INDEX OF PLANS

SHEET No	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTION AND CONSTRUCTION DETAILS
3-4	CONSTRUCTION DETAILS
5	CONSTRUCTION AREA SIGNS
6-7	SUMMARY OF QUANTITIES
8-17	NEW OR REVISED STANDARD PLANS

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

STATE OF CALIFORNIA

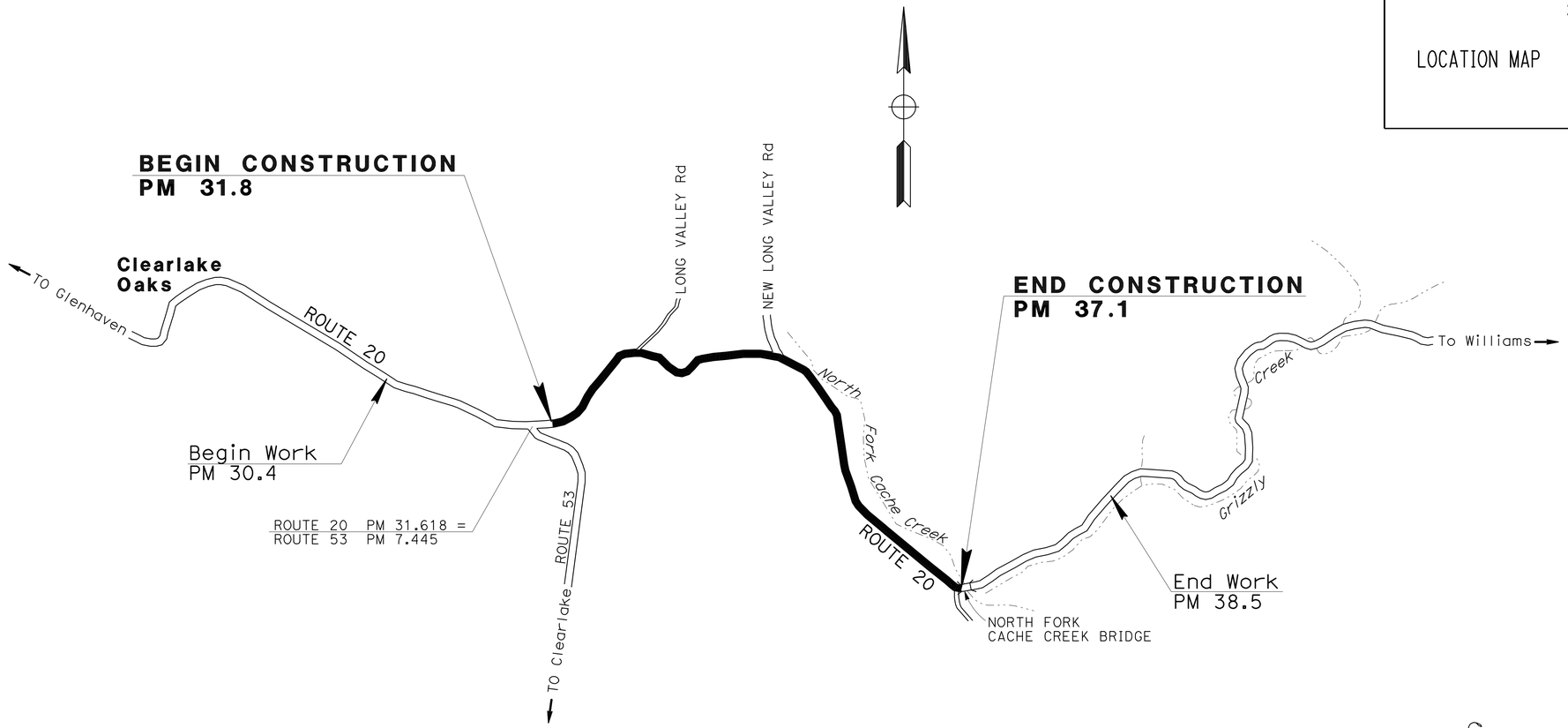
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY

IN LAKE COUNTY NEAR CLEARLAKE OAKS FROM 0.2 MILE EAST OF ROUTE 20/53 JUNCTION TO NORTH FORK CACHE CREEK BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak	20	31.8/37.1	1	17



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

NO SCALE

Curtis D. Coburn 2/11/11
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
CURTIS D. COBURN
No. 58431
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

February 14, 2011
PLANS APPROVAL DATE

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

CONTRACT No.	01-0A0604
PROJECT ID	0100020015

PROJECT MANAGER: Royal B. McCarthy
DESIGN ENGINEER: Royal B. McCarthy

LAST REVISION 11-17-10
DATE PLOTTED => 22-FEB-2011
TIME PLOTTED => 08:25

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak	20	31.8/37.1	2	17

Curtis D. Coburn 2/11/11
REGISTERED CIVIL ENGINEER DATE

February 14, 2011
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CURTIS D. COBURN
No. 58431
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

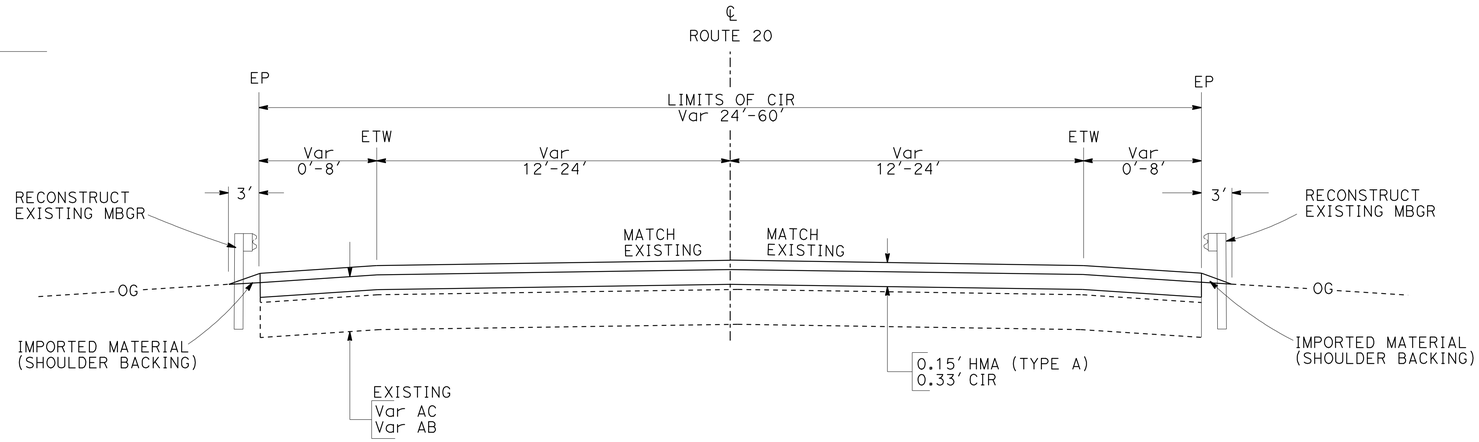
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

LEGEND

CIR = COLD IN PLACE RECYCLE

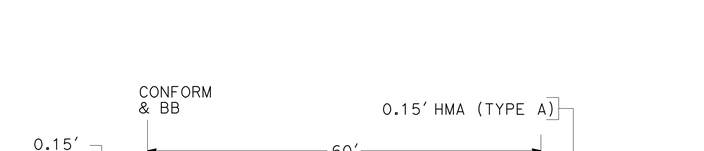


PM 31.79 TO PM 37.05

LOCATION	PM	X FT
LONG VALLEY ROAD	32.04 LT	45
NEW LONG VALLEY ROAD	34.30 LT	60

LIMITS OF SURFACING

COLD PLANE AC PAVEMENT AT PUBLIC ROAD CONNECTIONS



COLD PLANE AC PAVEMENT AT BB & CONFORM

CONFORM PM 31.79
NORTH FORK CACHE CREEK BB PM 37.05

TYPICAL CROSS SECTIONS AND CONSTRUCTION DETAILS

X-1

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE DESIGN
FUNCTIONAL SUPERVISOR: Royal B. McCarthy
CALCULATED-DESIGNED BY: Johnathon Jackson
CHECKED BY: Curtis Coburn
REVISED BY / DATE REVISED

LAST REVISION 11-1-7-10
DATE PLOTTED => 22-FEB-2011
TIME PLOTTED => 08:25

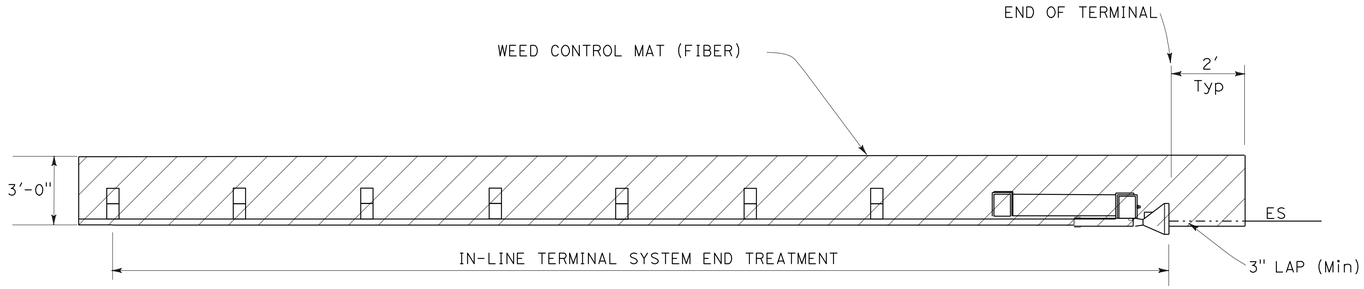
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak	20	31.8/37.1	3	17

