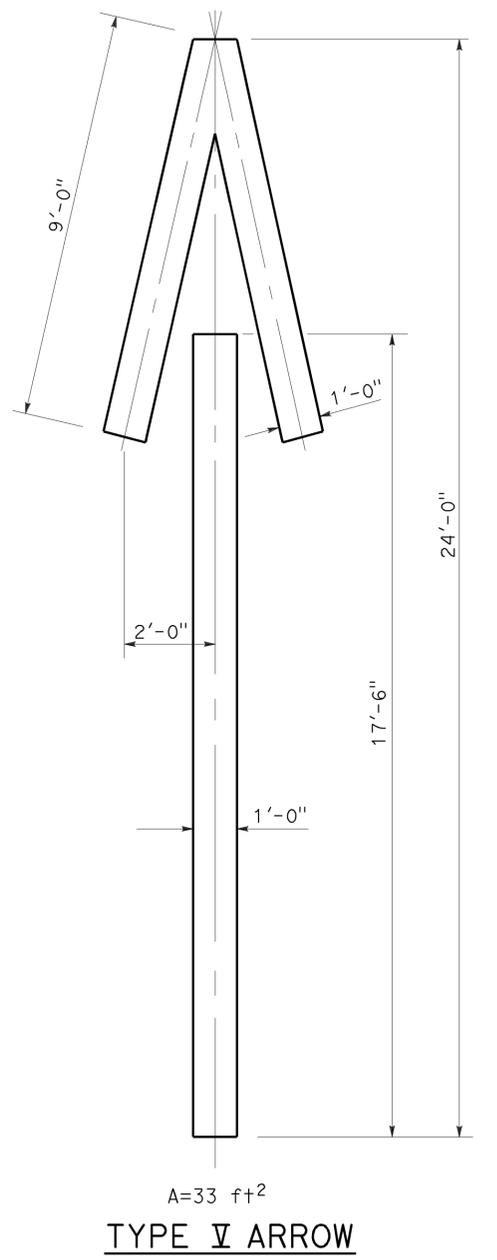
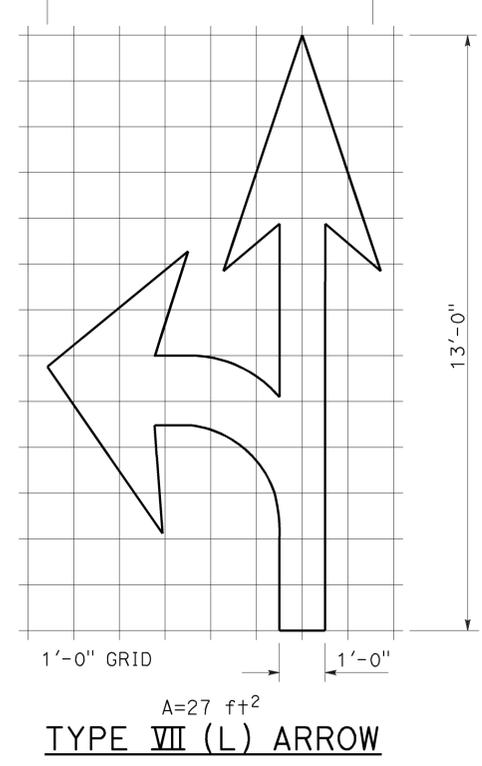
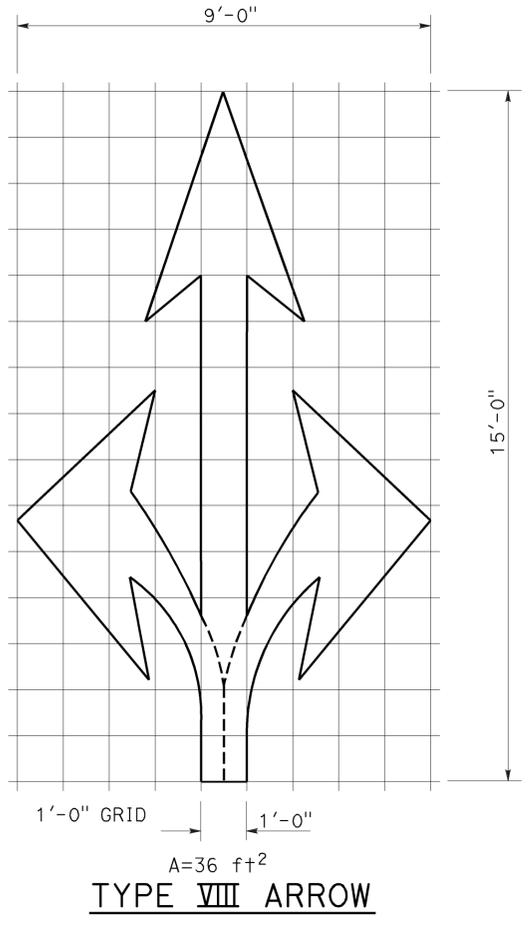
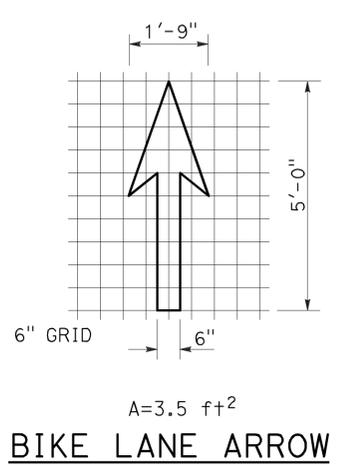
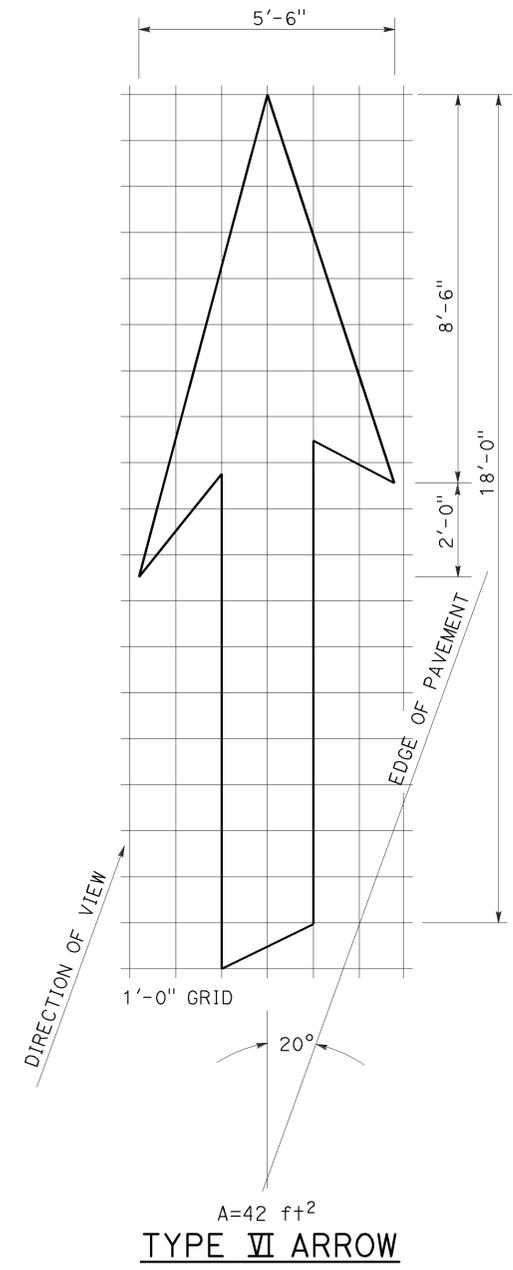
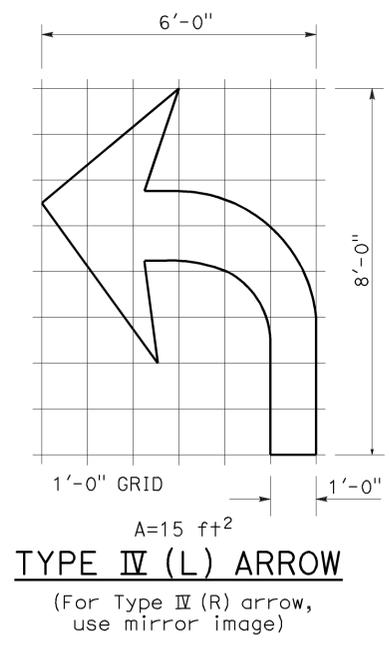
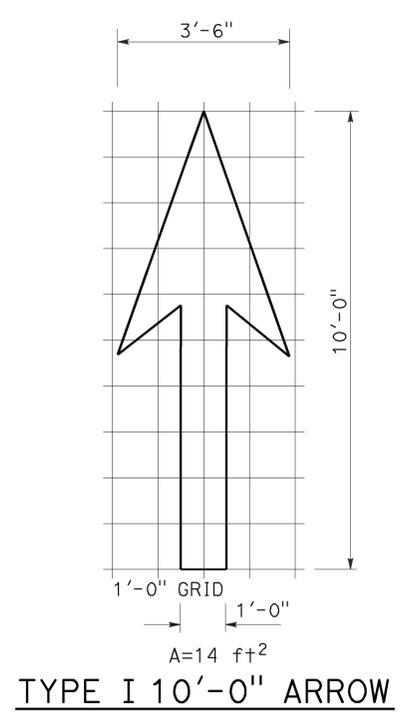
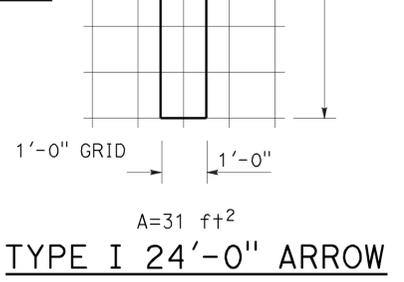
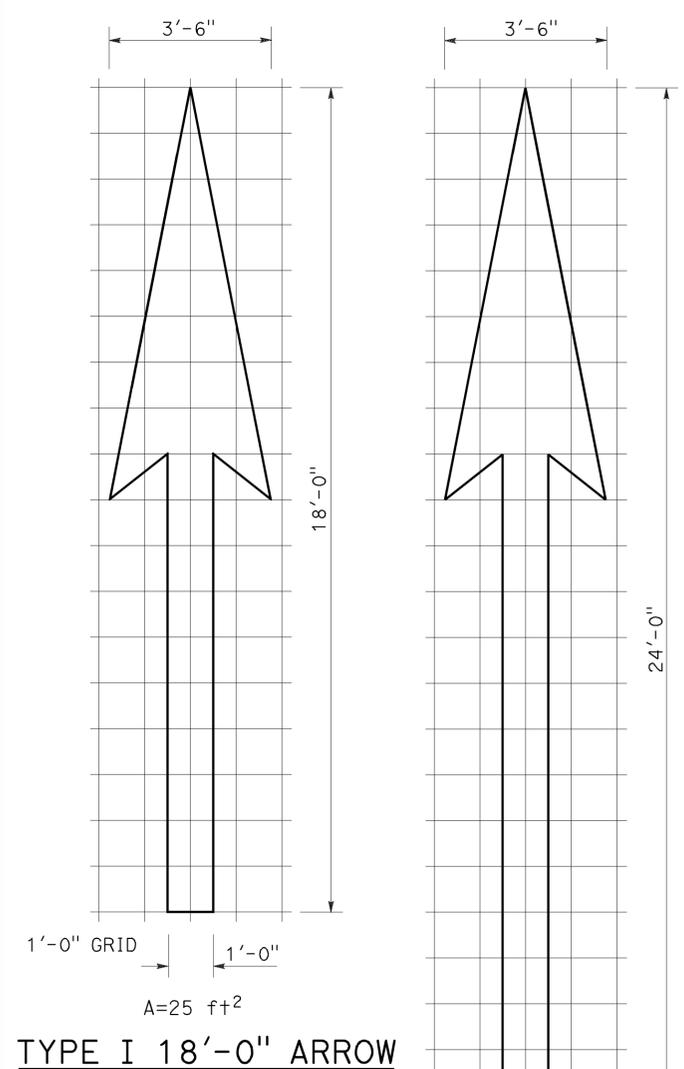
	<u>M</u>
Maint	MAINTENANCE
Max	MAXIMUM
MB	METAL BEAM
MBB	METAL BEAM BARRIER
MBGR	METAL BEAM GUARD RAILING
Med	MEDIAN
MGS	MIDWEST GUARDRAIL SYSTEM
MH	MANHOLE
Min	MINIMUM
Misc	MISCELLANEOUS
Misc I & S	MISCELLANEOUS IRON AND STEEL
Mkr	MARKER
Mod	MODIFIED, MODIFY
Mon	MONUMENT
MP	METAL PLATE
MPGR	METAL PLATE GUARD RAILING
MR	MOVEMENT RATING
MSE	MECHANICALLY STABILIZED EMBANKMENT
Mt	MOUNTAIN, MOUNT
MtI	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT
	<u>N</u>
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
	<u>O</u>
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
	<u>P</u>
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

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

	<u>S</u>
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
ℒ	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
	<u>T</u>
T	SEMI-TANGENT
Tan	TANGENT
TBB	THRIE BEAM BARRIER
Tbr	TIMBER
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TCE	TEMPORARY CONSTRUCTION EASEMENT
TeI	TELEPHONE
Temp	TEMPORARY
TG	TOP OF GRADE
Tot	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
Trans	TRANSITION

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

TO ACCOMPANY PLANS DATED 6-2-14



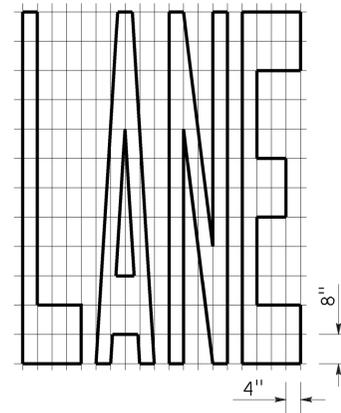
NOTE:
Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
ARROWS**
NO SCALE

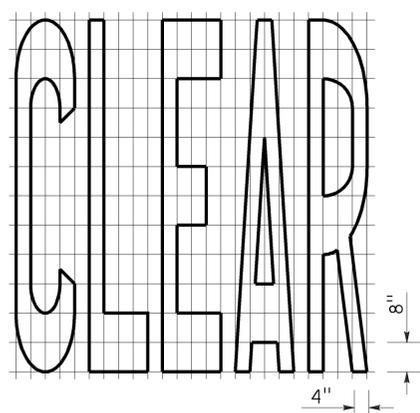
RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

TO ACCOMPANY PLANS DATED 6-2-14

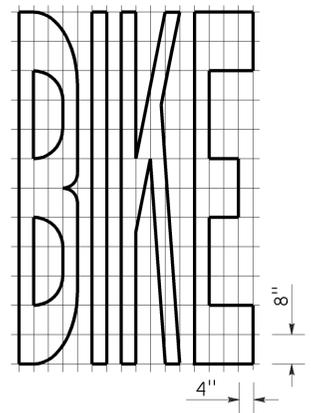
2010 REVISED STANDARD PLAN RSP A24E



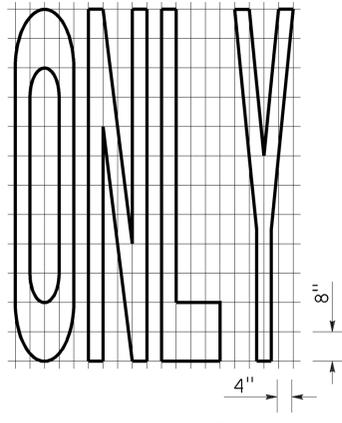
A=24 ft²



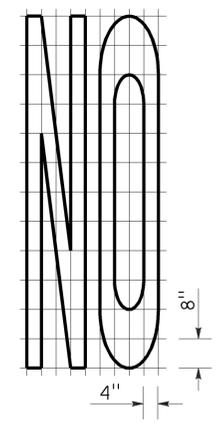
A=27 ft²



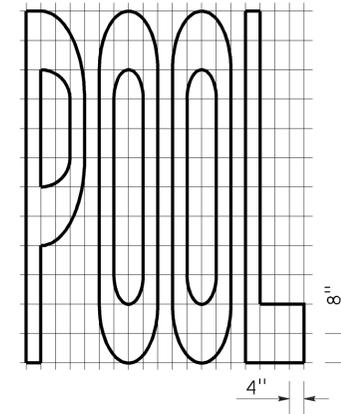
A=21 ft²



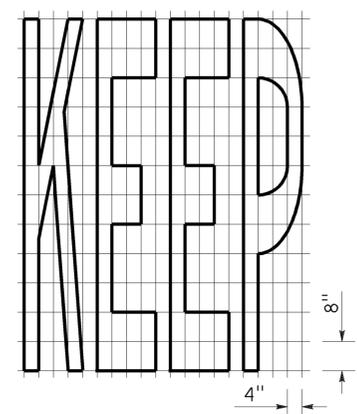
A=22 ft²



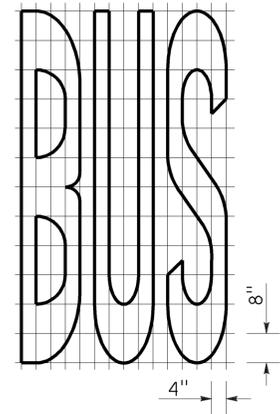
A=14 ft²



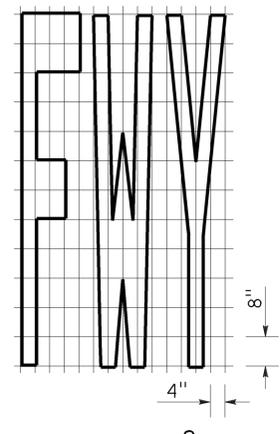
A=23 ft²



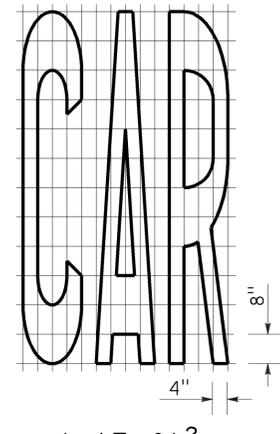
A=24 ft²



A=20 ft²

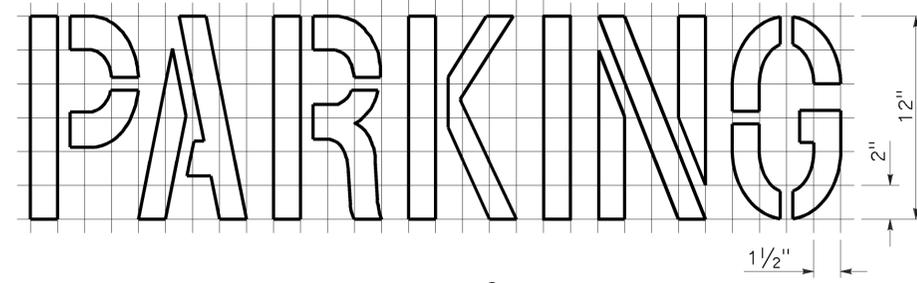
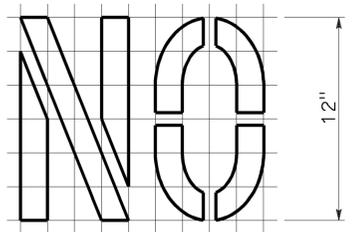


