

INDEX OF PLANS

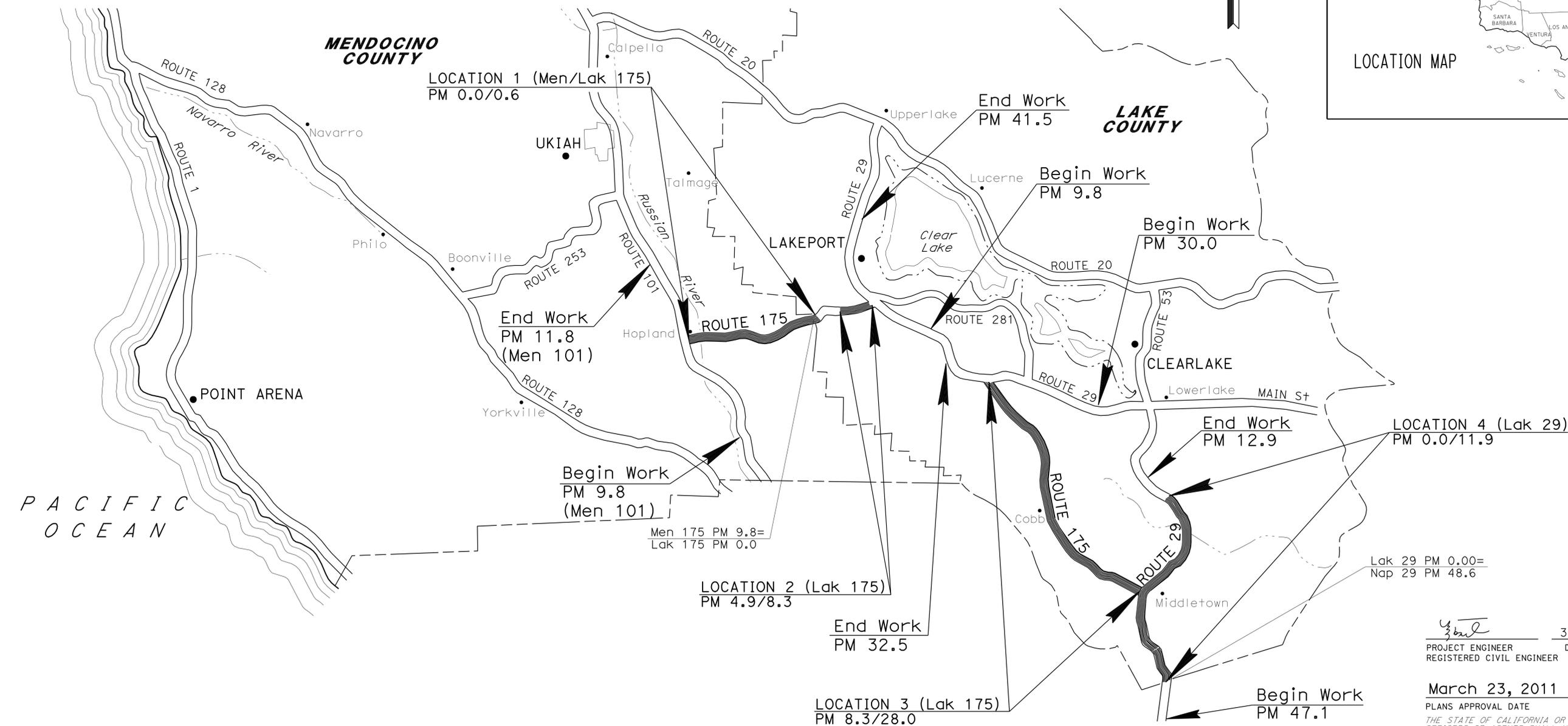
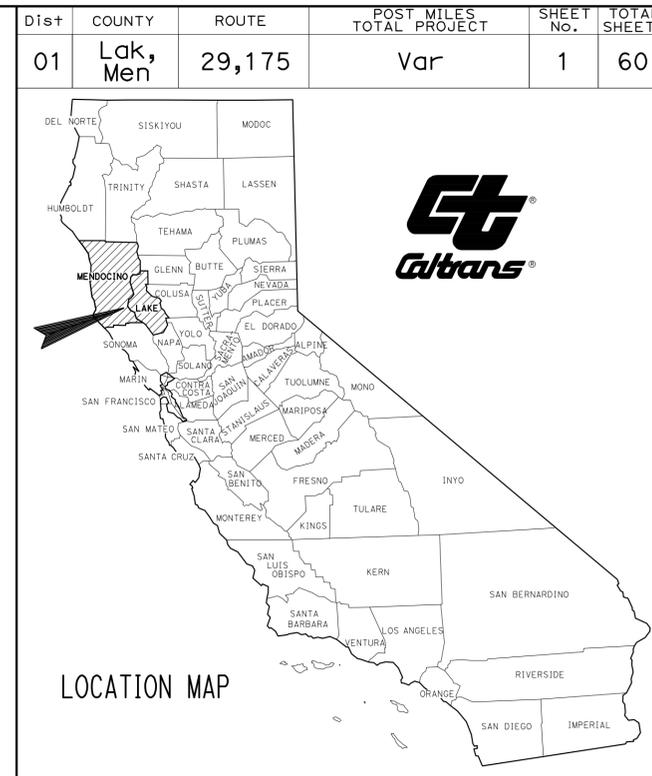
SHEET No.	DESCRIPTION
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STRUCTURE PLANS	
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THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA ACSTP-000C(339)E
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN LAKE AND MENDOCINO COUNTIES
AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



PROJECT MANAGER
STEVEN BLAIR

DESIGN ENGINEER
ARSHAD IOBAL

PROJECT ENGINEER
 REGISTERED CIVIL ENGINEER
 DATE: 3-23-11
 March 23, 2011
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 ARSHAD IOBAL
 No. 62831
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

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

NO SCALE

DATE PLOTTED => 24-MAR-2011 TIME PLOTTED => 08:13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION
 OFFICE OF DESIGN, SOUTH
 DESIGN BRANCH S7

FUNCTIONAL SUPERVISOR
 NESAR FORMOLI

CALCULATED/DESIGNED BY
 A. IOBAL

CHECKED BY
 L. VILLANUEVA

REVISOR BY
 DATE REVISOR

NOTES:

- DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
- FOR IMPORTED MATERIAL (SHOULDER BACKING) DETAILS SEE CONSTRUCTION DETAILS SHEET.
- FOR HMA DIKE TO BE REMOVED AND TYPE OF HMA DIKE PLACED, SEE SUMMARY OF QUANTITIES FOR LOCATIONS.
- FOR MBGR TO BE REMOVED, ADJUSTED AND TYPE OF MBGR PLACED, SEE SUMMARY OF QUANTITIES FOR LOCATIONS.

STRUCTURAL SECTIONS

- S-1 0.15' HMA-A (1/2" AGGREGATE GRADING)
0.10' HMA-A (3/8" AGGREGATE GRADING)
- S-2 0.15' RHMA-G
- S-3 0.15' RHMA-G
0.10' HMA-A
- S-4 COLD PLANE 0.25' AC
0.15' HMA-A (1/2" AGGREGATE GRADING)
0.10' HMA-A (3/8" AGGREGATE GRADING)

EXISTING STRUCTURAL SECTIONS

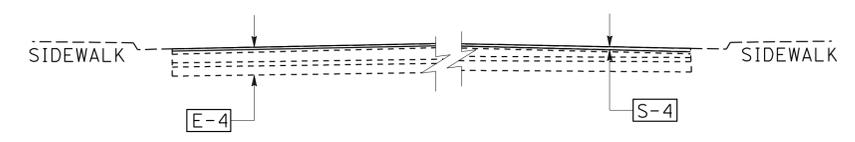
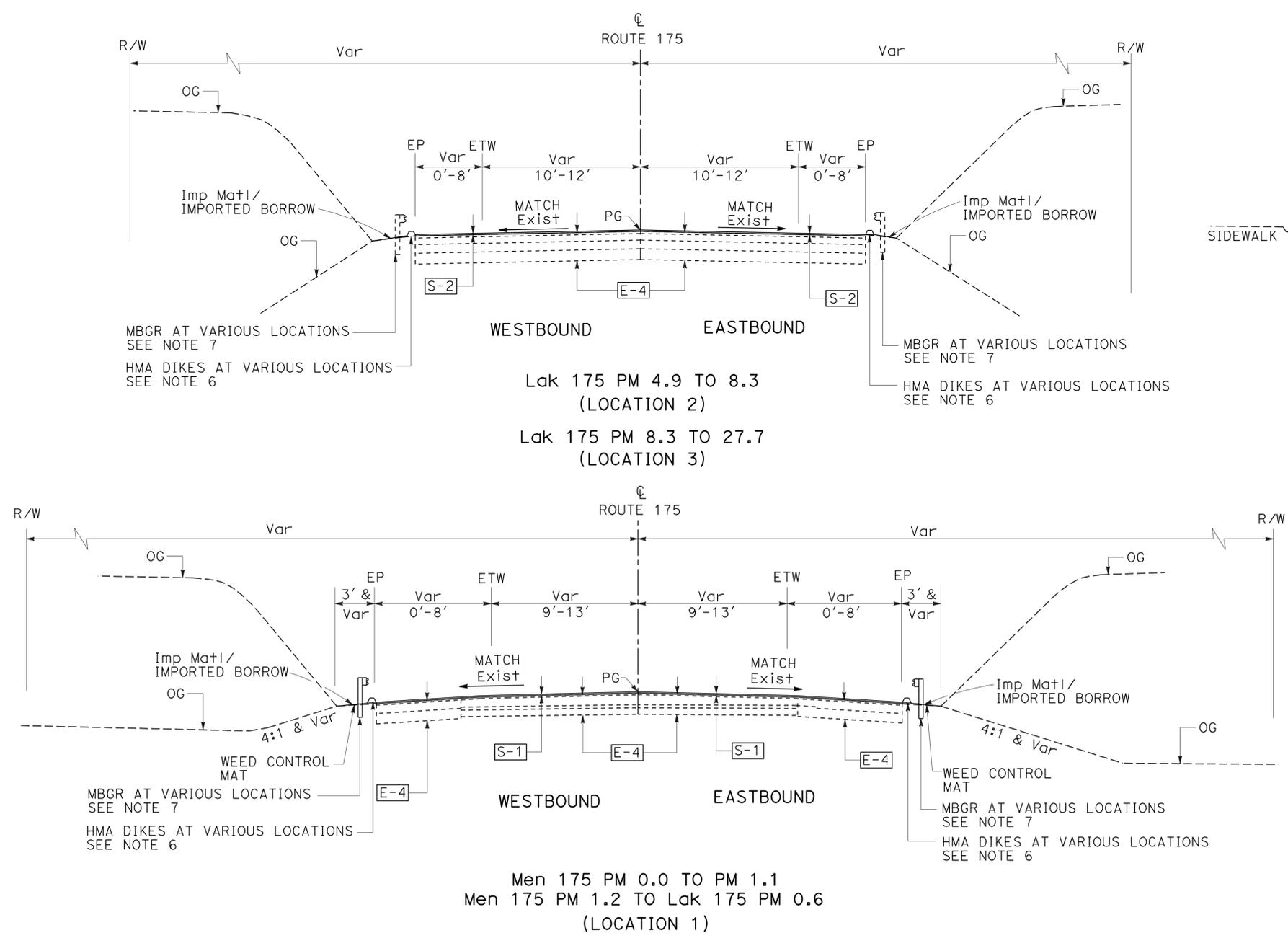
- E-1 0.04'-0.10' OGAC
0.35'-0.62' DGAC
0.50' CTB
0.76' AS
- E-2 0.10' OGAC
0.45'-0.50' DGAC
0.60'-1.72' CI 2 AB
- E-3 0.10' OGAC
0.29' DGAC
0.50' CTB
0.76' AS
- E-4 Var OGAC
Var DGAC
Var CTB
Var AS

ABBREVIATIONS:

- HMA-A HOT MIX ASPHALT (TYPE A)
- RHMA-G RUBBERIZED HOT MIX ASPHALT (GAP GRADED)
- Imp MatI IMPORTED MATERIAL (SHOULDER BACKING)

DESIGN DESIGNATION

	Men 175 0.0/9.85	Lak 175 0.0/8.25	Lak 175 8.25/19.62	Lak 175 19.62/28.04	Lak 29 0.0/4.54	Lak 29 4.54/11.9
2011 ADT	5,140	2,100	4,100	3,640	9,540	12,100
2031 ADT	8,500	3,100	6,050	5,430	14,900	20,000
(DHV) 2011	590	230	840	440	850	1,170
D%	60	60	60	60	60	60
T%	5.3	6.7	4.9	4.9	4.4	4.4



Lak 175 PM 27.7 TO 28.0
(LOCATION 3)

TYPICAL CROSS SECTIONS

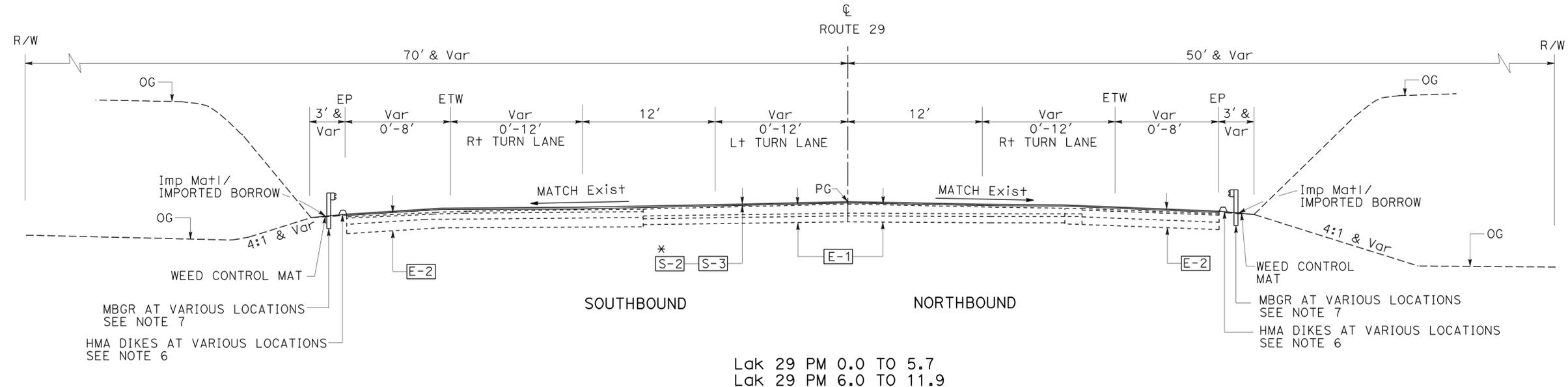
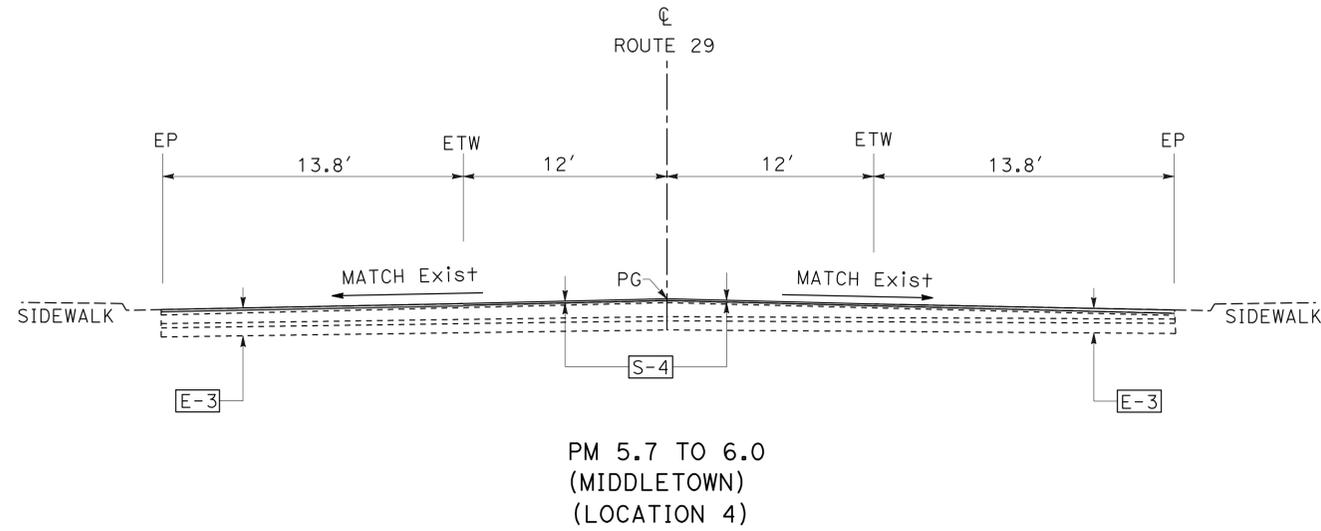
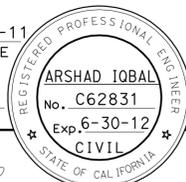
NO SCALE

X-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	3	60

<i>Y. Iqbal</i>	3-23-11
REGISTERED CIVIL ENGINEER	DATE
3-23-11	
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.



* STRUCTURAL SECTION **S-3** FOR PM 0.0/2.0
 STRUCTURAL SECTION **S-2** FOR PM 2.0/11.9

ROUTE 29
(LOCATION 4)

TYPICAL CROSS SECTIONS

NO SCALE

X-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION
 OFFICE OF DESIGN, SOUTH DESIGN BRANCH S7

FUNCTIONAL SUPERVISOR
 NESAR FORMOLI

A. IOBAL
 L. VILLANUEVA

REVISOR BY
 DATE REVISED

CALCULATED-DESIGNED BY
 CHECKED BY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION
 OFFICE OF DESIGN, SOUTH
 DESIGN BRANCH S7

FUNCTIONAL SUPERVISOR
 NESAR FORMOLI

CALCULATED-DESIGNED BY
 A. IOBAL

CHECKED BY
 L. VILLANUEVA

REVISOR
 DATE

NOTES:

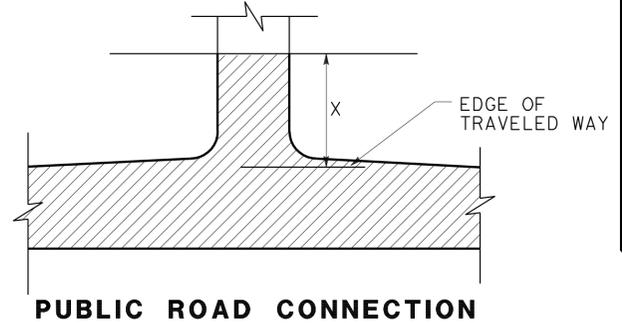
- SUPERELEVATION AS SHOWN OR DIRECTED BY THE ENGINEER.
 - EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
- 0.15'-0.25' COLD PLANE AC PAVEMENT
 0.15' RHMA-G/0.25' HMA-A

LEGEND:

- COLD PLANE AC PAVEMENT
- 0.15' RHMA-G/0.25' HMA-A

PAVING CONFORM

LOCATION	Y (LF)
BEGIN & END CONSTRUCTION	60
BEGIN & END BRIDGE DECK	100
PUBLIC Rd	20
PRIVATE & LOCAL Rd	2
RAILROAD TRACKS	50



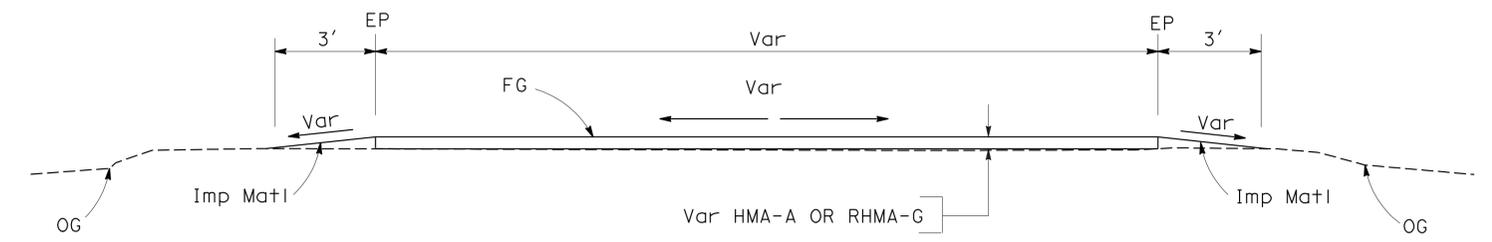
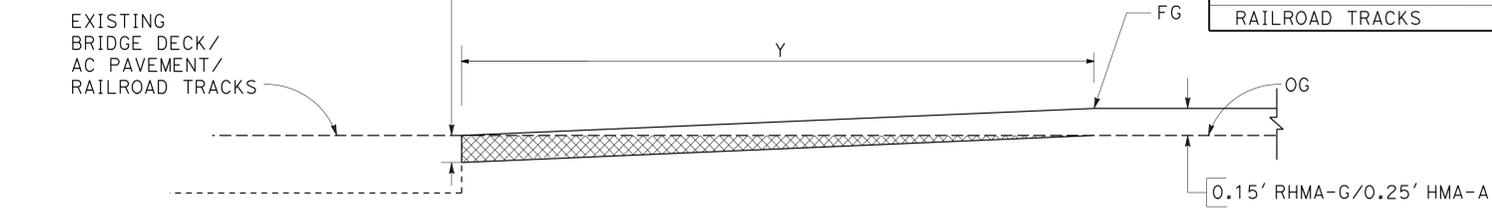
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29,175	Var	4	60

REGISTERED CIVIL ENGINEER
 ARSHAD IOBAL
 No. C62831
 Exp. 6-30-12
 CIVIL

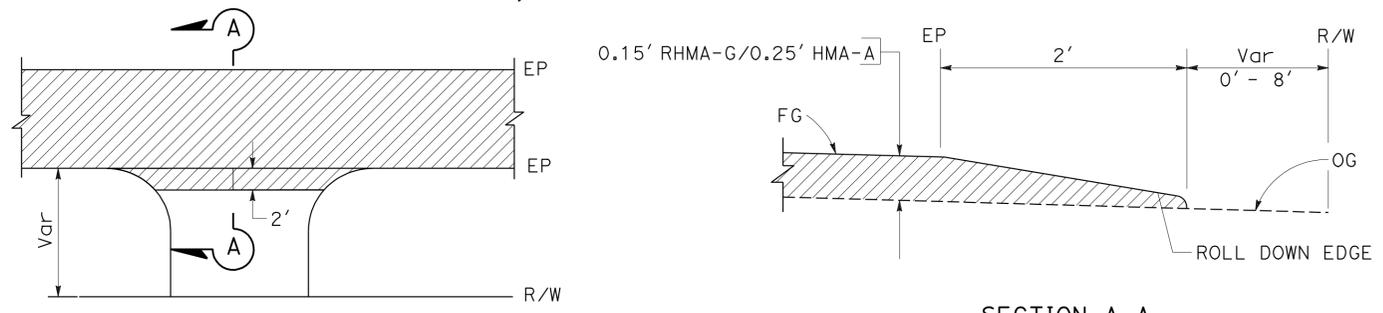
3-23-11
 DATE

3-23-11
 PLANS APPROVAL DATE

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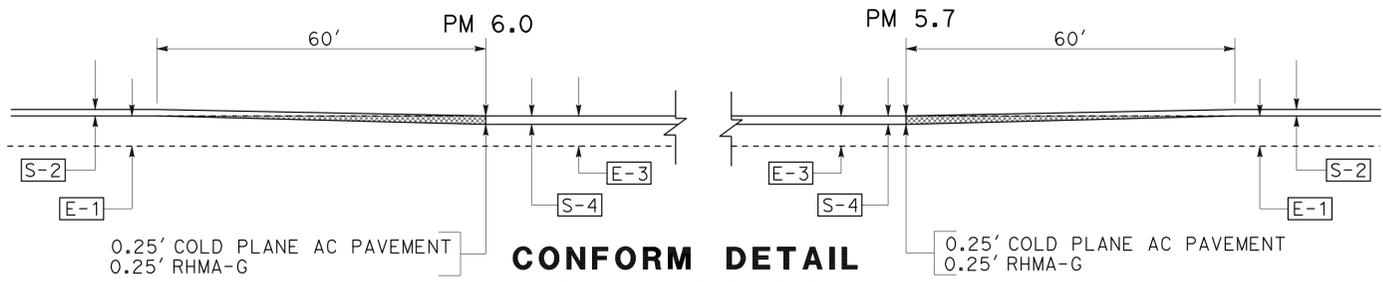


**TYPICAL SECTION (OVERLAY)
 PUBLIC, PRIVATE & LOCAL Rd**

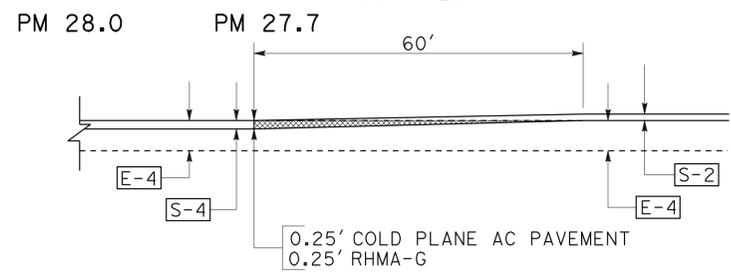


SECTION A-A

**PRIVATE AND LOCAL Rd
 PAVING CONFORM**



**CONFORM DETAIL
 PM 5.7 AND PM 6.0
 (LOCATION 4)
 ROUTE 29**



**CONFORM DETAIL
 PM 27.7
 (LOCATION 3)
 ROUTE 175**

LOCATION	PM (Lak 175)	X (FT)
MATHEWS Rd	R+	6.80
PARALLEL Dr	L+	8.20
RED HILLS Rd	L+	11.25
WILDCAT Rd	R+	11.45
WILDCAT Rd	R+	13.48
SALMINA Rd	L+	13.68
SALMINA Rd	L+	15.05
WESTERN PINE Rd	L+	15.78
WESTERN PINE Rd	L+	16.07
LOCH LOMOND Rd	L+	16.33
ACCESS Rd	R+	16.33
ADAM SPRINGS Rd	L+	16.67
ADAM SPRINGS Rd	L+	16.98
HARRINGTON FLAT Rd	R+	17.02
HARRINGTON FLAT Rd	R+	17.04
SNEED Dr	R+	17.20
SNEED Dr	R+	17.56
EMERFORD Rd	R+	17.66
BOGGS MOUNTAIN Rd	L+	18.24
SUMMIT Dr	L+	18.35
SUMMIT Blvd	R+	18.45
HUMBOLDT Rd	R+	18.47
COBB SCHOOL	R+	19.05
ESTATE Dr	R+	19.20
MEADOW SPRINGS	R+	19.40
BOTTLE ROCK Rd	R+	19.54
GOLF Rd	L+	19.80
FOREST LAKE Dr LOOP	R+	19.89
FOREST LAKE Dr	R+	20.18
GIFFORD SPRINGS Rd	L+	20.36
MAPLE SHADOW Dr	R+	20.43
ARROYO VISTA Rd	R+	20.85
SOCRATES MINE Rd	R+	23.47
ANDERSON SPRINGS Rd	R+	23.98
McKINLEY Dr	L+	24.90
DRY CREEK Rd	R+	26.53
SANTA BARBARA Ave	L+	26.70
SANTA ROSA Ave	L+	27.06
NAPA Ave	L+	27.47
SANTA CLARA	R+	27.76
SANTA CLARA	L+	27.76
STEWART St	R+	27.93
BARNES St	L+	27.93
BERRY St	L+	27.96
BUSH St	R+	27.99
BUSH St	L+	27.99