Curtis D. Coburn 2/11/11
REGISTERED CIVIL ENGINEER DATE

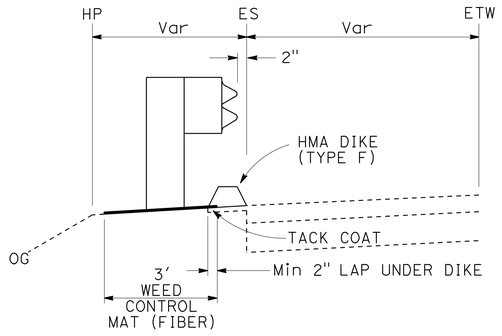
February 14, 2011
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CURTIS D. COBURN
No. 58431
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

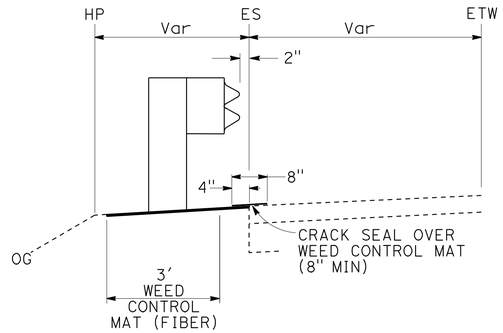
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



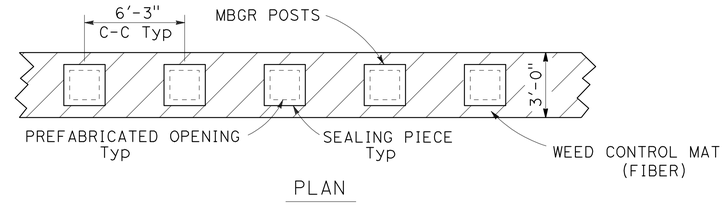
WEED CONTROL MAT (FIBER) UNDER ALTERNATIVE IN-LINE TERMINAL SYSTEM



WEED CONTROL MAT (FIBER) WITH NEW HMA DIKE (TYPE F)



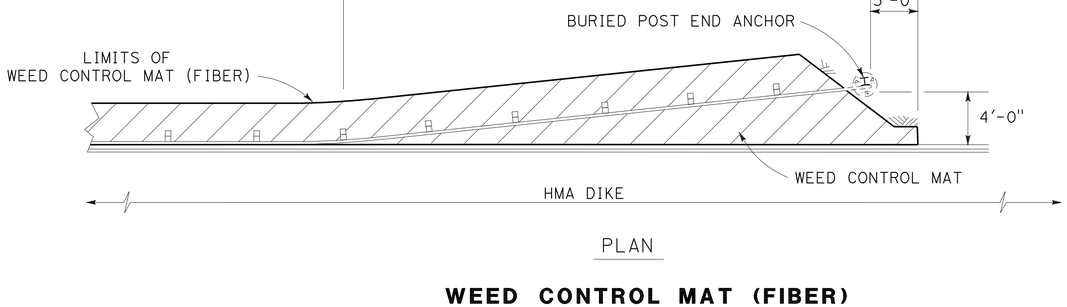
WEED CONTROL MAT (FIBER) WITHOUT HMA DIKE



PLAN

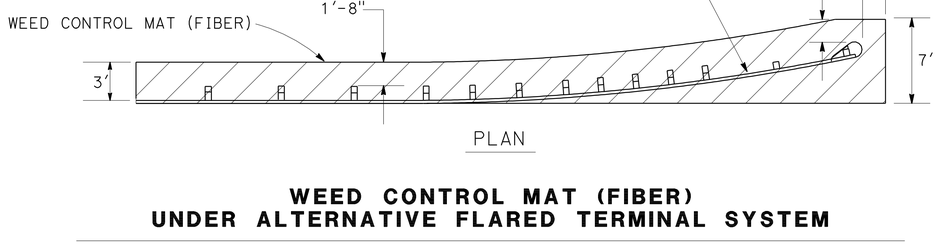
POST SPACING & OTHER DIMENSIONS TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

WEED CONTROL MAT (FIBER) UNDER MBGR



PLAN

WEED CONTROL MAT (FIBER) AT BURIED POST END ANCHOR



PLAN

WEED CONTROL MAT (FIBER) UNDER ALTERNATIVE FLARED TERMINAL SYSTEM

CONSTRUCTION DETAILS C-1

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE DESIGN

FUNCTIONAL SUPERVISOR: Royal B. McCarthy
CALCULATED-DESIGNED BY: Johnathon Jackson
CHECKED BY: Curtis Coburn
REVISED BY
DATE REVISED

LAST REVISION | DATE PLOTTED => 22-FEB-2011 | TIME PLOTTED => 08:25 | 11-17-10

BORDER LAST REVISED 7/1/2010 | USERNAME => t1donh | DGN FILE => 10a060ga001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0052 | PROJECT NUMBER & PHASE 01000200151

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak	20	31.8/37.1	4	17

Curtis D. Coburn 2/11/11
REGISTERED CIVIL ENGINEER DATE

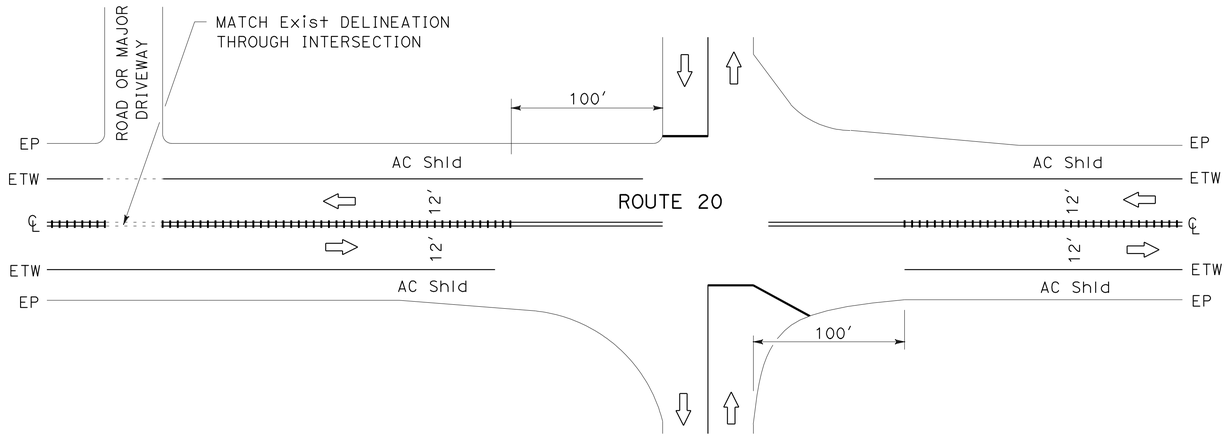
February 14, 2011
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CURTIS D. COBURN
No. 58431
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

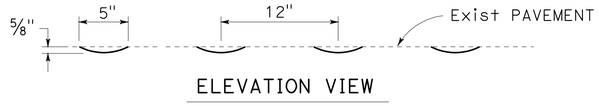
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND

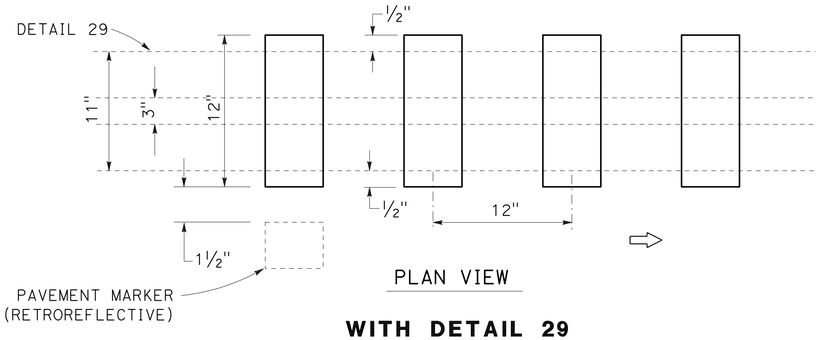
⇨ DIRECTION OF TRAVEL



INTERSECTING ROADS AND MAJOR DRIVEWAYS

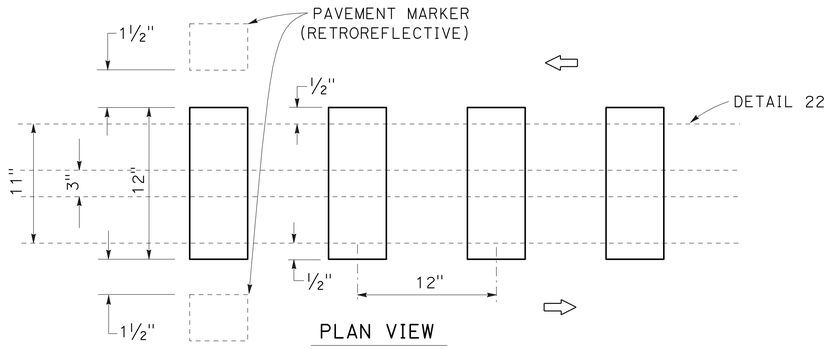


ELEVATION VIEW



PLAN VIEW

WITH DETAIL 29



PLAN VIEW

WITH DETAIL 22

CENTERLINE RUMBLE STRIP

CONSTRUCTION DETAILS C-2

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE DESIGN

FUNCTIONAL SUPERVISOR: Royal B. McCarthy

CALCULATED-DESIGNED BY: Johnathon Jackson
CHECKED BY: Curtis Coburn

REVISED BY	DATE REVISED

LAST REVISION
DATE PLOTTED => 22-FEB-2011
TIME PLOTTED => 08:25

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak	20	31.8/37.1	5	17

Curtis D. Coburn 2/11/11
REGISTERED CIVIL ENGINEER DATE

February 14, 2011
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CURTIS D. COBURN
No. 58431
Exp. 12-31-12
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.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	SIGN MESSAGE	PANEL SIZE	NO OF POSTS AND SIZE	NO. OF SIGNS
Ⓐ	G20-1	ROAD WORK NEXT 8 MILES	60"x36"	1-6"x6"	3
	C23B (CA)	RESURFACING	52"x12"		
Ⓑ	G20-2	END ROAD WORK	36"x18"	1-4"x4"	3
Ⓒ	W11-1	BICYCLE SYMBOL	36"x36"	1-6"x6"	3
	W16-1	SHARE THE ROAD	24"x30"		
Ⓓ	W20-1	ROAD WORK AHEAD	36"x36"	1-4"x6"	3
Ⓔ	C40 (CA)	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	108"x42"	2-6"x6"	3