A=16 ft²

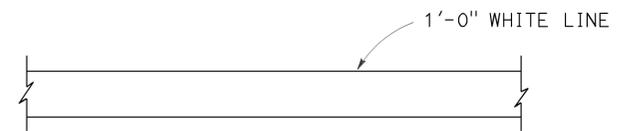


A=17 ft²

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



A=2 ft²
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES**

NO SCALE

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	20	40

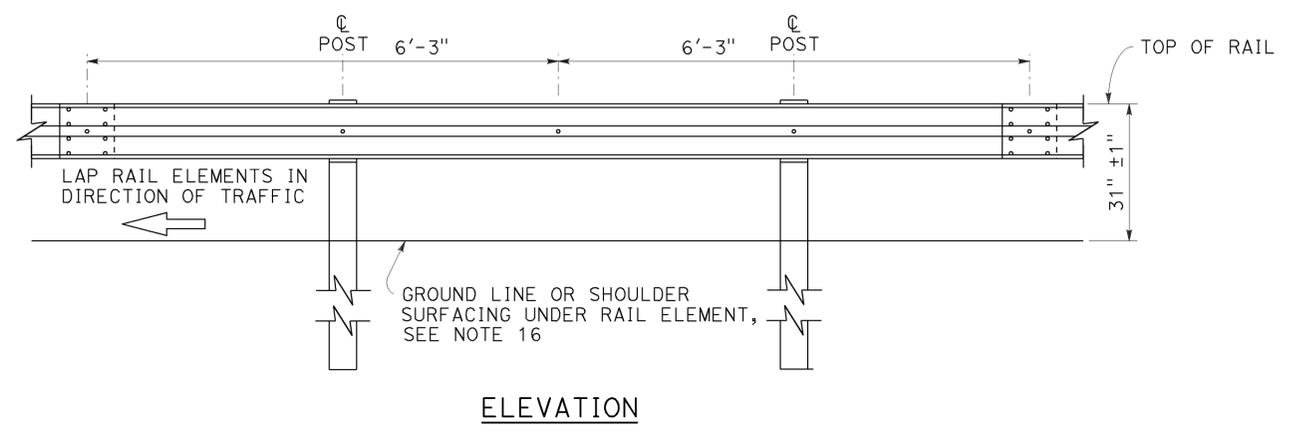
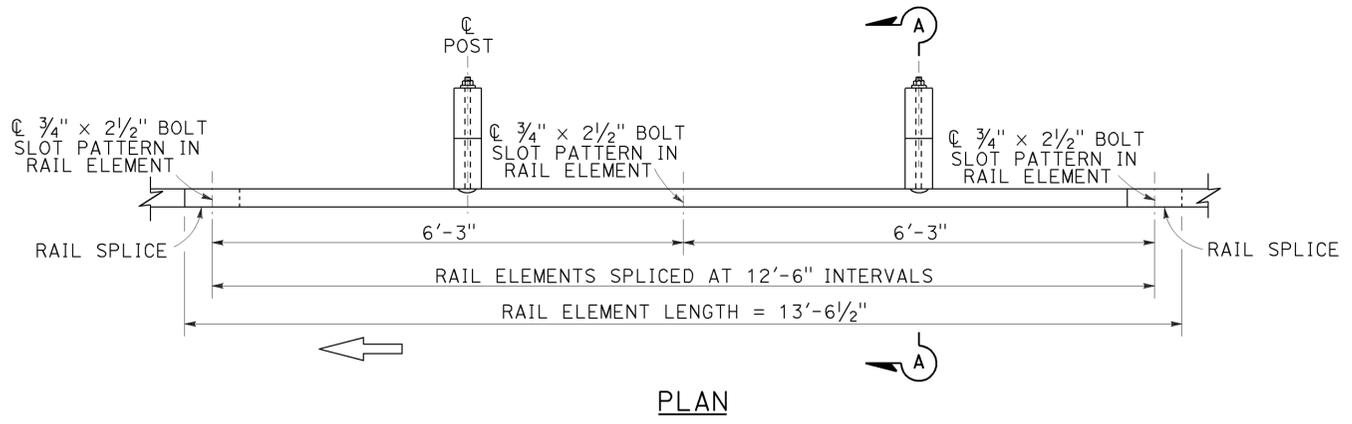
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

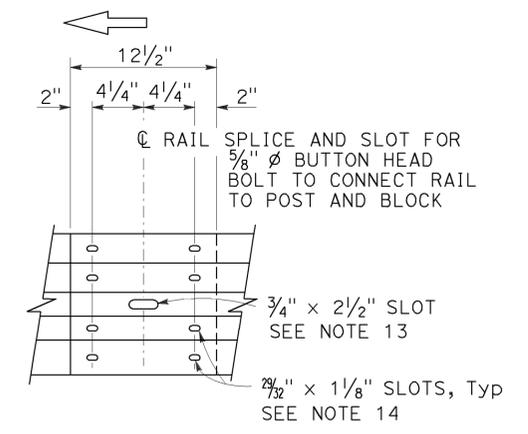
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

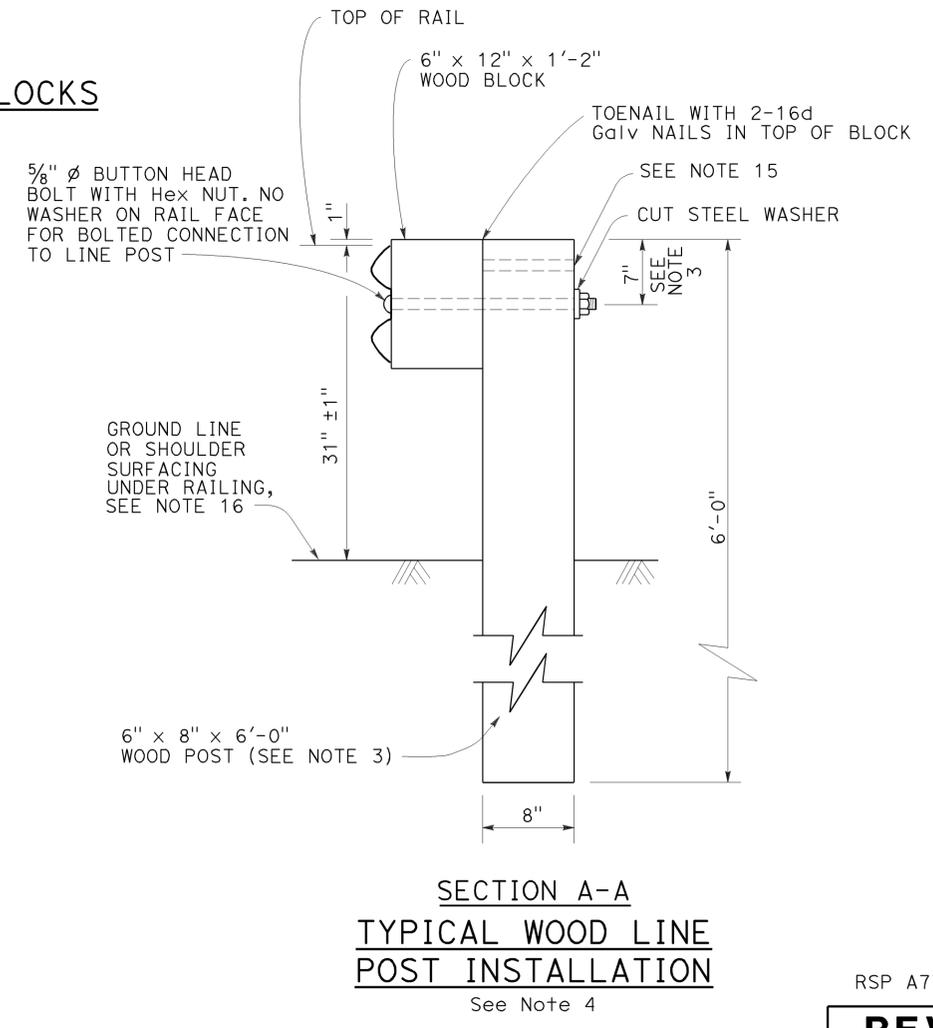
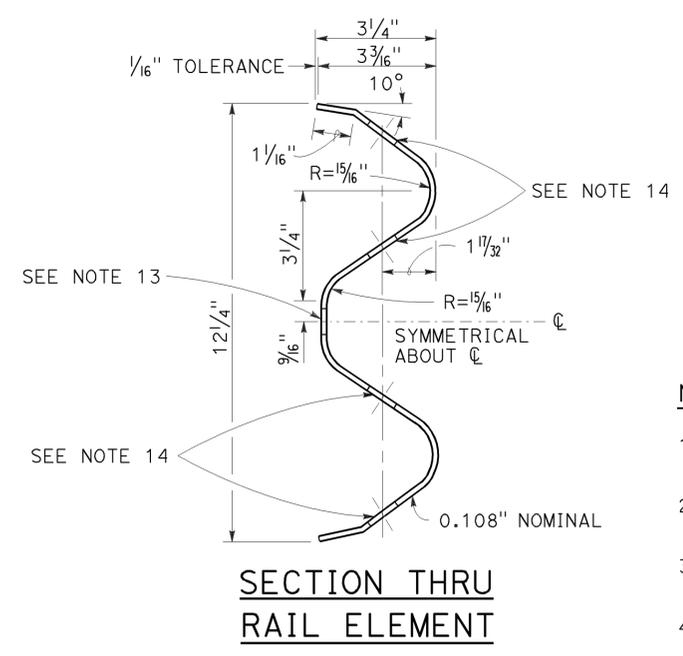
TO ACCOMPANY PLANS DATED 6-2-14



MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS



- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{7}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

NO SCALE

RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1

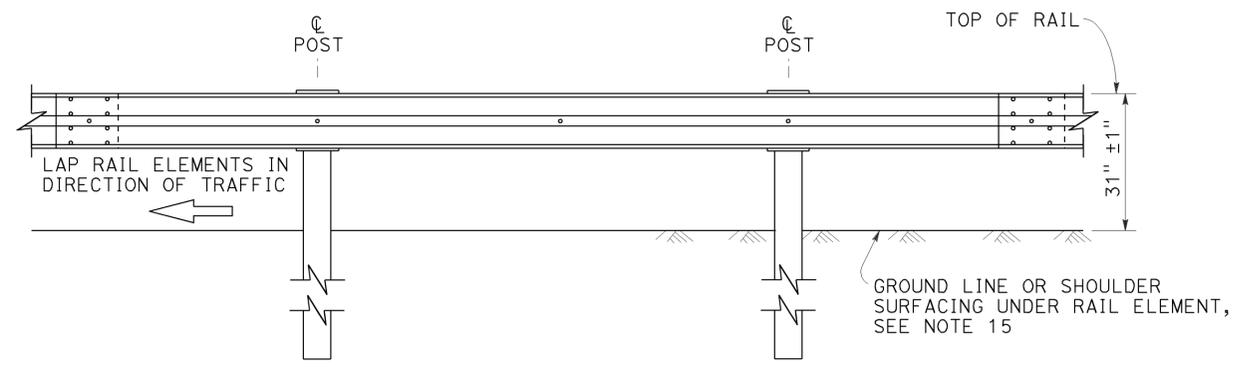
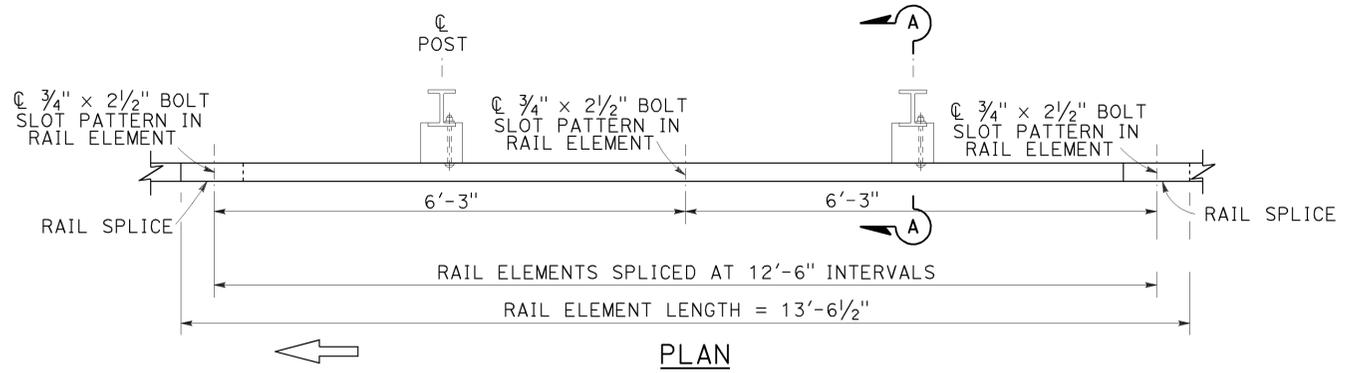
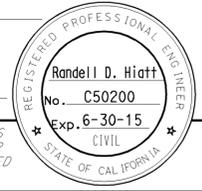
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	21	40

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

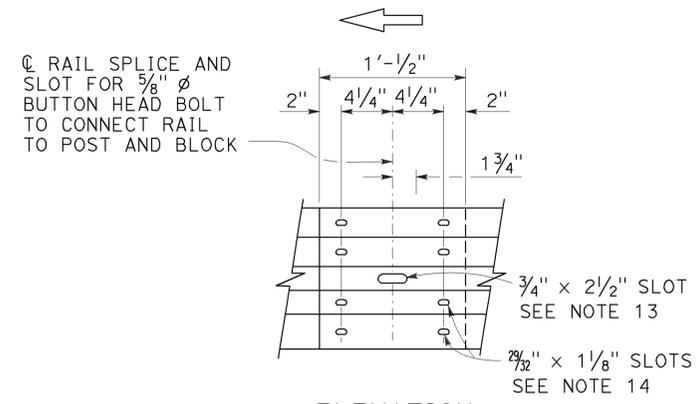
July 19, 2013
PLANS APPROVAL DATE

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

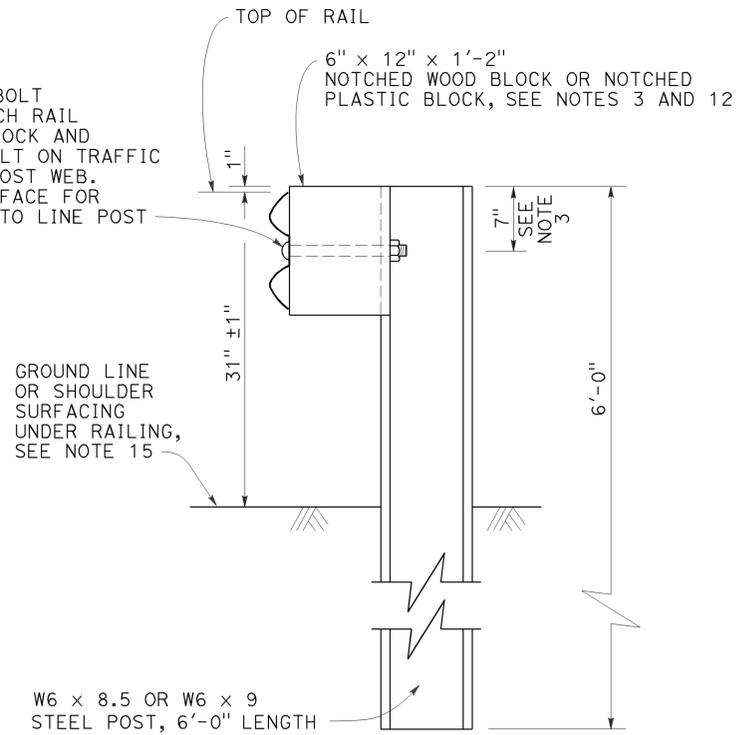
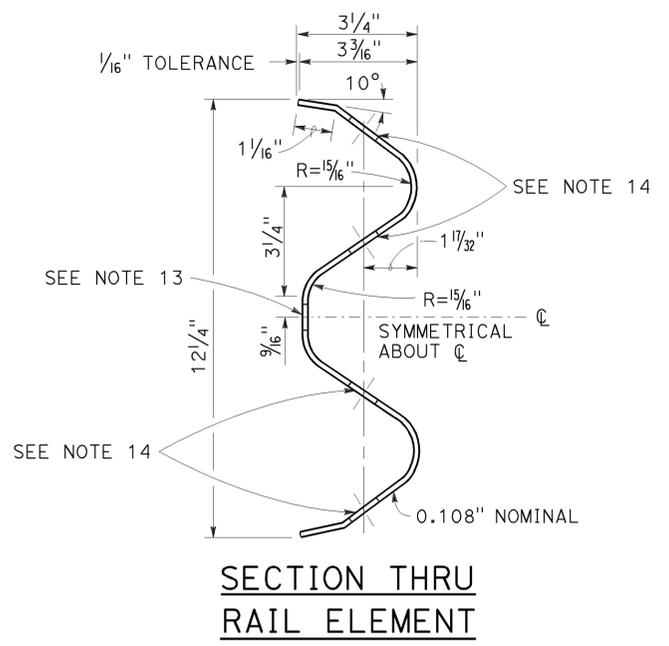
TO ACCOMPANY PLANS DATED 6-2-14