LOCATION	PM (Men 175)	X (FT)
OLD RIVER Rd	R+	0.76
HOWELL St	L+	0.92
McDOWELL St	L+	1.01
McDOWELL St	R+	1.01
KNOX St	L+	1.05
FIRST St	R+	1.08
HARRISON St	R+	1.21
OLD TOLL Rd	R+	2.79
PRATT RANCH Rd	L+	3.18
EAST SIDE RANCHERIA Rd	L+	3.55
BUCKMAN Dr	L+	3.96

LOCATION	PM (Lak 29)	X (FT)
BRADFORD Rd	L+	1.37
BRADFORD Rd	R+	1.59
HILDERBRAND Rd	R+	1.93
WEST Rd	L+	2.27
WEST Rd	R+	2.27
MIRABEL Rd	R+	2.59
SHADY GROVE Rd	L+	2.87
SHADY GROVE Rd	R+	2.87
WESTERN MINE Rd	L+	3.51
EAST Rd	R+	3.51
RANCHERIA Rd	L+	4.12
RANCHERIA Rd	R+	4.12
SHEVELAND Rd	L+	4.53
CENTRAL PARK Rd	L+	5.14
LAKE St	L+	5.37
HILL Ave	L+	5.47
CALLAYOMI St	L+	5.65
CALLAYOMI St	R+	5.65
DOUGLAS St	L+	5.70
DOUGLAS St	R+	5.70
ARMSTRONG St	L+	5.76
ARMSTRONG St	R+	5.76
MAIN St ROUTE 175	R+	5.81
YOUNG St	L+	5.87
YOUNG St	R+	5.87
WARDLAW St	L+	5.98
WARDLAW St	R+	5.98
BUTTS CANYON Rd	R+	6.36
ST HELENA CREEK Rd	R+	6.37
ST HELENA Ln	L+	6.65
GRANGE Rd	L+	9.28
GRANGE Rd	R+	9.28
PUTAH Ln	R+	9.63
GUENOC Ln	L+	9.63
HARTMANN Rd	R+	9.87
ARABIAN Ln	R+	10.07
SPRUCE Rd EXIT	L+	10.07
SPRUCE/HIDDEN VALLEY Rd	L+	11.12
SPRUCE/HIDDEN VALLEY Rd	R+	11.12

CONSTRUCTION DETAILS

NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 NORTH REGION
 OFFICE OF DESIGN, SOUTH
 DESIGN BRANCH S7

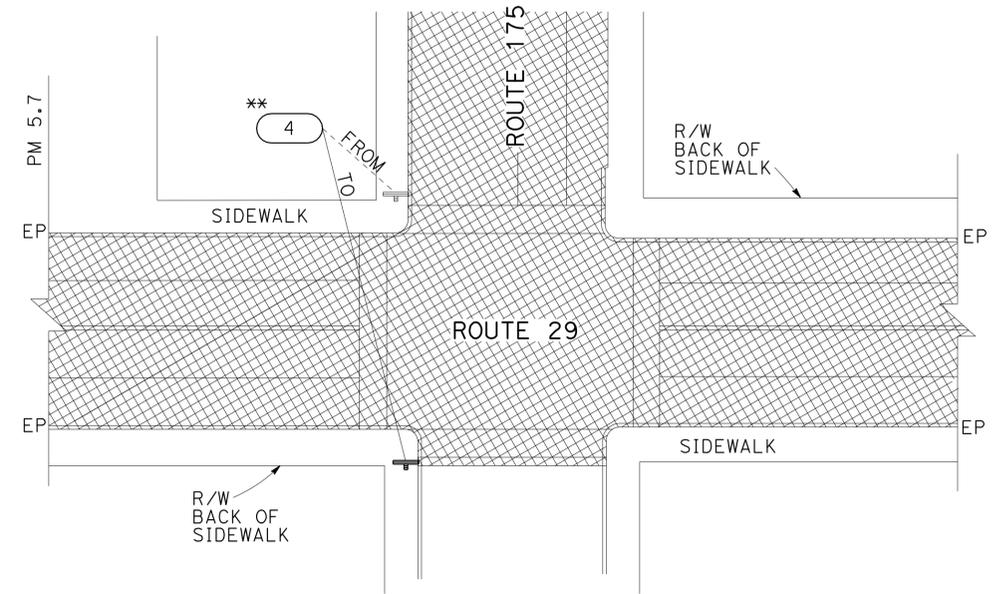
FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
NESAR FORMOLI	A. IOBAL	A. IOBAL
CHECKED BY	DATE	DATE
L. VILLANUEVA		

NOTES:

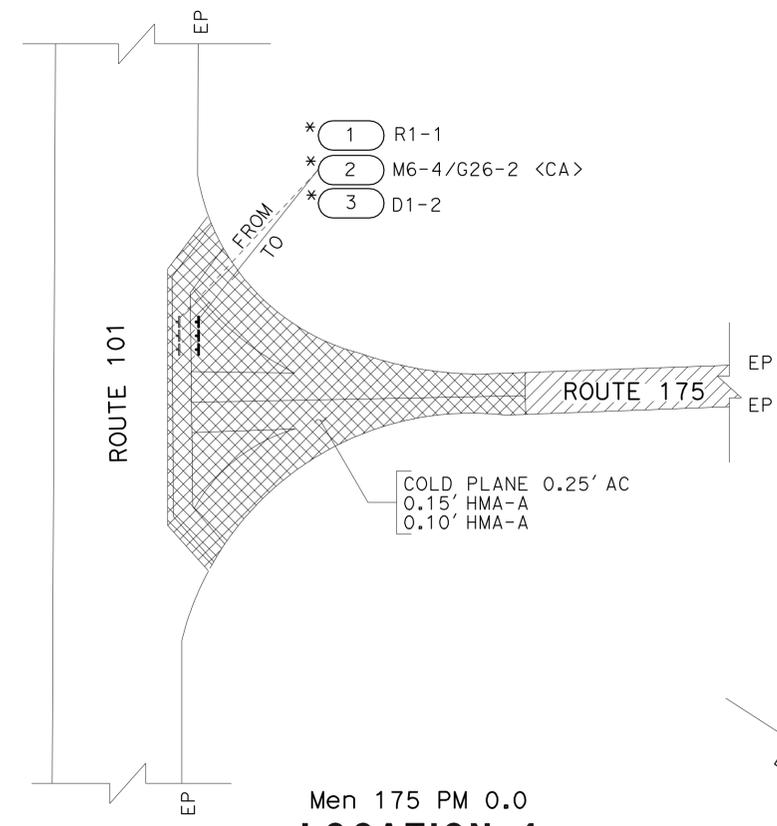
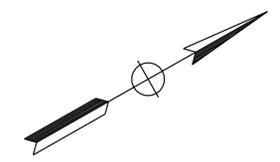
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
- ON BOTH SIDES OF ROUTE 29 (CALISTOGA ST), COLD PLANE EXISTING ASPHALT ON THE GUTTER FROM DOUGLAS ST (PM 5.7) TO YOUNG ST (PM5.9).

LEGEND

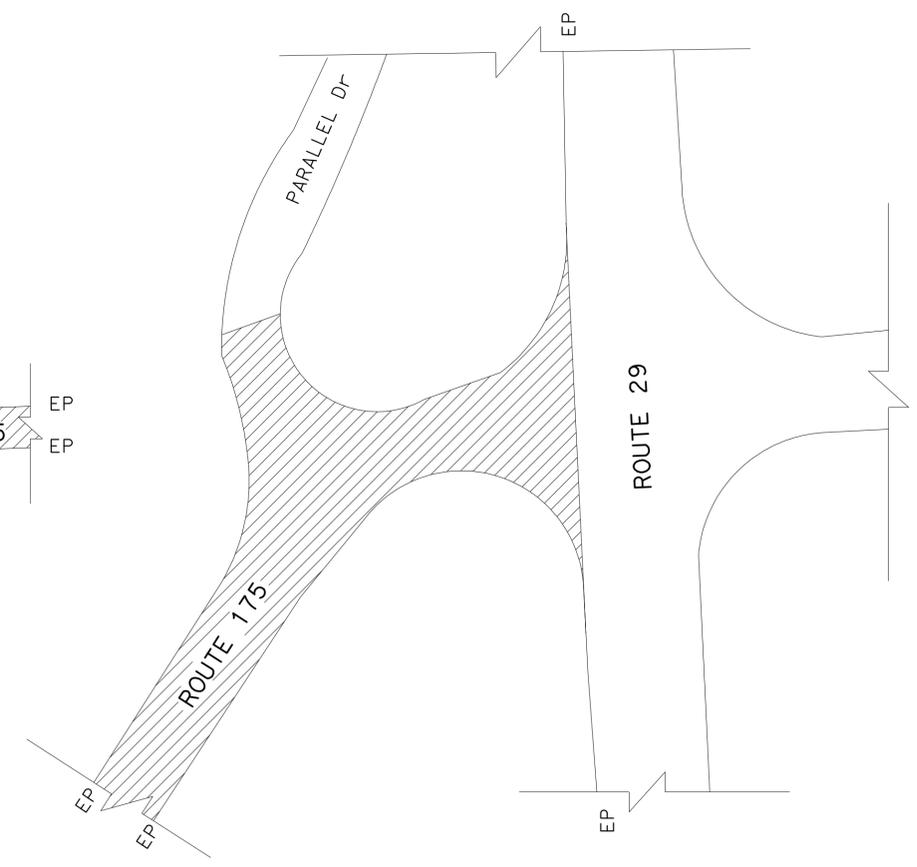
-  LIMITS OF COLD PLANING AND RHMA-G
-  LIMITS OF PAVING (CONFORM)
-  (No.) ROADSIDE SIGN NUMBER
- * RELOCATE ROADSIDE SIGN
- ** RELOCATE ROADSIDE SIGN TO SIGNAL MAST ARM



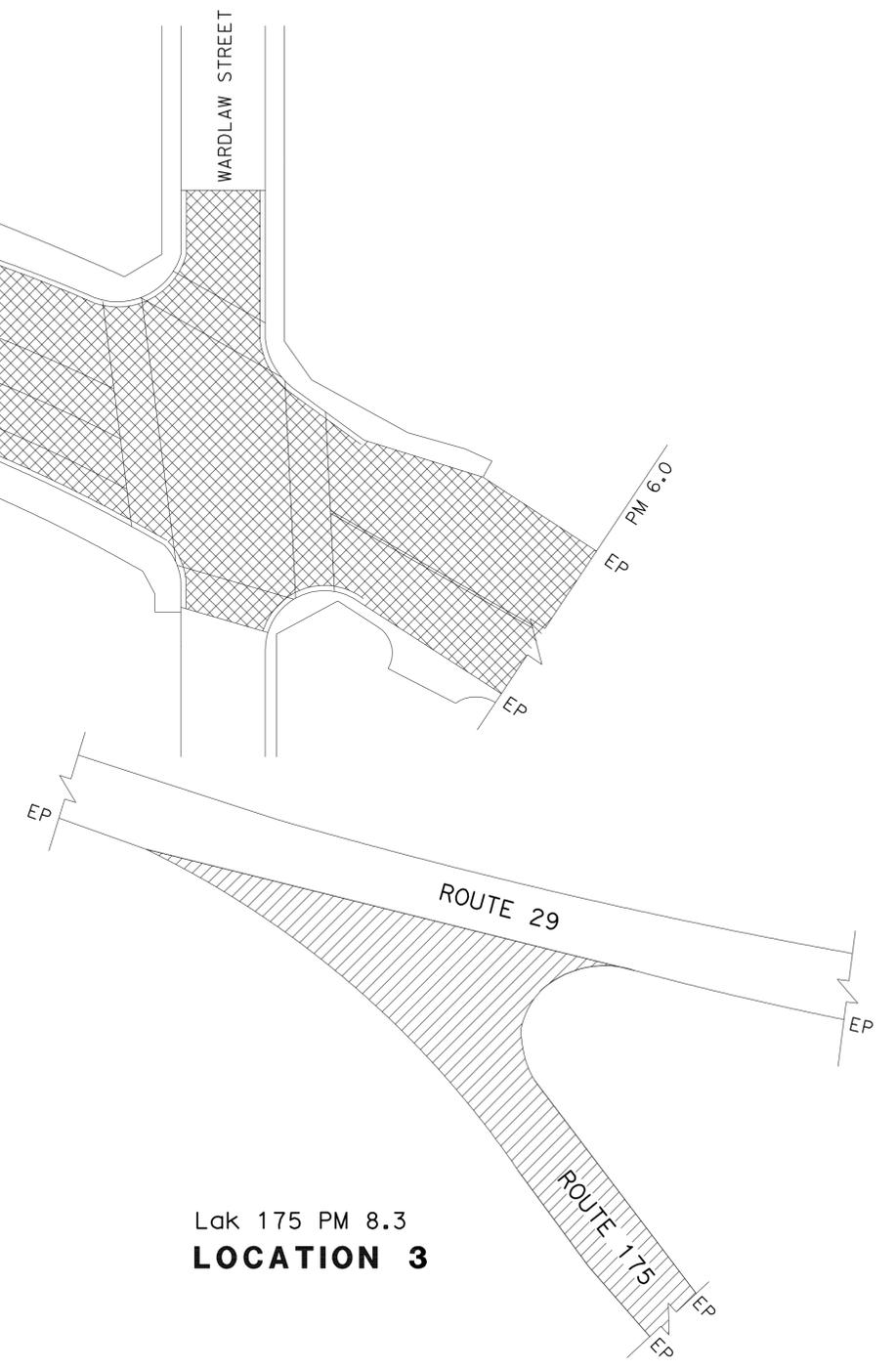
Lak 29 PM 5.7/6.0
MIDDLETOWN



Men 175 PM 0.0
LOCATION 1



Lak 175 PM 8.3
LOCATION 2



Lak 175 PM 8.3
LOCATION 3

CONSTRUCTION DETAILS
 NO SCALE

C-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	5	60

REGISTERED CIVIL ENGINEER: *Arshad Iqbal* No. C62831 Exp. 6-30-12
 DATE: 3-23-11
 PLANS APPROVAL DATE: 3-23-11

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29,175	Var	6	60

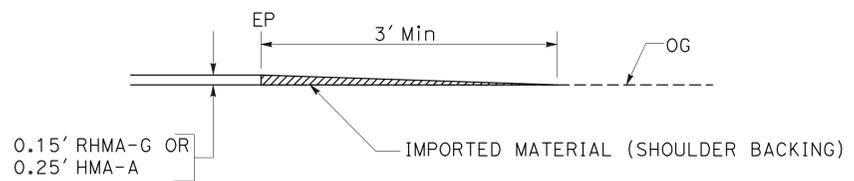
REGISTERED CIVIL ENGINEER	DATE	3-23-11
PLANS APPROVAL DATE		
3-23-11		

REGISTERED PROFESSIONAL ENGINEER	ARSHAD IQBAL
No. C62831	Exp. 6-30-12
CIVIL	

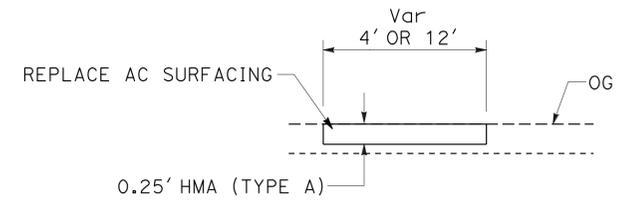
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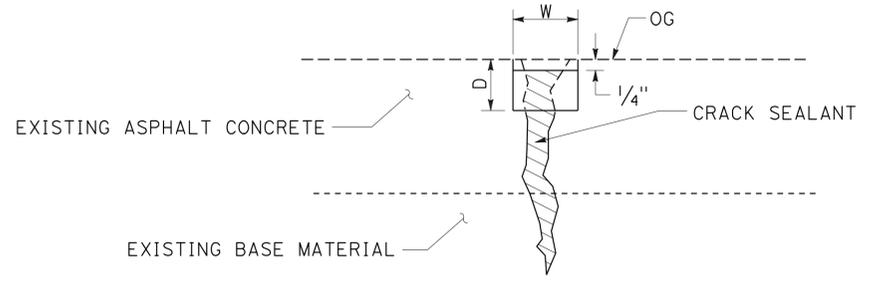
-  IMPORTED MATERIAL (SHOULDER BACKING)
-  DIRECTION OF FLOW
- W= WIDTH OF ROUTING = WIDTH OF CRACK + 1/4" Min
- D= DEPTH OF ROUTING = W + 1/4" Min



SHOULDER BACKING CONSTRUCTION



REPLACE ASPHALT CONCRETE SURFACING

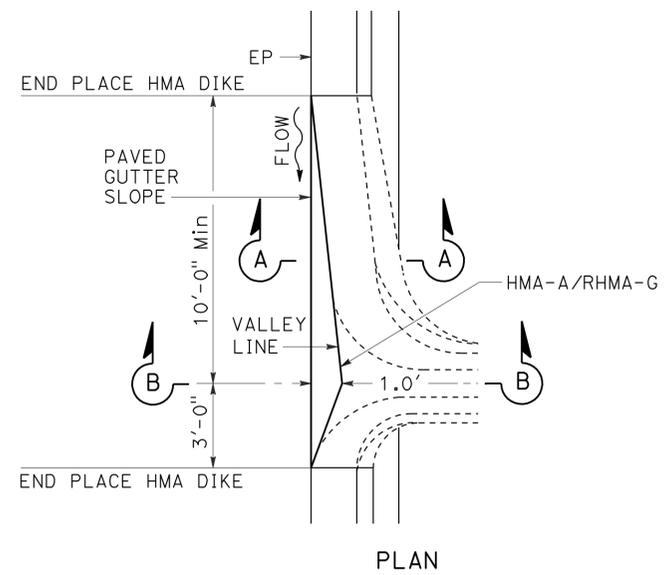


CRACK TREATMENT TYPICAL CROSS SECTION

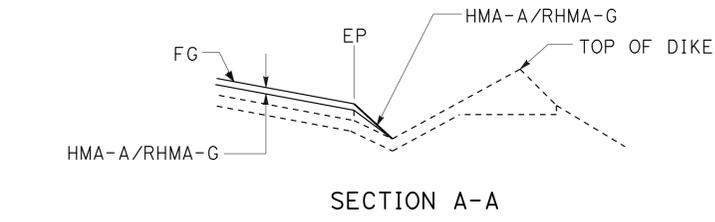
NOTES:

1. ALL CRACKS 1/4" WIDE OR GREATER ARE TO BE ROUTED AND SEALED.
2. IF ANY PART OF CRACKS IS 1/4" OR WIDER, THEN THE ENTIRE CRACK WILL BE ROUTED AND SEALED.
3. NO SEALANT MATERIAL WILL BE ALLOWED ON AC PAVEMENT SURFACE.

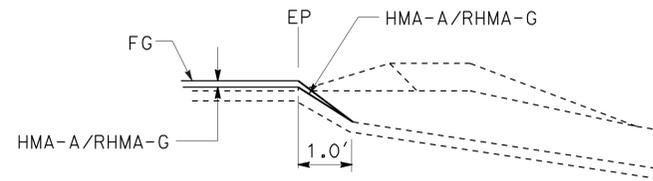
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - NORTH REGION OFFICE OF DESIGN, SOUTH DESIGN BRANCH S7
 Caltrans
 FUNCTIONAL SUPERVISOR: NESAR FORMOLI
 A. IOBAL (DESIGNED BY)
 L. VILLANUEVA (CHECKED BY)
 REVISED BY: DATE REVISION
 CALCULATED/DESIGNED BY: CHECKED BY:



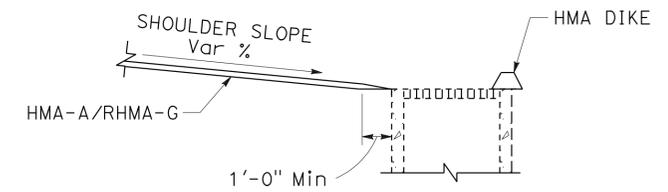
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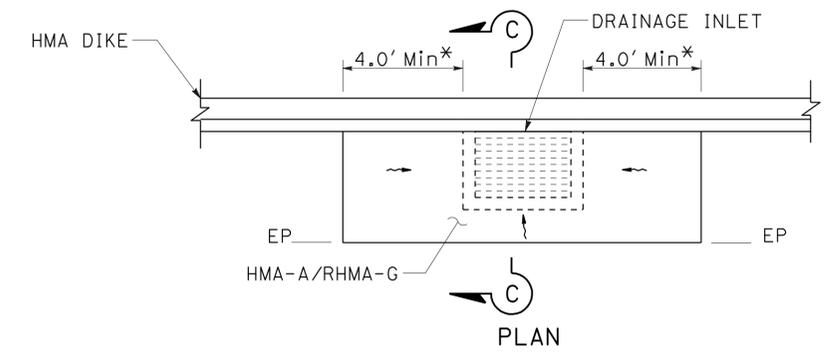
SECTION A-A



SECTION B-B



SECTION C-C



PLAN

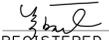
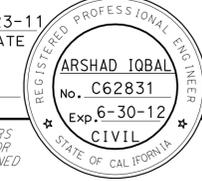
INLET DEPRESSION

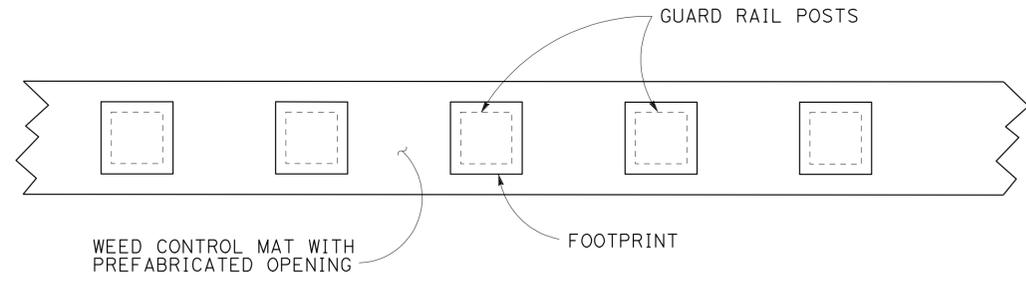
* EXACT OFFSET TO BE DETERMINED BY THE ENGINEER

CONSTRUCTION DETAILS

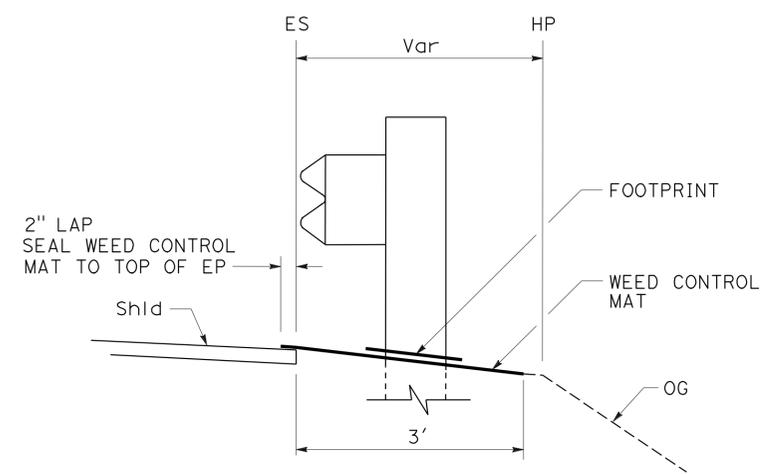
NO SCALE

C-3

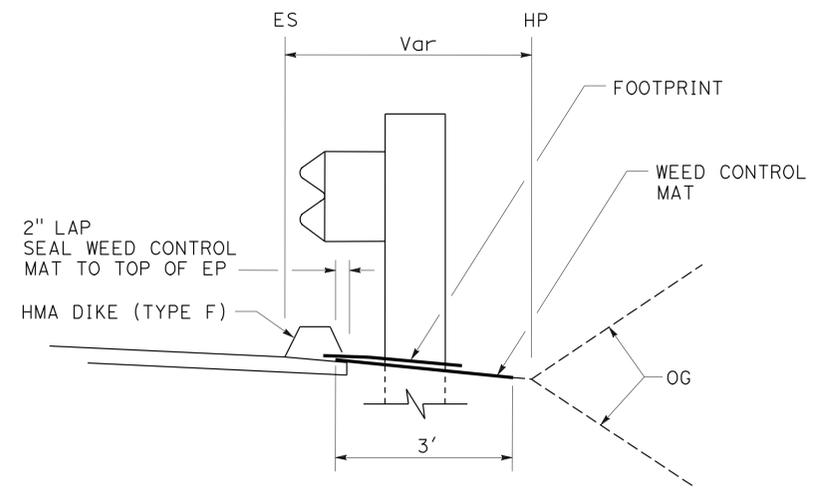
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29,175	Var	7	60
 REGISTERED CIVIL ENGINEER			3-23-11	DATE	
3-23-11 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



PLAN
GUARD RAILING WEED CONTROL MAT (FIBER)
 AT WOOD POST



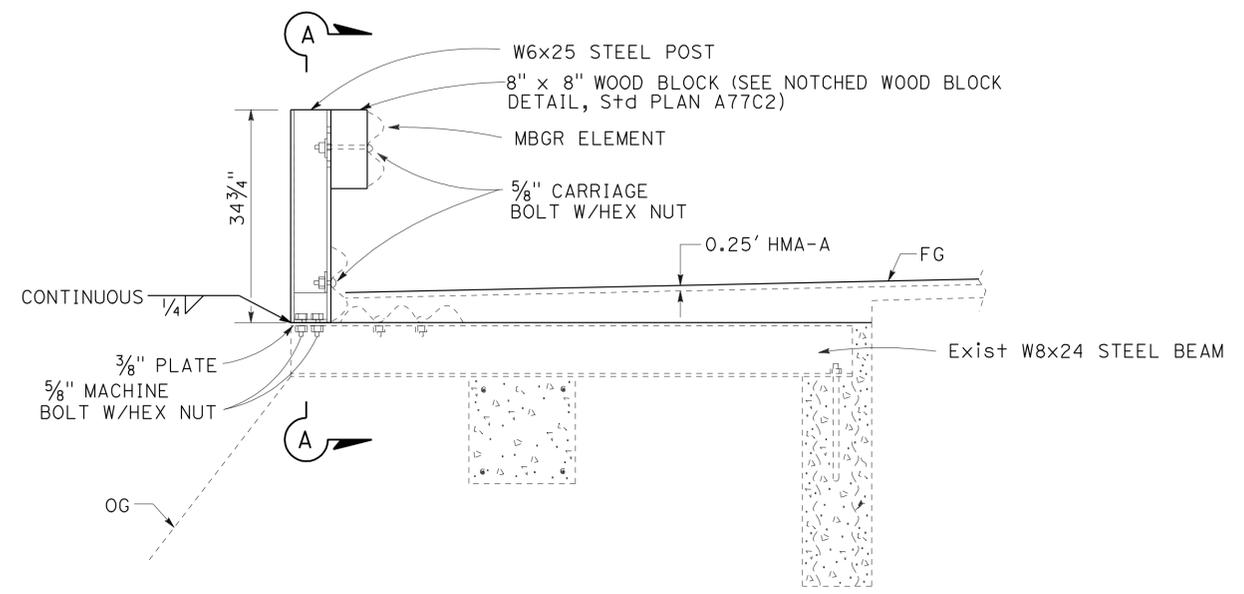
GUARD RAILING WEED CONTROL MAT (FIBER)
 WITHOUT DIKE



GUARD RAILING WEED CONTROL MAT (FIBER)
 WITH DIKE

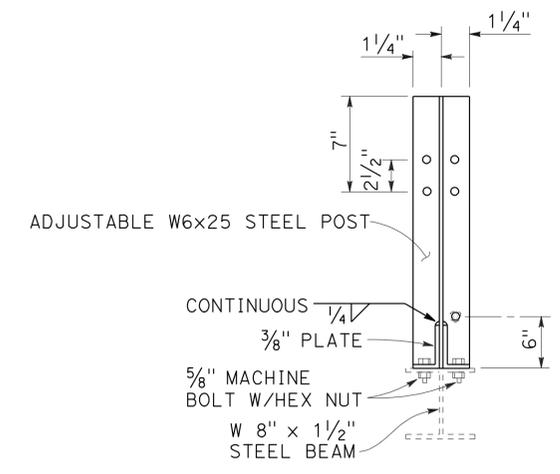
NOTES:

1. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO FABRICATION.
2. FOR MBGR DETAILS NOT SHOWN, SEE STANDARD PLANS A77A2 AND A77C2.
3. ALL POST SPACING 6.25' C-C.
4. POST SPACING & OTHER DIMENSIONS TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR.