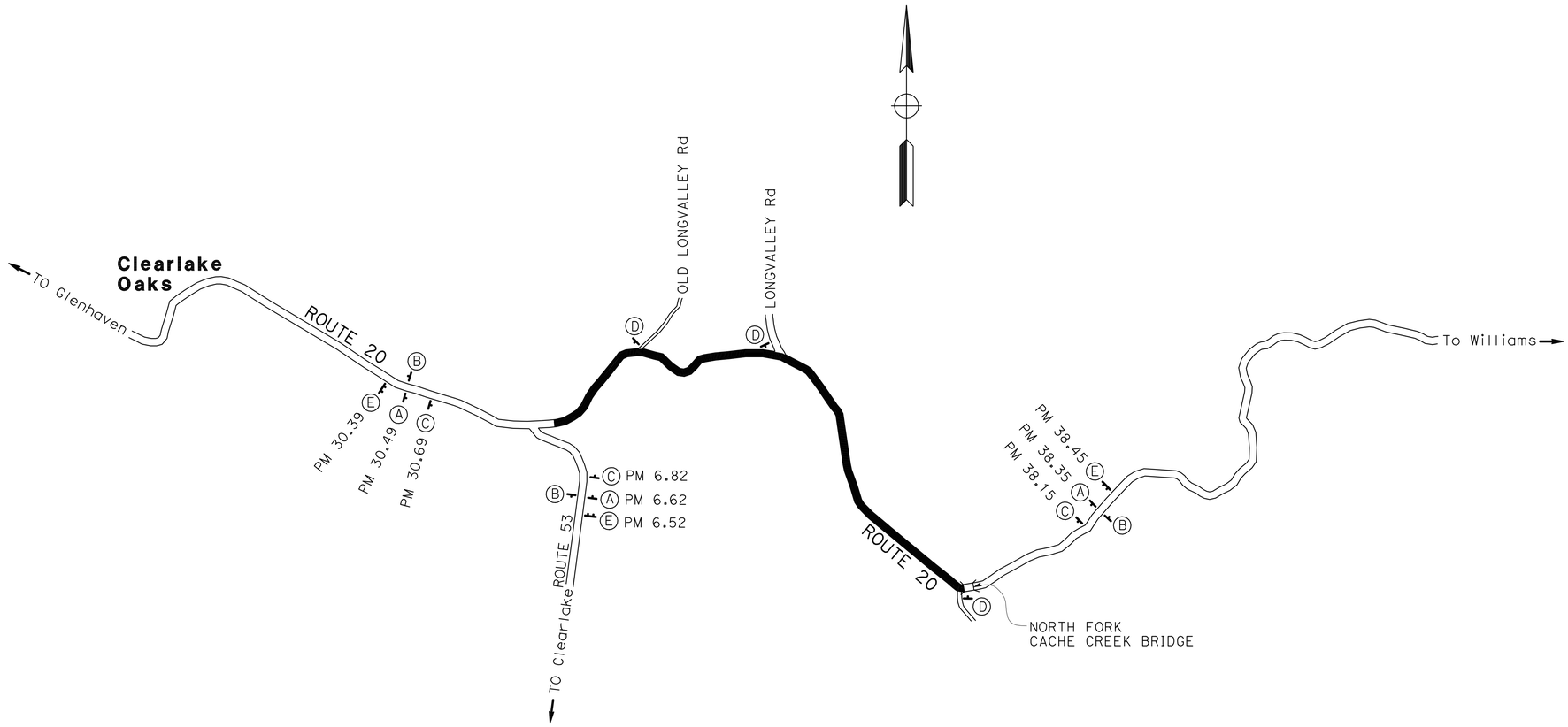
NOTES:

1. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

52"x12"
4" CAPS
BLACK/ORANGE

RESURFACING

C23B(CA)



CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE DESIGN

FUNCTIONAL SUPERVISOR: Royal B. McCarthy

CALCULATED-DESIGNED BY: Johnathon Jackson
CHECKED BY: Curtis Coburn

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 22-FEB-2011
11-17-10 | TIME PLOTTED => 08:25

BORDER LAST REVISED 7/1/2010

USERNAME => t1donh
DGN FILE => 10a0601a001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0052

PROJECT NUMBER & PHASE 01000200151

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak	20	31.8/37.1	6	17

Curtis D. Coburn 2/11/11
REGISTERED CIVIL ENGINEER DATE

February 14, 2011
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CURTIS D. COBURN
No. 58431
Exp. 12-31-12
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.

METAL BEAM GUARD RAIL QUANTITIES

LOCATION (PM) FROM	LOCATION (PM) TO	MBGR LAYOUT TYPE	LENGTH	EXISTING LEADER	EXISTING TRAILER	PROPOSED LEADER	PROPOSED TRAILER	REMOVE MBGR	MBGR (WOOD POST)	RECONSTRUCT MBGR (WOOD POST)	(N) BURIED POST ANCHOR	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	TERMINAL ANCHOR ASSEMBLY (TYPE SFT)	RECONSTRUCT TERMINAL SYSTEM	REMARKS (A) NO ADJUSTABLE POSTS (B) ALL COMPONENTS ARE LOW
			LF					LF				EA				
31.93 R+	32.03 R+	11E	575.0	TAA	SRT	FLD	NC	37.5		500.0		1			1	REMOVE WASHERS
32.25 L+	32.35 L+	11B	512.5	TAA	TAA	FLD	SFT	50.0		462.5		1		1		(A) LOTS OF DIRT UNDER MBGR
32.47 R+	32.52 R+	11J	250.0	TAA	TAA	INL	FLD	87.5		162.5		1	1			(AB)
32.62 L+	32.67 L+	11C	275.0	BPA	TAA	NC	SFT	12.5		262.5				1		(AB) BPA NEEDS DIRT FOR COVER
32.85 L+	32.92 L+	11C	337.5	TAA	TAA	BPA	SFT	25.0	25.0	312.5	1			1		(AB)
33.20 R+	33.42 R+	11E	1075.0	TAA	TAA	FLD	FLD	75.0		1000.0		2				(AB)
33.47 L+	33.51 L+	11F	175.0	BPA	BPA	NC	NC			175.0						(AB)
33.55 L+	33.57 L+	11F	150.0	BPA	BPA	NC	NC			150.0						(AB)
33.61 L+	33.64 L+	11I	125.0	TAA	BPA	INL	NC	50.0		75.0			1			(A) REMOVE WASHERS
34.13 L+	34.28 L+	11A	775.0	TAA	TAA	INL	SFT	62.5		712.5			1	1		(A) REMOVE WASHERS
34.81 L+	35.06 L+	11B	1325.0	CAA TA	TAA	FLD	SFT	50.0		1212.5		1		1		(B) REMOVE WASHERS
							TOTAL	450.0	25.0	5025.0	1	6	3	5	1	

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

LEGEND

BPA	BURIED POST ANCHOR
CAA	CABLE ANCHOR ASSEMBLY
EC-A	END CAP (TYPE A)
EC-B	END CAP (TYPE B)
FLD	ALTERNATIVE FLARED TERMINAL SYSTEM
INL	ALTERNATIVE IN-LINE TERMINAL SYSTEM
NC	NO CHANGE
SFT	END ANCHOR ASSEMBLY (TYPE SFT)
SRT	TERMINAL SYSTEM (TYPE SRT)
TA	TYPE A BREAKAWAY TERMINAL
TAA	TERMINAL ANCHOR ASSEMBLY
TB	TYPE B BREAKAWAY TERMINAL
WB	TRANSITION RAILING (TYPE WB)

ROADWAY QUANTITIES

LOCATION (PM) FROM	LOCATION (PM) TO	AVERAGE WIDTH	HMA (TYPE A)	TACK COAT	EMULSIFIED RECYCLING AGENT	COLD IN-PLACE RECYCLING ADDITIVE	ASPHALTIC EMULTION (FOG SEAL)	SAND COVER	COLD IN-PLACE RECYCLING	COLD PLANE AC PAVEMENT	REMARKS
		LF	TON						SQYD		
31.79	31.87	44								1956	BEGIN CONFORM
31.79	31.95	44	550.5	1.7	28.9	4.4	1.0	7.5	4182		
31.95	32.00	44	185.4	0.6	9.8	1.5	0.4	2.5	1408		
32.00	32.24	56	926.7	2.9	48.6	7.3	1.8	12.7	7041		
32.24	32.25	44	34.0	0.1	1.8	0.3	0.1	0.5	259		
32.25	32.28	44	102.0	0.3	5.4	0.9	0.2	1.4	775		
32.28	32.64	44	1223.2	3.9	64.2	9.7	2.3	16.7	9293		
32.64	32.68	44	136.0	0.4	7.2	1.1	0.3	1.9	1033		
32.68	32.84	44	543.7	1.7	28.5	4.3	1.0	7.4	4131		
32.84 L+		142	93.8	0.3			0.2	1.3		713	LONG VALLEY Rd
32.84	33.63	44	2684.2	8.5	140.8	21.2	5.1	36.7	20393		
33.63	33.64	44	34.0	0.1	1.8	0.3	0.1	0.5	259		
33.64	34.06	44	1427.1	4.5	74.9	11.3	2.7	19.5	10842		
34.06	34.30	44	815.5	2.6	42.8	6.5	1.6	11.2	6196		
34.30 L+		112	65.6	0.2			0.1	0.9		498	NEW LONG VALLEY Rd
34.30	34.34	44	136.0	0.4	7.2	1.1	0.3	1.9	1033		
34.34	34.51	44	498.9	1.6	26.2	4.0	0.9	6.8	3790		
34.51	34.58	32	164.9	0.5	8.7	1.3	0.3	2.3	1253		
34.58	34.78	29	424.8	1.3	22.3	3.4	0.8	5.8	3227		
34.78	34.95	26	341.4	1.1	17.9	2.7	0.6	4.7	2594		
34.95	35.00	26	100.4	0.3	5.3	0.8	0.2	1.4	763		
35.00	35.32	26	321.3	1.0	16.9	2.6	0.6	4.4	2441		
35.32	35.95	26	1264.9	4.0	66.4	10.0	2.4	17.3	9610		
35.95	35.98	26	68.4	0.2	3.6	0.6	0.1	0.9	520		
35.98	36.58	33	1529.0	4.8	80.2	12.1	2.9	20.9	11616		
36.58	36.92	33	958.4	3.0	50.3	7.6	1.8	13.1	7281		
36.92	36.98	40	185.4	0.6	9.8	1.5	0.4	2.5	1408		
36.97	37.05	40								1867	END CONFORM
36.98	36.99	40	30.9	0.1	1.7	0.3	0.1	0.4	235		
36.99	37.00	40	30.9	0.1	1.7	0.3	0.1	0.4	235		
37.00	37.05	40	142.5	0.5	7.5	1.2	0.3	1.9	1083		
FROM DIKE			480.5								
		TOTAL	15500.3	47.3	780.4	118.3	28.7	205.4	112901	5033	