MIDWEST GUARDRAIL SYSTEM WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



- Connect the overlapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{7}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



See Note 4

NOTES:

- For details of wood post installations, see Revised Standard Plan RSP A77L1.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of steel posts and notched wood blocks used to construct MGS, see Revised Standard Plan RSP A77N2.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railings, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For dike positioning and MGS delineation details, see Revised Standard Plan RSP A77N4.
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

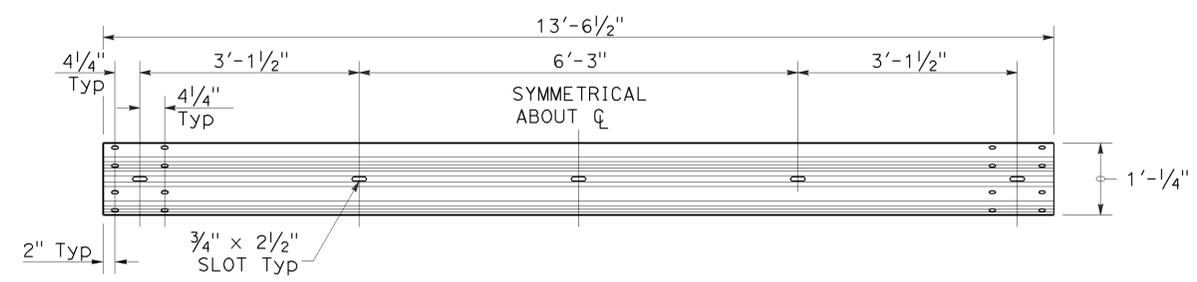
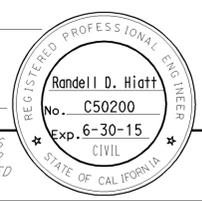
MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)

NO SCALE

RSP A77L2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L2

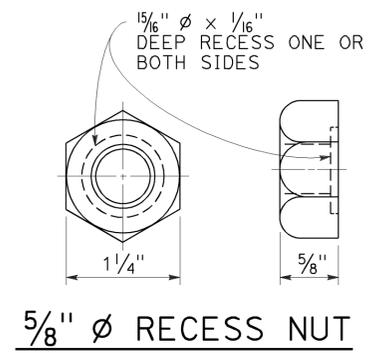
2010 REVISED STANDARD PLAN RSP A77L2



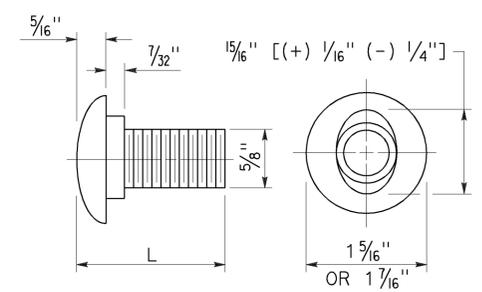
TYPICAL RAIL ELEMENT

NOTE:

1. Slotted holes for splice bolts to overlap ends of rail element.



5/8" Ø RECESS NUT

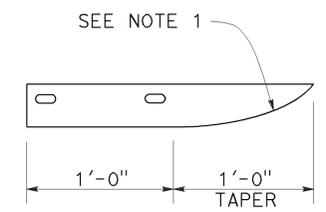


5/8" Ø BUTTON HEAD BOLT

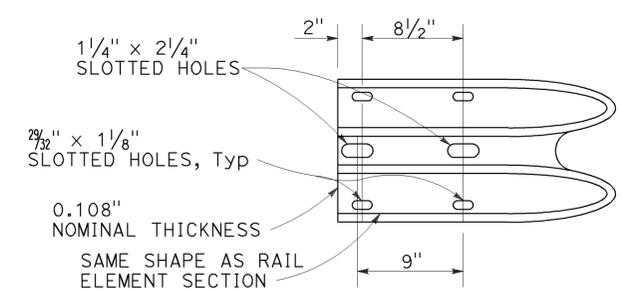
BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



PLAN



**ELEVATION
END CAP
(TYPE A)**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	23	40

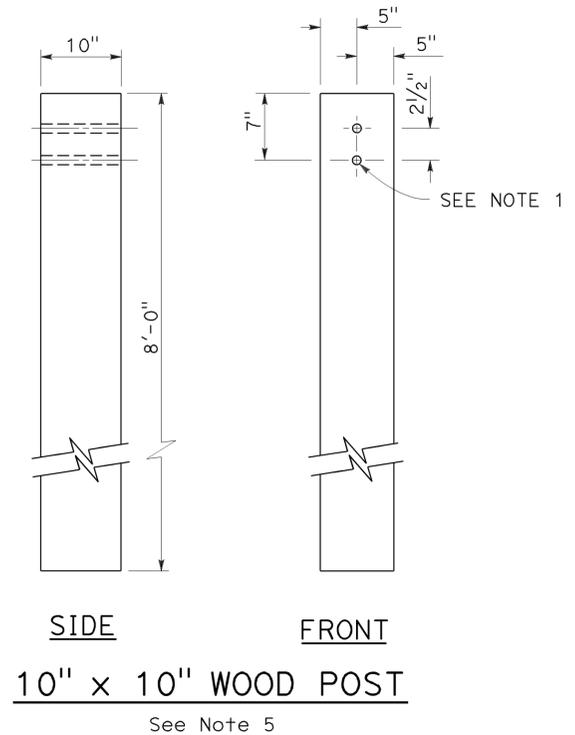
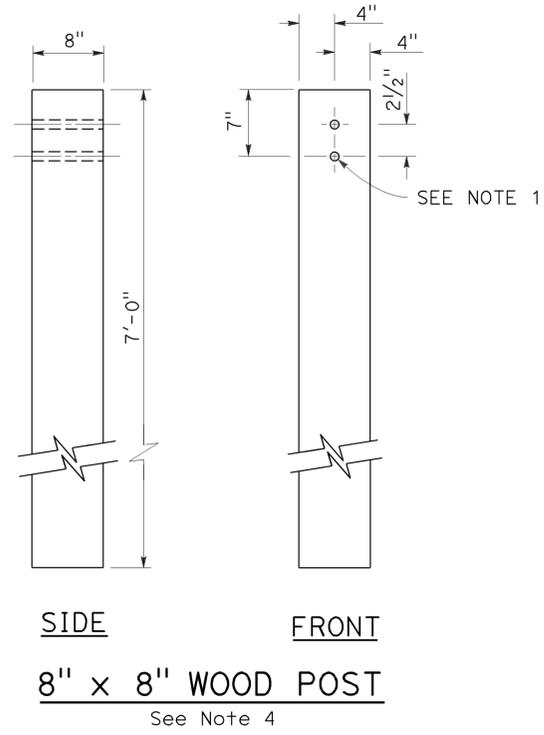
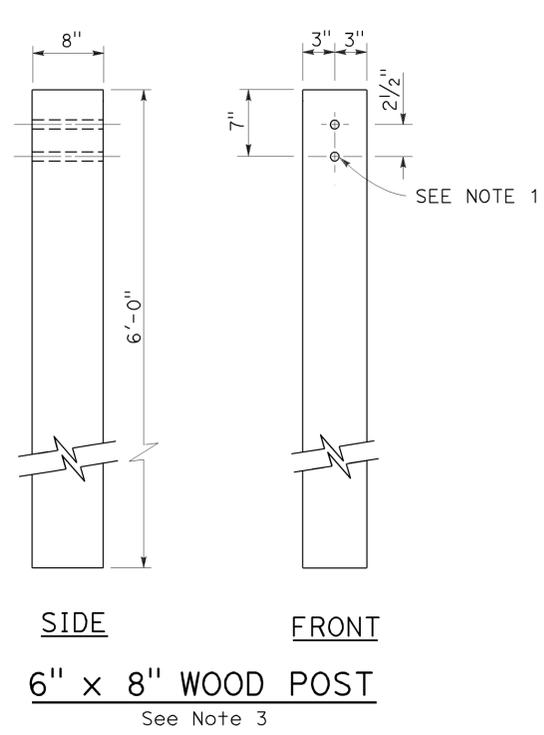
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

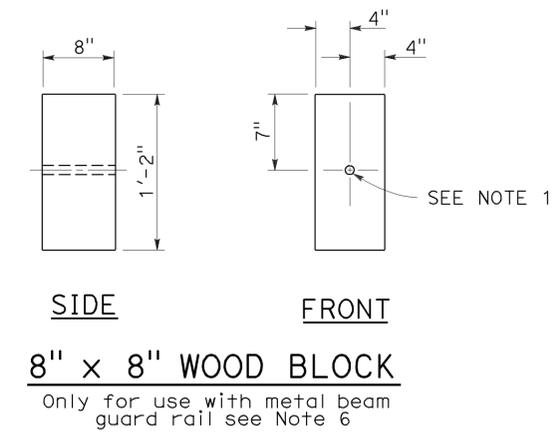
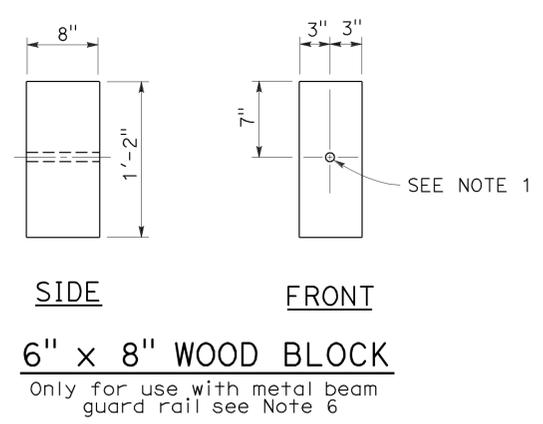
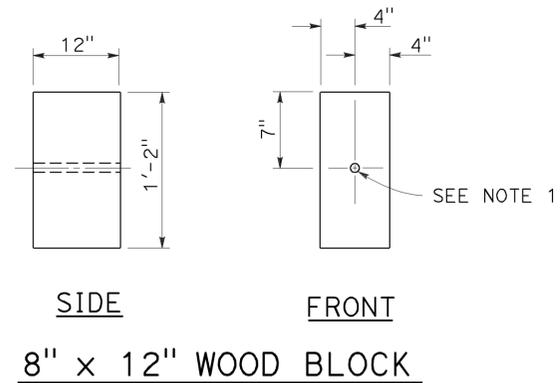
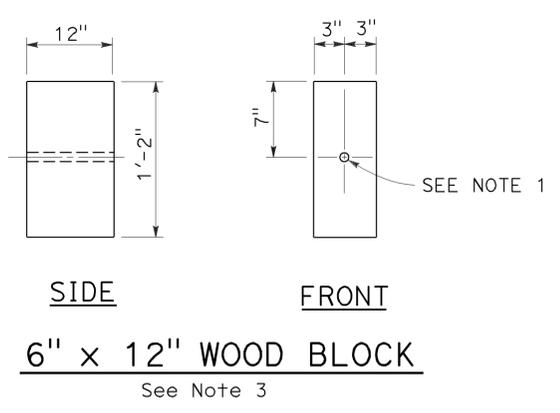
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-2-14



NOTES:

1. All holes in wood posts and blocks shall be $\frac{3}{4}$ " Dia \pm $\frac{1}{16}$ ".
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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	24	40

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 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.

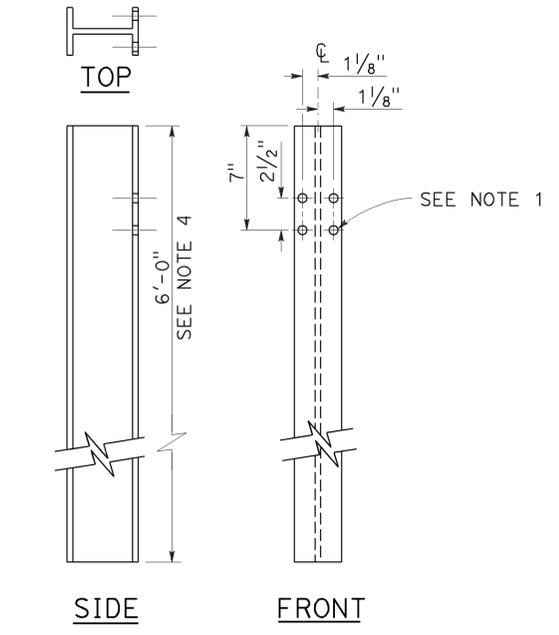
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-2-14

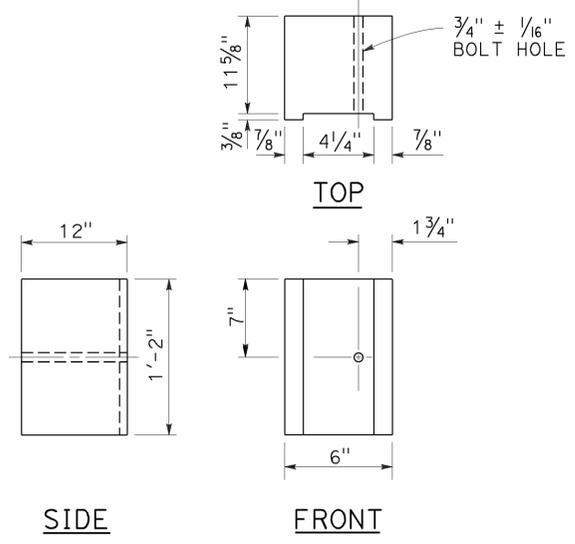
NOTES:

1. All holes in steel post shall be $\frac{13}{16}$ " 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.

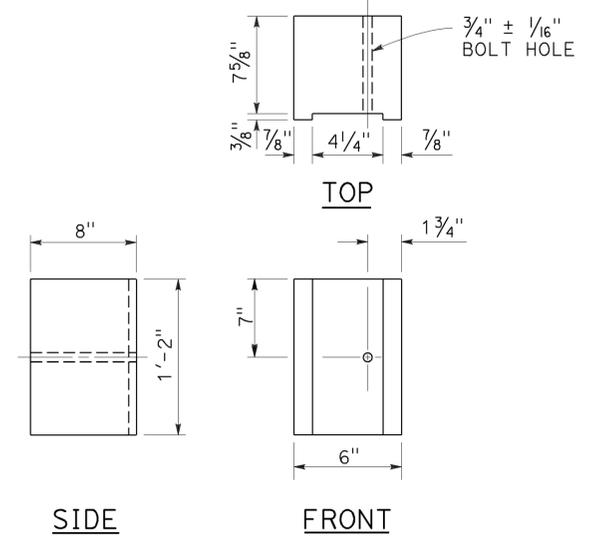
2010 REVISED STANDARD PLAN RSP A77N2



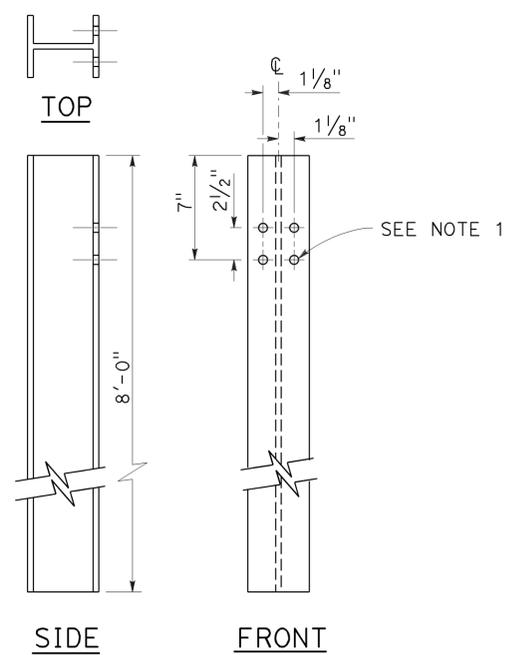
**W6 x 9 OR W6 x 8.5
STEEL POST**
See Note 4