RECONSTRUCT MBGR SPECIAL (STEEL GRADE BEAM)

Men 175 PM 8.35/8.38 WB

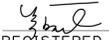
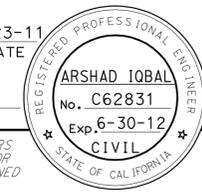


SECTION A-A

CONSTRUCTION DETAILS

NO SCALE

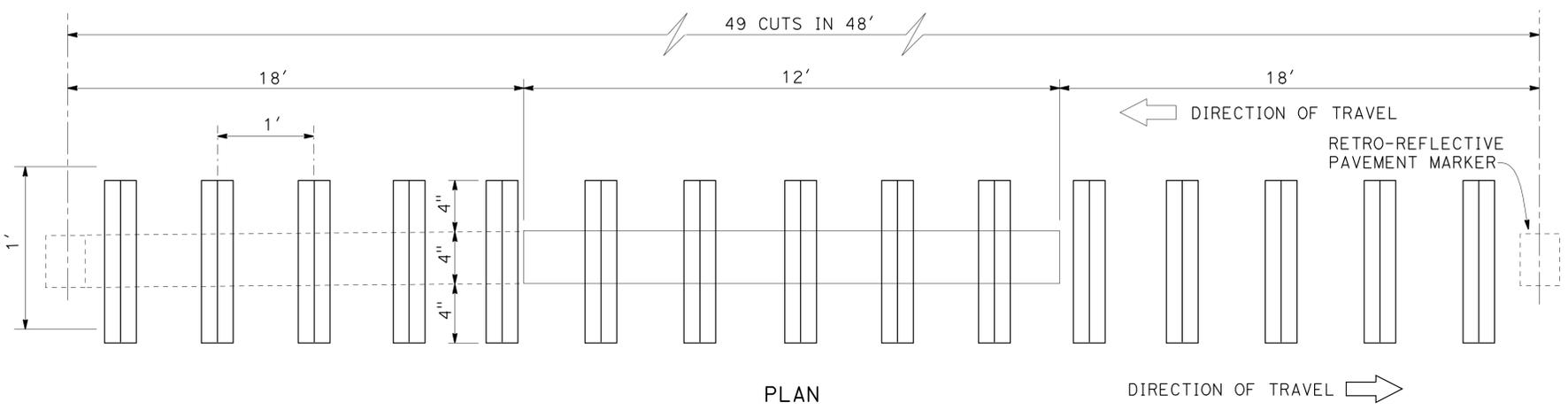
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
North Region	NESAR FORMOLI	A. IOBAL	
Office of Design, South		L. VILLANUEVA	
Design Branch S7			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	8	60
 REGISTERED CIVIL ENGINEER			DATE	3-23-11	
PLANS APPROVAL DATE			DATE	3-23-11	
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

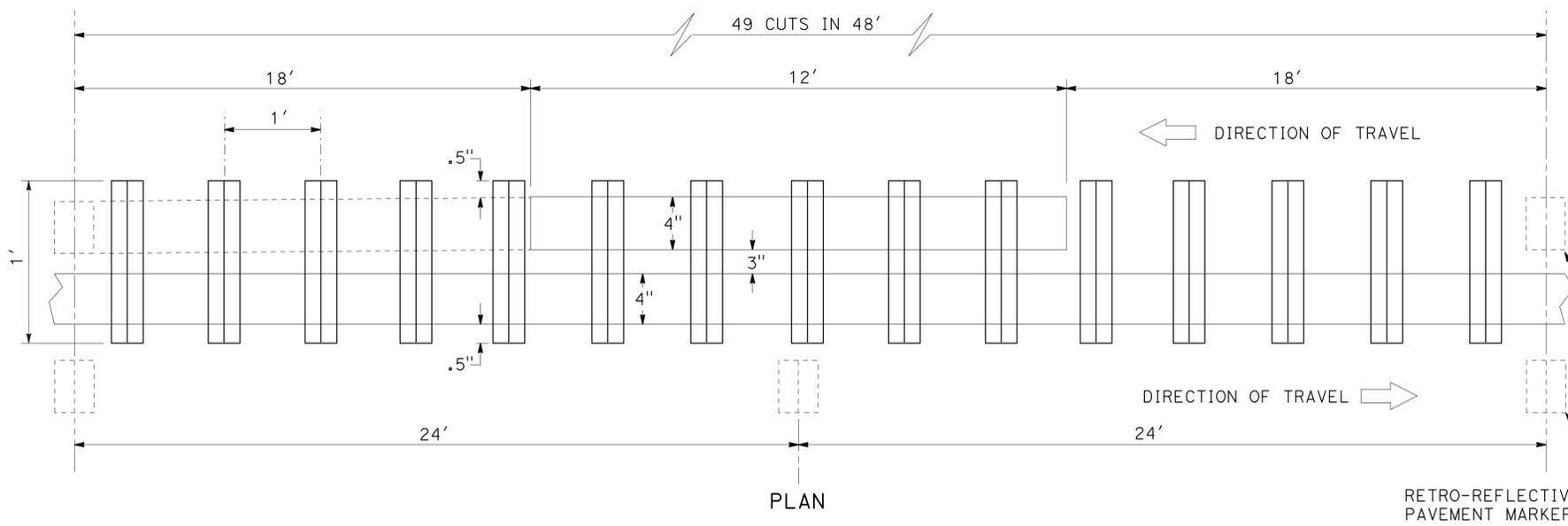
LEGEND

-  DIRECTION OF TRAVEL
-  RUMBLE STRIP

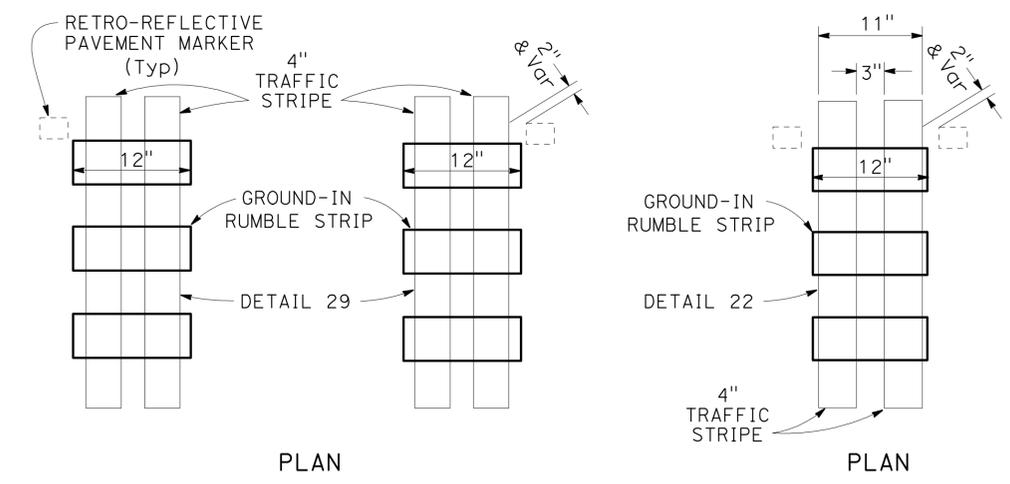
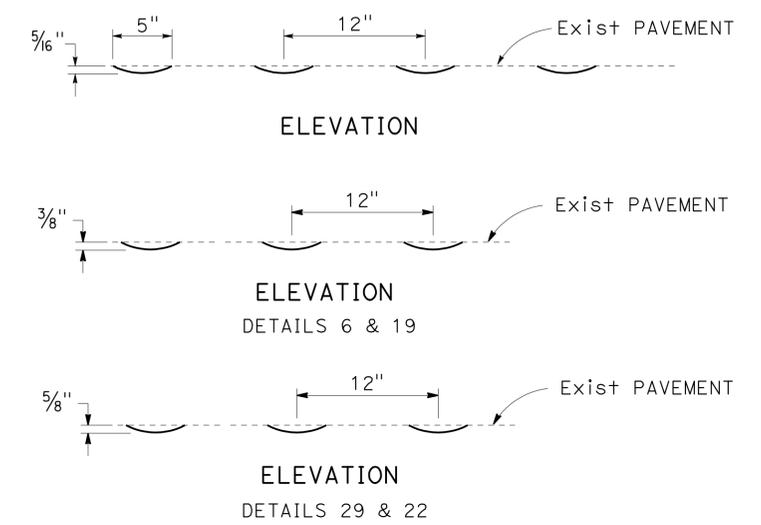
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION
 OFFICE OF DESIGN, SOUTH DESIGN BRANCH S7
 Caltrans
 FUNCTIONAL SUPERVISOR
 NESAR FORMOLI
 CALCULATED/DESIGNED BY
 CHECKED BY
 A. IOBAL
 L. VILLANUEVA
 REVISED BY
 DATE REVISED



CENTERLINE RUMBLE STRIP DETAIL 6



CENTERLINE RUMBLE STRIP DETAIL 19



GROUND-IN INDENTATIONS CENTERLINE RUMBLE STRIP

CONSTRUCTION DETAILS

NO SCALE

C-5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	9	60

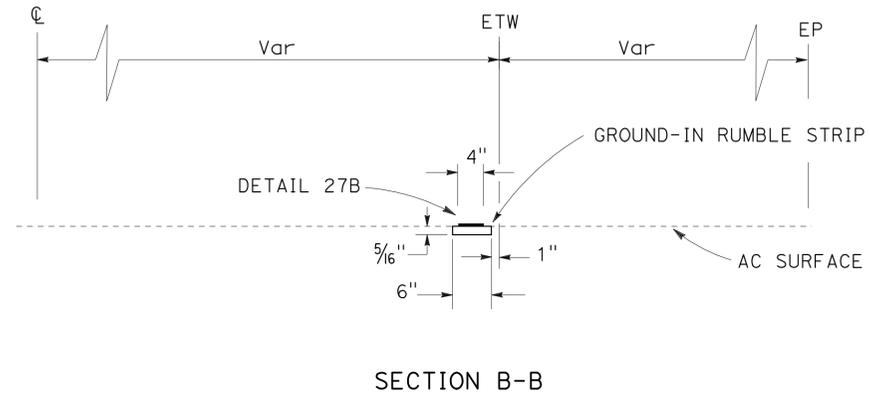
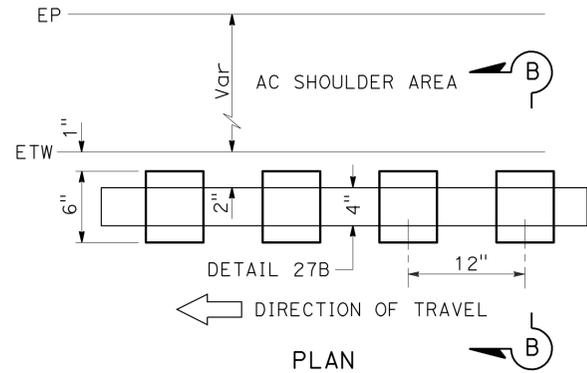
<i>Y. Iqbal</i>	3-23-11
REGISTERED CIVIL ENGINEER	DATE
3-23-11	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
ARSHAD IQBAL
No. C62831
Exp. 6-30-12
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.

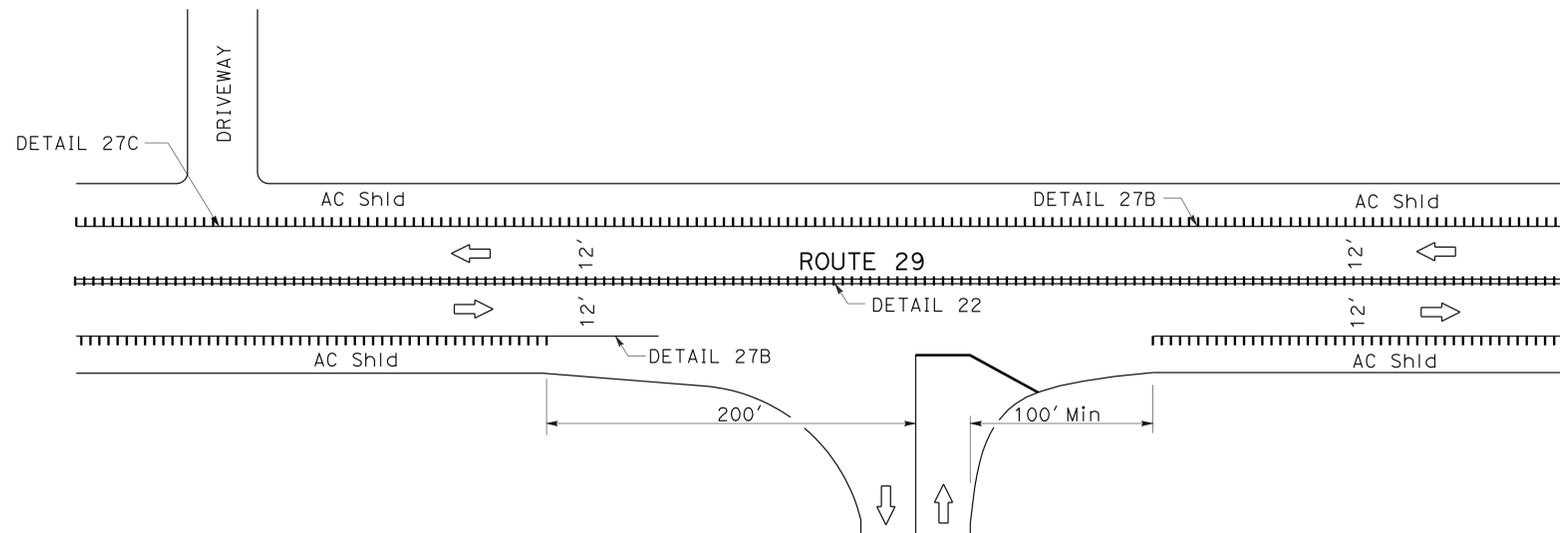
LEGEND

- DIRECTION OF TRAVEL
- RUMBLE STRIP



**GROUND-IN INDENTATIONS
SHOULDER RUMBLE STRIP**

PM 7.40 TO PM 7.90



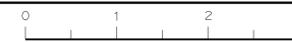
INTERSECTING DRIVEWAYS

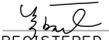
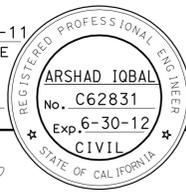
CONSTRUCTION DETAILS

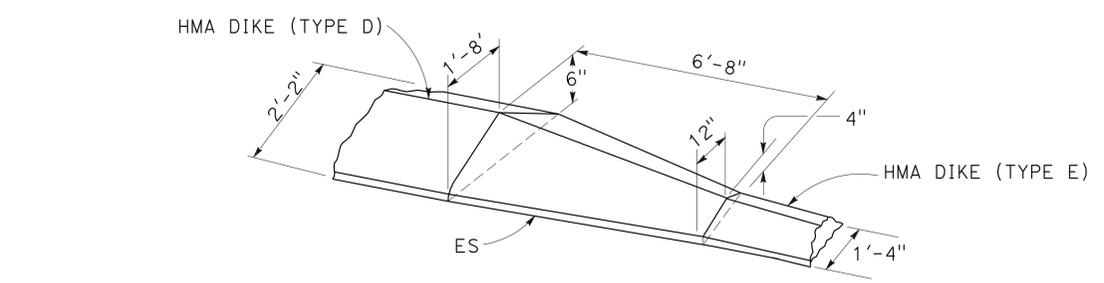
NO SCALE

C-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans	NESAR FORMOLI	L. VILLANUEVA	
NORTH REGION		A. IOBAL	
OFFICE OF DESIGN, SOUTH			
DESIGN BRANCH S7			



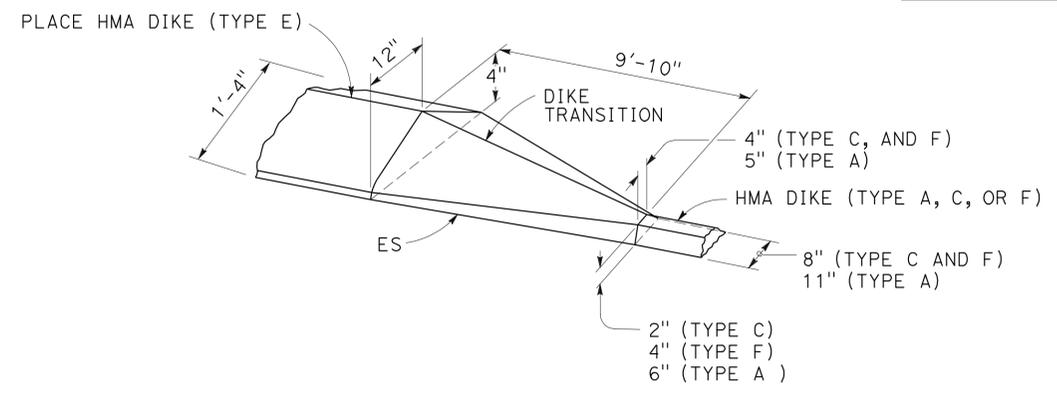
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29,175	Var	10	60
 REGISTERED CIVIL ENGINEER			3-23-11	DATE	
3-23-11 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



HMA DIKE (TYPE D) TO HMA DIKE (TYPE E)

TYPE D

TYPE E

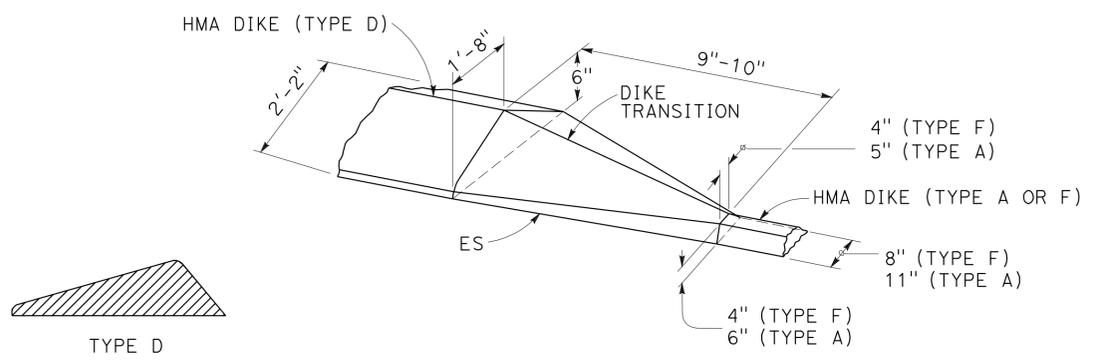


HMA DIKE (TYPE E) TO HMA DIKE (TYPE A, C, OR F)

TYPE A

TYPE C

TYPE F

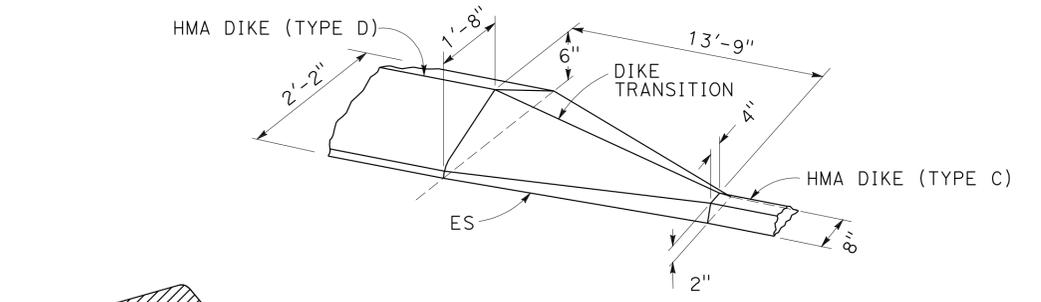


HMA DIKE (TYPE D) TO HMA DIKE (TYPE A, OR F)

TYPE D

TYPE A

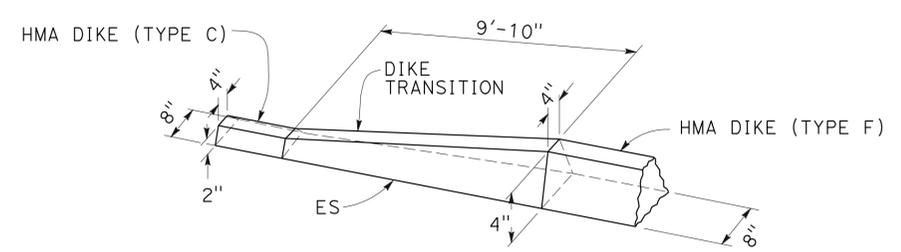
TYPE F



HMA DIKE (TYPE D) TO HMA DIKE (TYPE C)

TYPE D

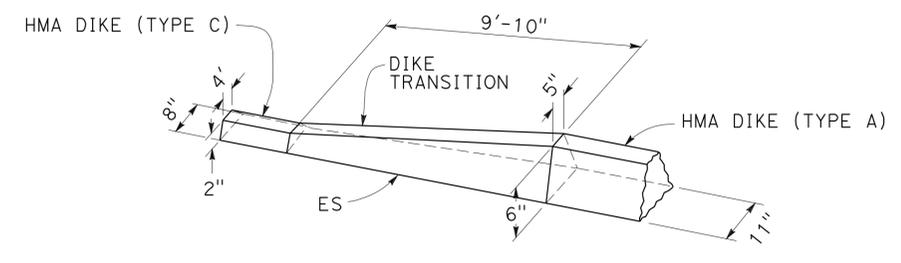
TYPE C



HMA DIKE (TYPE C) TO HMA DIKE (TYPE F)

TYPE C

TYPE F



HMA DIKE (TYPE C) TO HMA DIKE (TYPE A)

TYPE C

TYPE A

CONSTRUCTION DETAILS
NO SCALE **C-7**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION
 OFFICE OF DESIGN, SOUTH DESIGN BRANCH S7
 FUNCTIONAL SUPERVISOR: NESAR FORMOLI
 CALCULATED/DESIGNED BY: A. IOBAL
 CHECKED BY: L. VILLANUEVA
 REVISED BY: DATE
 DATE REVISION: DATE