HMA DIKE QUANTITIES

LOCATION (PM) FROM	LOCATION (PM) TO	REMOVE AC DIKE	PLACE HMA DIKE (TYPE A)	PLACE HMA DIKE (TYPE E)	PLACE HMA DIKE (TYPE F)	HMA (TYPE A)	REMARKS
		LF				TON	
31.93 R+	32.03 R+				605	8.1	
31.99 L+	32.07 L+	450	450			12.3	
32.04 R+	32.23 R+	1065	1065			29.1	
32.10 L+	32.13 L+	170	170			4.6	
32.23 R+	32.45 R+	1235		1235		32.5	
32.25 L+	32.35 L+				540	7.3	
32.47 R+	32.52 R+				265	3.6	
32.55 L+	32.59 L+	225	225			6.2	
32.57 R+	32.65 R+	450		450		11.8	
32.62 L+	32.67 L+				290	3.9	
32.67 L+	32.76 L+	505	505			13.8	
32.69 R+	32.81 R+	675	675			18.5	
32.81 R+	32.83 R+	115		115		3.0	
32.83 R+	32.90 R+	395	395			10.8	
32.84 L+		550	550			15.0	
32.85 L+	32.92 L+				355	4.8	
32.90 R+	32.92 R+	115		115		3.0	
32.91 L+	33.26 L+	1960	1960			53.6	
33.03 R+	33.09 R+	340		340		9.0	
33.09 R+	33.12 R+	170		170		4.5	
33.12 R+	33.16 R+	225		225		5.9	
33.16 R+	33.21 R+	280		280		7.4	
33.20 R+	33.42 R+				1130	15.1	
33.46 R+	33.62 R+	900		900		23.7	
33.47 L+	33.51 L+				185	2.5	
33.53 L+	33.55 L+	115	115			3.1	
33.55 L+	33.57 L+				160	2.2	
33.57 L+	33.61 L+	225	225			6.2	
33.61 L+	33.64 L+				135	1.9	
33.66 L+	33.98 L+	1795		1795		47.3	
33.98 L+	34.08 L+	560		560		14.7	
34.13 L+	34.28 L+				815	10.9	
34.15 R+	34.21 R+	340	340			9.3	
34.23 R+	34.30 R+	395	395			10.8	
34.29 L+	34.39 L+	560		560		14.7	
34.33 R+	34.37 R+	225	225			6.2	
34.40 L+	34.51 L+	680		680		17.9	
34.51 L+	34.54 L+	170	170			4.6	
34.81 L+	35.06 L+				1395	18.7	
37.04 R+	37.05 R+				70	1.0	
37.04 L+	37.05 L+				70	1.0	
	TOTAL	14890	7465	7425	5945	480.5	

DELINEATOR, MARKER, SIGN & WEED CONTROL MAT

LOCATION (PM) FROM	LOCATION (PM) TO	GUARD RAILING DELINEATOR	OBJECT MARKER (TYPE L-1)	RESET MARKER	RESET ROADSIDE SIGN (ONE POST)	WEED CONTROL MAT
		EA				SQYD
31.93 R+	32.03 R+	9	1	2		148
32.25 L+	32.35 L+	6		1		197
32.47 R+	32.52 R+	3	1	2	1	125
32.62 L+	32.67 L+	5		2		94
32.85 L+	32.92 L+	5				155
33.20 R+	33.42 R+	20		2		405
33.47 L+	33.51 L+	3				58
33.55 L+	33.57 L+	2				48
33.61 L+	33.64 L+	2	1			58
34.13 L+	34.28 L+	17	1	1		227
34.81 L+	35.06 L+	22		4		448
	TOTAL	94	4	14	1	1963

SUMMARY OF QUANTITIES
Q-1

REVISED BY | DATE REVISED
Johnathon Jackson | Curtis Coburn
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
Royal B. McCarthy
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE DESIGN

LAST REVISION | DATE PLOTTED => 22-FEB-2011
11-17-10 | TIME PLOTTED => 08:25

BORDER LAST REVISED 7/1/2010
USERNAME => t1donh
DGN FILE => 10a060pa001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0052
PROJECT NUMBER & PHASE 01000200151

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak	20	31.8/37.1	7	17

Curtis D. Coburn 2/11/11
REGISTERED CIVIL ENGINEER DATE

February 14, 2011
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CURTIS D. COBURN
No. 58431
Exp. 12-31-12
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.

SHOULDER BACKING QUANTITIES

LOCATION (PM) FROM	LOCATION (PM) TO	SIDE	IMPORTED MATERIAL (SHOULDER BACKING) TON	REMARKS
31.79	32.06	R+	123.2	
31.79	32.05	L+	118.6	
32.22	32.38	L+	73.0	
32.23	32.25	R+	9.1	
32.76	34.15	R+	634.1	
32.43	32.49	L+	27.4	
32.57	32.67	L+	45.6	
32.77	32.84	L+	31.9	
32.85	32.92	L+	31.9	
33.39	33.41	L+	9.1	
33.49	33.51	L+	9.1	
33.55	33.57	L+	9.1	
33.63	34.29	L+	301.1	
34.21	34.23	R+	9.1	
34.29	34.33	R+	18.2	
34.31	35.31	L+	456.2	
34.36	35.31	R+	433.4	
35.31	36.00	L+	314.8	
35.32	36.99	R+	761.8	
36.03	36.57	L+	246.3	
36.59	36.98	L+	177.9	
36.99	37.04	L+	22.8	
37.00	37.05	R+	22.8	
	TOTAL		3886.8	

THERMOPLASTIC PAVEMENT MARKING

LOCATION (PM)	L+/R+ Med	ORIEN-TATION	TYPE/LEGEND	AREA SQFT	REMARKS
32.04	L+	FWBT	TYPE VI ARROW	42	
32.08	L+	FWBT	TYPE VI ARROW	42	
32.11	L+	FWBT	TYPE VI ARROW	42	
32.13	R+	FEBT	TYPE VI ARROW	42	
32.17	R+	FEBT	TYPE VI ARROW	42	
32.21	R+	FEBT	TYPE VI ARROW	42	
32.84	L+	FSBT	LIMIT LINE	40	LONG VALLEY Rd
32.84	L+	FSBT	STOP	22	LONG VALLEY Rd
32.87	R+	FEBT	TYPE III ARROW (LT)	42	L+ TURN LANE
34.28	R+	FEBT	TYPE III ARROW (LT)	42	L+ TURN LANE
34.30	L+	FSBT	LIMIT LINE	35	NEW LONG VALLEY Rd
34.30	L+	FSBT	STOP	22	NEW LONG VALLEY Rd
34.33	R+	FEBT	TYPE III ARROW (LT)	42	L+ TURN LANE
			TOTAL	497	

REMOVE THERMOPLASTIC PAVEMENT MARKING

LOCATION (PM)	L+/R+ Med	ORIEN-TATION	TYPE/LEGEND	AREA SQFT	REMARKS
32.84	L+	FSBT	LIMIT LINE	40	LONG VALLEY Rd
32.84	L+	FSBT	STOP	22	LONG VALLEY Rd
34.30	L+	FSBT	LIMIT LINE	35	NEW LONG VALLEY Rd
34.30	L+	FSBT	STOP	22	NEW LONG VALLEY Rd
			TOTAL	119	

TEMPORARY PAVEMENT MARKING (PAINT)

LOCATION (PM)	L+/R+ Med	ORIEN-TATION	TYPE/LEGEND	AREA SQFT	REMARKS
32.04	L+	FWBT	TYPE VI ARROW	42	
32.08	L+	FWBT	TYPE VI ARROW	42	
32.11	L+	FWBT	TYPE VI ARROW	42	
32.13	R+	FEBT	TYPE VI ARROW	42	
32.17	R+	FEBT	TYPE VI ARROW	42	
32.21	R+	FEBT	TYPE VI ARROW	42	
32.87	R+	FEBT	TYPE III ARROW (L+)	42	L+ TURN LANE
34.28	R+	FEBT	TYPE III ARROW (L+)	42	
34.33	R+	FEBT	TYPE III ARROW (L+)	42	
			TOTAL	378	