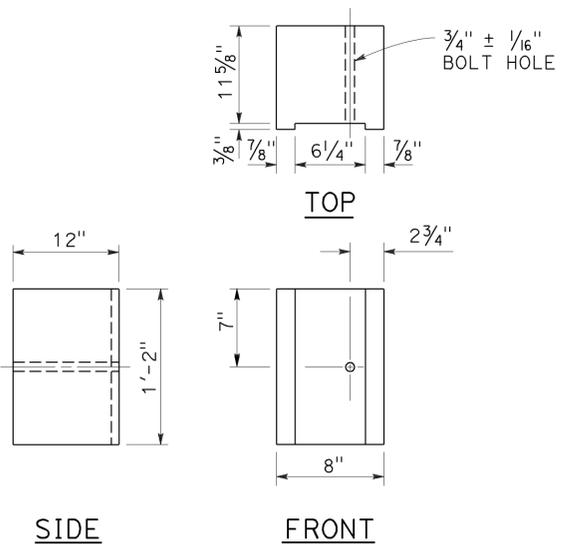
**6" x 12"
NOTCHED WOOD BLOCK**
See Notes 2 and 3



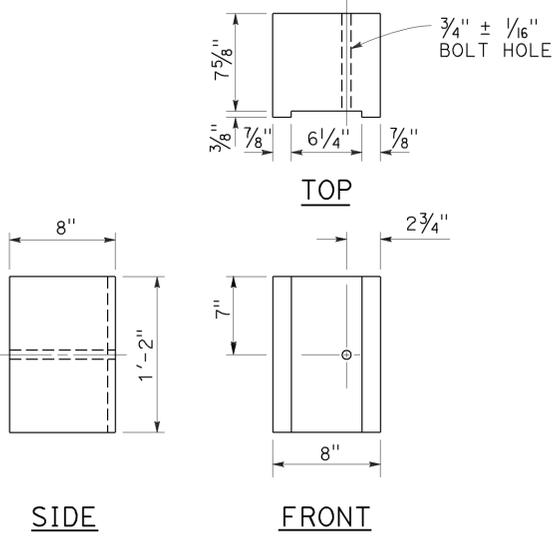
**6" x 8"
NOTCHED WOOD BLOCK**
Only for use with metal beam guard railing. See Note 5



**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.

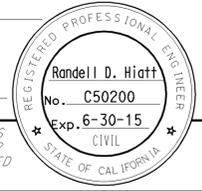
REVISED STANDARD PLAN RSP A77N2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	25	40

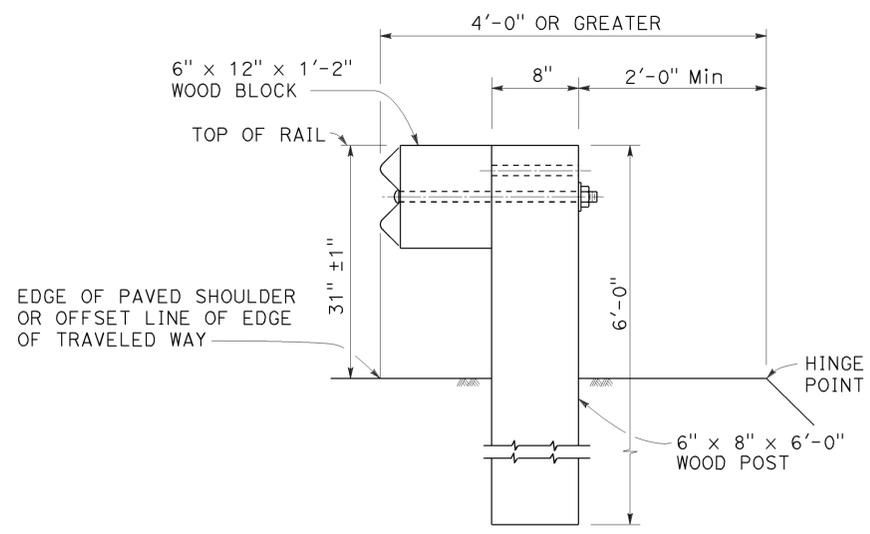
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

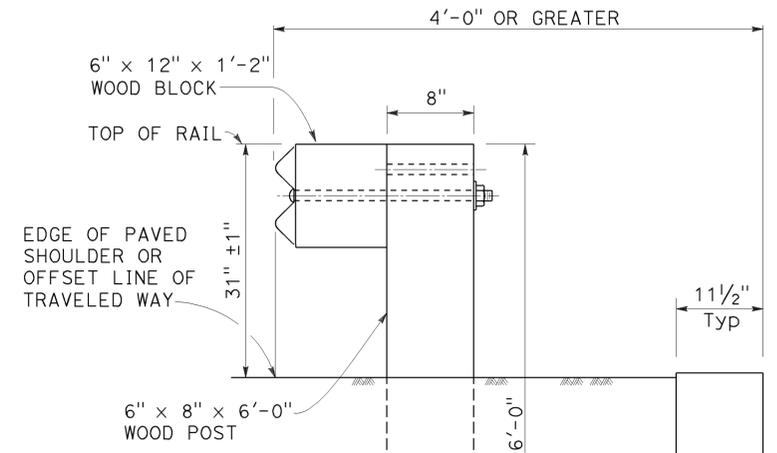
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



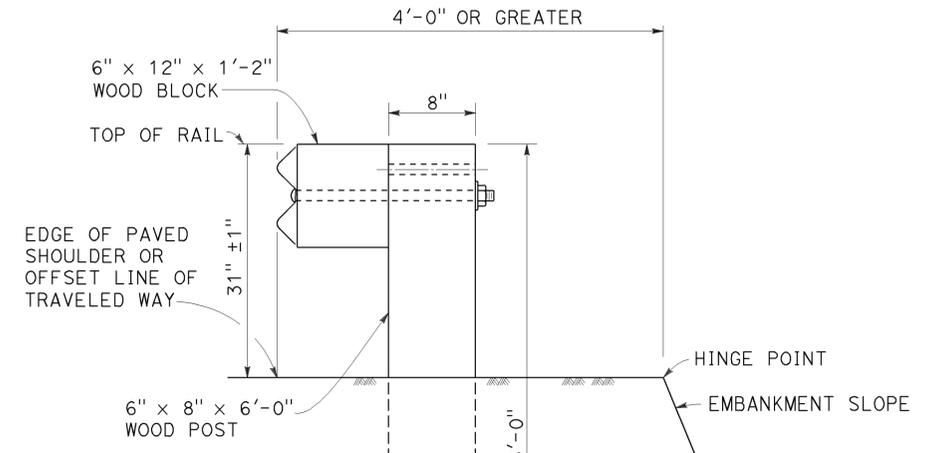
TO ACCOMPANY PLANS DATED 6-2-14



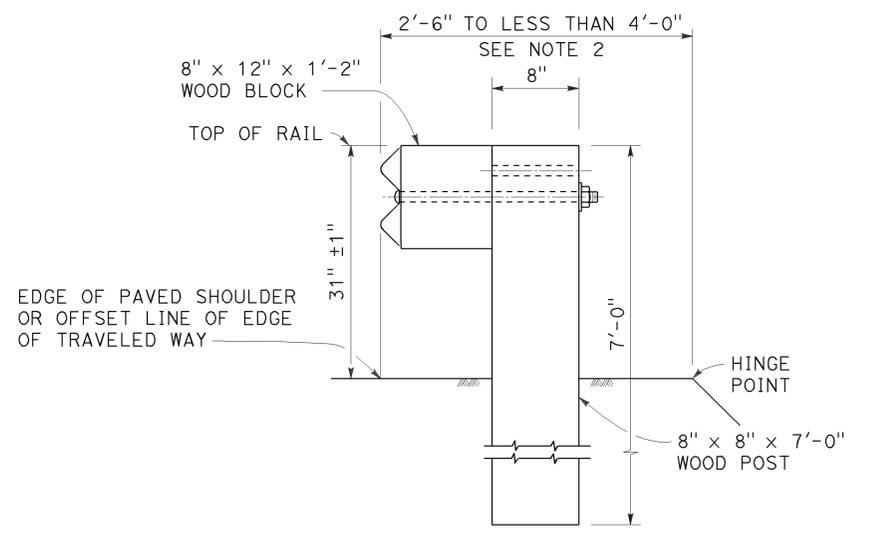
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL C



DETAIL D



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT

INSTALLATION AT EARTH RETAINING WALLS

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N3

2010 REVISED STANDARD PLAN RSP A77N3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	26	40

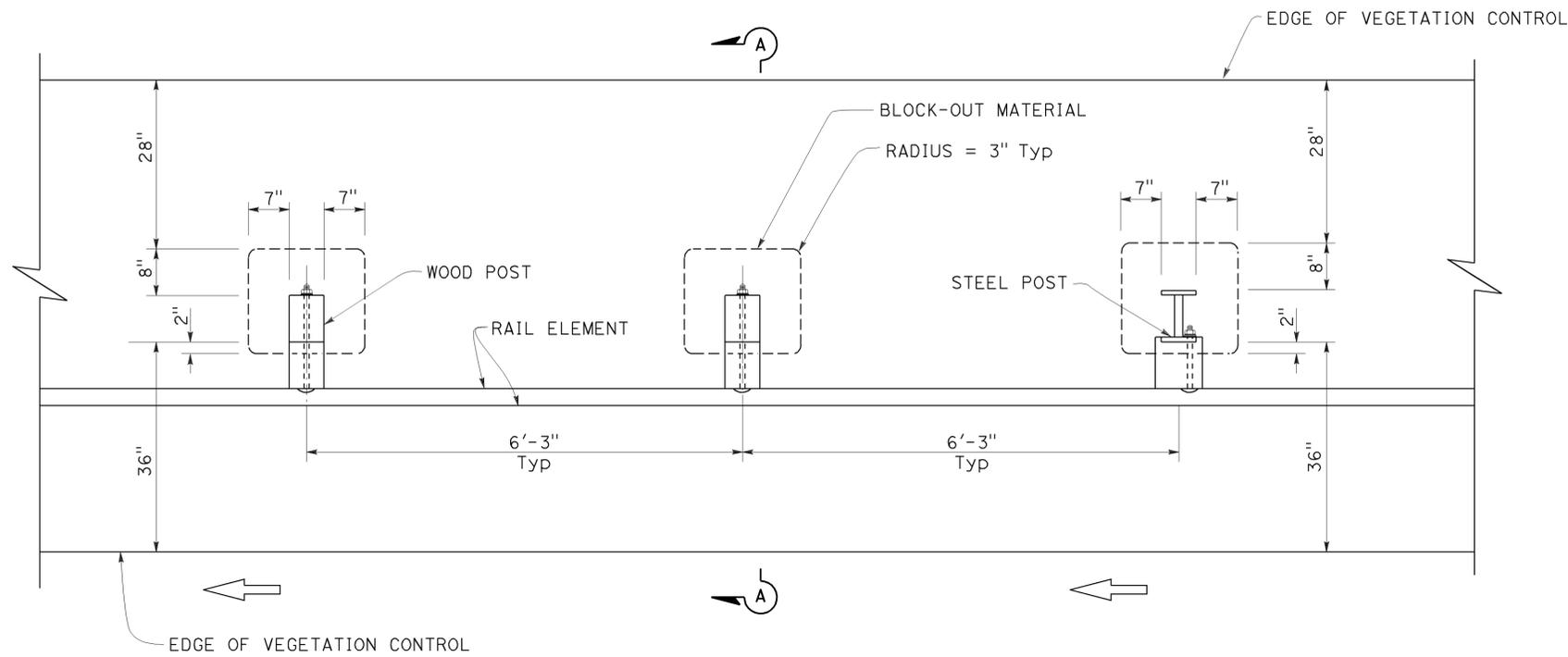
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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

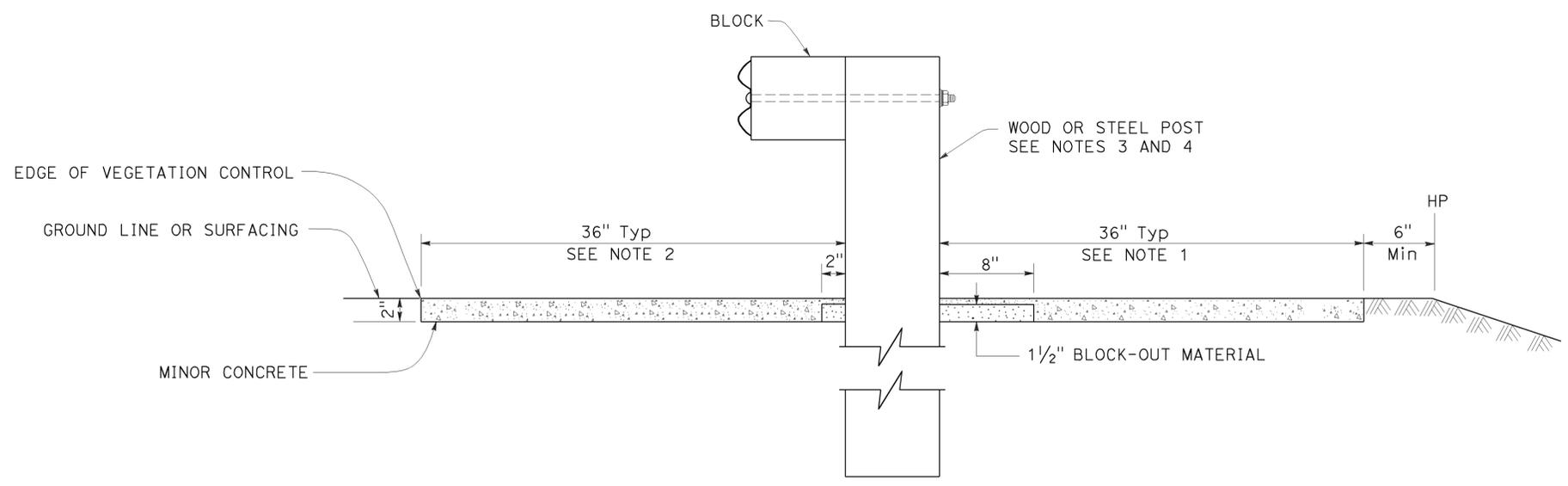
TO ACCOMPANY PLANS DATED 6-2-14



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood post sizes, see Revised Standard Plan RSP A77N1.
4. For steel post sizes, see Revised Standard Plan RSP A77N2.
5. For details not shown, see Revised Standard Plans RSP A77L1 and RSP A77L2.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

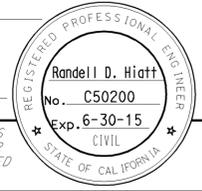
RSP A77N5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N5

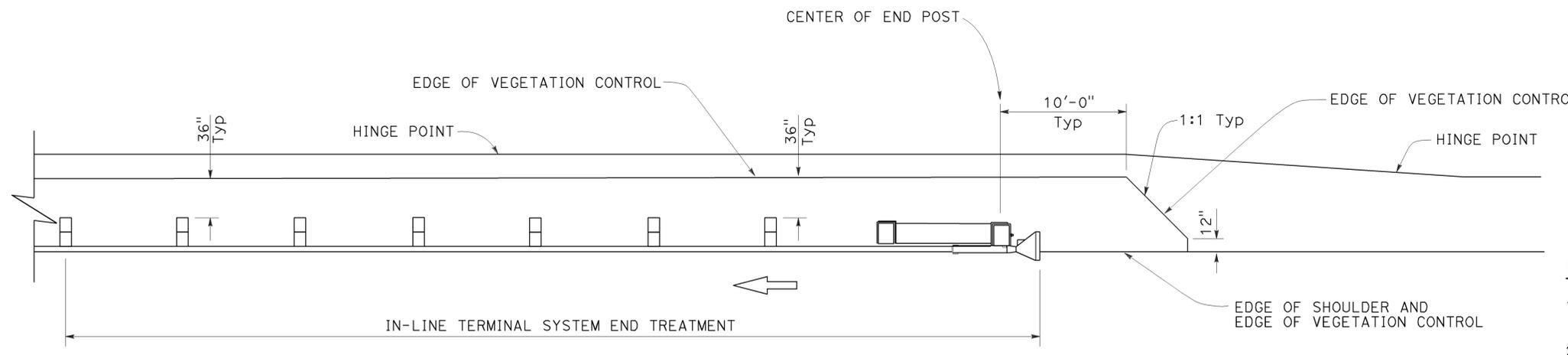
2010 REVISED STANDARD PLAN RSP A77N5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	27	40