USERNAME => s113559
 DGN FILE => 0100020305ga007.dgn

RELATIVE BORDER SCALE IS IN INCHES



UNIT 0298

PROJECT NUMBER & PHASE

01000203051

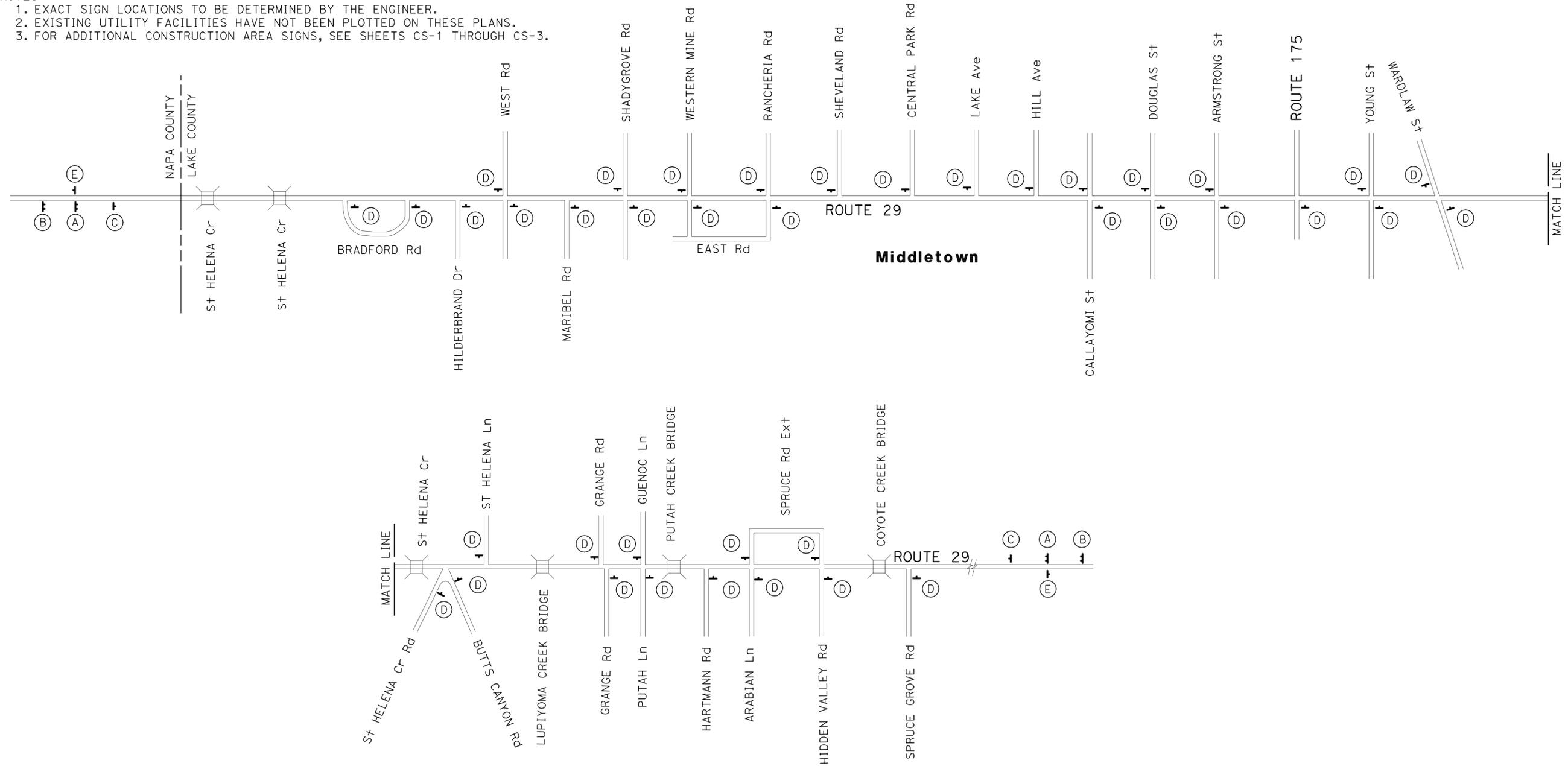
LAST REVISION | DATE PLOTTED => 24-MAR-2011
 00-00-00 | TIME PLOTTED => 08:14

ADDITIONAL STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	SIGN MESSAGE	PANEL SIZE (INCHES)	No. OF POSTS AND SIZE (INCHES)	No. OF SIGNS
(A)	W20-1	ROAD WORK AHEAD	48x48	2 - 4x6	2
(B)	C40(CA)	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	108x42	2 - 4x6	2
(C)	W16-1	SHARE THE ROAD	24x30	1 - 4x4	2
	W11-1	BICYCLE SYMBOL	36x36		
(D)	W20-1	ROAD WORK AHEAD	36x36	MOUNTED ON BARRICADE	40
(E)	G20-2	END ROAD WORK	36x18	1 - 4x4	2

NOTES:

- EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
- FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE SHEETS CS-1 THROUGH CS-3.



LOCATION 4
Lak 29 PM 0.0/11.9

CONSTRUCTION AREA SIGNS

NO SCALE **CS-4**

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY



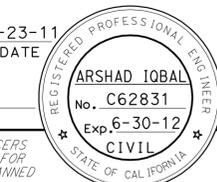
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	14	60

3-23-11
REGISTERED CIVIL ENGINEER DATE

3-23-11
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.

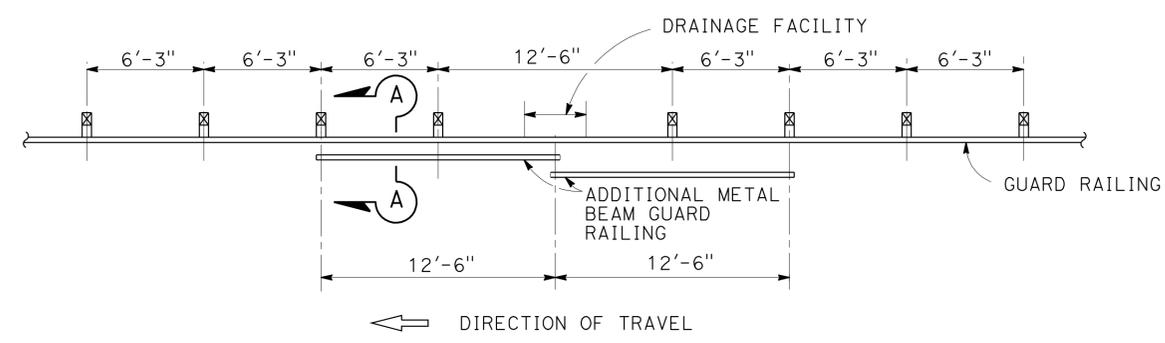
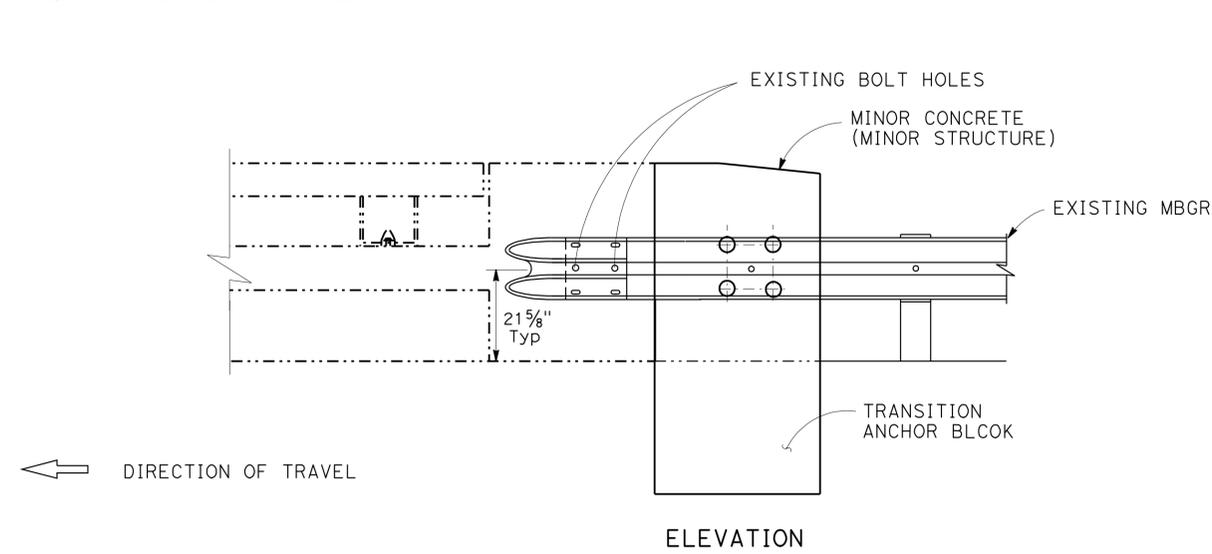
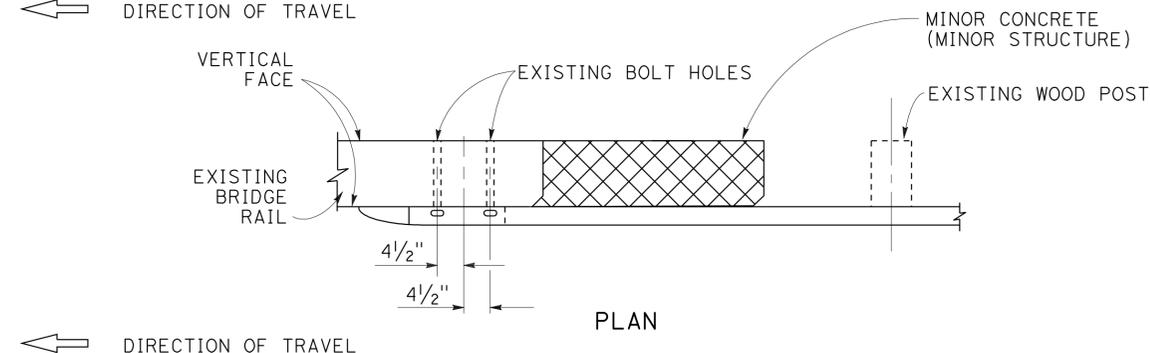
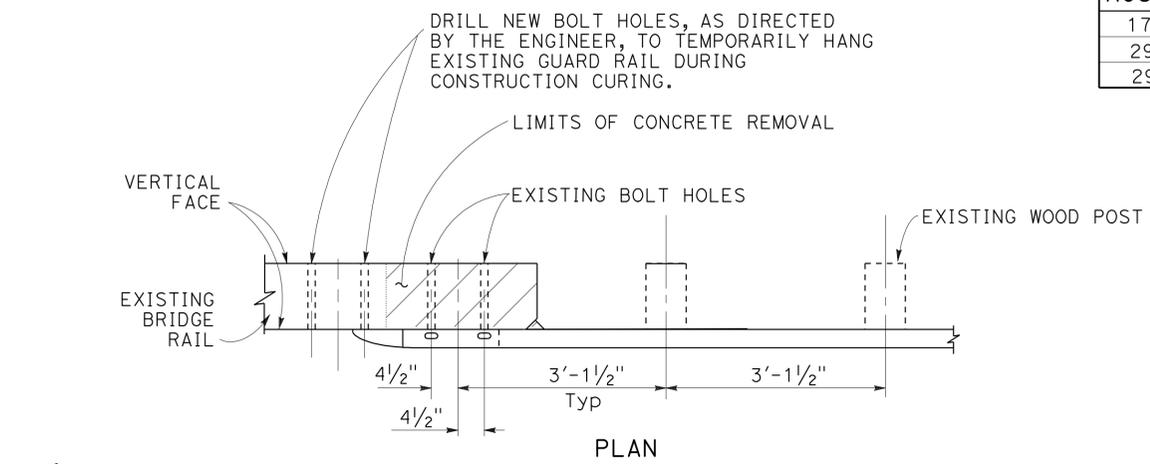
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION
 OFFICE OF DESIGN, SOUTH DESIGN BRANCH S7
 FUNCTIONAL SUPERVISOR
 NESAR FORMOLI
 CALCULATED/DESIGNED BY
 CHECKED BY
 A. IQBAL
 M. MANNION
 REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	15	60
 REGISTERED CIVIL ENGINEER			3-23-11	DATE	
3-23-11 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>					

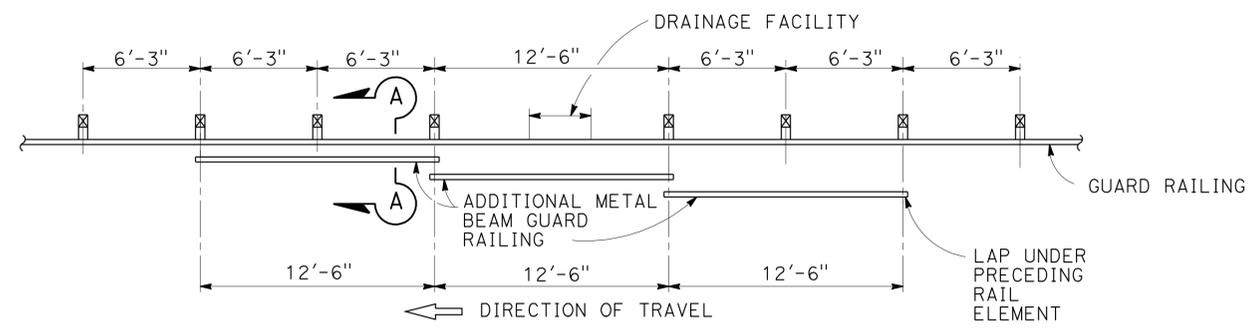
- NOTES:**
1. TO PROTECT NEW ANCHOR BLOCK DURING CURE TIME, RE-HANG EXISTING RAIL ELEMENT IN EXISTING BOLT HOLES.
 2. USE FOR TRANSITION ANCHOR BLOCKS LESS THAN 10'.

TRANSITION ANCHOR BLOCKS LESS THAN 10'

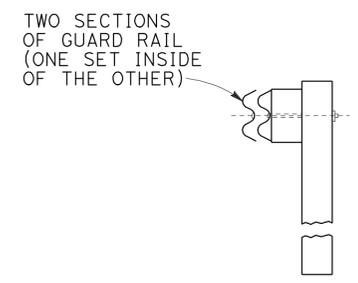
LOCATION			BRIDGE/STRUCTURE NAME	BARRIER TYPE	TRANSITION ANCHOR BLOCK LENGTH
ROUTE	PM	BRIDGE No.			LF
175	8.47	10-275	MCDOWELL SIDEHILL VIADUCT	27	5
29	0.17	14-52	ST. HELENA CREEK BRIDGE	27	5
29	1.28	14-53	ST. HELENA CREEK BRIDGE	27	5



**CASE 1
ONE POST OMITTED (SPLICE IN CENTER)**



**CASE 2
ONE POST OMITTED (SPLICE AT POSTS)**



SECTION A-A

NESTED RAIL ELEMENTS

FOR DETAILS NOT SHOWN SEE STANDARD PLAN A77A1.

TEMPORARY TRAFFIC PROTECTION DETAILS

**TRAFFIC HANDLING DETAILS
NO SCALE
THD-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION
 OFFICE OF DESIGN, SOUTH
 DESIGN BRANCH S7
 L. VILLANUEVA
 A. IOBAL
 Nesar Formoli
 Functional Supervisor
 Calculated/Designed by
 Checked by
 Revised by
 Date Revised

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	16	60

<i>Y. Iqbal</i>	3-23-11
REGISTERED CIVIL ENGINEER	DATE

3-23-11
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.



NOTE:

1. ALL PAVEMENT DELINEATION SHALL BE REPLACED IN-KIND EXCEPT AS DIRECTED BY THE ENGINEER.

THERMOPLASTIC PAVEMENT MARKING

DESCRIPTION	No.	SQFT
"STOP"	131 @ 22 SQFT	2,882
"SIGNAL"	3 @ 32 SQFT	96
"AHEAD"	5 @ 31 SQFT	155
"PED"	1 @ 18 SQFT	18
"XING"	1 @ 21 SQFT	21
"SCHOOL"	2 @ 35 SQFT	70
TYPE II ARROW	1 @ 45 SQFT	45
TYPE III ARROW	45 @ 42 SQFT	1,890
TYPE V ARROW	27 @ 33 SQFT	891
LIMIT LINE	101	3,111
RAILROAD CROSSING SYMBOL	2 @ 70 SQFT	140
1' WIDE RAILROAD LIMIT LINE	4	48
2' WIDE RAILROAD TRANSVERSE LINES	4	96
CROSSWALK AND HATCHING	18	4,508
ISLAND HATCHING	1	393
TRUCK MEASURING LINE	2	8
TOTAL		14,372

4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 12-3)

DETAIL No.	LF
27C	16,131
TOTAL	16,131

4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)

DETAIL No.	LF
6	8,754
19	14,768
32	1,056
TOTAL	24,578

4" THERMOPLASTIC TRAFFIC STRIPE

DETAIL No.	LF
19	14,768
21	4,880
22	402,376
24	80
27B	463,079
29	32,436
32	1,056
TOTAL	918,675

8" THERMOPLASTIC TRAFFIC STRIPE

DETAIL No.	LF
38	4,662
38A	849
TOTAL	5,511

REMOVE THERMOPLASTIC PAVEMENT MARKING

DESCRIPTION	No.	SQFT
"STOP"	81 @ 22 SQFT	1,782
"SIGNAL"	1 @ 32 SQFT	32
"AHEAD"	3 @ 31 SQFT	93
"SCHOOL"	2 @ 35 SQFT	70
TYPE II ARROW	1 @ 45 SQFT	45
TYPE III ARROW	8 @ 42 SQFT	336
TYPE V ARROW	4 @ 33 SQFT	132
LIMIT LINE	65	1,820
CROSSWALK	4	896
1' WIDE RAILROAD LIMIT LINE	4	48
2' WIDE RAILROAD TRANSVERSE LINES	4	96
RAILROAD CROSSING SYMBOL	2 @ 70 SQFT	140
TRUCK MEASURING LINE	2	8
TOTAL		5,498

PAVEMENT MARKER

DETAIL No.	RETROREFLECTIVE			RETROREFLECTIVE-RECESSED *		
	TYPE D	TYPE G	TYPE H	TYPE D	TYPE G	TYPE H
	EA	EA	EA	EA	EA	EA
6	82			109		
19	130		247	193		384
22	5,722			11,463		
29	611			81		
32				60		
38		192			7	
SUBTOTAL	6,545	192	247	11,906	7	384
TOTAL		6,984			12,297	

* THE FOLLOWING LOCATIONS SHALL HAVE RETROREFLECTIVE-RECESSED PAVEMENT MARKERS:

- Lak 29 PM 0.00 TO PM 5.00
- Lak 29 PM 6.90 TO PM 7.35
- Lak 29 PM 8.40 TO PM 8.80
- Men 175 PM 5.70 TO PM 9.85
- Lak 175 PM 0.00 TO PM 0.60
- Lak 175 PM 4.90 TO PM 6.32
- Lak 175 PM 8.254 TO R24.00

PAVEMENT DELINEATION QUANTITIES

PDQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION
 OFFICE OF DESIGN, SOUTH DESIGN BRANCH S7
 M. MANNION
 A. IOBAL
 CALCULATED/DESIGNED BY
 CHECKED BY
 FUNCTIONAL SUPERVISOR
 NESAR FORMOLI
 REVISOR BY
 DATE REVISED
 00-00-00
 DATE PLOTTED => 24-MAR-2011
 TIME PLOTTED => 08:15



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION
 OFFICE OF DESIGN, SOUTH
 DESIGN BRANCH S7
 Et Caltrans
 FUNCTIONAL SUPERVISOR
 NESAR FORMOLI
 CALCULATED-DESIGNED BY
 CHECKED BY
 L. VILLANUEVA
 A. IOBAL
 REVISED BY
 DATE REVISED

NOTES:

- EXACT LOCATIONS & LIMITS FOR COLD PLANE ASPHALT CONCRETE PAVEMENT WILL BE DETERMINED BY THE ENGINEER.
- EXACT LOCATIONS FOR PLACEMENT OF CRASH CUSHION, SAND FILLED WILL BE DETERMINED BY THE ENGINEER.

ROADWAY QUANTITIES

LOCATION	TACK COAT	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	HOT MIX ASPHALT (TYPE A)	IMPORTED MATERIAL (SHOULDER BACKING)	CRACK TREATMENT	COLD PLANE ASPHALT CONCRETE PAVEMENT	IMPORTED BORROW
	TON	TON	TON	TON	LNMI	SQYD	CY
Men 175, PM 0.0 TO Lak 175, PM 0.6	131		28,433.2	3,296.8	20.0	2,244.0	
Lak 175, PM 4.8/8.3	46	5,772.0		425.1	6.6	459.6	
Lak 175, PM 8.3/28.0	142	34,960.4	1,397.4	4,317.2	39.3	8,870.9	
Lak 29, PM 0.0/11.9	228	26,421.9	4,356.6	3,275.6	23.7	13,021.0	
PUBLIC, LOCAL, PRIVATE Rd ON Lak 29	39	1,567.9	345.2	48.4		1,733.3	
PUBLIC, LOCAL, PRIVATE Rd ON Lak 175	46	1,306.9	271.3	57.1		2,044.4	
PUBLIC, LOCAL, PRIVATE Rd ON Men 175	12		828.9	22.8		533.3	
PLACE HMA DIKE			651				1,092
TOTAL	644	70,029.1	36,283.6	11,443.0	89.6	28,906.5	1,092

DELINEATOR

LOCATION PM/DESCRIPTION	LOCATION	DELINEATOR TYPE E	
		CLASS 1	CLASS 2
		EA	EA
Men 175, PM 0.0 TO Lak 175, PM 0.6	Lt & Rt	67	50
Lak 175, PM 4.8/8.3	Lt & Rt	50	11
Lak 175, PM 8.3/28.0	Lt & Rt	140	99
Lak 29, PM 0.0/11.9	Lt & Rt	110	90
TOTAL		367	250

NOTE: EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER

HIGHWAY POST MARKERS

LOCATION PM/DESCRIPTION	DIRECTION	HIGHWAY POST MARKER
		EA
Men 175, PM 0.0 TO Lak 175, PM 0.6	EB & WB	14
Lak 175, PM 4.8/8.3	EB & WB	4
Lak 175, PM 8.3/28.0	EB & WB	34
Lak 29, PM 0.0/11.9	NB & SB	34
TOTAL		86

NOTE: EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER

HMA (LEVELING)

LOCATION PM/DESCRIPTION	QUANTITY
	TON
Men 175, PM 0.0 TO Lak 175, PM 0.6	3,000.0
Lak 175, PM 4.8/8.3	2,000.0
Lak 175, PM 8.3/28.0	8,000.0
Lak 29, PM 0.0/11.9	7,000.0
TOTAL	20,000.0

NOTE: EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER

RUMBLE STRIP

LOCATION PM		RUMBLE STRIP	
FROM	TO	CENTERLINE	SHOULDER
0.00	0.72	38	
3.50	5.00	80	
6.52	11.86	282	
7.40	7.90		26
TOTAL		400	26

RELOCATE ROADSIDE SIGN

SIGN NUMBER (No.)	SIGN CODE		SIGN MESSAGE	RELOCATE ROADSIDE SIGN
	FEDERAL	CALIFORNIA		EA
1	R1-1		STOP	1
2	M6-4	G26-2		1
3	D1-2		← Santa Rosa Ukiah →	1
4	M6-4	G28		1
TOTAL				4

NOTE: FOR SIGN RELOCATION, SEE SHEET C-2

CRASH CUSHION, SAND FILLED

LOCATION	ARRAY U11
	EA
Men 175, PM 0.1 EASTBOUND	1
Men 175, PM 0.1 WESTBOUND	1
TOTAL	2

REPLACE AC SURFACING

ROUTE	PM		DIRECTION	LENGTH LF	WIDTH LF	DEPTH LF	VOLUME CY
	BEGIN	END					
Men 175	0.23	0.27	EB	211.20	10	0.25	19.56
Men 175	0.42	0.45	EB	158.40	10	0.25	14.67
Men 175	0.43	0.44	EB	52.80	6	0.25	2.93
Men 175	0.43	0.44	WB	52.80	6	0.25	2.93
Men 175	0.57	0.59	EB	105.60	10	0.25	9.78
Men 175	0.78	0.82	EB	211.20	10	0.25	19.56
Men 175	0.78	0.82	WB	211.20	10	0.25	19.56
Men 175	0.91	0.96	EB	264.00	6	0.25	14.67
Men 175	2.50	2.52	EB	105.60	10	0.25	9.78
Men 175	3.38	3.59	WB	1108.80	10	0.25	102.67
Men 175	4.94	5.00	EB	316.80	4	0.25	11.73
Men 175	5.40	5.44	EB	211.20	4	0.25	7.82
Men 175	6.48	6.49	EB	52.80	10	0.25	4.89
Men 175	6.53	6.55	EB	105.60	10	0.25	9.78
Men 175	7.71	7.75	WB	211.20	10	0.25	19.56
Men 175	8.68	8.70	EB	105.60	10	0.25	9.78
Men 175	8.88	8.91	EB	158.40	10	0.25	14.67
Men 175	9.01	9.03	EB	105.60	10	0.25	9.78
Men 175	9.37	9.51	EB	739.20	10	0.25	68.44
Men 175	9.76	9.77	EB	52.80	10	0.25	4.89
Lak 175	5.58	5.61	EB	158.40	10	0.25	14.67
Lak 175	5.58	5.60	WB	105.60	10	0.25	9.78
Lak 175	5.73	5.73	EB	21.12	4	0.25	0.78
Lak 175	5.74	5.75	EB	52.80	6	0.25	2.93
Lak 175	5.76	5.78	EB	105.60	6	0.25	5.87
Lak 175	6.32	6.45	EB	686.40	10	0.25	63.56
Lak 175	6.79	6.80	WB	52.80	6	0.25	2.93
Lak 175	6.82	6.83	WB	52.80	6	0.25	2.93
Lak 175	7.08	7.17	EB	475.20	10	0.25	44.00
Lak 175	7.33	7.39	WB	316.80	10	0.25	29.33
Lak 175	27.74	27.78	EB	211.20	11	0.25	21.51
Lak 175	27.78	27.86	WB	422.40	11	0.25	43.02
Lak 175	27.86	27.90	EB	211.20	11	0.25	21.51
Lak 175	27.83	27.86	WB	158.40	11	0.25	16.13
Lak 175	27.86	27.94	WB	422.40	6	0.25	23.47
Lak 175	27.94	27.97	EB	158.40	11	0.25	16.13
Lak 175	27.95	27.99	WB	211.20	11	0.25	21.51
Lak 29	1.96	2.00	NB	211.20	12	0.25	23.47
Lak 29	5.96	5.97	SB	52.80	12	0.25	5.87
Lak 29	7.28	7.29	NB	26.40	12	0.25	2.93
Lak 29	7.28	7.32	SB	211.20	12	0.25	23.47
TOTAL							773.23