TRAFFIC STRIPE AND PAVEMENT MARKER QUANTITIES

LOCATION (PM) FROM	LOCATION (PM) TO	DETAIL No.	DETAIL LENGTH	THERMOPLASTIC TRAFFIC STRIPE 8" WHITE SOLID	4" WHITE SOLID	4" YELLOW SOLID	4" WHITE BROKEN (12-3)	4" YELLOW BROKEN (36-12)	4" WHITE BROKEN (36-12)	TEMPORARY TRAFFIC STRIPE (PAINT) 8" WHITE SOLID	4" YELLOW	4" WHITE BROKEN (36-12)	PAVEMENT MARKERS (RETROREFLECTIVE) RECESSED TYPE D YELLOW (TWO WAY)	TYPE G CLEAR (ONE WAY)	TYPE D YELLOW (TWO WAY)	TYPE G CLEAR (ONE WAY)	TYPE H YELLOW (ONE WAY)	CENTERLINE RUMBLE STRIP (GROUND IN)	REMARKS
			LF										EA					STA	
31.79 R+	36.99 R+	27B	27456		27456														
31.79 L+	32.87 L+	27B	5703		5703														
31.79	32.77	22	5175			10350					5175		434					51.8	
31.79 R+	32.19	12	2112						2112			2112		45					
32.77	32.83	29	317			1268					317		30					6.3	
32.82 L+	32.91 L+	27C	476				476												
32.83	32.84	22	53			106					53		8					0.5	
32.84	32.84	22	40			80					40		6						LONG VALLEY Rd
32.84 R+	32.86	38	106	106						106				6					
32.85	32.93	29	423			1692					423		38					8.5	
32.86 L+	34.34 L+	27B	7815		7815														
32.93	34.09	22	6125			12250					6125		514					61.3	
32.97 L+	34.50 L+	12	8079						8079			8079		170					
34.09	34.22	29	687			2748					687		60					13.7	
34.22	34.31	22	476			952					476		42					4.8	
34.23 R+	34.31	38	423	423						423				19					
34.29 L+	34.38 L+	27C	476				476												
34.3	34.3	22	58			116					58		8						NEW LONG VALLEY Rd
34.32	34.35	29	159			636					159		16					3.2	
34.33 L+	37.05 L+	27B	14336		14336														
34.35	34.5	22	792			1584					792		66					7.9	
34.50 L+	34.58 L+	12	422						422			422				9			
34.5	35.1	22	3168			6336					3168				266			31.7	
35.1	35.27	19L	898			898		898			898				20		39		
35.27	35.43	6	845					845			845				19				
35.43	35.6	19R	898			898		898			898				20		39		
35.6	35.77	19L	898			898		898			898				20		39		
35.77	36.02	22	1320			2640					1320				112				
36.02	36.19	19L	898			898		898			898				20		39		
36.19	36.81	6	3274					3274			3274				70				
36.81	37	19R	1004			1004		1004			1004				22		43		
36.99 R+	37.01 R+	27C	106				106												
37.01 R+	37.05 R+	27B	185		185														NORTH FORK CACHE CREEK BRIDGE
37.01	37.05	22	185			370					185				18				NORTH FORK CACHE CREEK BRIDGE
SUBTOTAL					55495	45724		8715	10613	529	27693	10613	1222	240	587	9	199		
TOTAL				529	101219		1058	19328			38835		1462		795			189.6	

REVISED BY | DATE REVISED
Johnathon Jackson | Curtis Coburn
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: Royal B. McCarthy

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE DESIGN

SUMMARY OF QUANTITIES
Q-2

NO SCALE

LAST REVISION | DATE PLOTTED => 22-FEB-2011
11-17-10 | TIME PLOTTED => 08:25

BORDER LAST REVISED 7/1/2010 | USERNAME => t1donh | DGN FILE => 10a060pa002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0052 | PROJECT NUMBER & PHASE 01000200151

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak	20	31.8/37.1	8	17

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

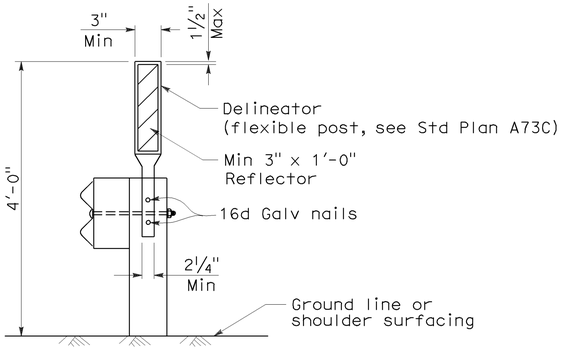
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

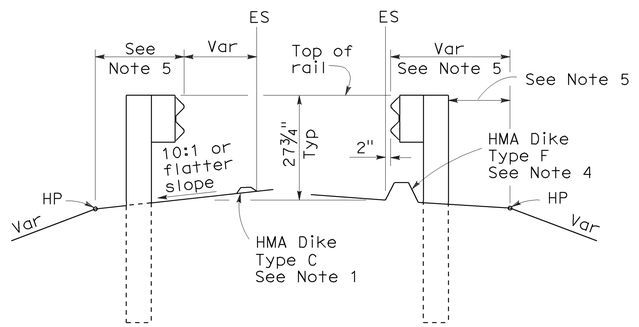
To accompany plans dated February 14, 2011

NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and Standard Plan A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL RAILING DELINEATION AND DIKE POSITIONING DETAILS

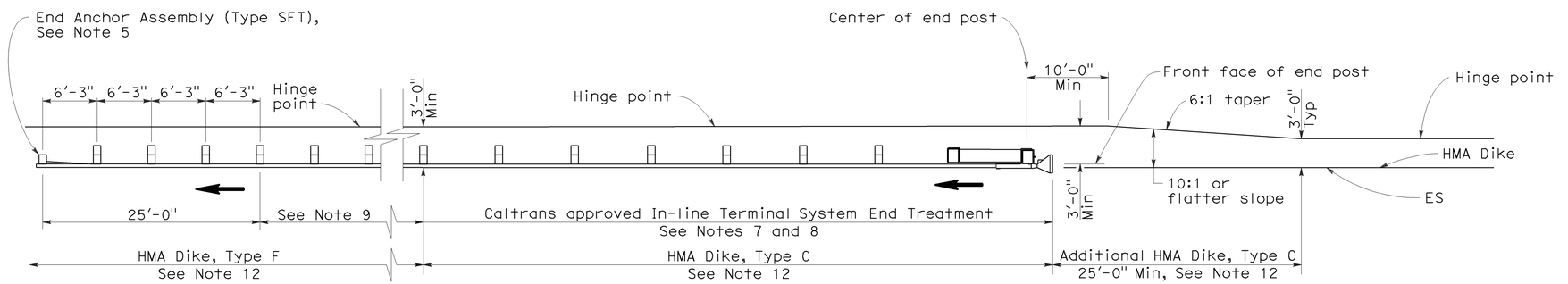
NO SCALE

RSP A77C4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77C4
DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

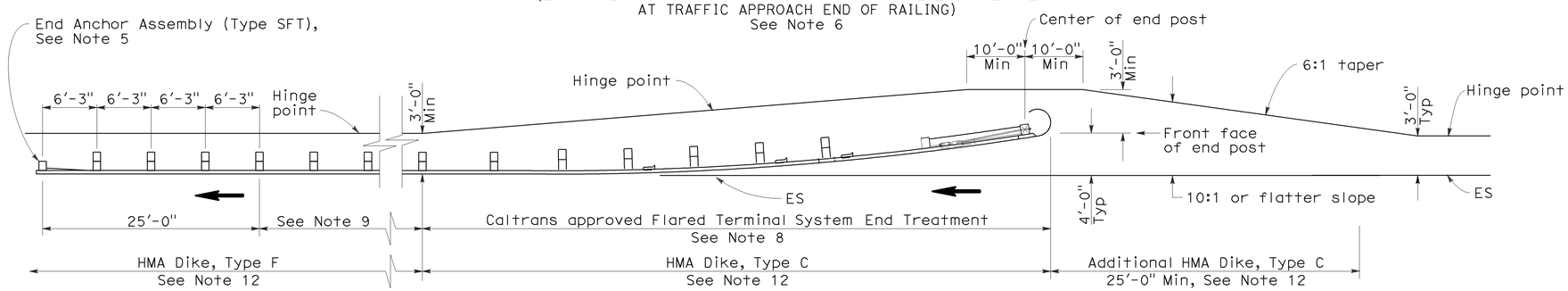
2006 REVISED STANDARD PLAN RSP A77C4

12-10-07



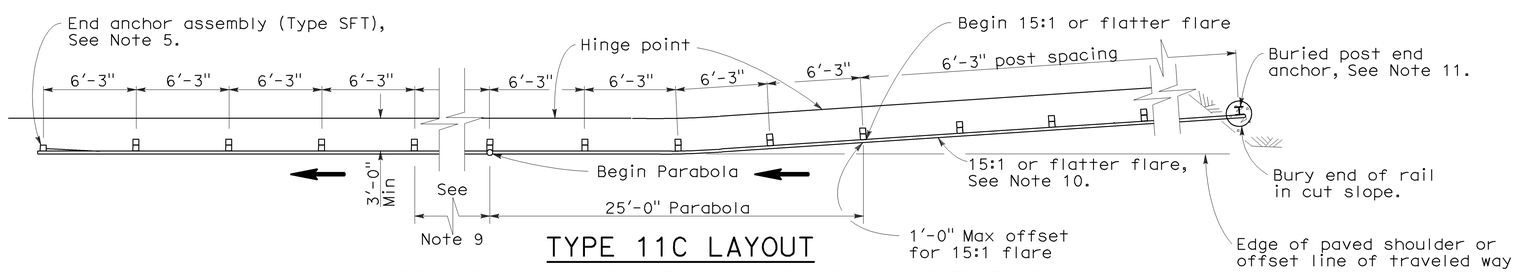
TYPE 11A LAYOUT

(EMBANKMENT GUARD INSTALLATION WITH IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Note 6



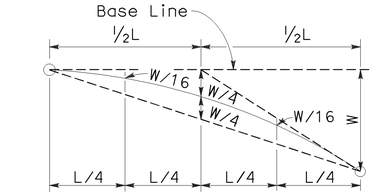
TYPE 11B LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Note 6