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



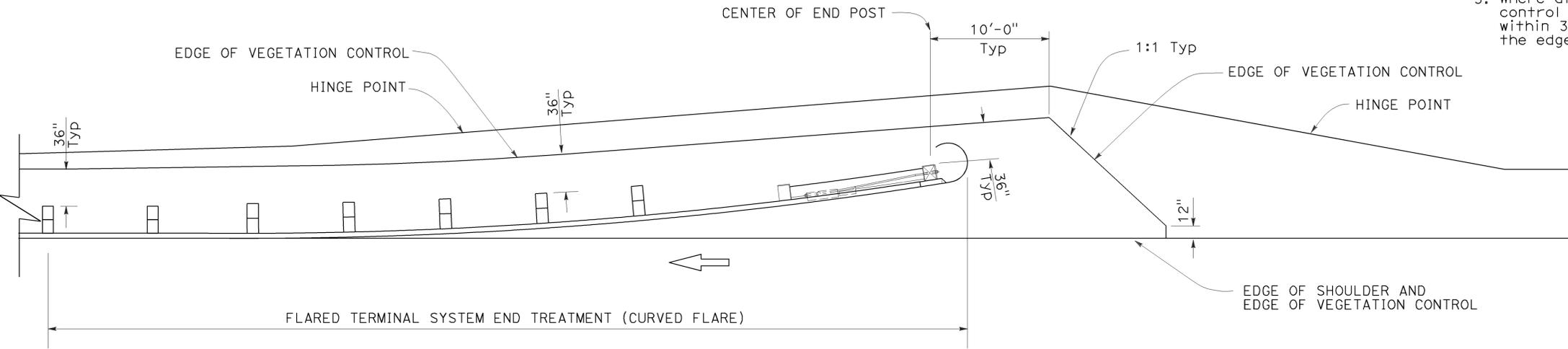
TO ACCOMPANY PLANS DATED 6-2-14



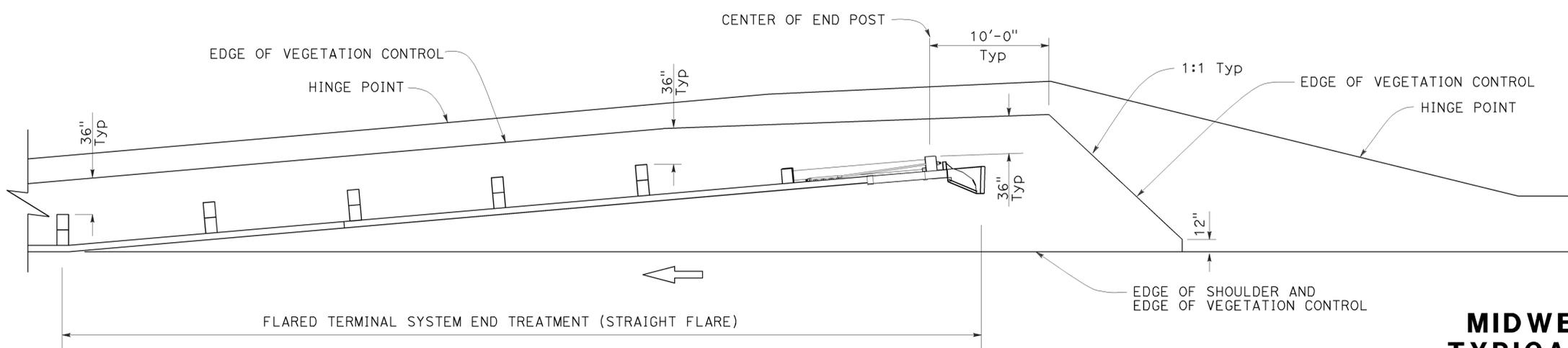
PLAN

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN



PLAN

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
 TYPICAL VEGETATION CONTROL
 FOR TERMINAL SYSTEM END TREATMENTS**
 NO SCALE

RSP A77N6 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N6

2010 REVISED STANDARD PLAN RSP A77N6

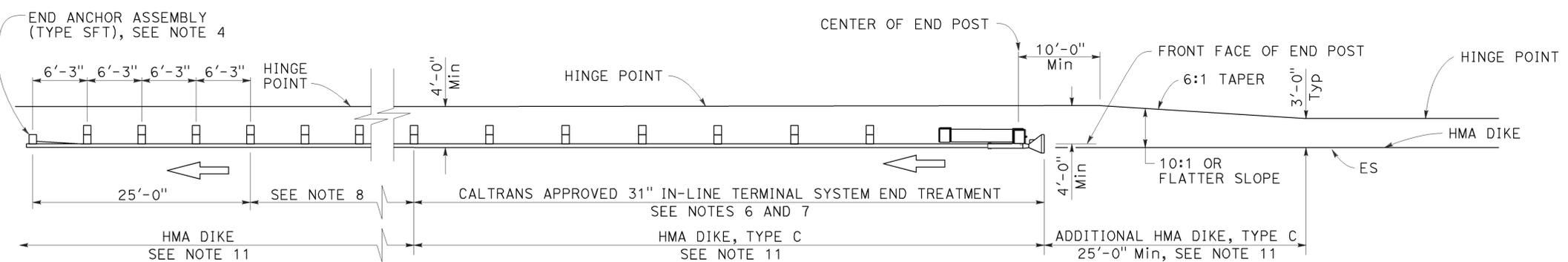
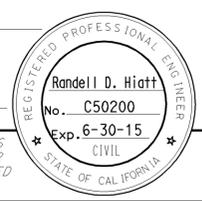
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	28	40

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

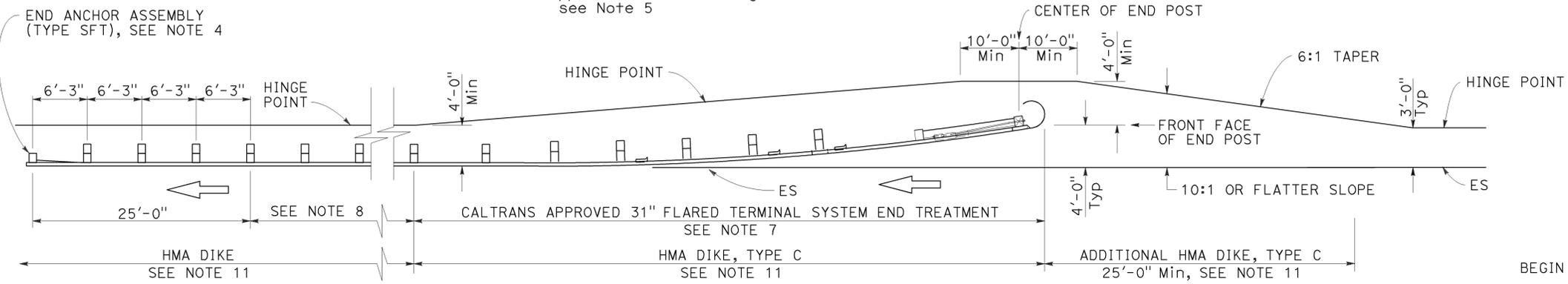
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 6-2-14



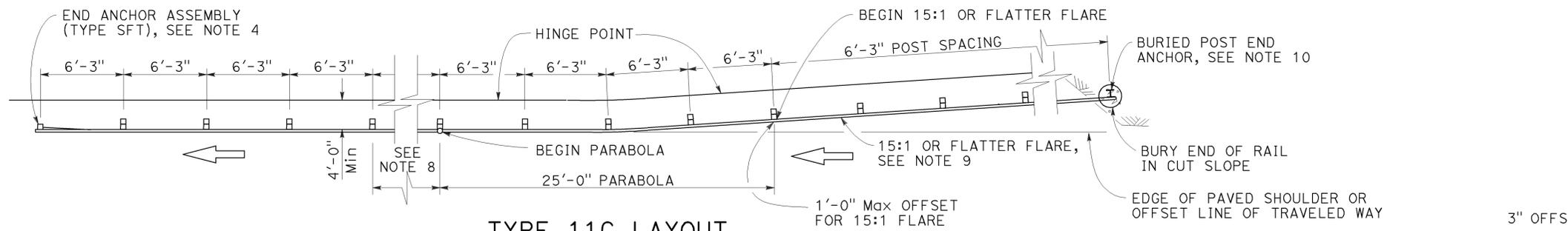
TYPE 11A LAYOUT

(Embankment MGS installation with 31" in-line end treatment at traffic approach end of railing) see Note 5



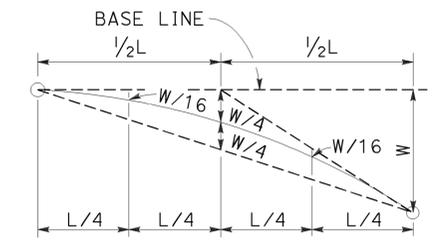
TYPE 11B LAYOUT

(Embankment MGS installation with 31" flared end treatment at traffic approach end of railing) see Note 5

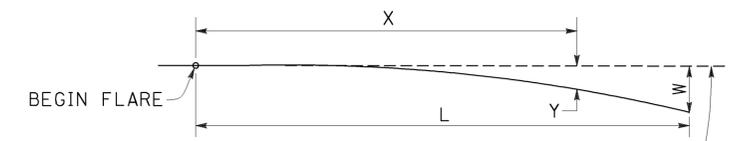


TYPE 11C LAYOUT

(Embankment MGS installation with buried end anchor treatment at traffic approach end of railing) see Notes 5 and 11



TYPICAL PARABOLIC LAYOUT

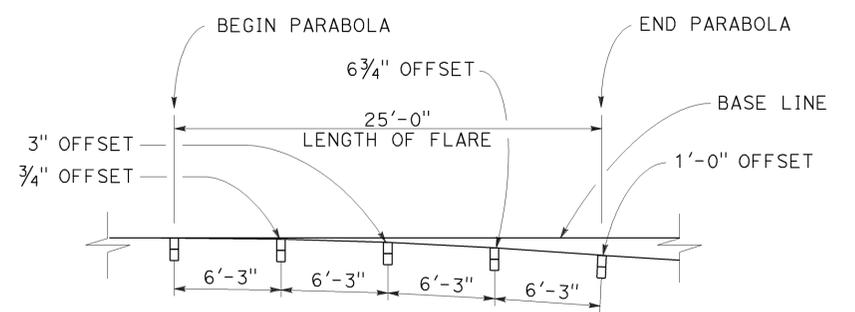


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

$$Y = \frac{WX^2}{L^2}$$

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS



TYPICAL FLARE OFFSETS FOR 1 FOOT Max END OFFSET

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or recycled plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- Layout Types 11A, 11B or 11C are typically used where MGS is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional MGS (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11C Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77P1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77P1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77P1

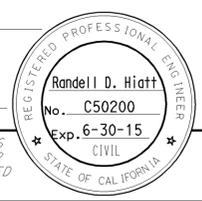
2010 REVISED STANDARD PLAN RSP A77P1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	30	40

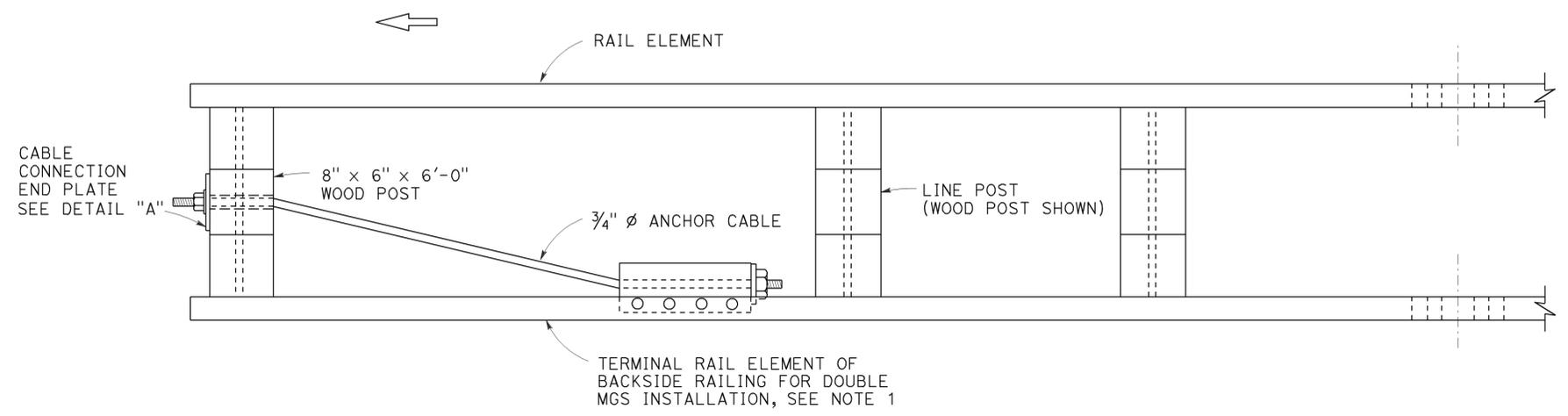
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

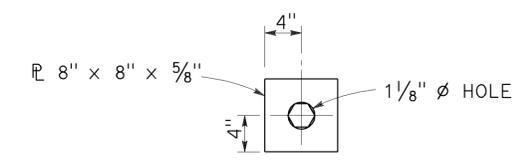
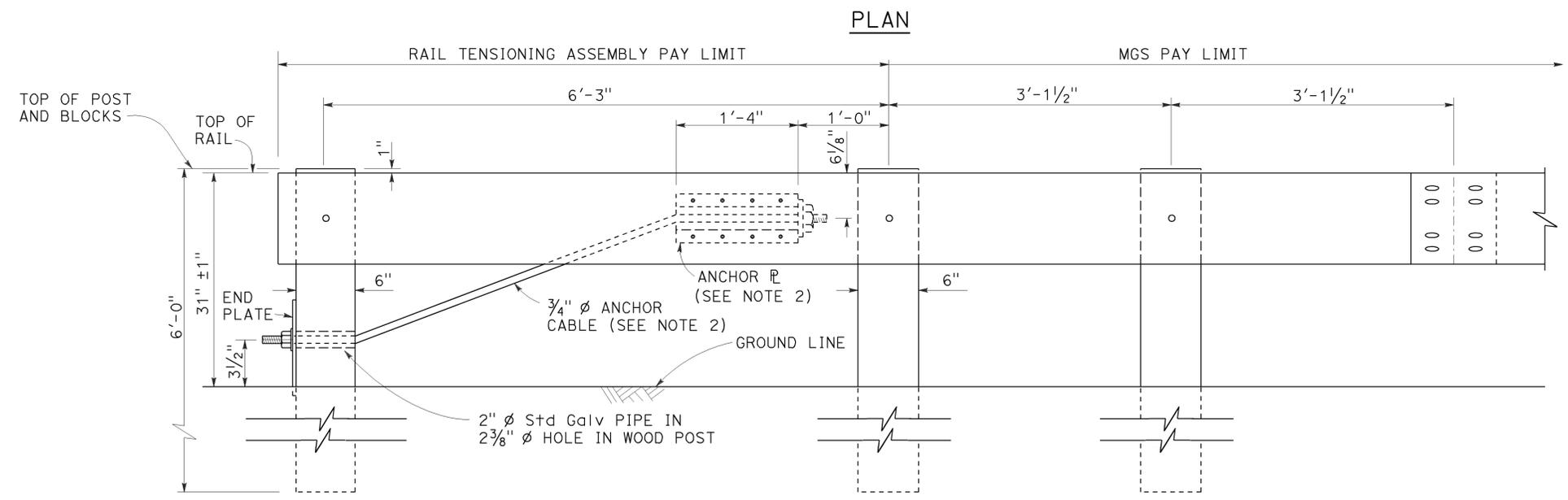


TO ACCOMPANY PLANS DATED 6-2-14



NOTES:

1. See Revised Standard Plans RSP A77Q3 and RSP A77R1 for typical use of rail tensioning assembly.
2. For details of the anchor plate and 3/4" cable, see Revised Standard Plan RSP A77S3.



DETAIL "A"
CABLE CONNECTION
END PLATE

ELEVATION
RAIL TENSIONING
ASSEMBLY
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
RAIL TENSIONING ASSEMBLY

NO SCALE

RSP A77S2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77S2

2010 REVISED STANDARD PLAN RSP A77S2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	31	40

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

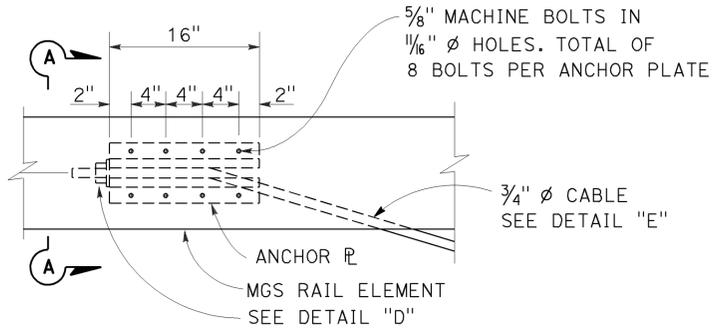
November 15, 2013
PLANS APPROVAL DATE

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.

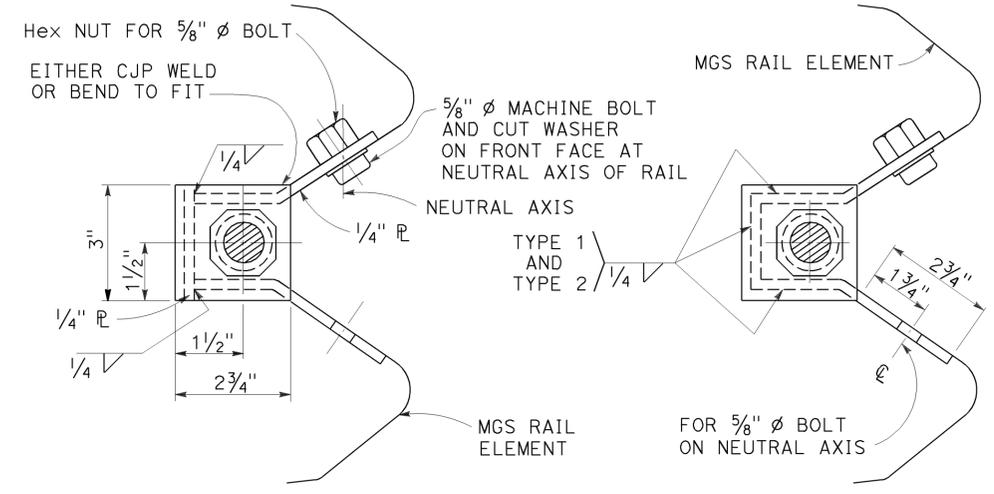
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-2-14

NOTE:
See Revised Standard Plans RSP A77S1, RSP A77S2 and RSP A77T1 for typical use of anchor cable and anchor plate.