SUMMARY OF QUANTITIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	18	60

3-23-11
 REGISTERED CIVIL ENGINEER DATE
 3-23-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 ARSHAD IQBAL
 No. C62831
 Exp. 6-30-12
 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 RAILING

COUNTY	ROUTE	LOCATION PM TO PM	DIRECTION	REMOVE MBGR	RECONSTRUCT MBGR	RECONSTRUCT MBGR (7' POST)	RECONSTRUCT MBGR (SPECIAL)	MBGR (WOOD POST)	MBGR (7' POST)	BURIED POST ANCHOR	TRANSITION RAILING (TYPE WB)	ALTERNATIVE IN-LINE TERMINAL SYSTEM	ALTERNATIVE FLARED TERMINAL SYSTEM	X-TENSION TERMINAL SYSTEM	WEED CONTROL MAT (FIBER)	MINOR CONCRETE (MINOR STRUCTURE)	END CAP (TYPE A)	END CAP (TYPE TC)	GUARD RAILING DELINEATOR	OBJECT MARKER (TYPE P)	OBJECT MARKER (TYPE L-1)	RESET MARKER	LAYOUT TYPE	COMMENTS
				LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	
Men	175	2.93 TO 3.03	EB	100	450	450						2			333				26				11D	NEST ELEMENTS AT OSD
Men	175	3.17 TO 3.19	WB	37.5	150.0					1			1		85				6		1	1	11L	
Men	175	3.57 TO 3.69	WB	37.5	587.5					1			1		230				17		1	1	11G	
Men	175	5.76 TO 5.78	WB	25	75			87.5		2					76				5		1	1	11F	
Men	175	6.31 TO 6.33	EB	12.5	75							1			74				6		1	1	11I	
Men	175	6.35 TO 6.39	EB	37.5		187.5				1			1		97				7		1		11L	TYPE I DELINEATOR (WHITE FRONT, YELLOW BACK)
Men	175	7.08 TO 7.16	WB	37.5		387.5				1			1		164				12		1		11L	
Men	175	7.36 TO 7.38	WB	50								1												
Men	175	7.38		12.5		62.5			37.5				1		74				6		1		11H	
Men	175	7.49 TO 7.51	WB	25										1	58				5				11D	
Men	175	7.72 TO 7.74	WB	12.5										1	62				6				11D	
Men	175	7.97 TO 7.99	EB	25		112.5				2				60					4		1	1	11F	
Men	175	8.06 TO 8.17	WB	87.5	175	350						2		208							1	1	11D	
Men	175	8.35 TO 8.38	WB	75	50		50						2	69					5		1	1	11E	
Men	175	8.47 TO 8.48	WB	41							1		1	32	1		1	1	3	1			12BB	SIDEHILL VIADUCT
Men	175	8.52 TO 8.53	WB	50							1		1	32	1	1			3	1	1	1	12B	SIDEHILL VIADUCT
Men	175	8.68 TO 8.73	WB	25	225								2	118					8		1	1	11E	
Men	175	8.77 TO 8.80	WB	75		325							2	155					11		1		11E	RECONSTRUCT MBGR SPECIAL WALL AND TIES, SEE DETAILS
Men	175	8.99		36.4										1										
Men	175	8.99 TO 9.02	WB	45.6				50					1	6					3					SOLDIER PILE WALL
Men	175	9.02		87.5	62.5							1	1	61					5		1		11H	
Lak	29	0.15 TO 0.17	NB	97				75		1	1			46	1		1	1	3		1		12C	
Lak	29	1.25 TO 1.26	NB	59							1		1	29	1			1	3		1		12B	
Lak	29	1.28 TO 1.30	NB	53							1		1	46	1	1			3				12BB	
Lak	29	1.59 TO 1.61	NB		125									11					4		1			
Lak	29	1.63 TO 1.60	SB		125									11					4		1			
Lak	29	1.29 TO 1.28	SB	47							1		1	29	1		1	1	3		1		12B	
Lak	29	1.26 TO 1.25	SB	57							1		1	29	1	1			3				12BB	
Lak	29	0.22 TO 0.21	SB	59							1		1	29	1	1	1	1	2		1		12B	
Lak	29	0.18 TO 0.17	SB	47							1		1	29	1	1	1	1	3				12BB	
TOTAL				1367	2213	1975	50	262.5	37.5	10	9	7	21	5	2253	9	4	5	166	2	21	9		

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

SUMMARY OF QUANTITIES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION
 OFFICE OF DESIGN, SOUTH DESIGN BRANCH S7
 L. VILLANUEVA
 A. IQBAL
 REVISIONS: 00-00-00 DATE PLOTTED => 24-MAR-2011 TIME PLOTTED => 08:16

HMA DIKE

ROUTE	PM		DIRECTION	REMOVE AC DIKE LF	PLACE HMA DIKE				HOT MIX ASPHALT (TYPE A) TON
	BEGIN	END			TYPE A	TYPE C	TYPE E	TYPE F	
	LF	LF			LF	LF	LF	LF	
Men 175	2.91	3.13	WB	1,161.60			717.00	450.00	24.89
Men 175	3.30	3.34	WB	211.20			211.20		5.56
Men 175	3.41	3.51	WB	528.00			528.00		13.90
Men 175	3.57	3.60	WB	158.40			158.40		4.17
Men 175	5.49	5.50	EB	52.80			52.80		1.39
Men 175	5.54	5.57	EB	158.40			158.40		4.17
Men 175	5.60	5.62	EB	105.60			105.60		2.78
Men 175	5.75	5.78	EB	158.40		71.40	87.00		3.04
Men 175	5.90	5.95	EB	264.00			264.00		6.95
Men 175	6.47	6.50	EB	158.40			158.40		4.17
Men 175	6.57	6.60	WB	158.40			158.40		4.17
Men 175	6.92	6.96	WB	211.20			211.20		5.56
Men 175	7.05	7.08	WB	158.40			108.40	50.00	3.52
Men 175	7.24	7.28	WB	211.20			211.20		5.56
Men 175	7.34	7.37	WB	158.40			158.40		4.17
Men 175	7.41	7.45	WB	211.20			211.20		5.56
Men 175	7.80	7.85	WB	264.00			264.00		6.95
Men 175	8.03	8.05	WB	105.60			105.60		2.78
Men 175	8.41	8.45	WB	211.20			211.20		5.56
Men 175	8.67	8.68	WB	52.80		52.80			4.06
Men 175	8.68	8.70	WB	105.60				105.60	1.41
Men 175	8.84	8.87	WB	158.40			158.40		4.17
Men 175	9.00	9.02	WB	105.60			105.60		2.78
Men 175	9.46	9.50	WB	211.20			211.20		5.56
Men 175	9.63	9.68	WB	264.00			264.00		6.95
Men 175	9.80	9.82	WB	105.60			105.60		2.78
Lak 175	0.37	0.47	EB	528.00	528.00				14.43
Lak 175	0.45	0.48	WB	158.40			158.40		4.17
Lak 175	0.58	0.60	WB	105.60			105.60		2.78
Lak 175	4.92	4.93	EB	26.40		26.40			2.03
Lak 175	4.93	4.94	EB	79.20	79.20				2.17
Lak 175	6.94	6.97	EB	158.40	158.40				4.33
Lak 175	15.30	15.46	WB	844.80			844.80		22.24
Lak 175	16.51	16.64	WB	686.40			636.40	50.00	17.42
Lak 175	19.03	19.08	EB	264.00			264.00		6.95
Lak 175	19.56	19.58	WB	105.60			105.60		2.78
Lak 175	19.61	19.65	WB	211.20			211.20		5.56
Lak 175	19.73	19.75	EB	105.60			105.60		2.78
Lak 175	20.98	21.02	WB	211.20	211.20				5.77
Lak 175	21.09	21.29	EB	1,056.00			1,056.00		27.80
Lak 175	21.33	21.37	WB	211.20	211.20				5.77
Lak 175	21.55	21.63	WB	422.40	422.40				11.55
Lak 175	21.96	22.00	WB	211.20	211.20				5.77
Lak 175	21.97	22.01	EB	211.20			211.20		5.56
Lak 175	22.28	22.30	WB	105.60	105.60				2.89
Lak 175	22.35	22.37	WB	105.60			105.60		2.78
Lak 175	22.40	22.46	WB	316.80			316.80		8.34
Lak 175	22.76	22.88	WB	633.60	633.60				17.32
Lak 175	23.08	23.16	WB	422.40	422.40				11.55
Lak 175	23.55	23.59	EB	211.20			211.20		5.56
Lak 175	23.95	23.99	WB	211.20	211.20				5.77
Lak 175	24.02	24.06	WB	205.92		142.90		63.00	1.94
Lak 175	24.22	24.24	EB	105.60			105.60		2.78
Lak 175	24.45	24.49	WB	205.92	205.92				5.63
Lak 175	24.82	24.84	WB	105.60			105.60		2.78
Lak 175	24.91	24.93	WB	100.32			100.32		2.64
Lak 175	24.94	24.95	WB	52.80		52.80			4.06
Lak 175	26.52	26.57	EB	253.44			253.44		6.67
Lak 175	26.57	26.58	WB	52.80		52.80			4.06
Lak 175	26.57	26.58	EB	52.80		52.80			4.06

HMA DIKE (Cont)

ROUTE	PM		DIRECTION	REMOVE AC DIKE LF	PLACE HMA DIKE				HOT MIX ASPHALT (TYPE A) TON
	BEGIN	END			TYPE A	TYPE C	TYPE E	TYPE F	
	LF	LF			LF	LF	LF	LF	
Lak 29	0.26	0.46	SB	1,056.00	1,056.00				28.87
Lak 29	0.61	0.69	SB	422.40	422.40				11.55
Lak 29	1.10	1.21	SB	580.80	580.80				15.88
Lak 29	6.37	6.52	SB	792.00			792.00		20.85
Lak 29	7.46	7.59	NB	686.40	686.40				18.76
Lak 29	7.47	7.79	SB	1,689.60			1,689.60		44.48
Lak 29	7.63	7.75	NB	633.60	633.60				17.32
Lak 29	9.46	9.78	SB	1,689.60			1,689.60		44.48
Lak 29	9.67	9.74	NB	369.60			329.60	40.00	9.21
Lak 29	9.71	9.75	SB	211.20			161.20	50.00	4.91
Lak 29	11.25	11.31	NB	316.80	316.80				8.66
Lak 29	11.34	11.50	NB	844.80	844.80				23.09
Lak 29	11.35	11.50	SB	792.00	792.00				21.65
TOTAL				24,684.00	8,733.12	380.5	14,468.96	895.60	651*

* QUANTITY ADDED TO ROADWAY QUANTITIES, SEE SHEET Q-1.

TEMPORARY FENCE (TYPE ESA)

ROUTE	PM	DIRECTION	RESOURCE	COMMENTS	TEMPORARY FENCE (TYPE ESA)
					LF
Lak 29	1.59/1.63	NB	RIPARIAN VEGETATION	BRADFORD CREEK	150
Lak 29	1.59/1.64	SB	RIPARIAN VEGETATION	BRADFORD CREEK	150
Lak 29	1.89	NB	ELDERBERRY SHRUB		50
Lak 29	1.89	NB	ELDERBERRY SHRUB		50
Lak 29	6.65	SB	ELDERBERRY SHRUB	SOUTH OF INTERSECTION WITH ST HELENA LANE	50
Lak 29	6.65	SB	ELDERBERRY SHRUB	NORTH OF INTERSECTION WITH ST HELENA LANE	50
Lak 29	7.39	SB	ELDERBERRY SHRUB		50
Lak 29	7.45	SB	ELDERBERRY SHRUB	NORTH OF PM 7.45 PADDLE MARKER	50
Lak 29	7.96	SB	ELDERBERRY SHRUB	NORTH OF GUARDRAIL	50
Lak 29	7.96	SB	ELDERBERRY SHRUB		50
Lak 29	9.5	NB	ELDERBERRY SHRUB	NORTH OF INTERSECTION WITH GRANGE ROAD	50
Lak 29	9.5	SB	ELDERBERRY SHRUB		50
Lak 29	9.65	SB	ELDERBERRY SHRUB	NORTH OF INTERSECTION WITH GUENOC LANE	50
Lak 175	8.42	WB	ELDERBERRY SHRUB	BETWEEN SR 29 AND OLD LOWER LAKE ROAD	50
Lak 175	8.42	WB	ELDERBERRY SHRUB	BETWEEN SR 29 AND OLD LOWER LAKE ROAD	50
Lak 175	26.0	EB	ELDERBERRY SHRUB	NORTH OF PM 26.0 PADDLE MARKER	50
TOTAL					1000

NOTE: EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.

SUMMARY OF QUANTITIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	19	60

3-23-11
 REGISTERED CIVIL ENGINEER DATE

3-23-11
 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
 ARSHAD IOBAL
 No. C62831
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC ELECTRICAL

FUNCTIONAL SUPERVISOR
 TROY ARSENEAU

CALCULATED-DESIGNED BY
 CHECKED BY

SEAN LARSON
 BRIAN FINCK

REVISED BY
 DATE REVISED

NOTES: 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

LEGEND
 TYPE D LOOP (LOCATED AT CROSSWALK)

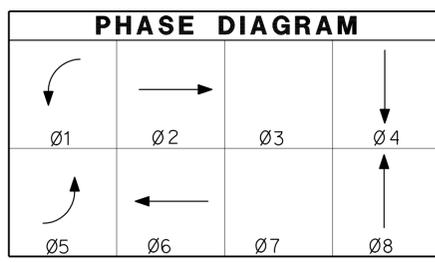
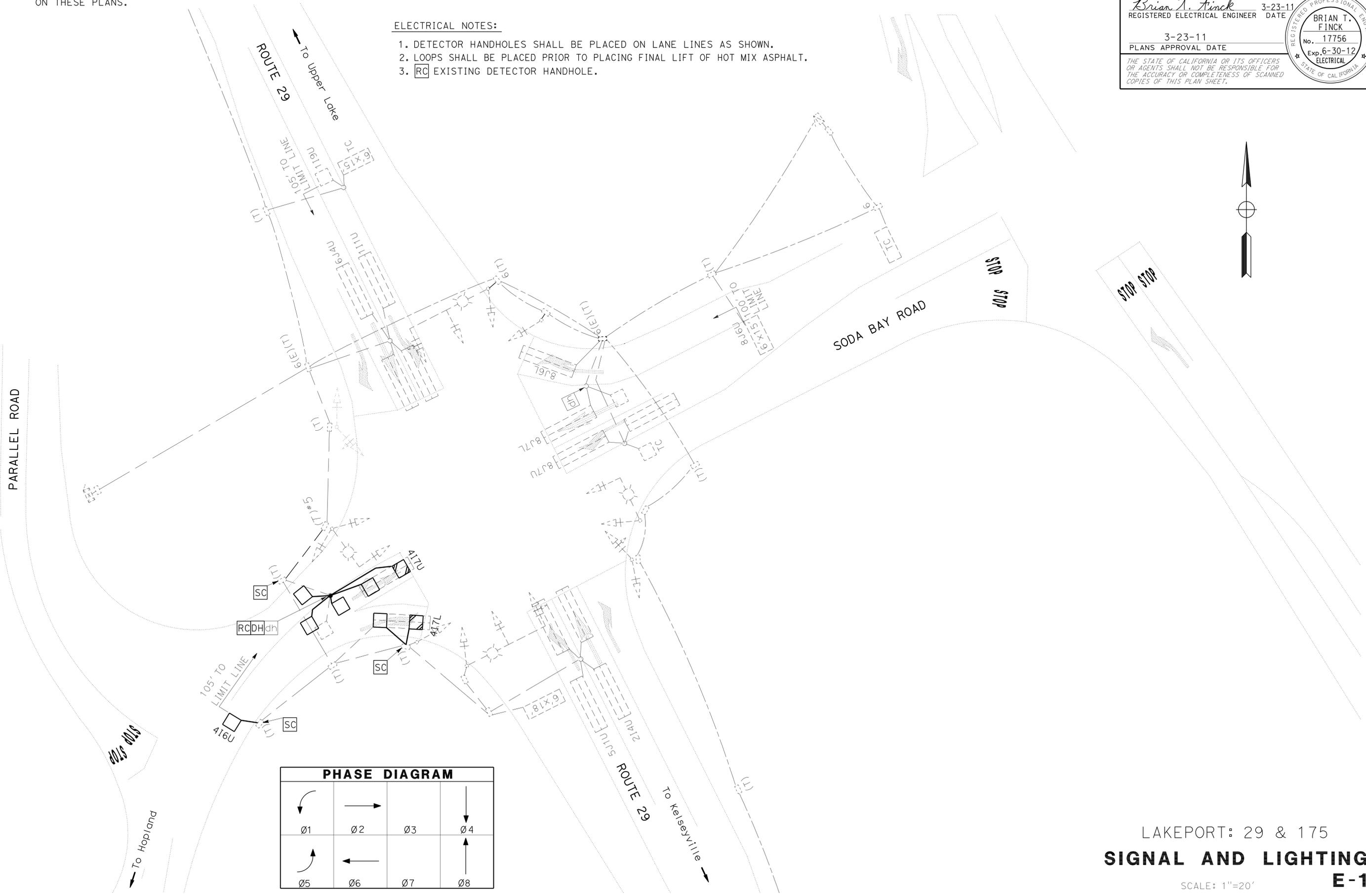
ELECTRICAL NOTES:
 1. DETECTOR HANDHOLES SHALL BE PLACED ON LANE LINES AS SHOWN.
 2. LOOPS SHALL BE PLACED PRIOR TO PLACING FINAL LIFT OF HOT MIX ASPHALT.
 3. **RC** EXISTING DETECTOR HANDHOLE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	20	60

Brian T. Finck 3-23-11
 REGISTERED ELECTRICAL ENGINEER DATE

3-23-11
 PLANS APPROVAL DATE

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC ELECTRICAL

SEAN LARSON
 BRIAN FINCK

FUNCTIONAL SUPERVISOR
 TROY ARSENEAU

REVISOR BY
 DATE REVISOR

NOTES: 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

ELECTRICAL NOTES:
 1. DETECTOR HANDHOLES SHALL BE PLACED ON LANE LINES AS SHOWN.
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 3. **RC** EXISTING DETECTOR HANDHOLE.

LEGEND
 TYPE D LOOP (LOCATED AT CROSSWALK)

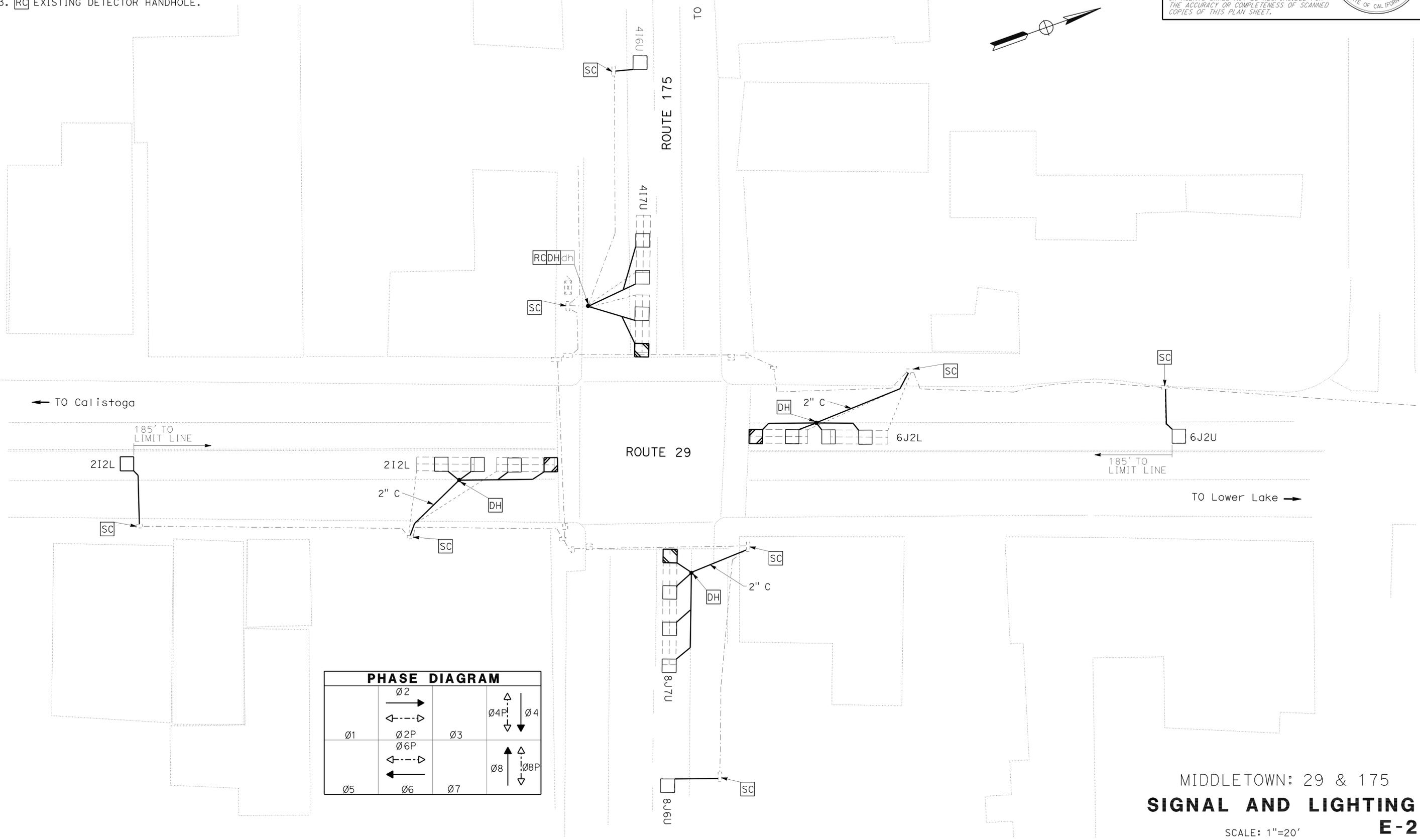
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	21	60

Brian T. Finck 3-23-11
 REGISTERED ELECTRICAL ENGINEER DATE

3-23-11
 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.

BRIAN T. FINCK
 No. 17756
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA



PHASE DIAGRAM

	Ø2		Ø4P	Ø4
Ø1	Ø2P	Ø3	Ø8	Ø8P
	Ø6P			
Ø5	Ø6	Ø7		

RELATIVE BORDER SCALE IS IN INCHES



UNIT 0045 PROJECT NUMBER & PHASE 01000203051

MIDDLETOWN: 29 & 175
SIGNAL AND LIGHTING
 E-2
 SCALE: 1"=20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC ELECTRICAL

FUNCTIONAL SUPERVISOR: TROY ARSENEAU
 CALCULATED/DESIGNED BY: SEAN LARSON
 CHECKED BY: BRIAN FINCK
 REVISOR: SEAN LARSON
 DATE: [REDACTED]

NOTES: 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

ELECTRICAL NOTES:

1. DETECTOR HANDHOLES SHALL BE PLACED ON LANE LINES AS SHOWN.
2. LOOPS SHALL BE PLACED PRIOR TO PLACING FINAL LIFT OF HOT MIX ASPHALT.
3. **RC** EXISTING DETECTOR HANDHOLE.

LEGEND

 TYPE D LOOP (LOCATED AT CROSSWALK)

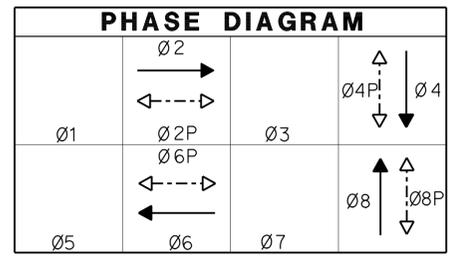
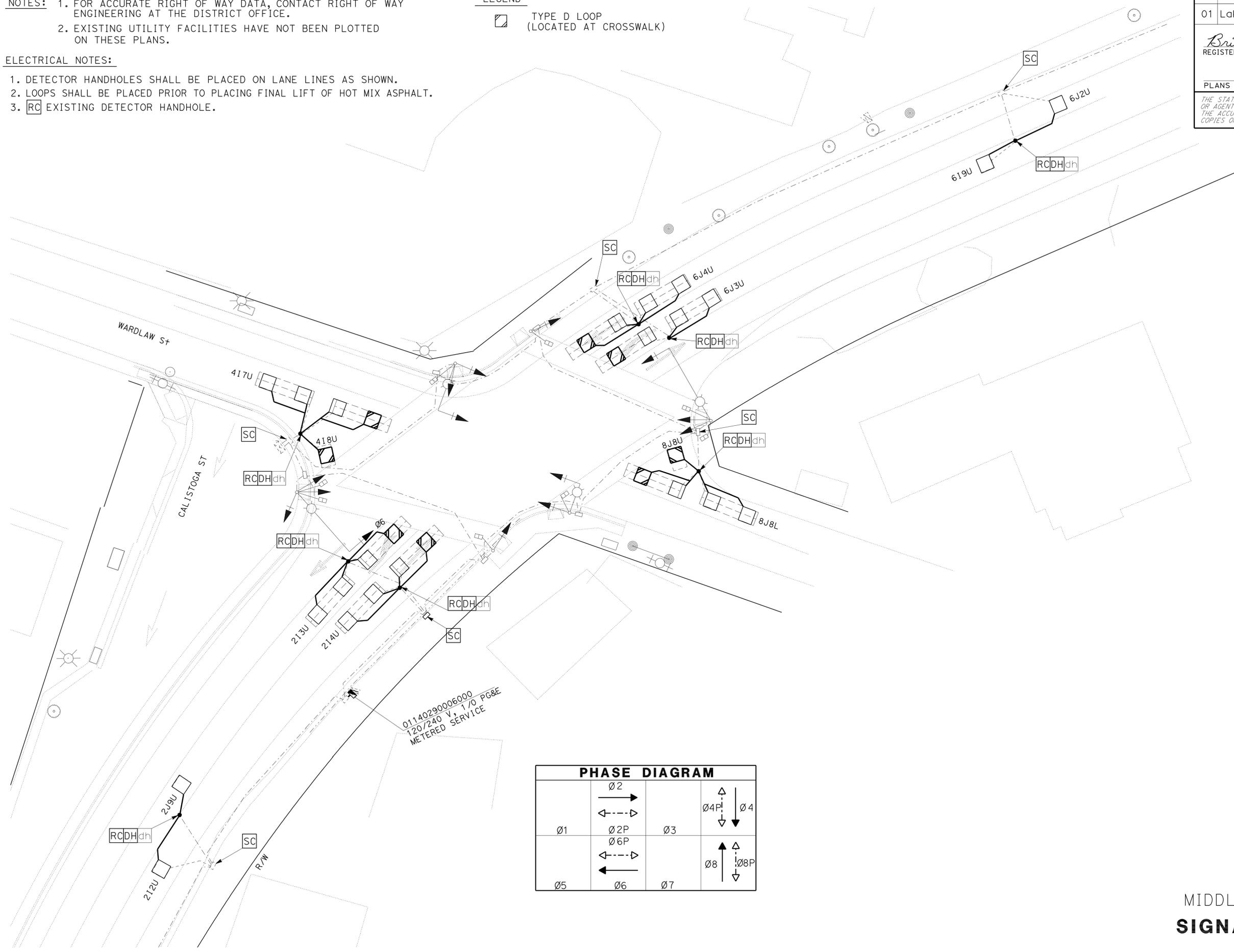
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Lak, Men	29, 175	Var	22	60

Brian T. Finck
 REGISTERED ELECTRICAL ENGINEER DATE 3-23-11

3-23-11
 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.