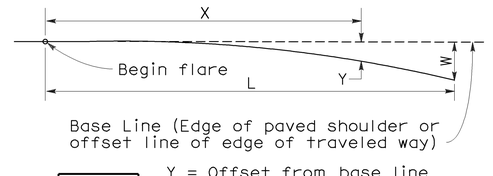


TYPE 11C LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 6 and 12



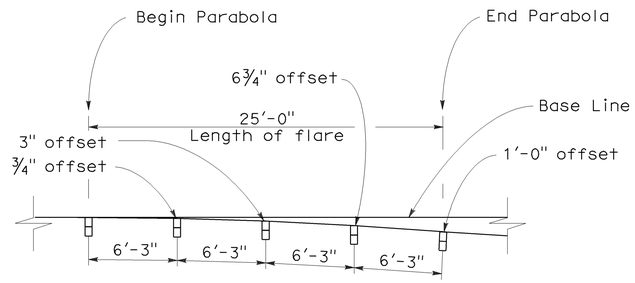
TYPICAL PARABOLIC LAYOUT



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

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:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1, and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" 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 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by ➞.
5. For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
6. Layout Types 11A, 11B or 11C are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
7. In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
8. The type of terminal system end treatment to be used will be shown on the Project Plans.
9. Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
10. 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 guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
11. For details of the buried post end anchor used with Type 11C Layout, see Standard Plan A77I2.
12. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak	20	31.8/37.1	9	17

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-09 — CIVIL — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated February 14, 2011

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77E1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E1
DATED MAY 1, 2006 - PAGE 48 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E1

2006 REVISED STANDARD PLAN RSP A77E1

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak	20	31.8/37.1	10	17

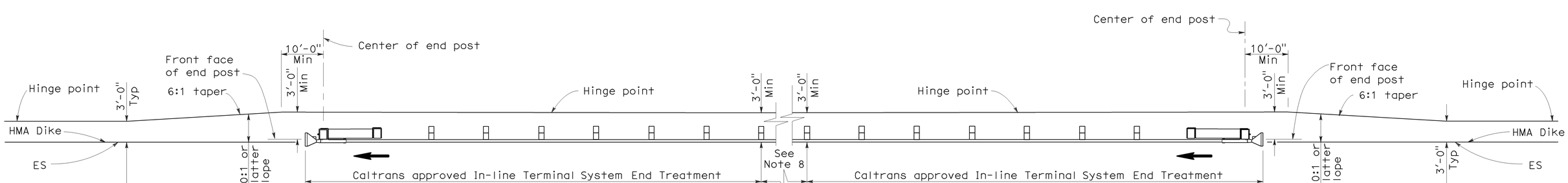
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

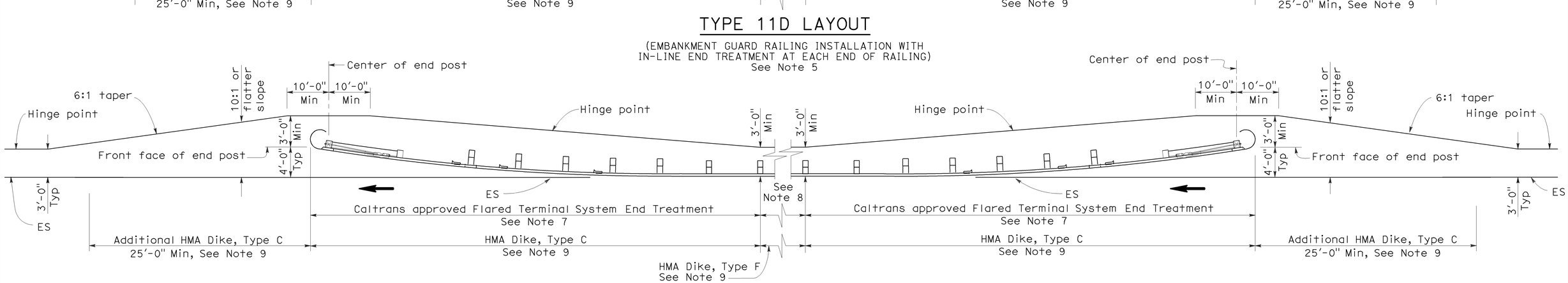
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated February 14, 2011



TYPE 11D LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH IN-LINE END TREATMENT AT EACH END OF RAILING)
See Note 5



TYPE 11E LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT EACH END OF RAILING)
See Note 5

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by ⟵.
5. Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
6. In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
7. The type of terminal system end treatment to be used will be shown on the Project Plans.
8. Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
9. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77E2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E2
DATED MAY 1, 2006 - PAGE 49 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E2

2006 REVISED STANDARD PLAN RSP A77E2

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak	20	31.8/37.1	11	17

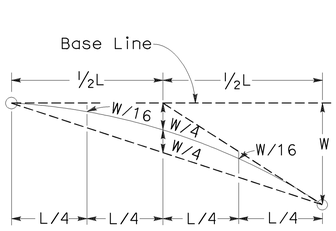
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

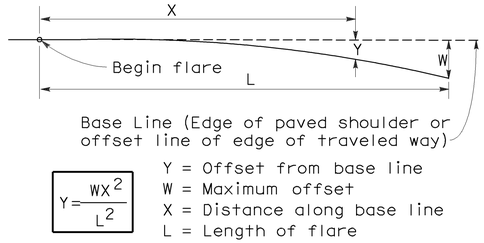
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated February 14, 2011



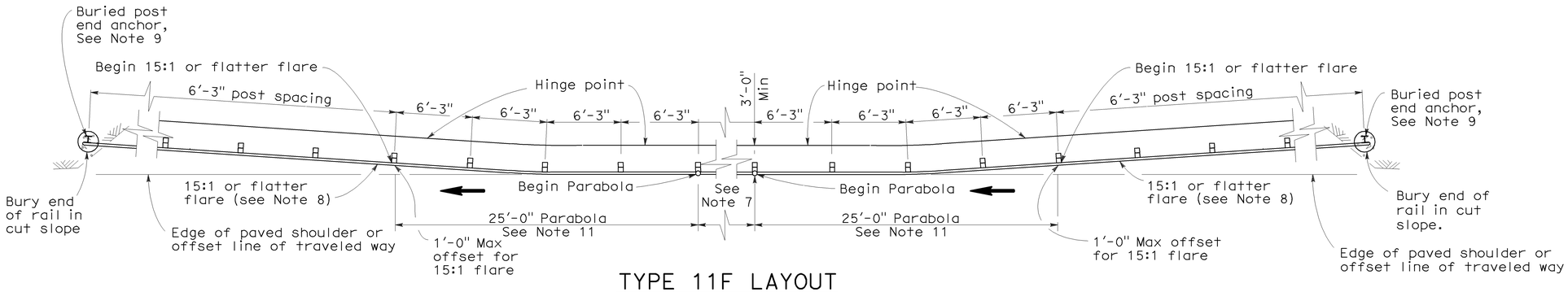
TYPICAL PARABOLIC LAYOUT



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

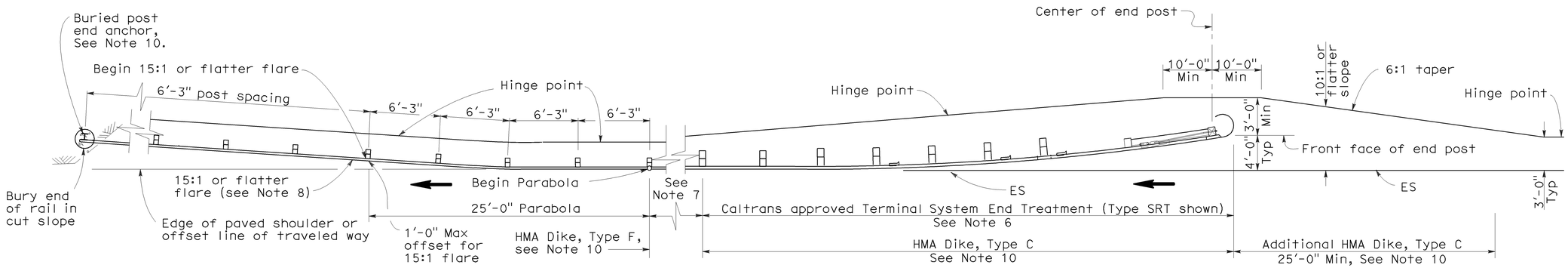
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPE 11F LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AT EACH END OF RAILING)
See Notes 5 and 10



TYPE 11G LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AND A BURIED END ANCHOR TREATMENT AT THE ENDS OF RAILING)
See Notes 5 and 10

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by ⟶.
5. Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
6. The type of terminal system end treatment to be used will be shown on the Project Plans.
7. Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
8. 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 guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
9. For details of the buried post end anchor used with Type 11F and 11G Layouts, see Standard Plan A77I2.
10. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
11. For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77E3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E3 DATED MAY 1, 2006 - PAGE 50 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E3

2006 REVISED STANDARD PLAN RSP A77E3

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak	20	31.8/37.1	12	17

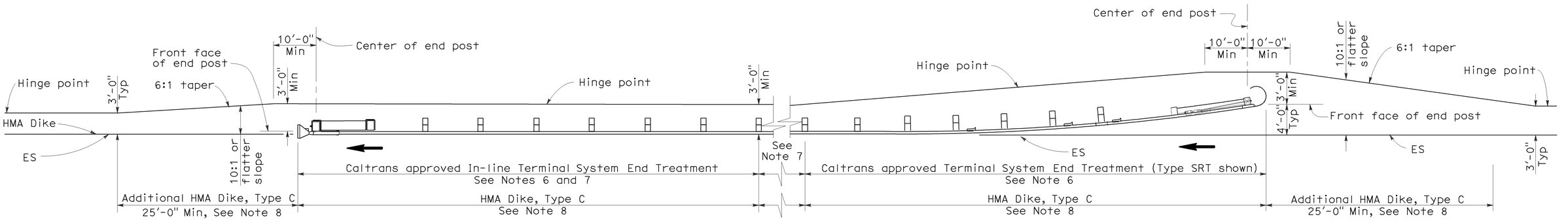
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated February 14, 2011