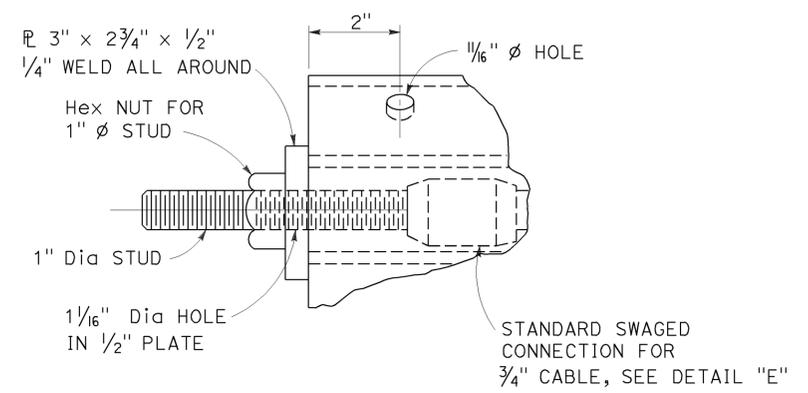
ANCHOR PLATE DETAIL
(MGS shown, TBB similar)



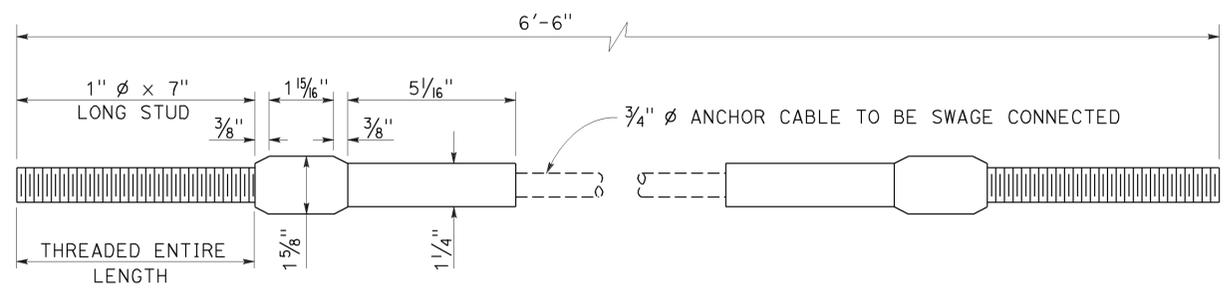
SECTION A-A (ALTERNATIVE TYPE 1)

SECTION A-A (ALTERNATIVE TYPE 2)

NOTE:
Dimensioning applies to both types.



DETAIL "D"



ANCHOR CABLE WITH SWAGED FITTING AND STUD
DETAIL "E"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL RAILING
ANCHOR CABLE AND
ANCHOR PLATE DETAILS**

NO SCALE

RSP A77S3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S3 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A77S3

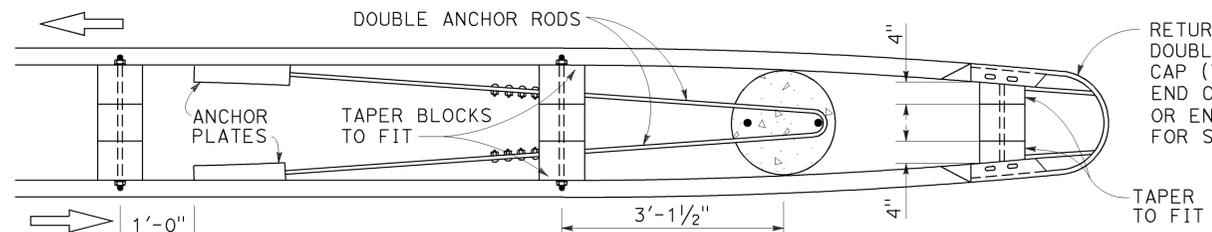
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	32	40

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

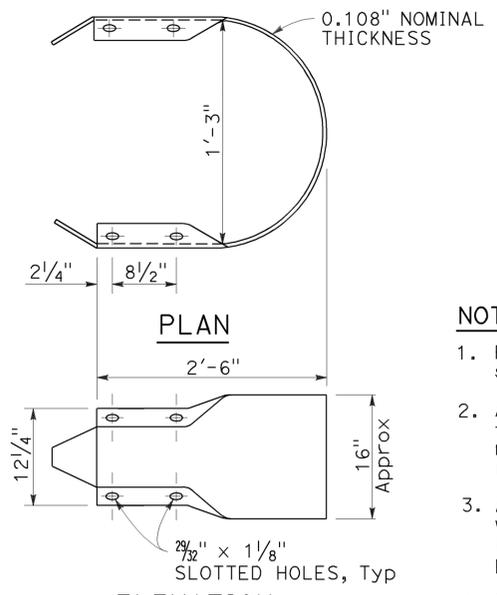
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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



PLAN
See Note 4

RETURN CAP (TYPE TA) FOR DOUBLE THRIE BEAM OR RETURN CAP (TYPE A) FOR DOUBLE MGS.
END CAP (TYPE A) FOR SINGLE MGS OR END CAP (TYPE TC) FOR SINGLE THRIE BEAM

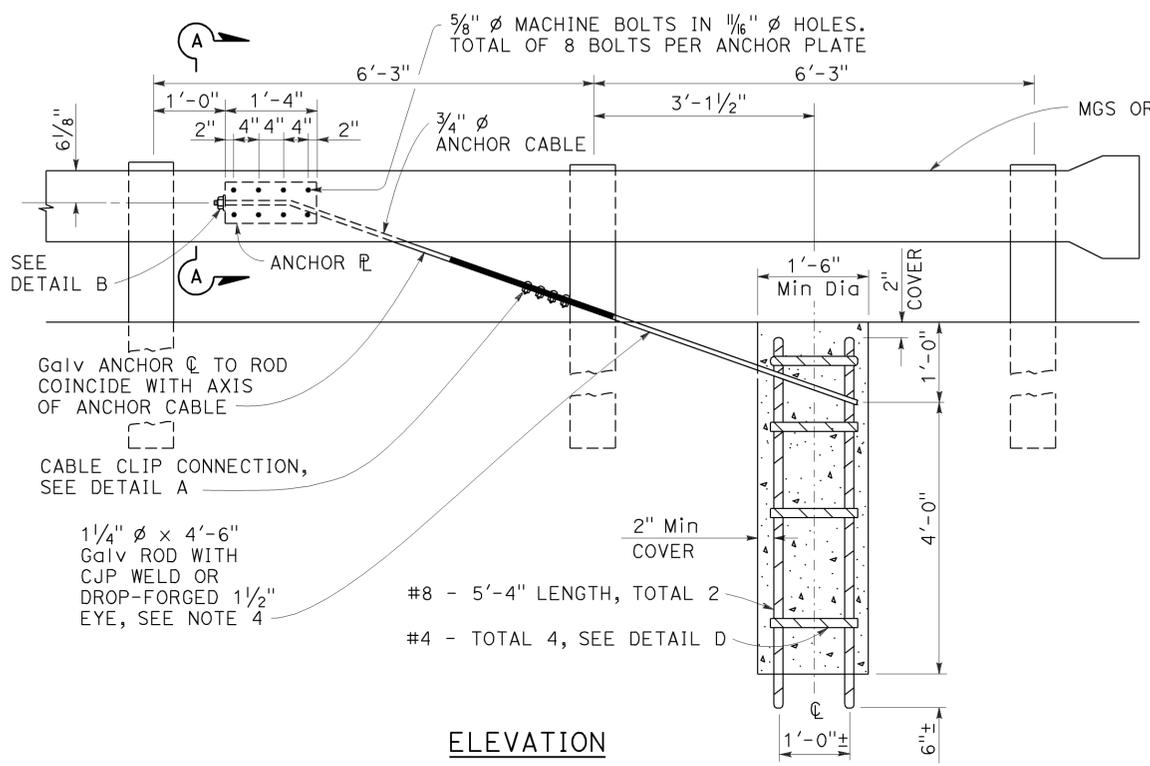


ELEVATION
RETURN CAP
(TYPE A)

TO ACCOMPANY PLANS DATED 6-2-14

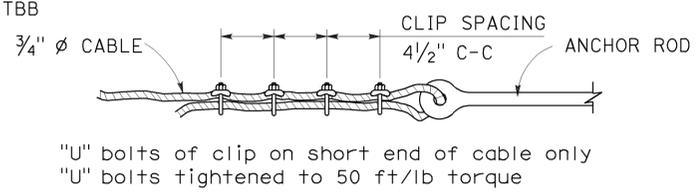
NOTES:

1. For typical use of this type of end anchor, see Revised Standard Plan RSP A78E2.
2. Anchor cable to be parallel to railing for straight runs of rail. Anchor cable may have angle point at anchor plate if railing is curved.
3. Anchor rod hooks to be in contact with anchor reinforcement when concrete is placed. Wire ties may be used to position anchor rods.
4. Single sided railing installations require only one anchor plate, anchor rod and anchor cable. Single sided railing will not have a rail element or blockouts on backside of line posts as shown in the plan view.

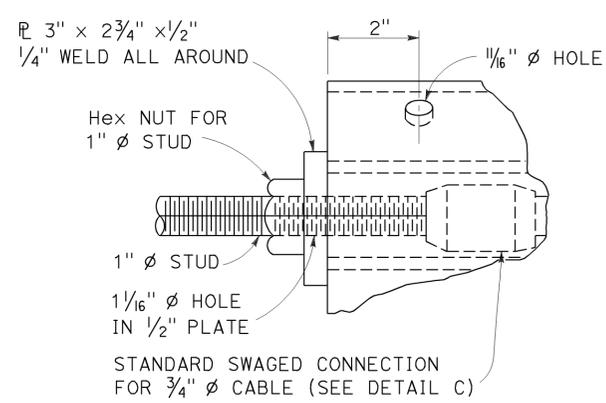


ELEVATION
END ANCHOR ASSEMBLY
(TYPE CA)

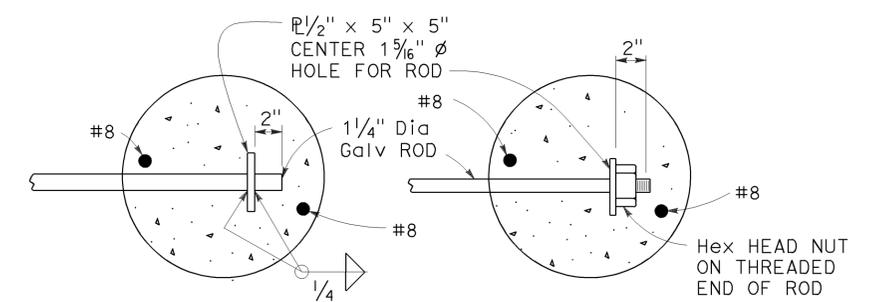
(Wood post, MGS shown, details similar for Thrie Beam Barrier.)



DETAIL A
CABLE CLIP CONNECTION



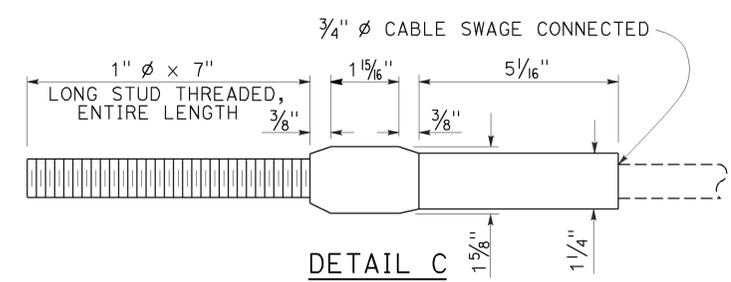
DETAIL B



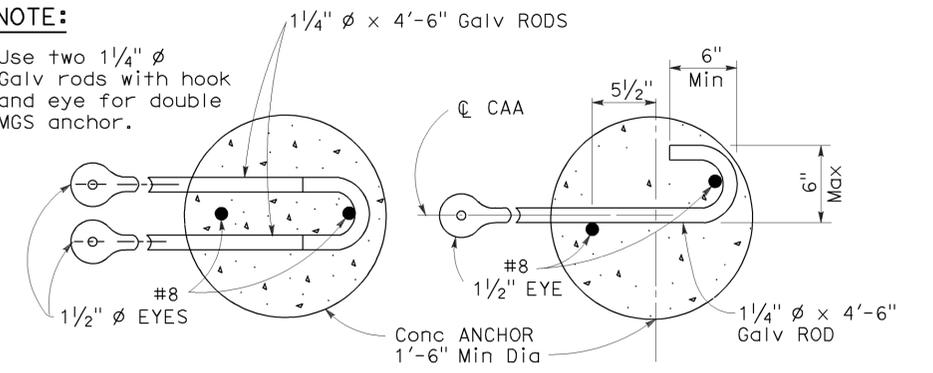
OPTIONAL ENDS ON SINGLE ANCHOR ROD
(Not to be used for double anchors)

NOTE:

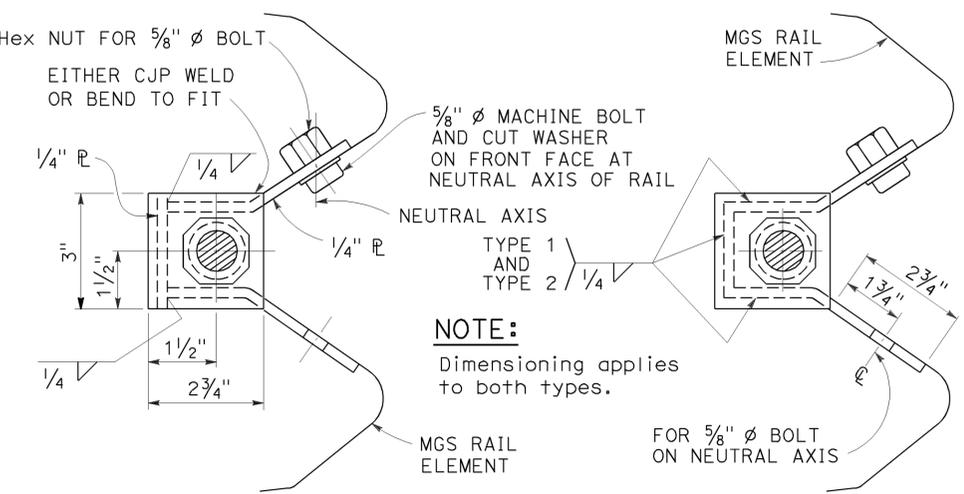
Use two 1/4 inch diameter galvanized rods with hook and eye for double MGS anchor.



DETAIL C
ANCHOR CABLE WITH
SWAGED FITTING AND STUD

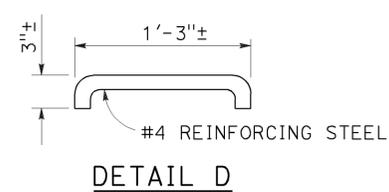


DOUBLE ANCHOR **SINGLE ANCHOR**
ANCHOR RODS



SECTION A-A (Alternative Type 1)
SECTION A-A (Alternative Type 2)
ANCHOR PLATE DETAILS

NOTE:
Dimensioning applies to both types.



DETAIL D

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

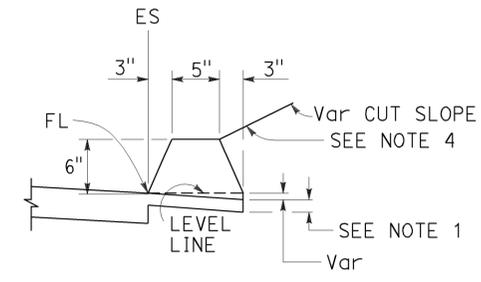
METAL RAILING END ANCHOR ASSEMBLY (TYPE CA)
NO SCALE

RSP A77T1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77T1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

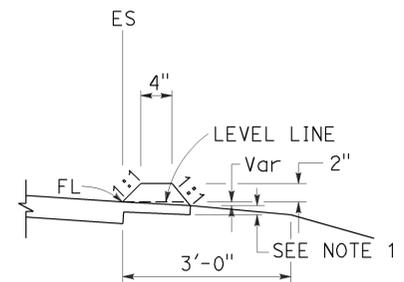
REVISED STANDARD PLAN RSP A77T1

2010 REVISED STANDARD PLAN RSP A77T1

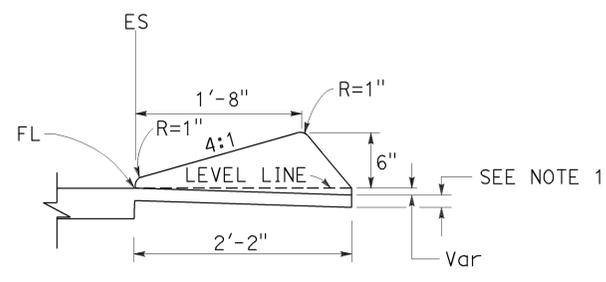
TO ACCOMPANY PLANS DATED 6-2-14



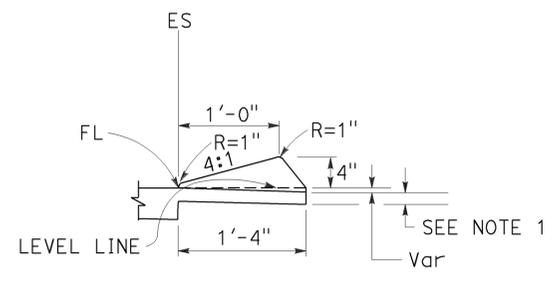
TYPE A
See Note 3



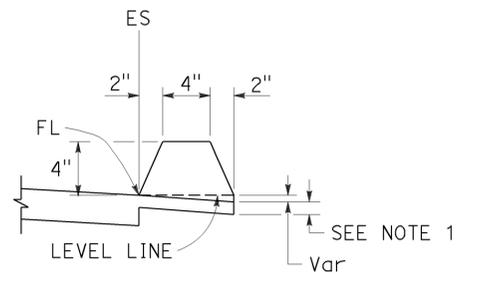
TYPE C



TYPE D

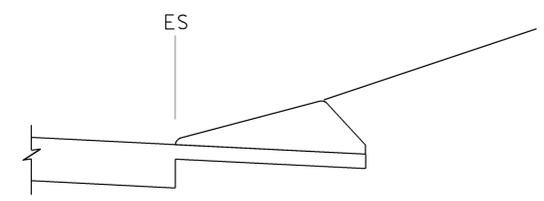


TYPE E

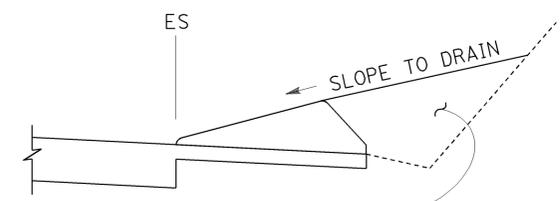


TYPE F
See Note 5

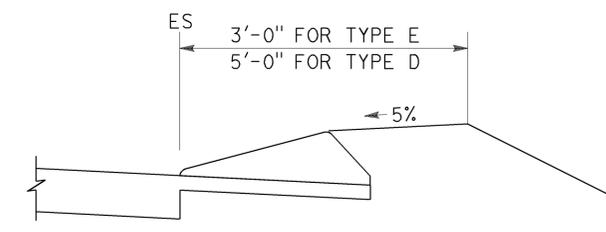
DIKES



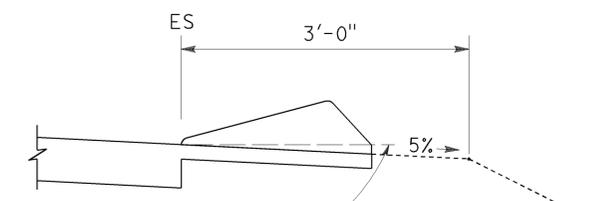
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