BRIAN T. FINCK
 No. 17756
 Exp. 6-30-12
 ELECTRICAL



MIDDLETOWN: 29 & WARDLAW
SIGNAL AND LIGHTING
 E-3

SCALE: 1"=20'

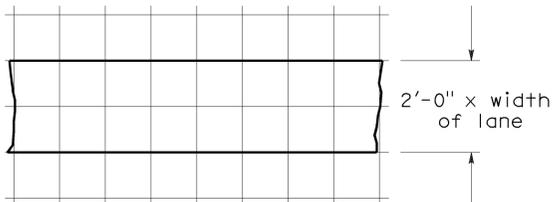
LAST REVISION DATE PLOTTED => 24-MAR-2011 00-00-00 TIME PLOTTED => 08:16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	23	60

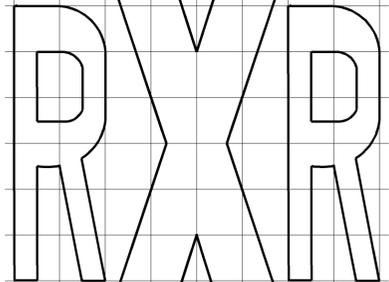
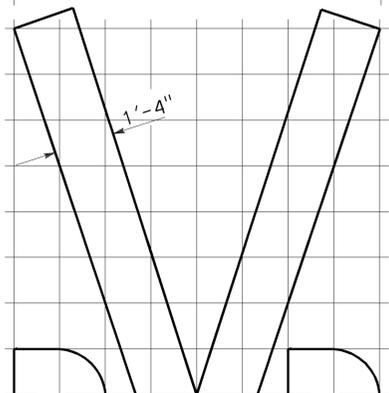
Donald E. Howe
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
 Donald E. Howe
 No. C46402
 Exp. 3-31-09
 CIVIL
 STATE OF CALIFORNIA

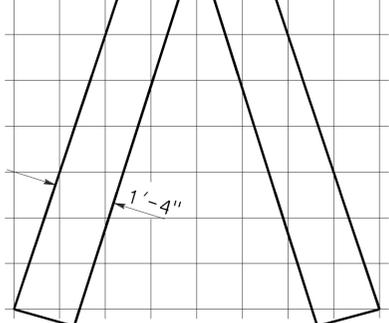
To accompany plans dated 3-23-11



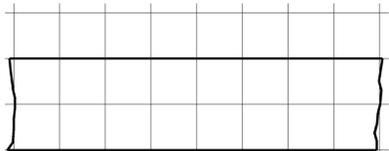
8'-0"



20'-0"



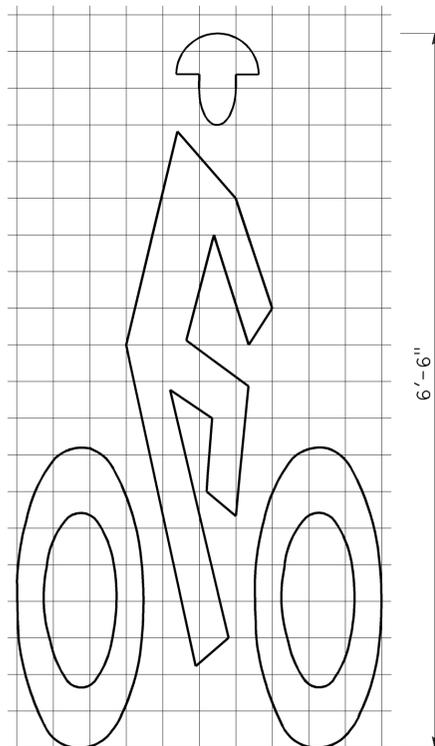
14'-0"



1'-0" GRID
A=70 sq ft ✕

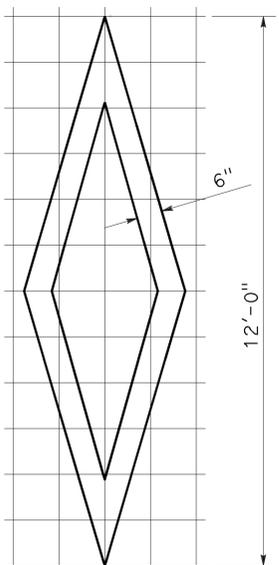
RAILROAD CROSSING SYMBOL

✕70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



A=7 sq ft

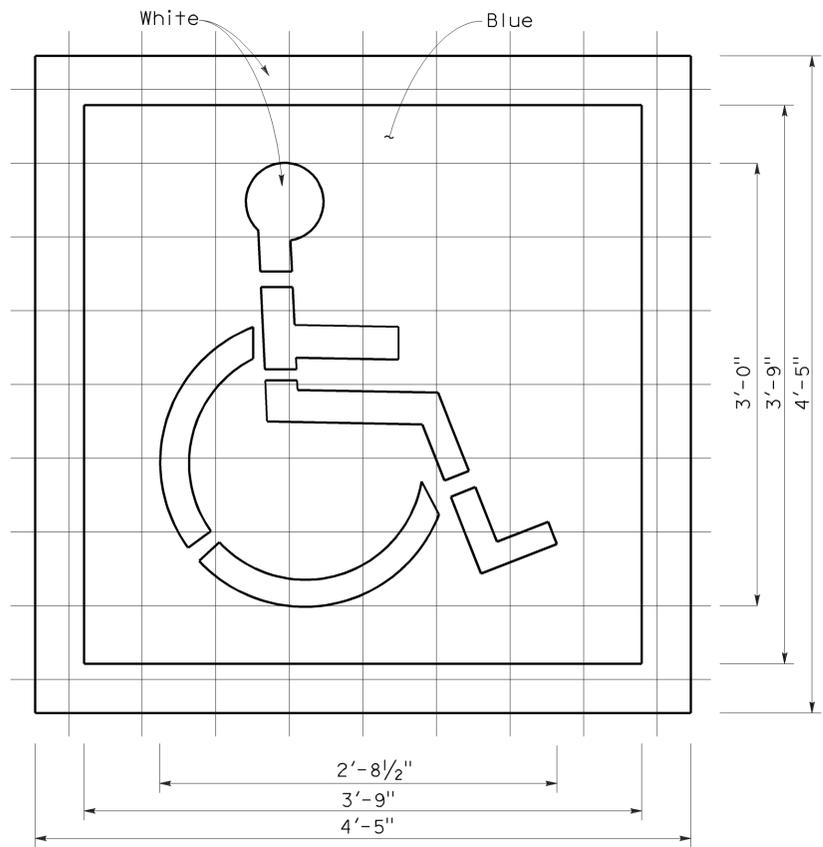
BIKE LANE SYMBOL



1'-0" GRID
3'-3"

A=11 sq ft

DIAMOND SYMBOL

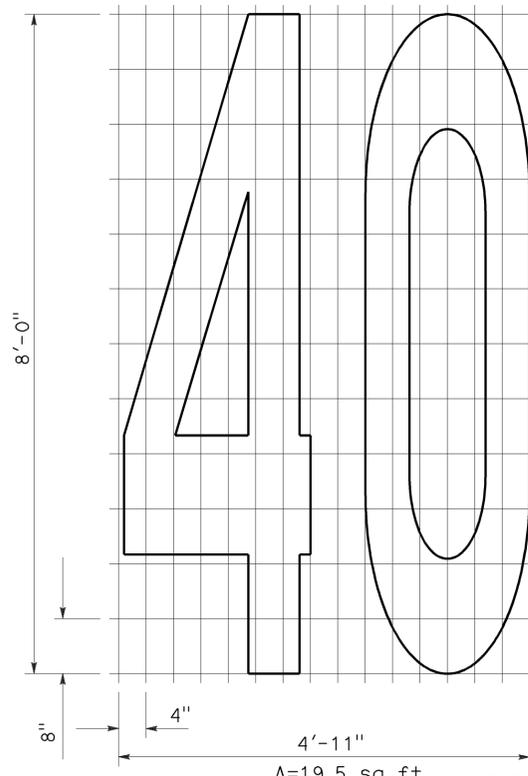
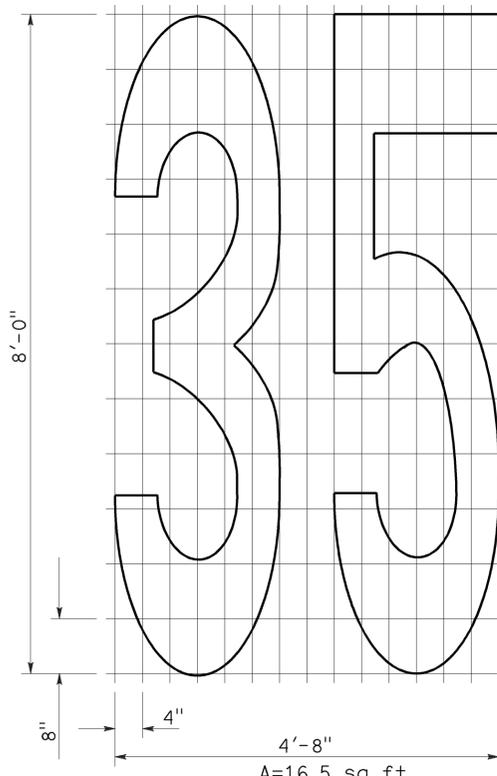
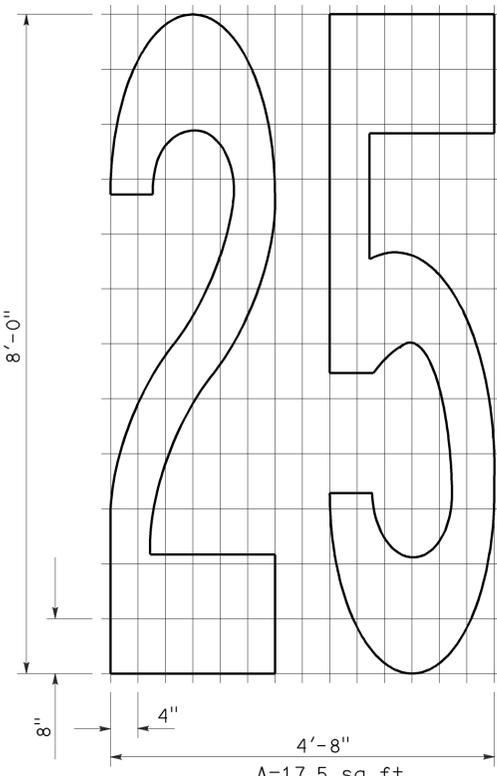


6" GRID

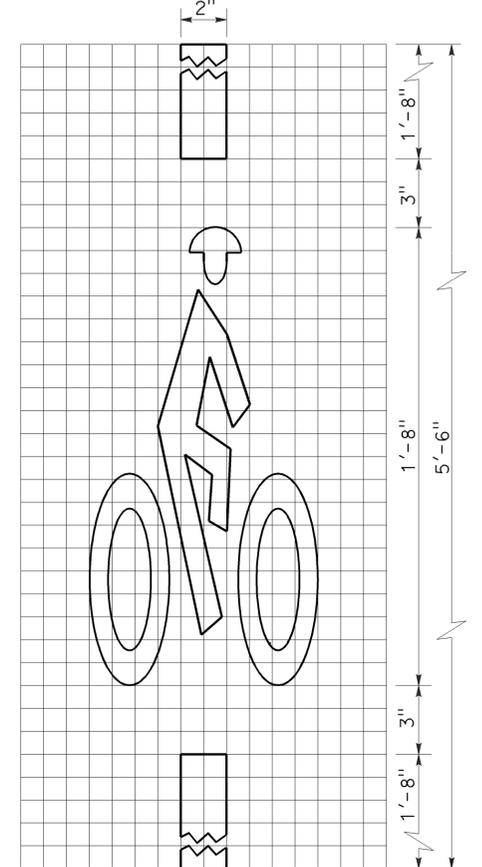
A (White) = 9 sq ft

A (Blue) = 14 sq ft

INTERNATIONAL SYMBOL OF ACCESSIBILITY MARKING



NUMERALS



1" GRID
10"

A=2 sq ft

BICYCLE LOOP DETECTOR SYMBOL

NOTE:

1. Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS SYMBOLS AND NUMERALS

NO SCALE

RSP A24C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A24C DATED MAY 1, 2006 - PAGE 11 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A24C

2006 REVISED STANDARD PLAN RSP A24C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	24	60

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

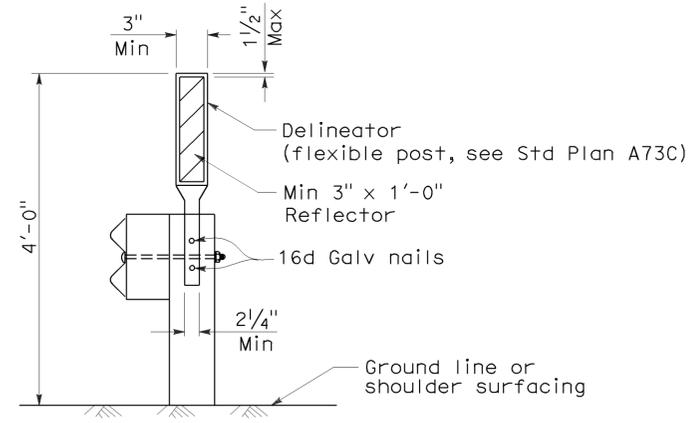
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
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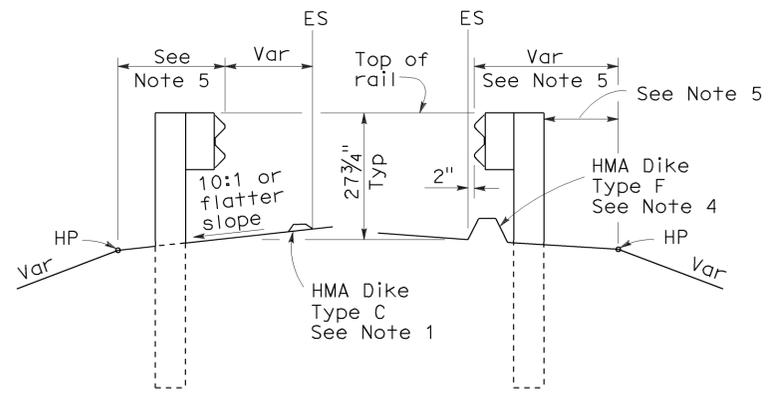
To accompany plans dated 3-23-11

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

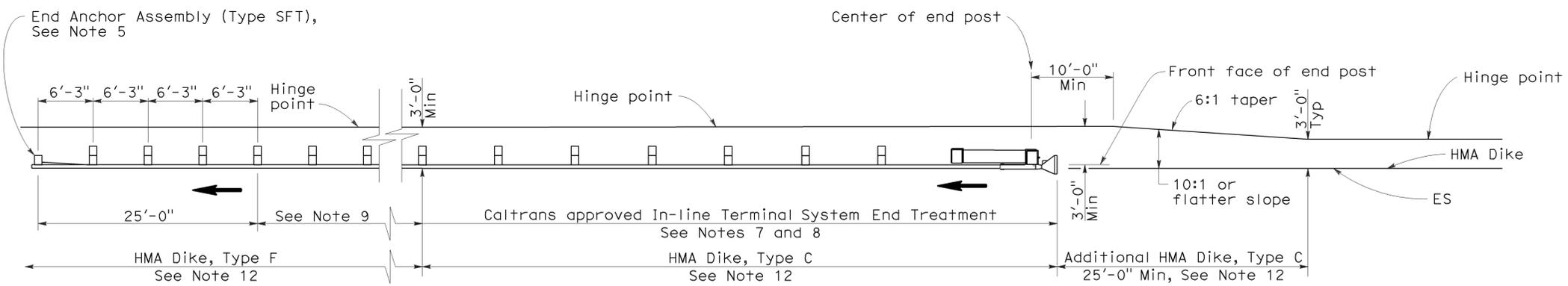
2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	25	60

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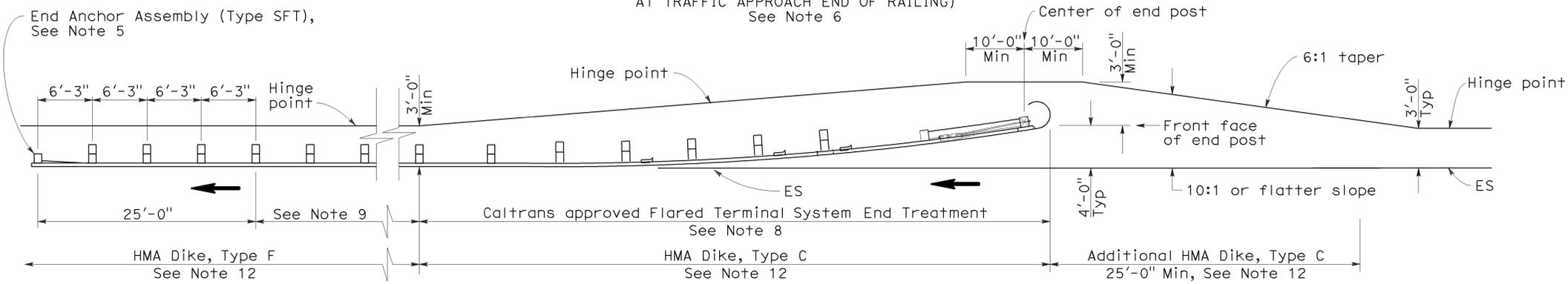
June 6, 2008
 PLANS APPROVAL DATE

To accompany plans dated 3-23-11



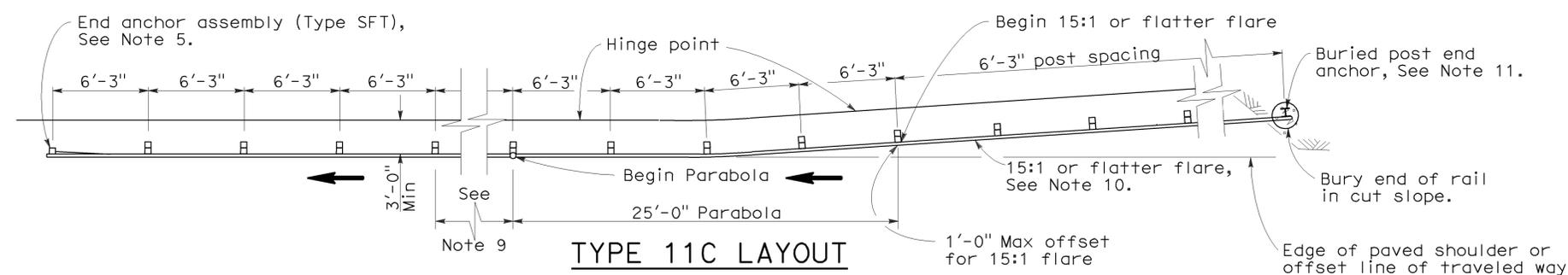
TYPE 11A LAYOUT

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



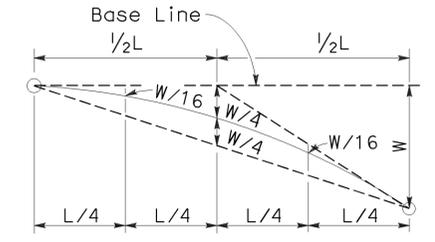
TYPE 11B LAYOUT

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

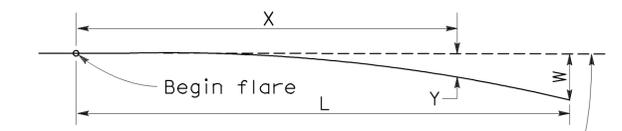


TYPE 11C LAYOUT

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



TYPICAL PARABOLIC LAYOUT

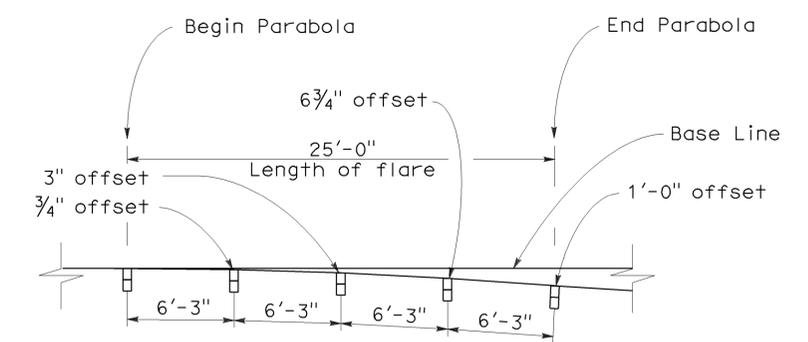


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

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 Standard Plans A77A1, A77A2, A77B1, A77C1, and A77C2.
- Guard rail 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 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.
- Direction of adjacent traffic indicated by →.
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- 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.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 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 guard railing (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 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".
- For details of the buried post end anchor used with Type 11C Layout, see Standard Plan A77I2.
- 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 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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	26	60

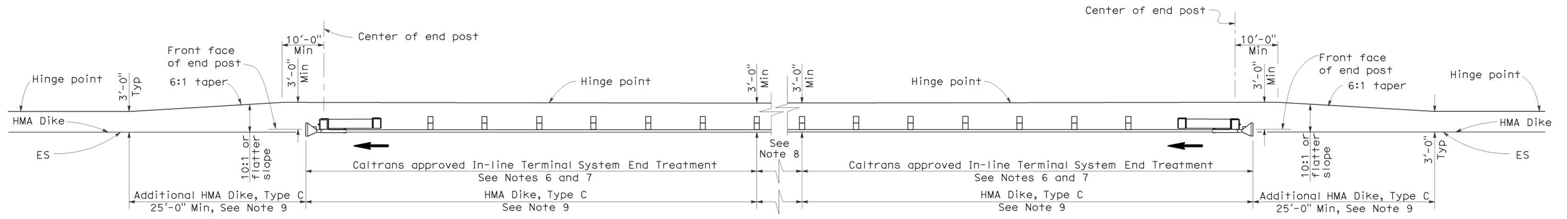
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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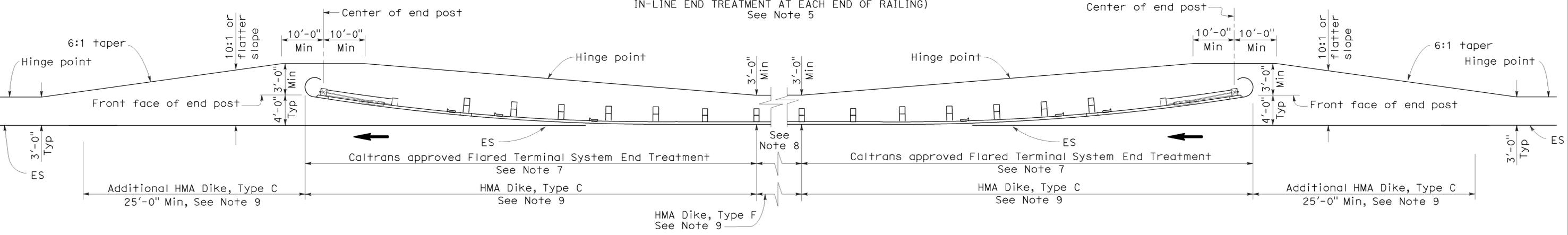
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 3-23-11



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:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 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.
- Direction of adjacent traffic indicated by .
- 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.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 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 guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- 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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	27	60