TYPE 11H LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT
AND AN IN-LINE TREATMENT AT THE ENDS OF RAILING)
See Notes 5 and 8

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by ➞.
5. Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
6. The type of terminal system end treatment to be used will be shown on the Project Plans.
7. Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
8. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77E4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E4
DATED MAY 1, 2006 - PAGE 51 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E4

2006 REVISED STANDARD PLAN RSP A77E4

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak	20	31.8/37.1	13	17

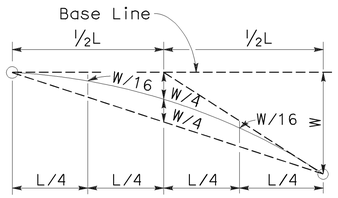
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

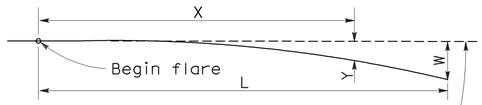
REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-09 — CIVIL — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated February 14, 2011



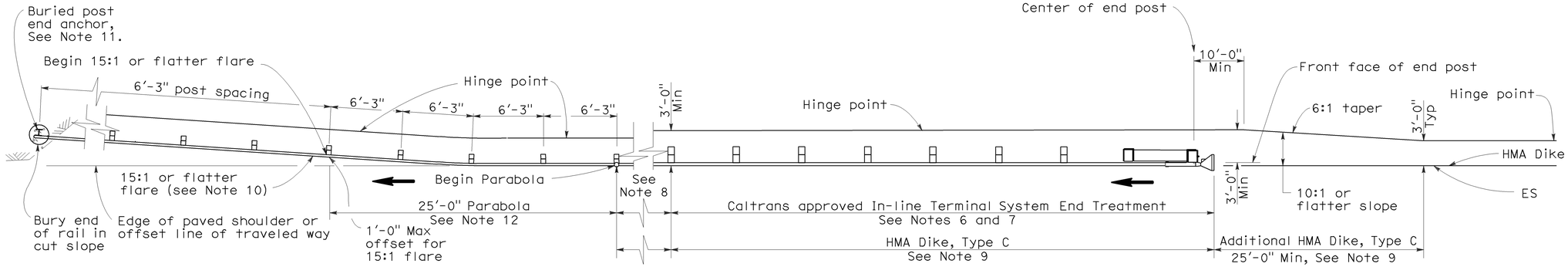
TYPICAL PARABOLIC LAYOUT



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

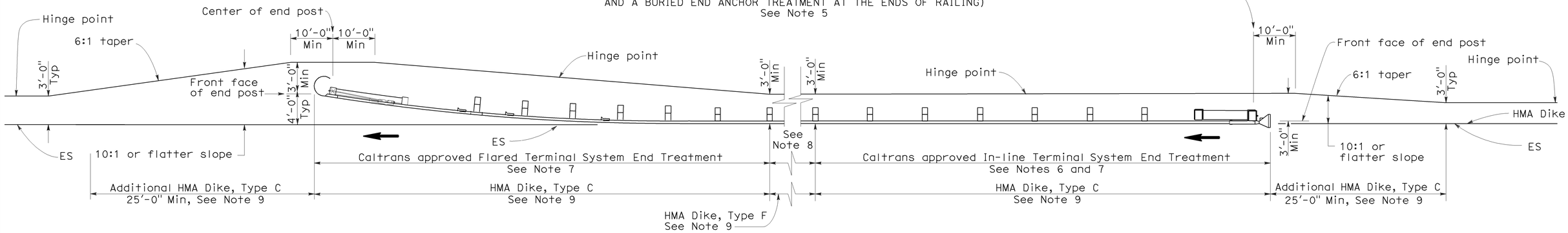
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPE 11I LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH IN-LINE END TREATMENT AND A BURIED END ANCHOR TREATMENT AT THE ENDS OF RAILING)
See Note 5



TYPE 11J LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH IN-LINE END TREATMENT AND FLARED END TREATMENT AT THE ENDS OF RAILING)
See Note 5

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by ⟶.
5. Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embamkment slopes and a crashworthy end treatment is required for both directions of traffic.
6. In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
7. The type of terminal system end treatment to be used will be shown on the Project Plans.
8. Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
9. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
10. 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 guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
11. For details of the buried post end anchor used with Type 11I Layout, see Standard Plan A77I2.
12. For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77E5 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E5 DATED MAY 1, 2006 - PAGE 52 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E5

2006 REVISED STANDARD PLAN RSP A77E5

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak	20	31.8/37.1	14	17

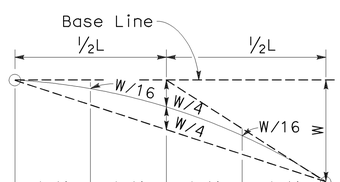
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

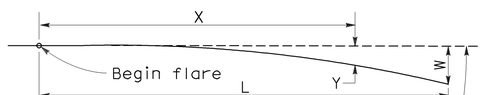
REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-09 — CIVIL — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated February 14, 2011



TYPICAL PARABOLIC LAYOUT

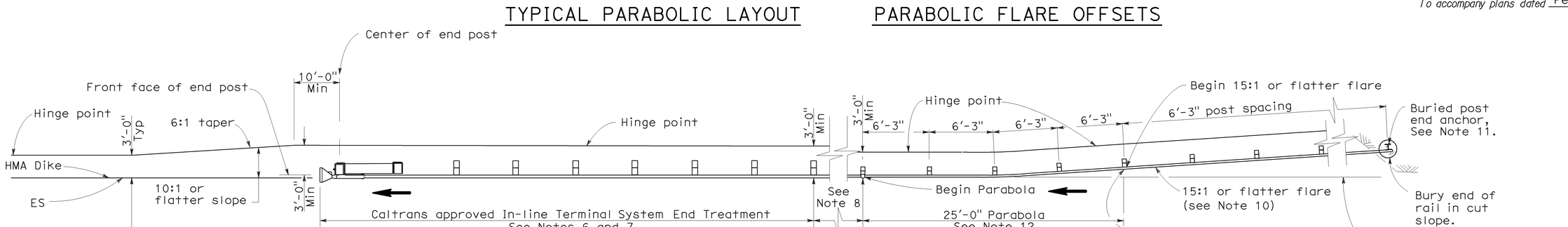


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

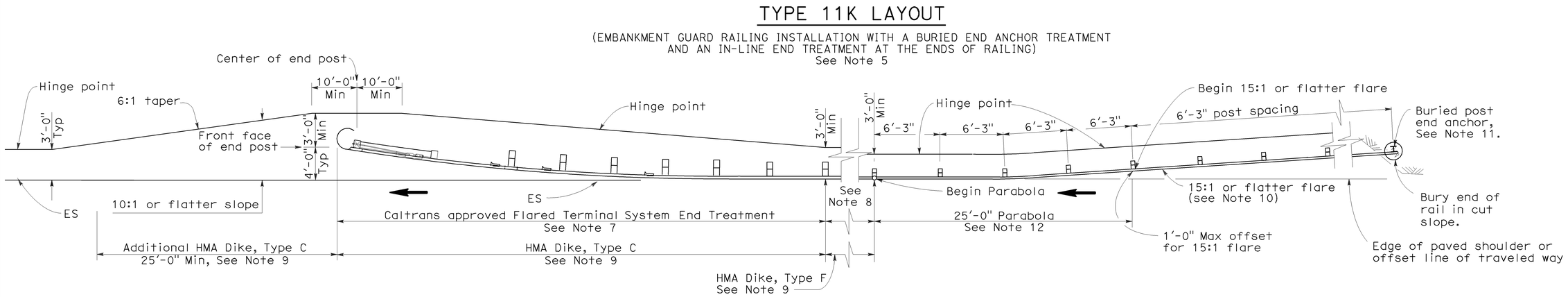
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPE 11K LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AND AN IN-LINE END TREATMENT AT THE ENDS OF RAILING)
See Note 5



TYPE 11L LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AND A FLARED END TREATMENT AT THE ENDS OF RAILING)
See Note 5

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by ➞.
5. Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embamkment slopes and a crashworthy end treatment is required for both directions of traffic.
6. In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
7. The type of terminal system end treatment to be used will be shown on the Project Plans.
8. Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
9. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
10. 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 guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
11. For details of the buried post end anchor used with Type 11K and 11L Layouts, see Standard Plan A77I2.
12. For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77E6 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E6
DATED MAY 1, 2006 - PAGE 53 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E6

2006 REVISED STANDARD PLAN RSP A77E6

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak	20	31.8/37.1	15	17

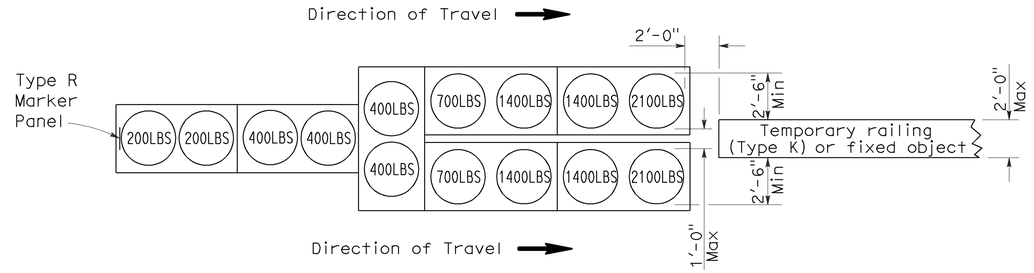
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-09 — CIVIL — STATE OF CALIFORNIA