1. 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.
2. Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
3. Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
4. Fill and compact with excavated material to top of dike.
5. 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

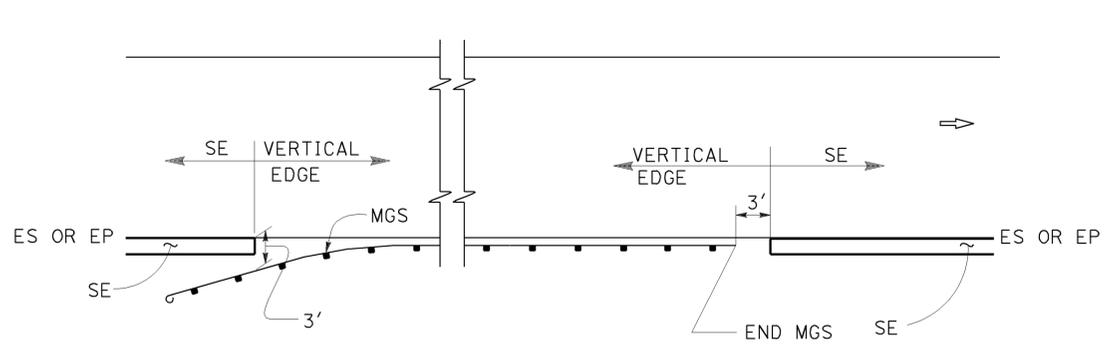
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	34	40

REGISTERED CIVIL ENGINEER
 November 15, 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.

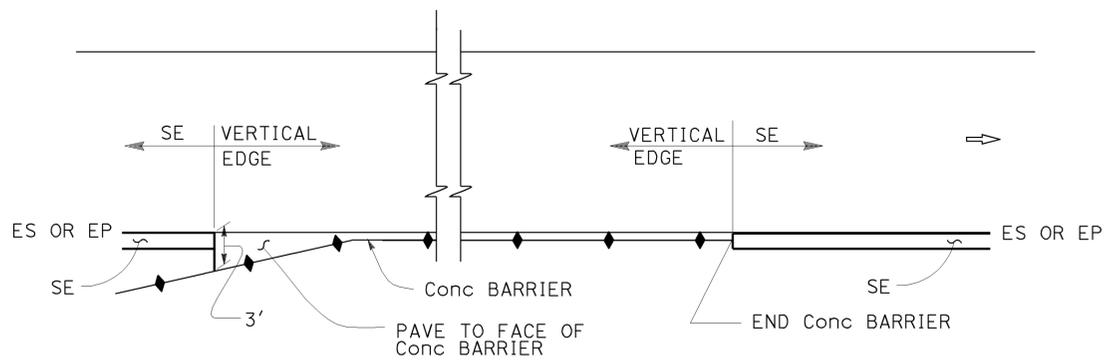
REGISTERED PROFESSIONAL ENGINEER
 Cornelis M. Hakim
 No. C55610
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-2-14

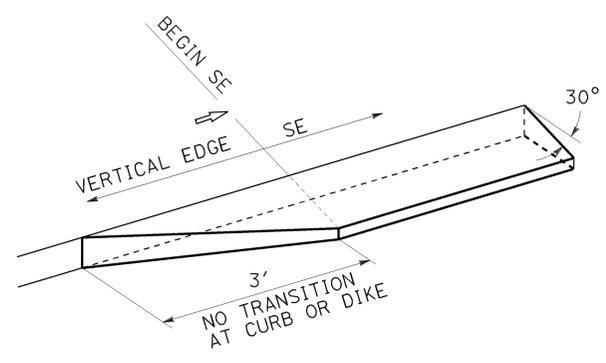
ABBREVIATIONS:
SE SAFETY EDGE



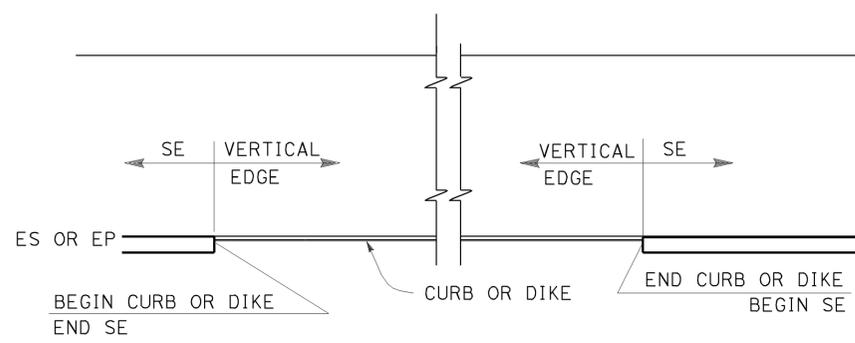
MGS



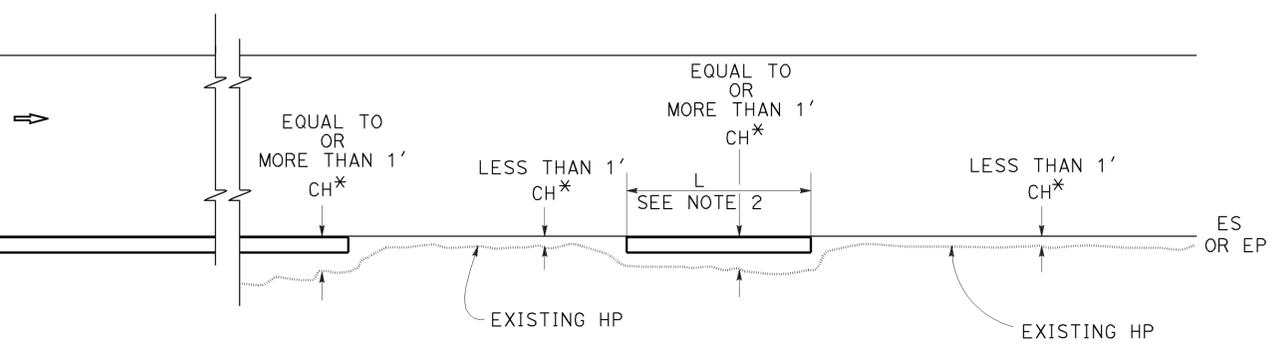
CONCRETE BARRIER



TRANSITION DETAIL FOR CONCRETE ONLY

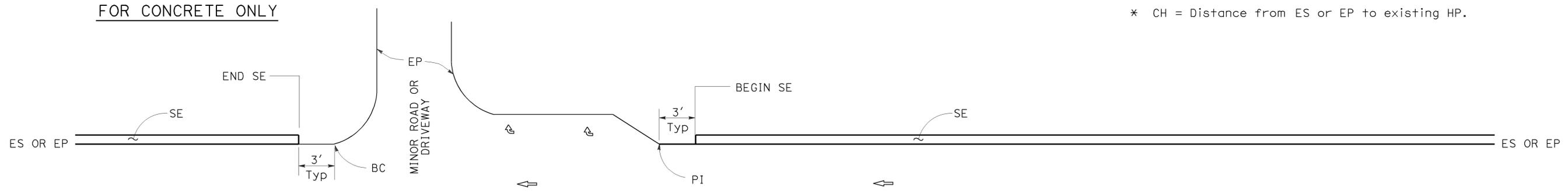


CURB OR DIKE



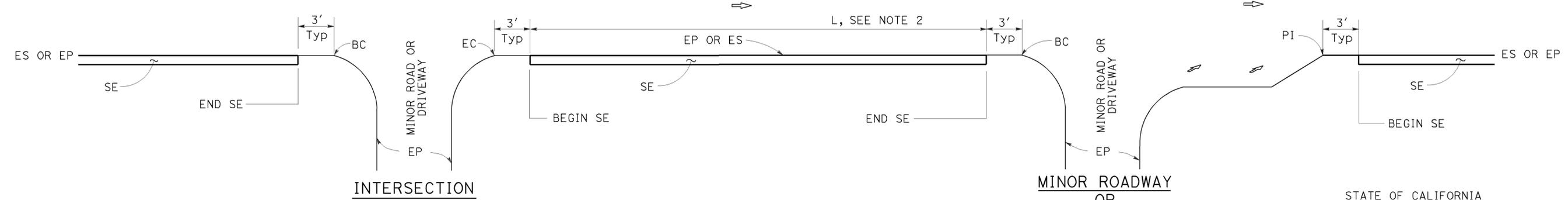
NARROW SIDE SLOPE

* 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:**
- For details not shown, see Revised Standard Plans RSP P75 and RSP P76.
 - 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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	35	40



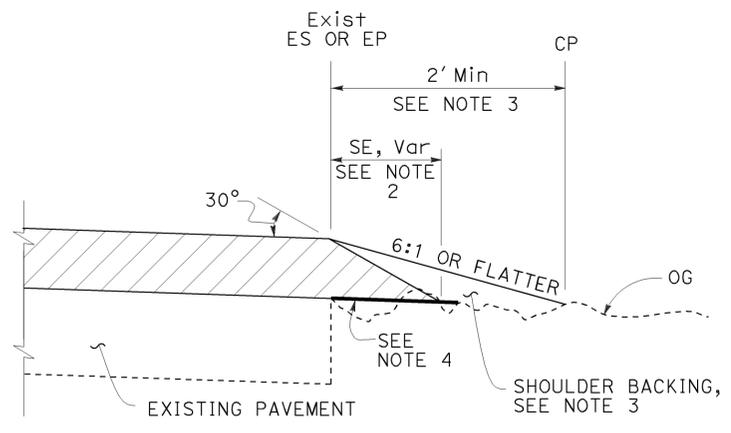
 REGISTERED CIVIL ENGINEER
 November 15, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 6-2-14

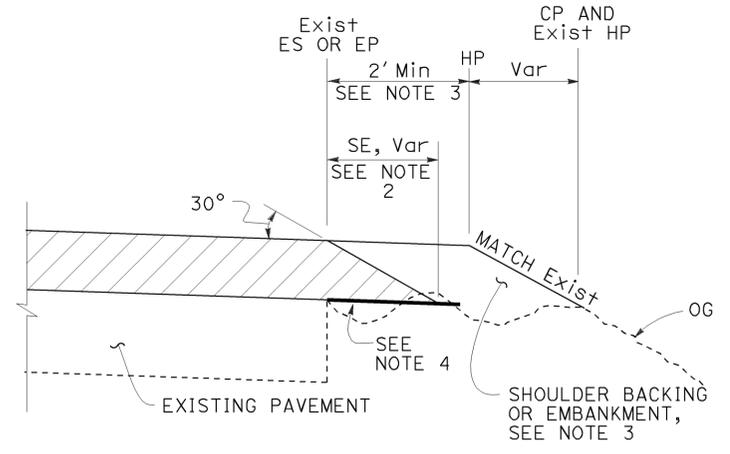
ADDITIONAL HMA OR CONCRETE QUANTITIES FOR SE/SIDE/MILE

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
	1.20'	292.1	144.3	184.2

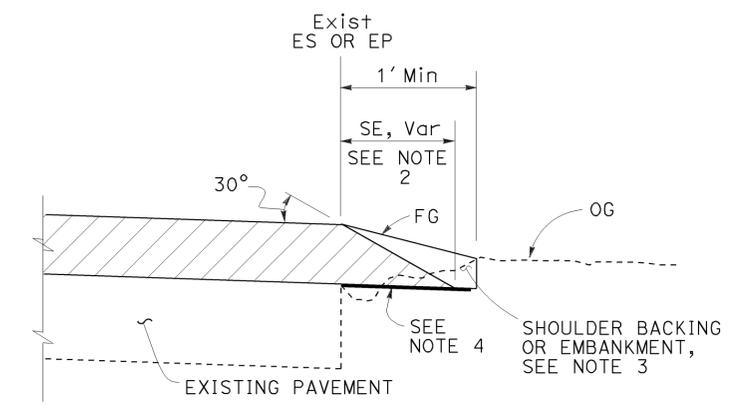
* For Detail "A"
 ** For Optional Detail "A"



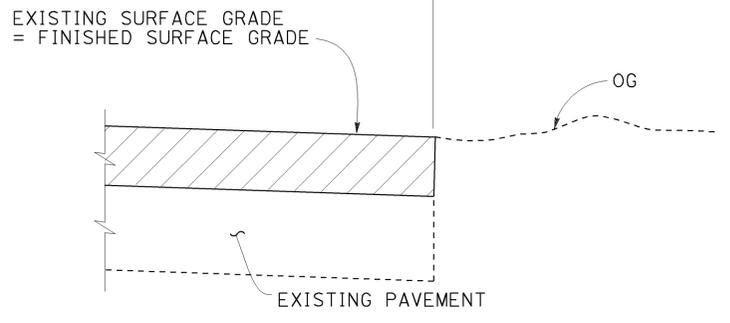
CASE A
Safety Edge



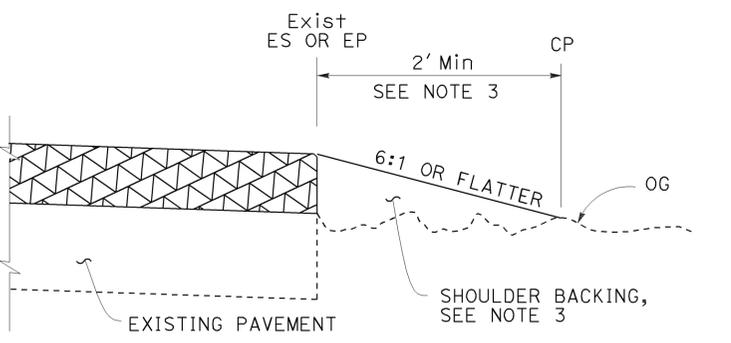
CASE B
Safety Edge



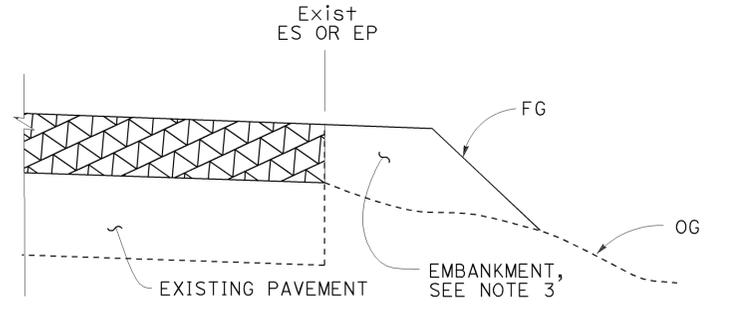
CASE C
Safety Edge



CASE D
Vertical Edge



CASE E
Vertical Edge

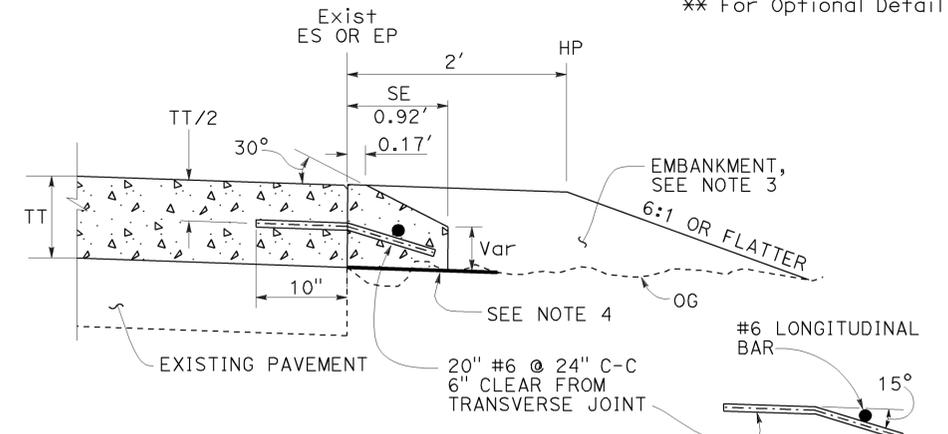


CASE F
Vertical Edge
* See Table A and Revised Std Plan RSP P74

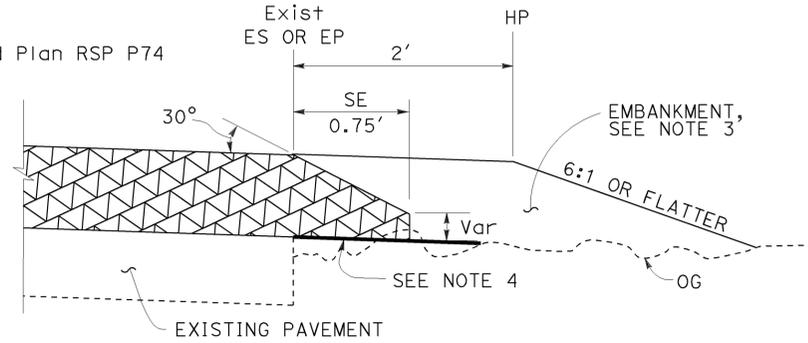
- NOTES:**
- For limits of safety edge and vertical edge treatments, see Revised Standard Plan RSP P74.
 - Details shown for HMA overlay thickness less than 0.43'. See Detail "A" for HMA overlay thickness more than 0.43' or concrete overlay.
 - For locations and limits of shoulder backing or embankment 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.