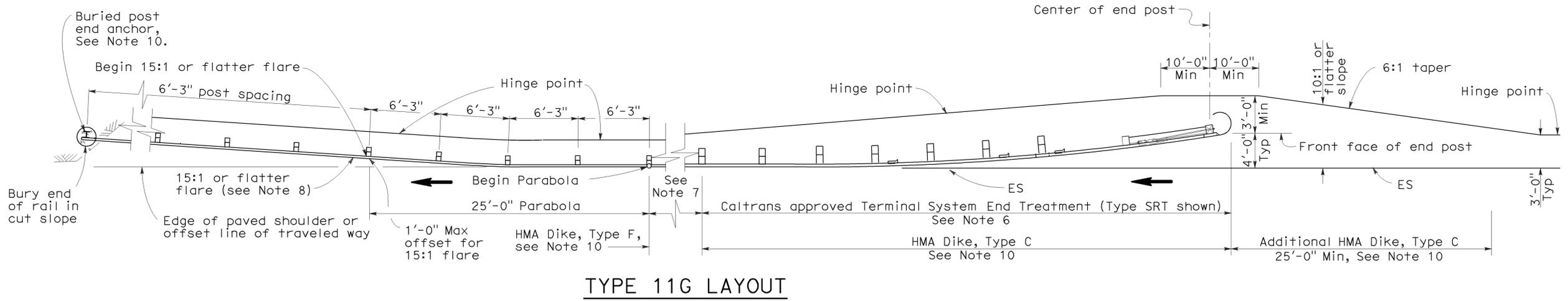
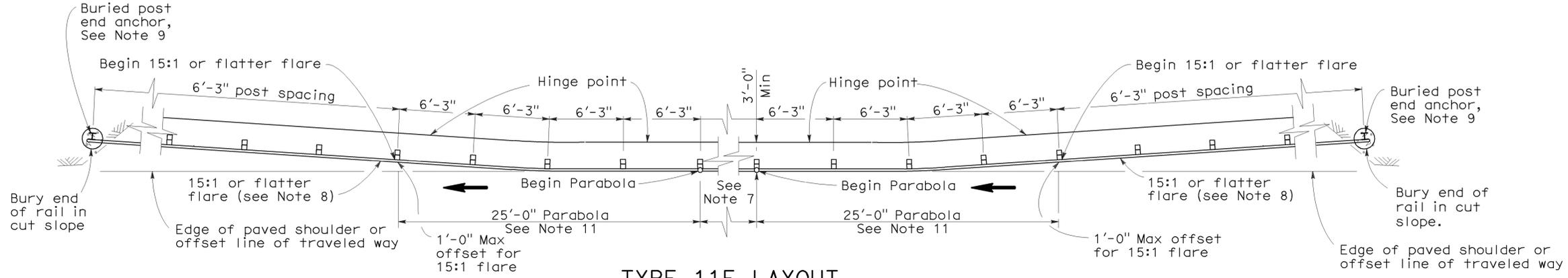
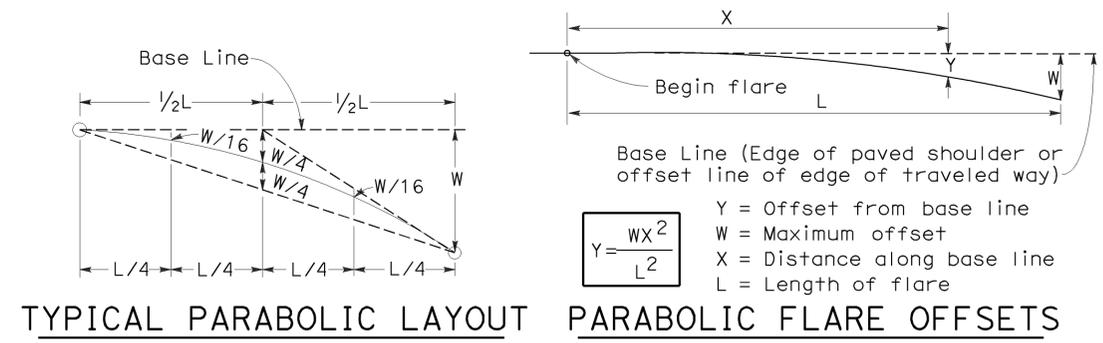
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

To accompany plans dated 3-23-11



NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 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.
- Direction of adjacent traffic indicated by \rightarrow .
- 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.
- The type of 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 guard railing (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 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".
- For details of the buried post end anchor used with Type 11F and 11G Layouts, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- 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

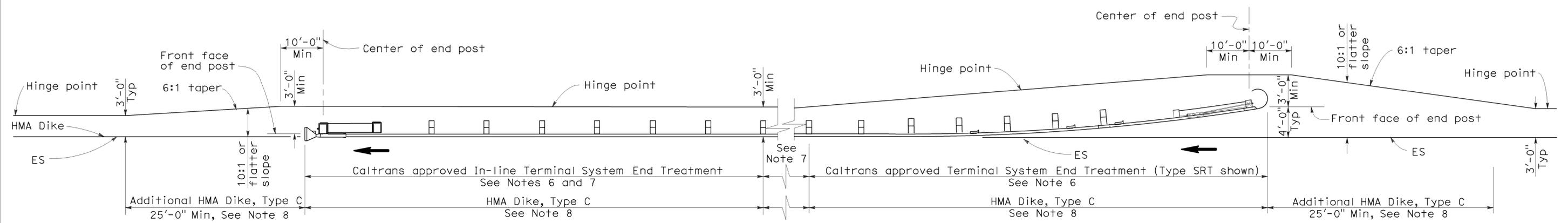
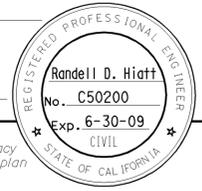
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	28	60

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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To accompany plans dated 3-23-11



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:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 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.
- Direction of adjacent traffic indicated by
- 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.
- The type of 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 guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- 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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	29	60

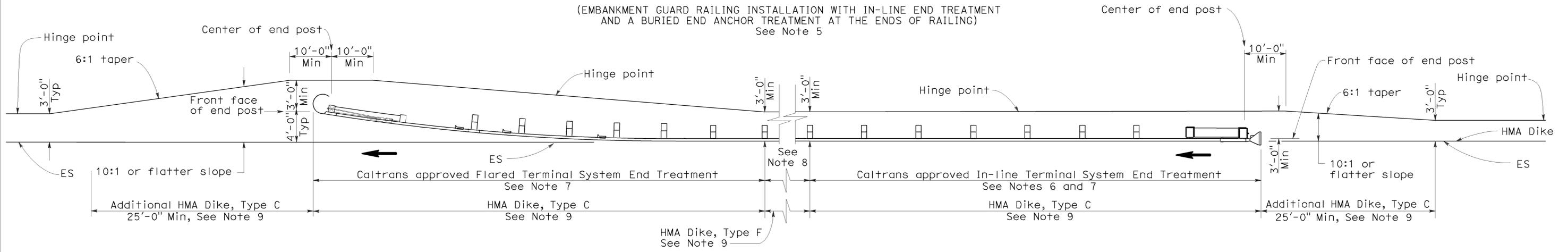
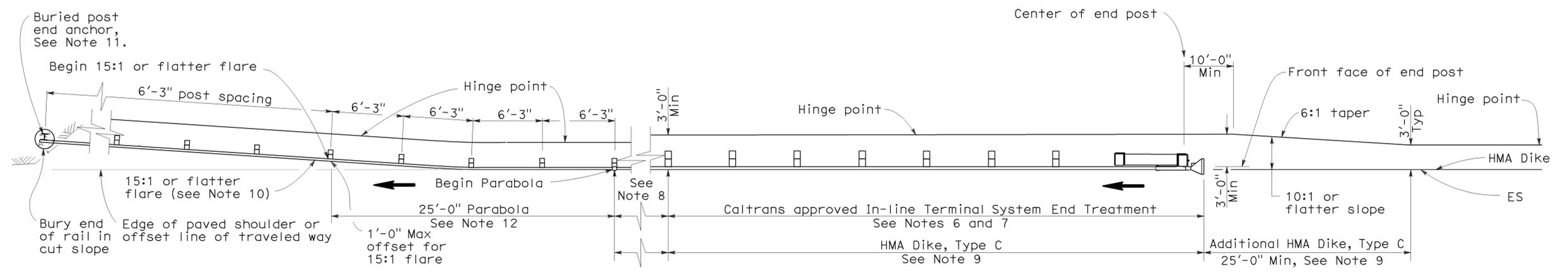
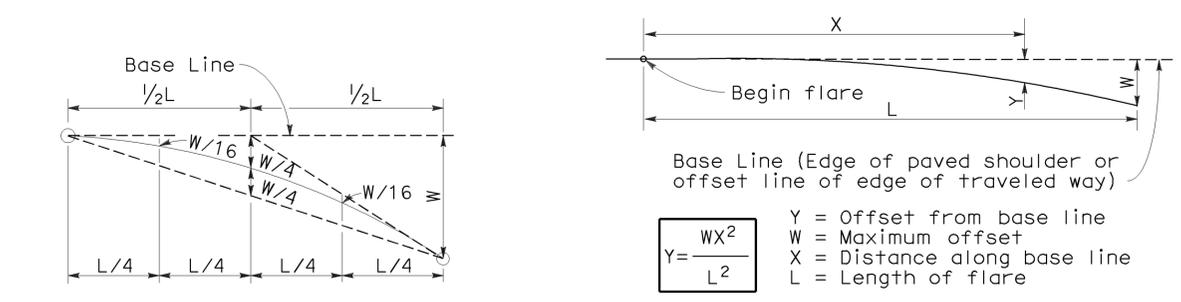
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June 6, 2008
PLANS APPROVAL DATE

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

To accompany plans dated 3-23-11



NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 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.
- Direction of adjacent traffic indicated by \rightarrow .
- 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.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 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 guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- 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".
- For details of the buried post end anchor used with Type 11I Layout, see Standard Plan A77I2.
- 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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	30	60

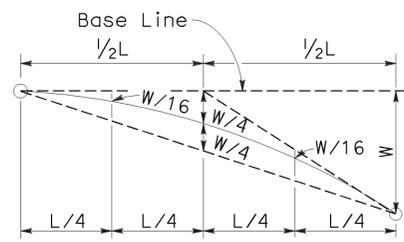
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

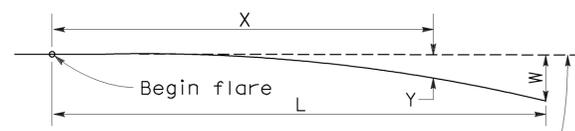
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To accompany plans dated 3-23-11



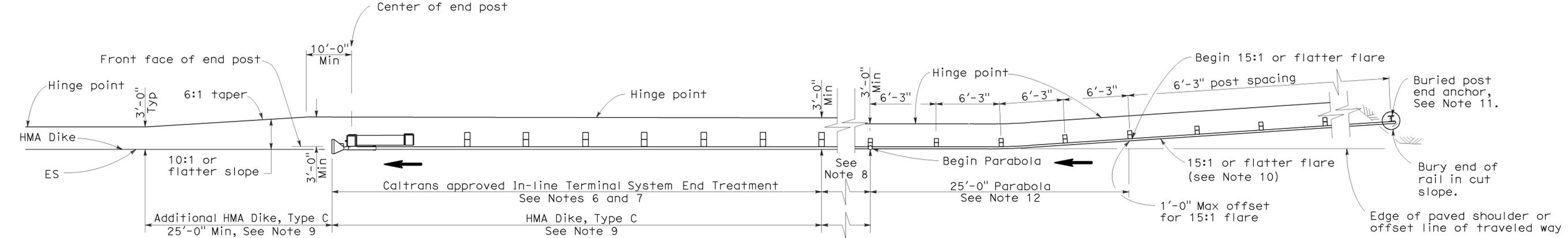
TYPICAL PARABOLIC LAYOUT



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

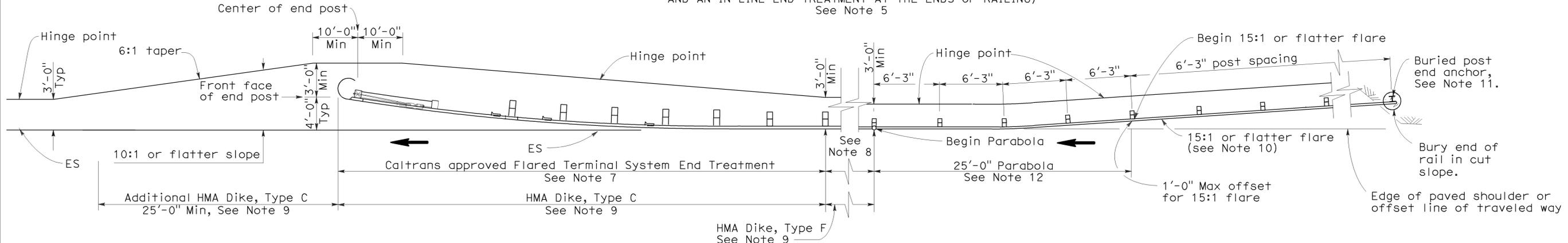
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

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:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 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.
- Direction of adjacent traffic indicated by →.
- 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.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 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 guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- 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".
- For details of the buried post end anchor used with Type 11K and 11L Layouts, see Standard Plan A77I2.
- 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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	31	60

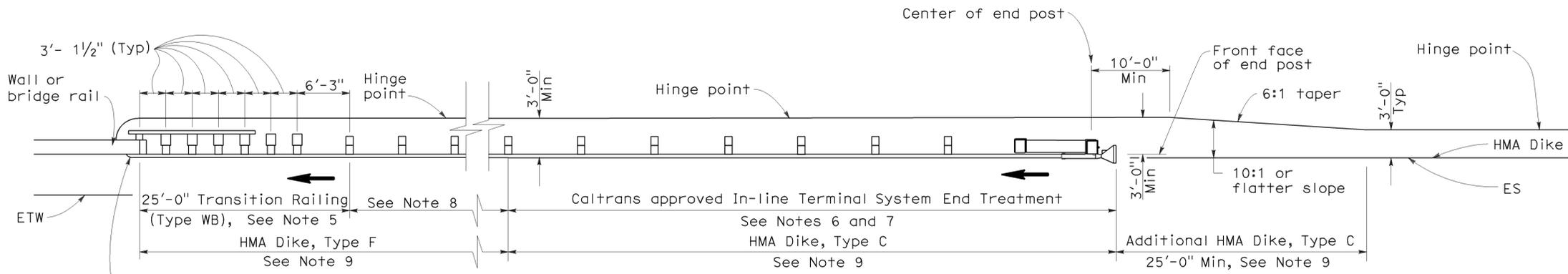
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

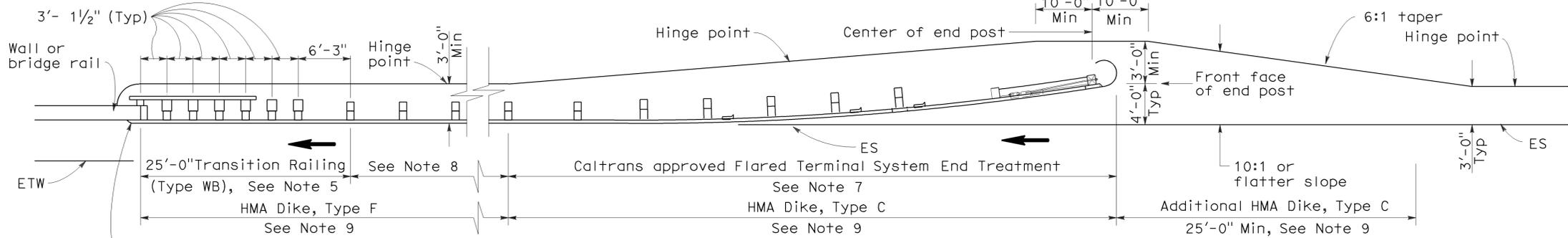
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To accompany plans dated 3-23-11



TYPE 12A LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10



TYPE 12B LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 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 posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.

- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
 - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
 - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77F3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.

- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77J1 and RSP A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
- For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F1

2006 REVISED STANDARD PLAN RSP A77F1

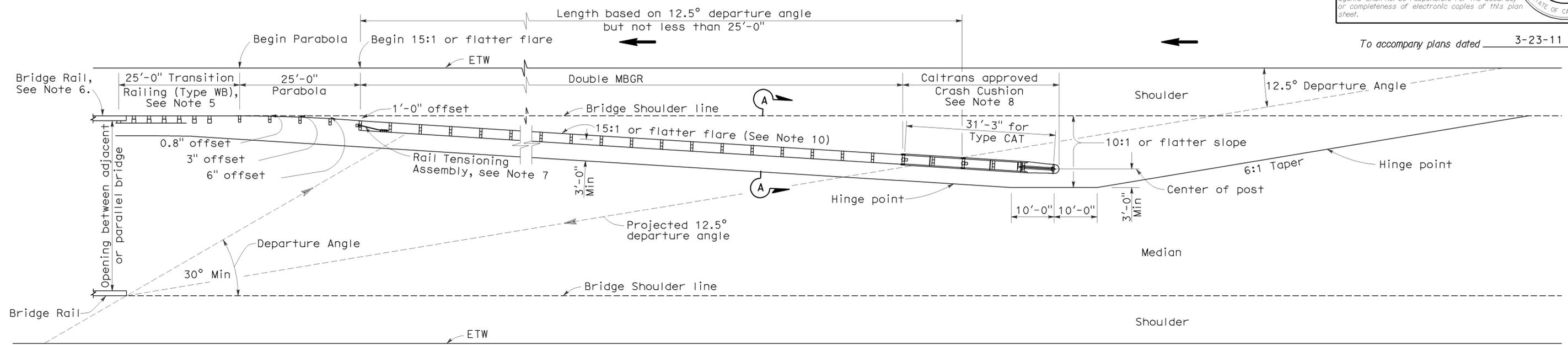
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	32	60

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

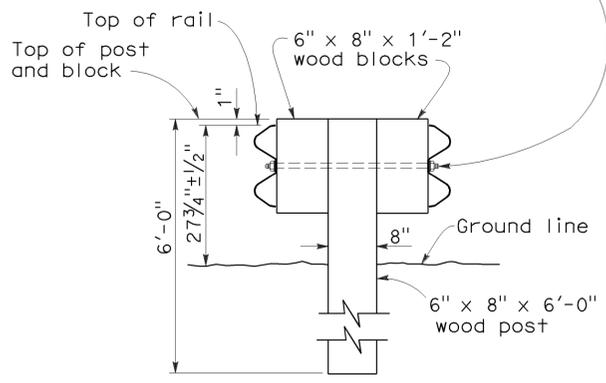


To accompany plans dated 3-23-11

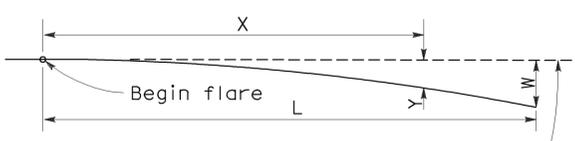
TYPE 12E LAYOUT

See Note 10

5/8" Ø Button head bolt with hex nut or 5/8" Ø Rod, threaded both ends, with hex nuts. 1/2" Max exposed threads after hex nut(s) tightened. No washer on rail faces for bolted connection to line post.



SECTION A-A
TYPICAL DOUBLE METAL BEAM GUARD RAILING

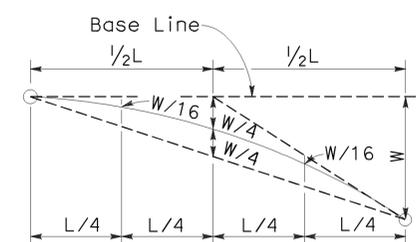


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

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

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing 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 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details, see Standard Plan A77J4.
- For additional details of a typical connection to bridge rail, see Connection Detail AA on Revised Standard Plan RSP A77J1.
- For Rail Tensioning Assembly details, see Standard Plan A77H2.
- The type of Crash Cushion to be used will be shown on the Project Plans.
- Type 12E Layout is typically used left of approaching traffic at the end of each structure on multilane freeways or expressways where a median type barrier is not constructed between separated roadbeds.
- The 15:1 or flatter flare is measured off of the edge of traveled way.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH

NO SCALE
RSP A77F3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F3
DATED MAY 1, 2006 - PAGE 56 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77F3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	33	60

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

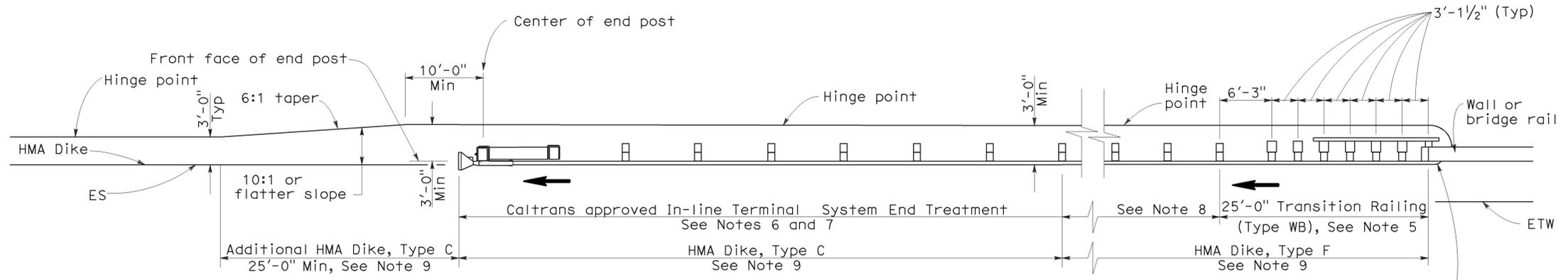
June 6, 2008
PLANS APPROVAL DATE

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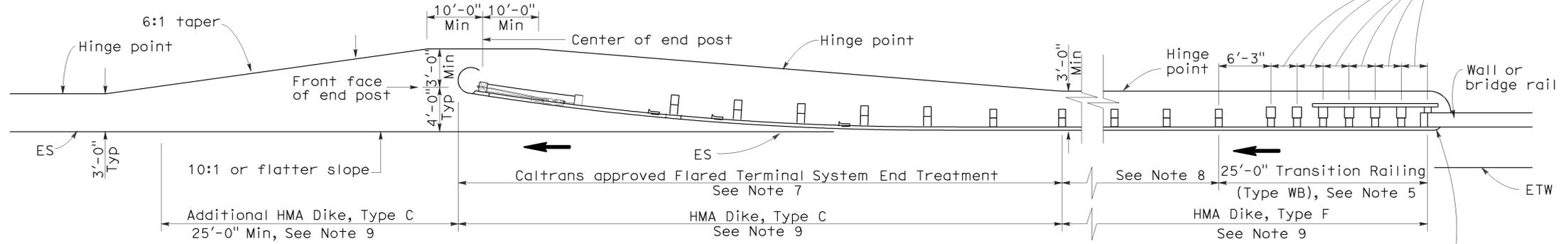
To accompany plans dated 3-23-11

2006 REVISED STANDARD PLAN RSP A77F4



TYPE 12AA LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH AN IN-LINE END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10



TYPE 12BB LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH A FLARED END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details for Types 12AA and 12BB Layouts, see Standard Plan A77J4.
- In-line Terminal System Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatments.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77J2 and Connection Detail HH on Standard Plans A77k2.

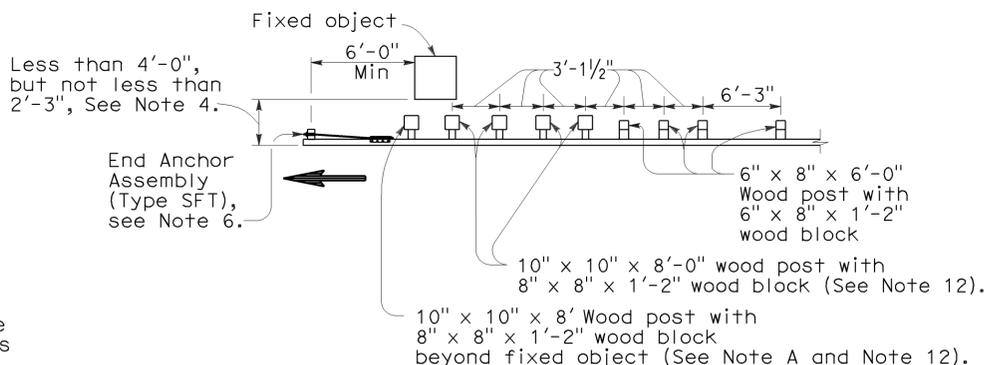
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**
NO SCALE

RSP A77F4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F4
DATED MAY 1, 2006 - PAGE 57 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F4

NOTES:

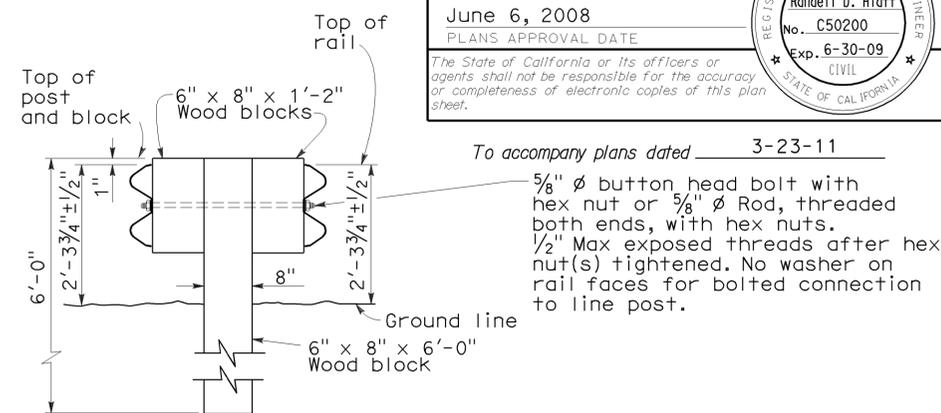
- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by \rightarrow .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- For details of Rail Tensioning Assembly, see Standard Plan A77H2.
- The type of crash cushion to be used will be shown on the Project Plans.
- Type 14A layout is typically used on multilane freeways or expressways to shield fixed objects where a median type barrier is not constructed between the separated roadbeds.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- The 15:1 or flatter flare is measured off of the edge of traveled way.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

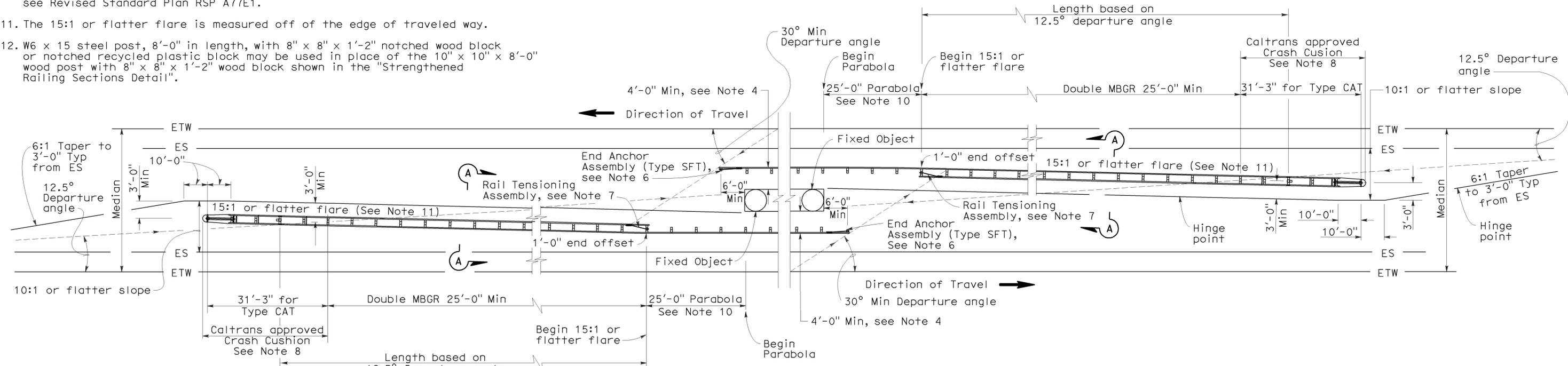
STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Type 14A layout where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3", See Note 4.