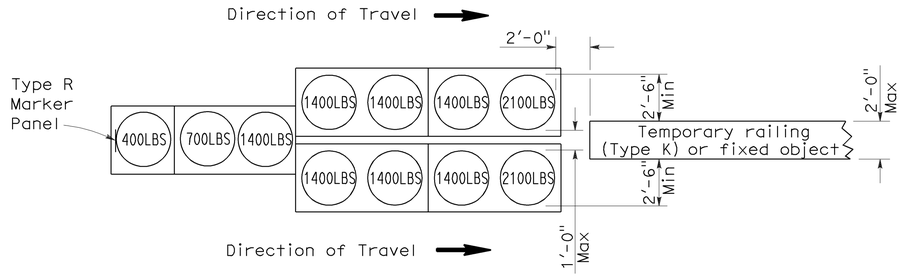
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated February 14, 2011



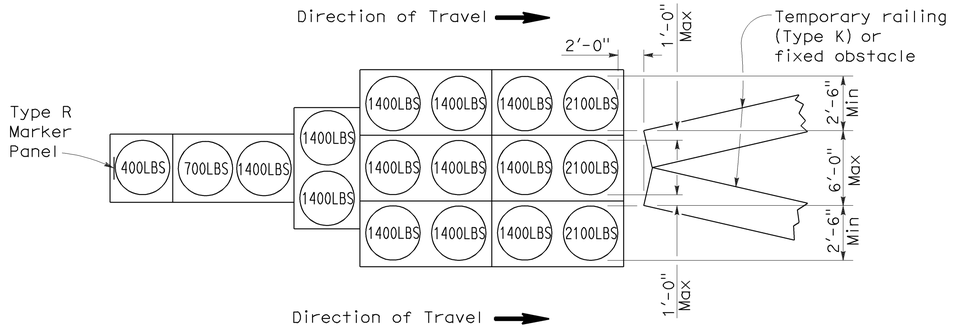
ARRAY 'TU14'

Approach speed 45 mph or more



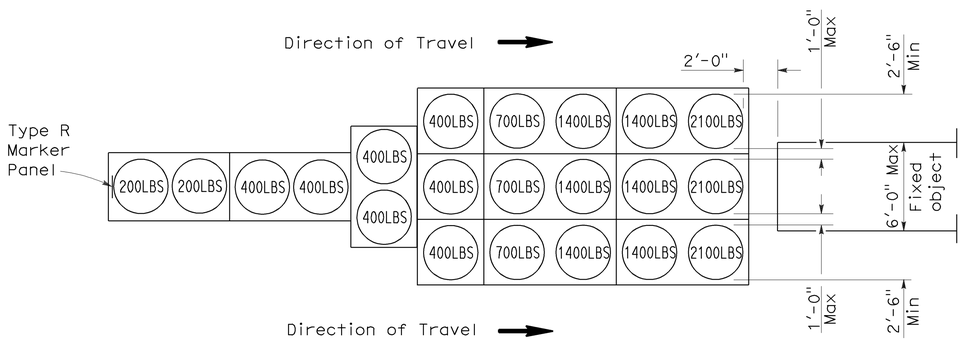
ARRAY 'TU11'

Approach speed less than 45 mph



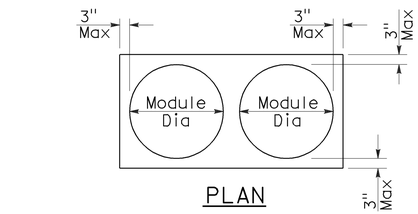
ARRAY 'TU17'

Approach speed less than 45 mph

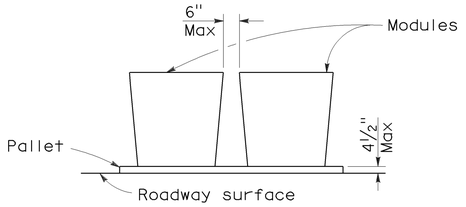


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak	20	31.8/37.1	16	17

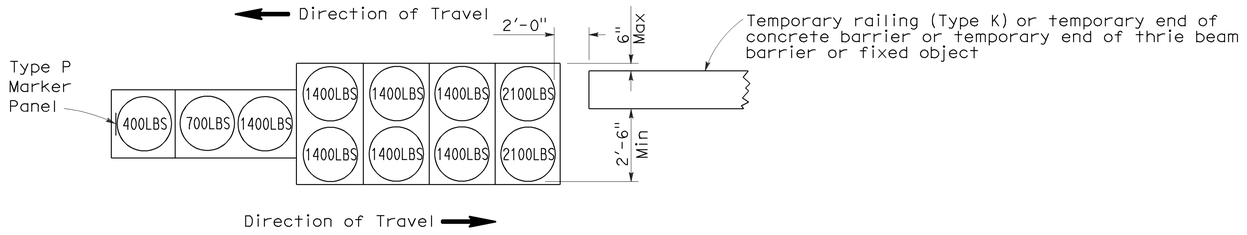
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

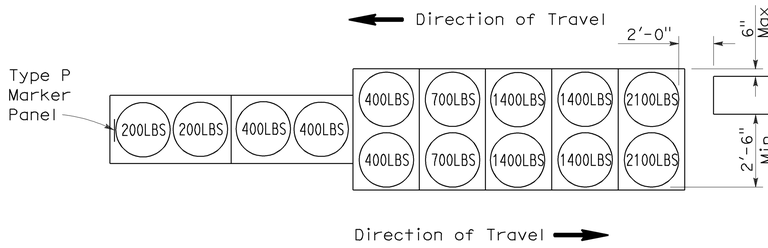
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated February 14, 2011



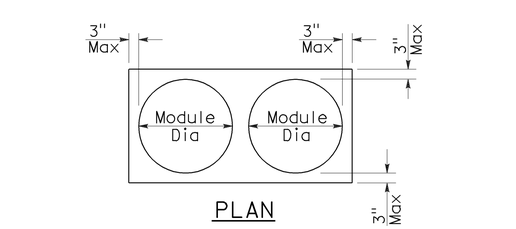
ARRAY 'TB11'

Approach speed less than 45 mph



ARRAY 'TB14'

Approach speed 45 mph or more



CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (BIDIRECTIONAL)

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak	20	31.8/37.1	17	17

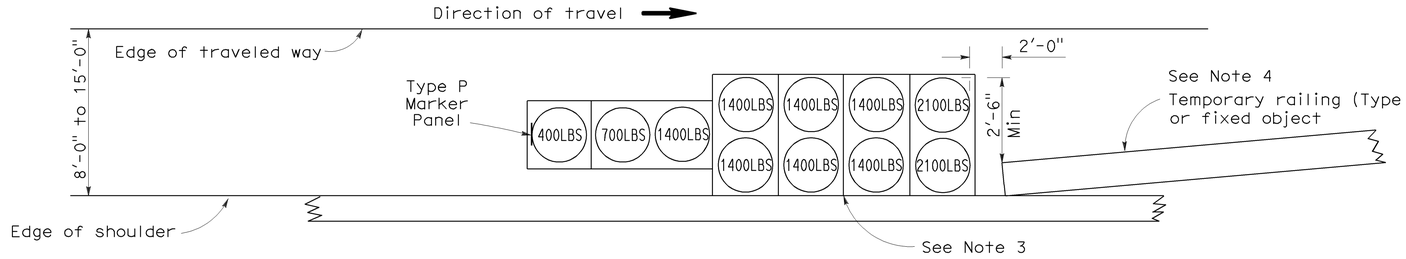
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

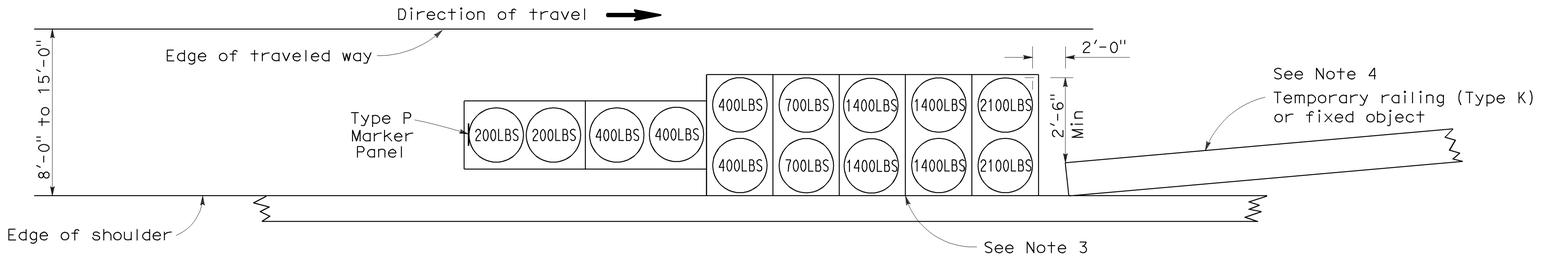
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated February 14, 2011



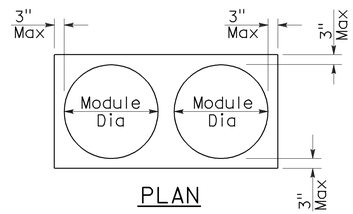
ARRAY 'TS11'

Approach speed less than 45 mph
See Note 9

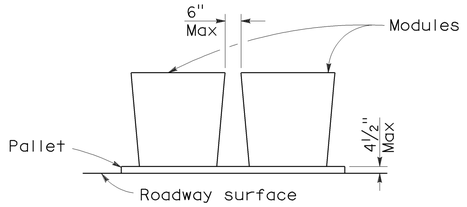


ARRAY 'TS14'

Approach speed 45 mph or more
See Note 9



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 11

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
4. If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
5. Temporary crash cushion arrays shall not encroach on the traveled way.
6. Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
7. Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
8. Refer to Standard Plan A73B for marker details.
9. For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
10. Approach speeds indicated conform to NCHRP 350 Report criteria.
11. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (SHOULDER INSTALLATIONS)

NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

5-15-08