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



OPTIONAL DETAIL "A"
For concrete overlay
See Note 5



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

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

2010 REVISED STANDARD PLAN RSP P75

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	36	40

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 6-2-14

A

AB AGGREGATE BASE
 ABS ACRYLONITRILE-BUTADIENE-STYRENE
 AC ASPHALT CONCRETE
 ACC ARMOR-CLAD CONDUCTORS
 Adj ADJACENT/ADJUSTABLE
 AIC AUXILIARY IRRIGATION CONTROLLER
 Alt ALTERNATIVE
 AMEND AMENDMENT
 ARV AIR RELEASE VALVE
 AUTO AUTOMATIC
 AUX AUXILIARY
 AVB ATMOSPHERIC VACUUM BREAKER

B

B&B BALLED AND BURLAPPED
 B/B BRASS/BRONZE
 B/B/PL BRASS/BRONZE/PLASTIC
 B/PL BRASS/PLASTIC
 BFM BONDED FIBER MATRIX
 Bit Ctd BITUMINOUS COATED
 BP BOOSTER PUMP
 BPA BACKFLOW PREVENTER ASSEMBLY
 BPE BACKFLOW PREVENTER ENCLOSURE
 BV BALL VALVE

C

C CONDUIT
 CAP CORRUGATED ALUMINUM PIPE
 CARV COMBINATION AIR RELEASE VALVE
 CB COUPLING BAND
 CCA CAM COUPLER ASSEMBLY
 CEC CONTROLLER ENCLOSURE CABINET
 CHDPE CORRUGATED HIGH DENSITY POLYETHYLENE
 CL CHAIN LINK
 CNC CONTROL AND NEUTRAL CONDUCTORS
 Conc CONCRETE
 CP COPPER PIPE
 CS COMPOST SOCK
 CSP CORRUGATED STEEL PIPE
 CST CENTER STRIP
 CV CHECK VALVE

D

Dia DIAMETER
 DIP DUCTILE IRON PIPE
 DIT DRIP IRRIGATION TUBING
 DG DECOMPOSED GRANITE
 DN DIAMETER NOMINAL
 DVA DRIP VALVE ASSEMBLY

E

EC EROSION CONTROL
 ECTC EROSION CONTROL TECHNOLOGY COUNCIL
 ElecT ELECTRIC/ELECTRICAL
 Elev ELEVATION
 ELL ELBOW
 ENCL ENCLOSURE
 EP EDGE OF PAVEMENT
 ES EDGE OF SHOULDER
 EST END STRIP
 ESTB ESTABLISHMENT
 ETW EDGE OF TRAVELED WAY

F

F FULL CIRCLE
 F/P FULL/PART CIRCLE
 FCV FLOW CONTROL VALVE
 FERT FERTILIZER
 FG FINISHED GRADE
 FH FLEXIBLE HOSE
 FIPT FEMALE IRON PIPE THREAD
 FIS FERTILIZER INJECTOR SYSTEM
 FL FLOW LINE
 FR FIBER ROLL
 FS FLOW SENSOR
 FSC FLOW SENSOR CABLE
 FV FLUSH VALVE

G

Galv GALVANIZED
 GARV GARDEN VALVE
 GARVA GARDEN VALVE ASSEMBLY
 GM GRAVEL MULCH
 GPH GALLONS PER HOUR
 GPM GALLONS PER MINUTE
 GSP GALVANIZED STEEL PIPE
 GV GATE VALVE

H

H HALF CIRCLE
 HDPE HIGH DENSITY POLYETHYLENE
 HP HORSEPOWER/HINGE POINT
 HPL HIGH PRESSURE LINE
 Hwy HIGHWAY

I

IC IRRIGATION CONTROLLER
 ICC IRRIGATION CONTROLLER(S)
 IN CONTROLLER ENCLOSURE CABINET
 ID INSIDE DIAMETER
 IFS IRRIGATION FILTRATION SYSTEM
 IPS IRON PIPE SIZE
 IPT IRON PIPE THREAD
 Irr IRRIGATION

L

L LENGTH

M

Max MAXIMUM
 MBGR METAL BEAM GUARD RAILING
 MCV MANUAL CONTROL VALVE
 MIC MASTER IRRIGATION CONTROLLER
 Min MINIMUM
 MIPT MALE IRON PIPE THREAD
 Misc MISCELLANEOUS
 MtI MATERIAL
 MVP MAINTENANCE VEHICLE PULLOUT

N

NCN NO COMMON NAME
 NL NOZZLE LINE
 No. NUMBER
 NPT NATIONAL PIPE THREAD

O

O/C ON CENTER
 OD OUTSIDE DIAMETER
 OL OVERLAP

P

P PART CIRCLE
 PB PULL BOX
 PCC PORTLAND CEMENT CONCRETE
 PE POLYETHYLENE
 Pkt+ PACKET
 PL PLASTIC
 PLS PURE LIVE SEED
 PLT PLANT/PLANTING
 PLT ESTB PLANT ESTABLISHMENT
 PM POST MILE
 PR PRESSURE RATED
 PRLV PRESSURE RELIEF VALVE
 PRV PRESSURE REGULATING VALVE
 PVC POLYVINYL CHLORIDE
 Pvm+ PAVEMENT

Q

Q QUARTER CIRCLE
 QCV QUICK COUPLING VALVE

NOTE:
 For additional abbreviations,
 see Standard Plans A10A and A10B.

R

R RADIUS
 RCP REINFORCED CONCRETE PIPE
 RCV REMOTE CONTROL VALVE
 RCVM REMOTE CONTROL VALVE (MASTER)
 RCVMF REMOTE CONTROL VALVE (MASTER) W/FLOW
 SENSOR
 RCVP REMOTE CONTROL VALVE W/PRESSURE
 REGULATOR
 RCW RECYCLED WATER
 RECP ROLLED EROSION CONTROL PRODUCT
 REQ REQUIRED
 RICS REMOTE IRRIGATION CONTROL SYSTEM
 R/W RIGHT OF WAY

S

S SLIP
 SCH SCHEDULE
 SF STATE-FURNISHED
 Shld SHOULDER
 Sq SQUARE
 SST SIDE STRIP
 Sta STATION
 Std STANDARD
 SW SIDEWALK/SOUND WALL

T

T THIRD CIRCLE/THREAD
 TLS TRUCK LOADING STANDPIPE
 TQ THREE QUARTER CIRCLE
 TRM TURF REINFORCEMENT MAT
 TT TWO-THIRDS CIRCLE
 TWSA TREE WELL SPRINKLER ASSEMBLY
 Typ TYPICAL

U

UG UNDERGROUND

W

W WIDTH
 W/ WITH
 WM WATER METER
 WS WYE STRAINER
 WSA WYE STRAINER ASSEMBLY
 WSP WELDED STEEL PIPE
 WWM WELDED WIRE MESH

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**LANDSCAPE AND
 EROSION CONTROL ABBREVIATIONS**
 NO SCALE

RSP H1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H1
 DATED MAY 20, 2011 - PAGE 218 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H1

2010 REVISED STANDARD PLAN RSP H1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	37	40

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

November 15, 2013
PLANS APPROVAL DATE

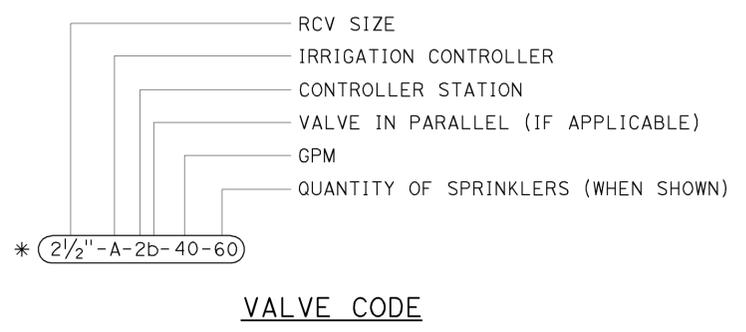
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 6-2-14

2010 REVISED STANDARD PLAN RSP H2

EXISTING	NEW	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC) IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR) IRRIGATION CONTROLLER (IC) (TWO WIRE) IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		ARMOR-CLAD CONDUCTORS (ACC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		IRRIGATION CONDUIT
		EXTEND IRRIGATION CONDUIT
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (SUPPLY LINE) (LATERAL)
		COPPER PIPE (SUPPLY LINE)
		DRIP IRRIGATION TUBING
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		REMOTE CONTROL VALVE W/PRESSURE REGULATOR (RCVP)
		EXISTING MANUAL CONTROL VALVE (MCV)
		DRIP VALVE ASSEMBLY (DVA)
		WYE STRAINER ASSEMBLY (WSA)

EXISTING	NEW	ITEM DESCRIPTION
		GATE VALVE (GV)
		BALL VALVE (BV)
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		GARDEN VALVE ASSEMBLY (GARVA)
		PRESSURE REGULATING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		EXISTING NOZZLE LINE W/TURNING UNION
		EXISTING IRRIGATION SYSTEM
		EXISTING IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING
		FIBER ROLL
		COMPOST SOCK



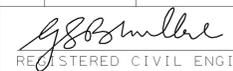
* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

RSP H2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP H2 DATED JULY 19, 2013 AND STANDARD PLAN H2 DATED MAY 20, 2011 - PAGE 219 OF THE STANDARD PLANS BOOK DATED 2010.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**LANDSCAPE AND EROSION
CONTROL SYMBOLS**
NO SCALE

REVISED STANDARD PLAN RSP H2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	160	L1.4/L4.2	38	40


 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE



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

TO ACCOMPANY PLANS DATED 6-2-14

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

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

TABLE 3

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

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM TABLES
 FOR LANE AND RAMP CLOSURES**

NO SCALE

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

REVISED STANDARD PLAN RSP T9

2010 REVISED STANDARD PLAN RSP T9

NOTES:

See Revised Standard Plan RSP T9 for tables.

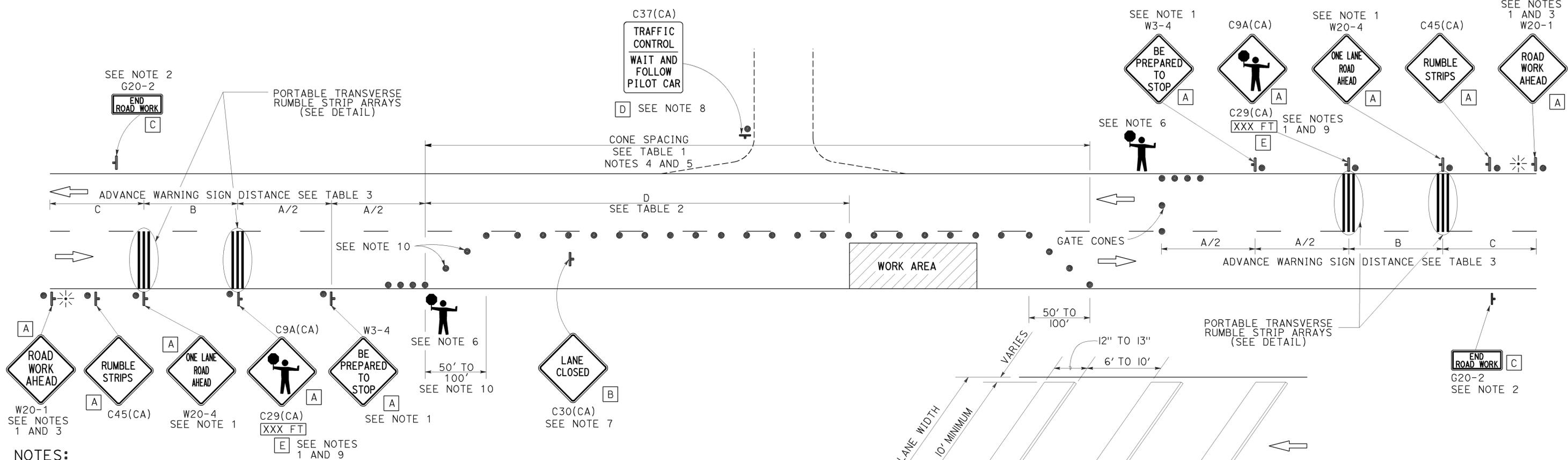
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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.

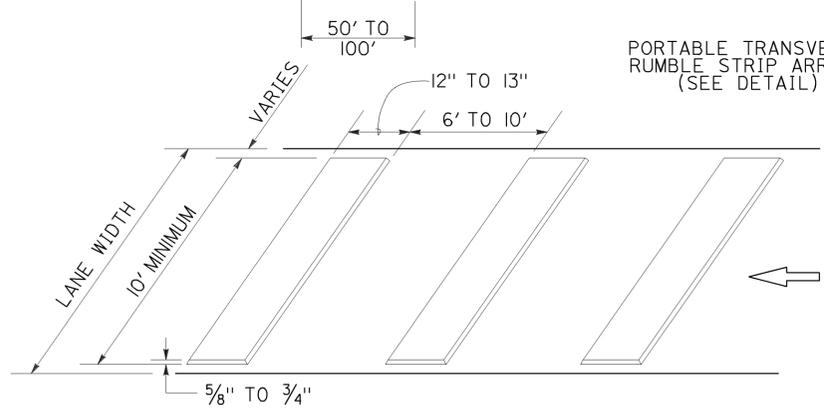
TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

TO ACCOMPANY PLANS DATED 6-2-14



- 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.
- 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 STRIP ARRAY DETAIL

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

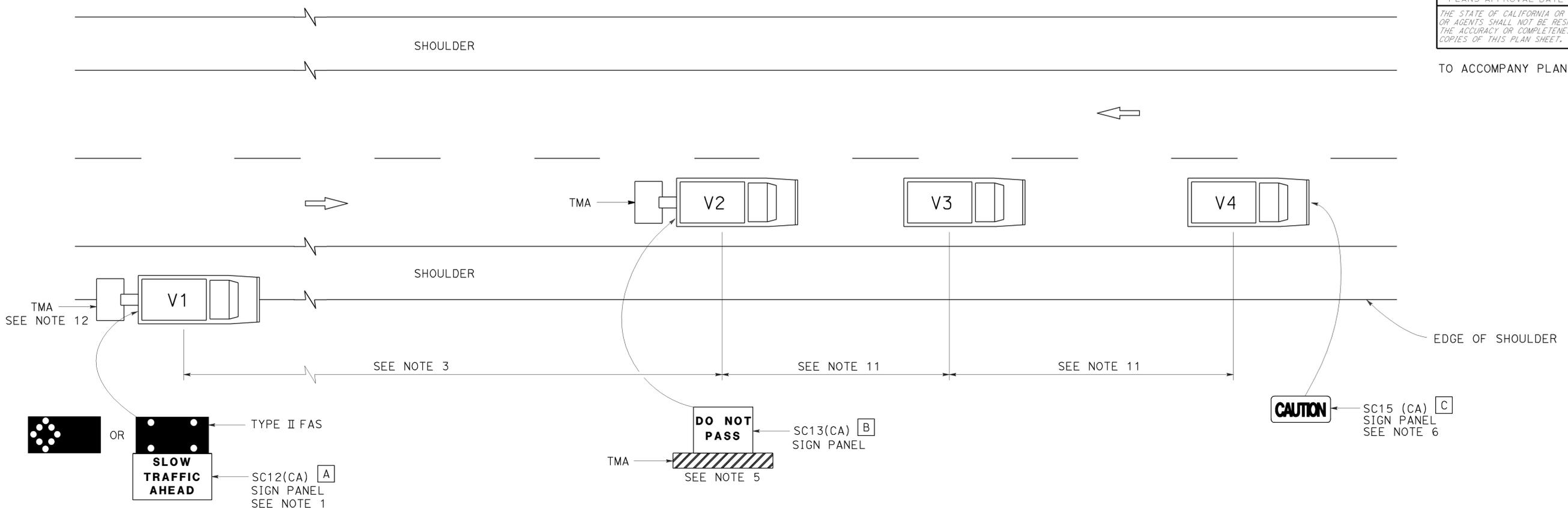
**TRAFFIC CONTROL SYSTEM
FOR LANE CLOSURE ON
TWO LANE CONVENTIONAL
HIGHWAYS**

NO SCALE

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

2010 REVISED STANDARD PLAN RSP T13

TO ACCOMPANY PLANS DATED 6-2-14



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

2010 REVISED STANDARD PLAN RSP T17