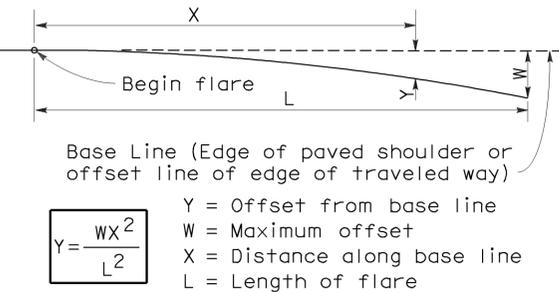
SECTION A-A TYPICAL DOUBLE METAL BEAM GUARD RAILING

To accompany plans dated 3-23-11
 5/8" ϕ button head bolt with hex nut or 5/8" ϕ Rod, threaded both ends, with hex nuts.
 1/2" Max exposed threads after nut(s) tightened. No washer on rail faces for bolted connection to line post.

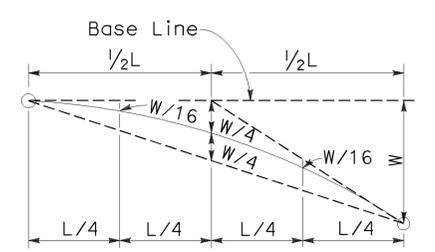


TYPE 14A LAYOUT

See Note 9



PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR FIXED OBJECTS BETWEEN SEPARATE ROADBEDS (TWO-WAY TRAFFIC)

NO SCALE

RSP A77G1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G1 DATED MAY 1, 2006 - PAGE 59 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	34	60

Randell D. Hiatt
 REGISTERED CIVIL ENGINEER

June 6, 2008
 PLANS APPROVAL DATE

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2006 REVISED STANDARD PLAN RSP A77G1

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard railing 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing section with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
5. Direction of adjacent traffic indicated by \rightarrow .

6. For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
7. Type of crash cushion to be used will be shown on the Project Plans.
8. Type 15A layout is typically used on multilane freeways or expressways to shield fixed objects in the area between separated one-way roadbeds.
9. For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
10. The 15:1 or flatter flare is measured off of the edge of the traveled way.
11. W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

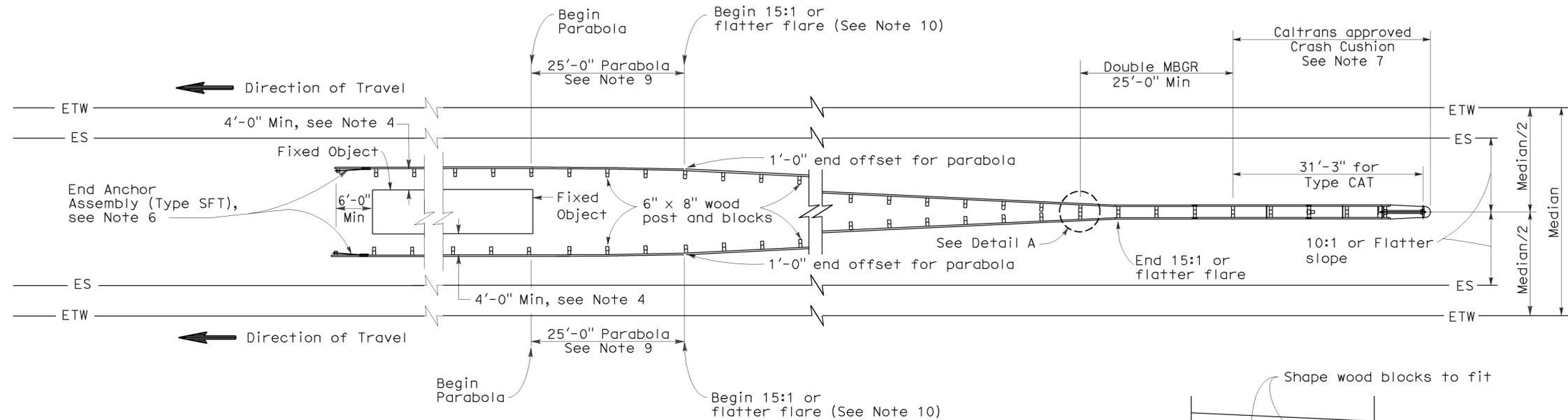
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	35	60

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

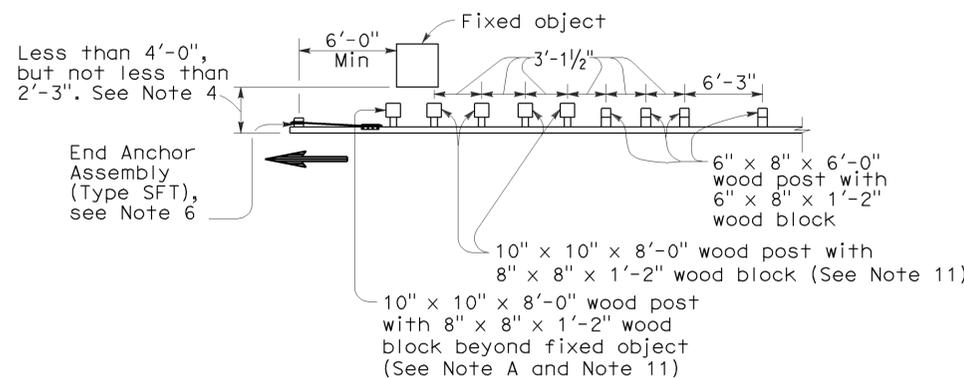
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To accompany plans dated 3-23-11



TYPE 15A LAYOUT

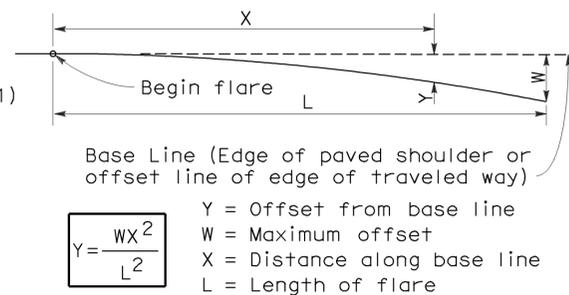
See Note 9



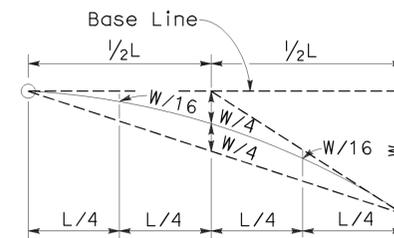
NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

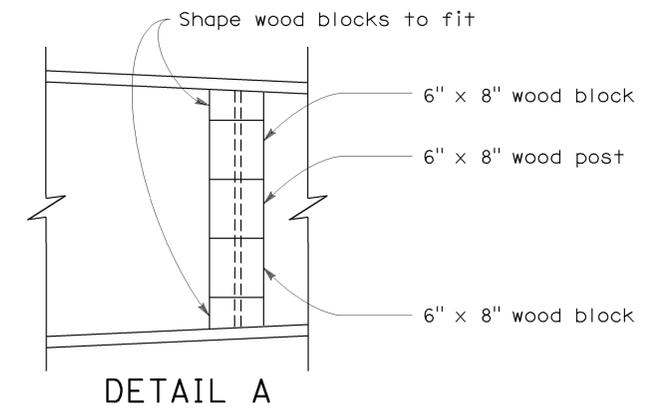
Use strengthened railing sections with Type 15A layout where minimum clearance between the face of the guard railing and the fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT



DETAIL A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
FIXED OBJECTS
BETWEEN SEPARATE ROADBEDS
(ONE-WAY TRAFFIC)**

NO SCALE

RSP A77G2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G2
DATED MAY 1, 2006 - PAGE 60 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G2

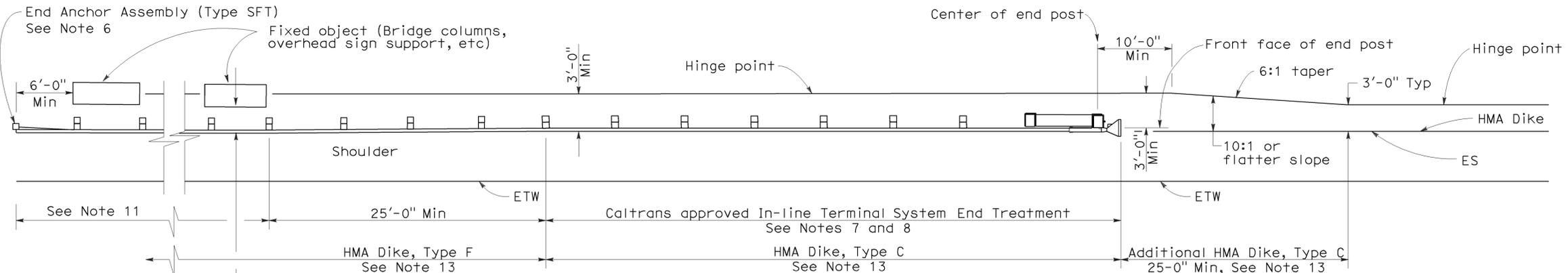
2006 REVISED STANDARD PLAN RSP A77G2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	36	60

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 STATE OF CALIFORNIA

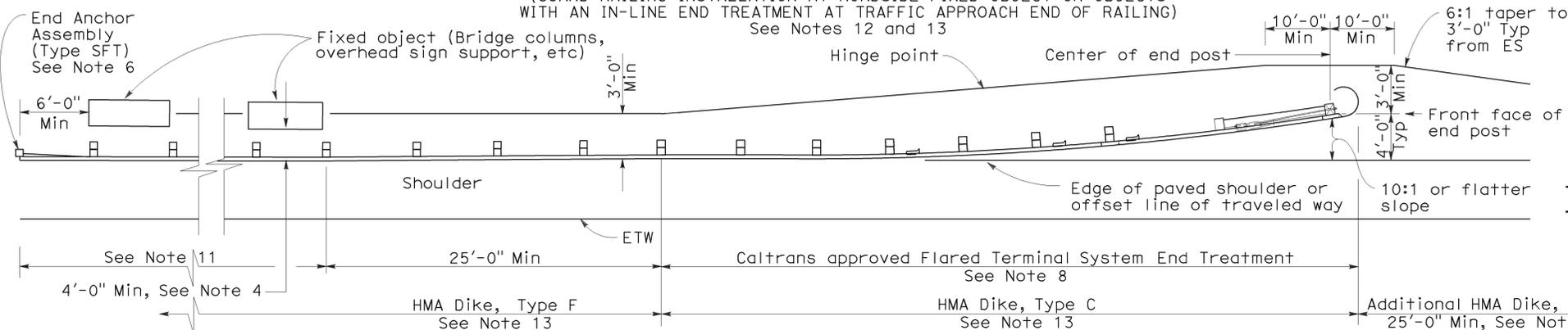
June 6, 2008
 PLANS APPROVAL DATE

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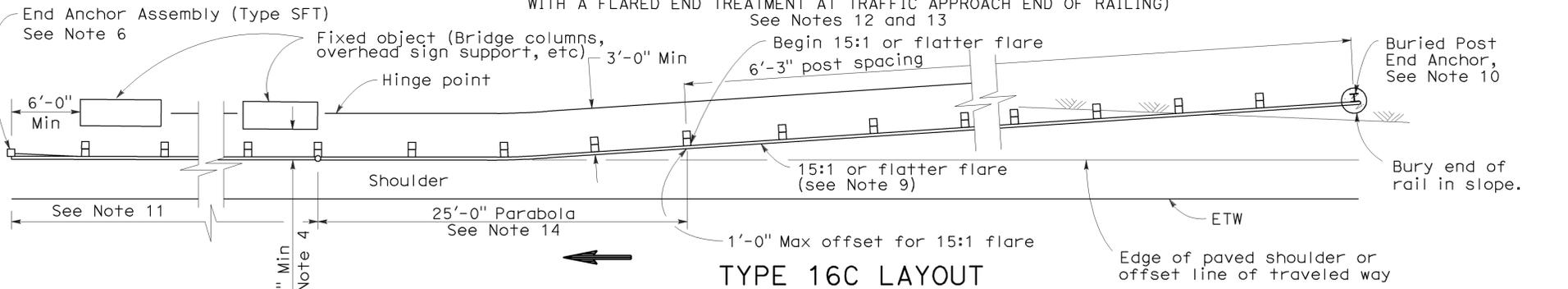
TYPE 16A LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13



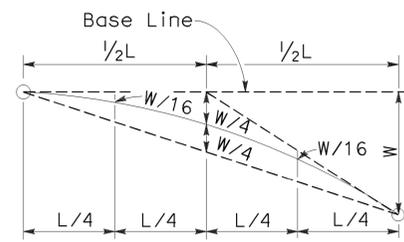
TYPE 16B LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13

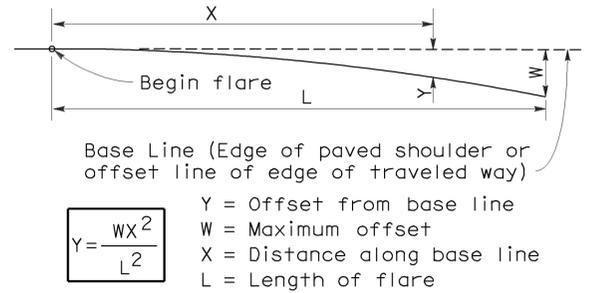


TYPE 16C LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13



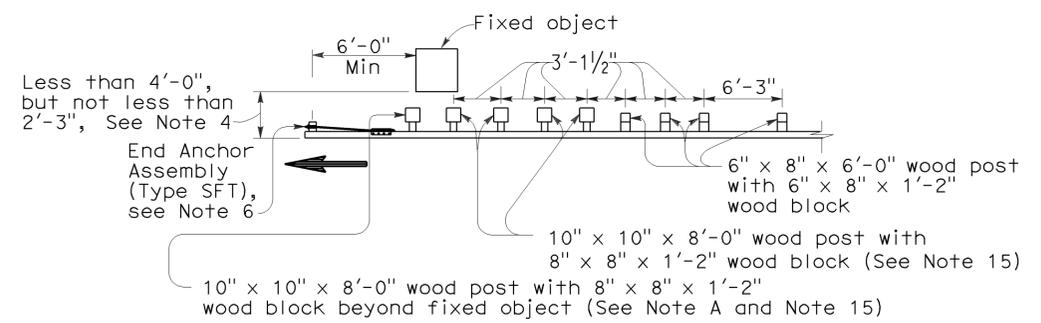
TYPICAL PARABOLIC LAYOUT



PARABOLIC FLARE OFFSETS

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing 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 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by \rightarrow .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare used with Type 16C Layout 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".
- For details of the Buried Post End Anchor used with Type 16C Layout, see Standard Plan A77I2.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
- Layout Types 16A, 16B or 16C are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for only one direction of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".



NOTE A:

For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Types 16A, 16B or 16C Layouts where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE

RSP A77G3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G3 DATED MAY 1, 2006 - PAGE 61 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G3

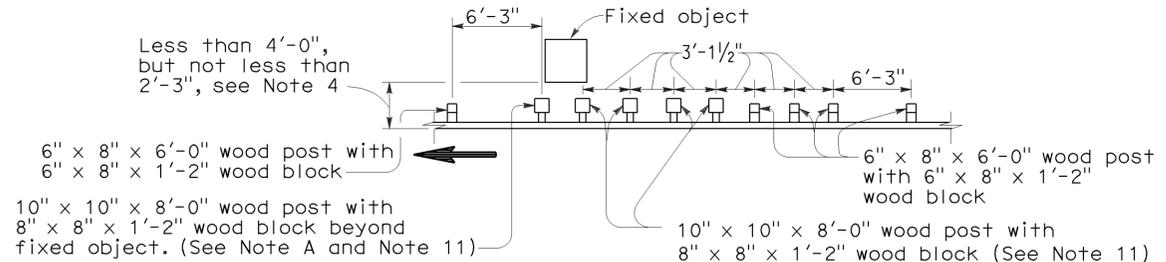
2006 REVISED STANDARD PLAN RSP A77G3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	37	60

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
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 STATE OF CALIFORNIA

June 6, 2008
 PLANS APPROVAL DATE

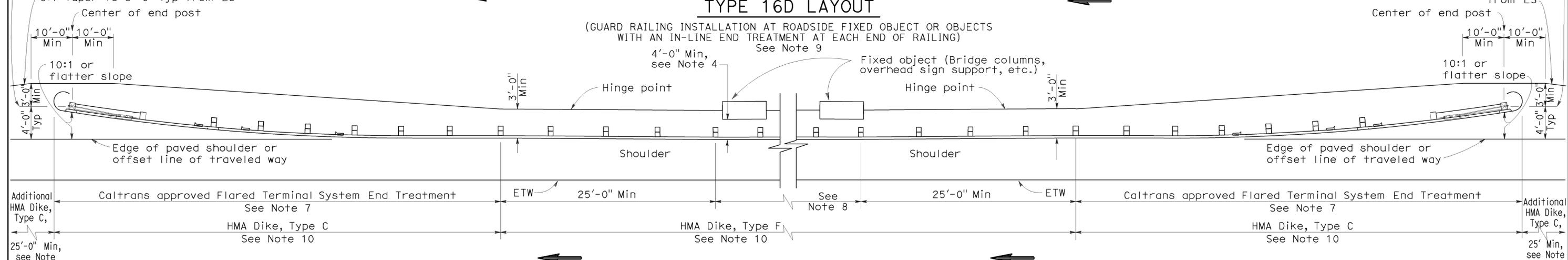
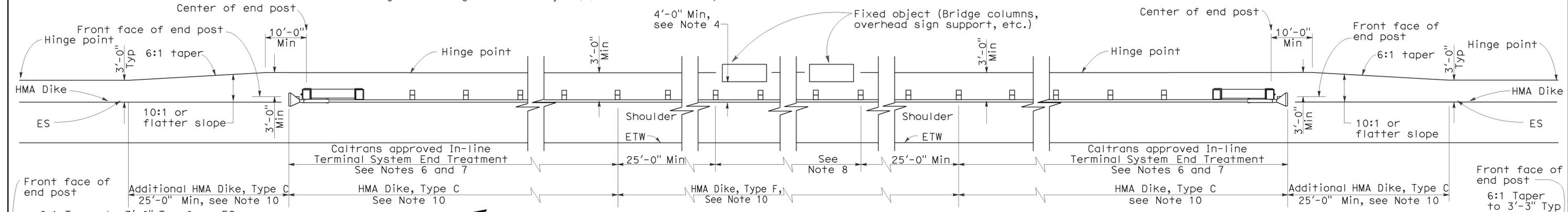
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NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed object(s).

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Layout Types 16D or 16E where minimum clearance between the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



- NOTES:**
- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
 - Guard railing 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 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
 - A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
 - Direction of adjacent traffic indicated by →.

- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans, are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.

11. W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail."

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS
 NO SCALE
 RSP A77G4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G4
 DATED MAY 1, 2006 - PAGE 62 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77G4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	38	60

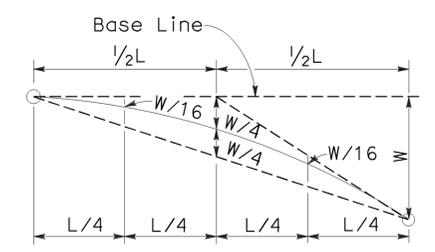
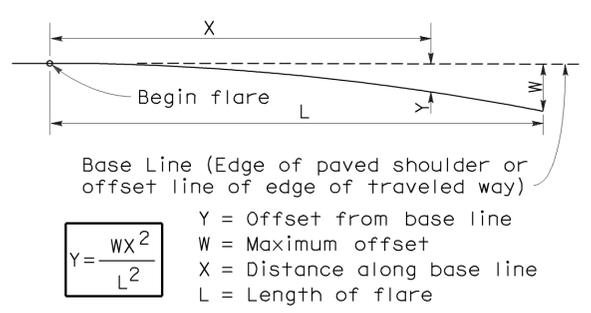
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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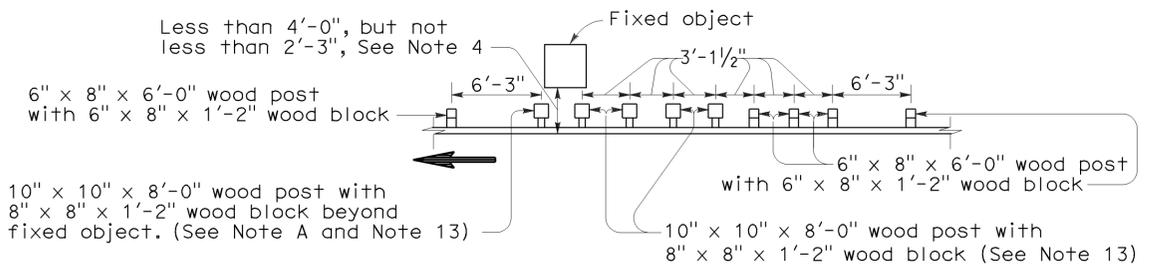
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 3-23-11



PARABOLIC FLARE OFFSETS

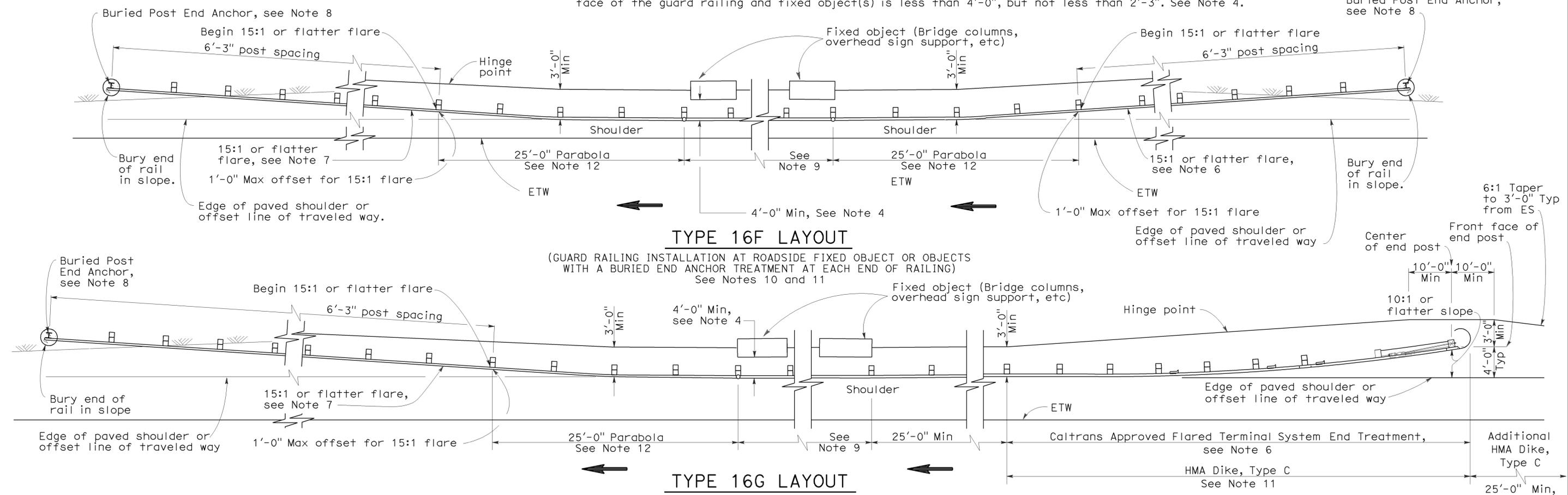
TYPICAL PARABOLIC LAYOUT



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed object(s).

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Layout Types 16F or 16G where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



TYPE 16F LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AT EACH END OF RAILING) See Notes 10 and 11

TYPE 16G LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AND A BURIED END ANCHOR TREATMENT AT THE ENDS OF RAILING) See Notes 10 and 11

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing 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 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 8" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by →.

- The type of terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare for the buried post anchor 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".
- For details of the Buried Post End Anchor details, see Standard Plan A77I2.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans, are typically used on highways where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.

- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS
NO SCALE

RSP A77G5 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G5
DATED MAY 1, 2006 - PAGE 63 OF THE STANDARD PLANS BOOK DATED MAY 2006.

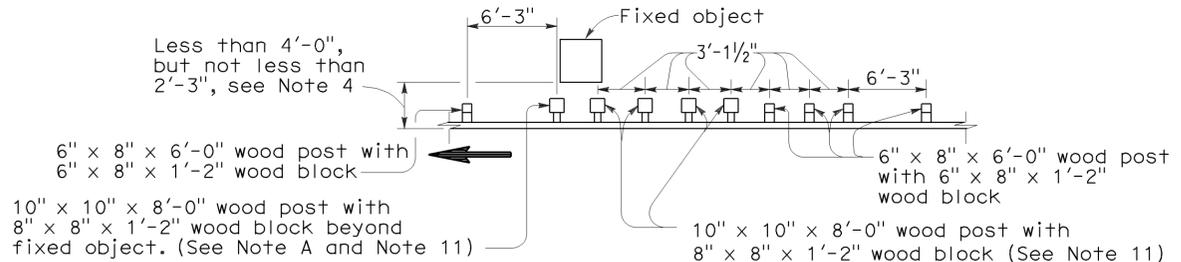
REVISED STANDARD PLAN RSP A77G5

2006 REVISED STANDARD PLAN RSP A77G5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	39	60

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE

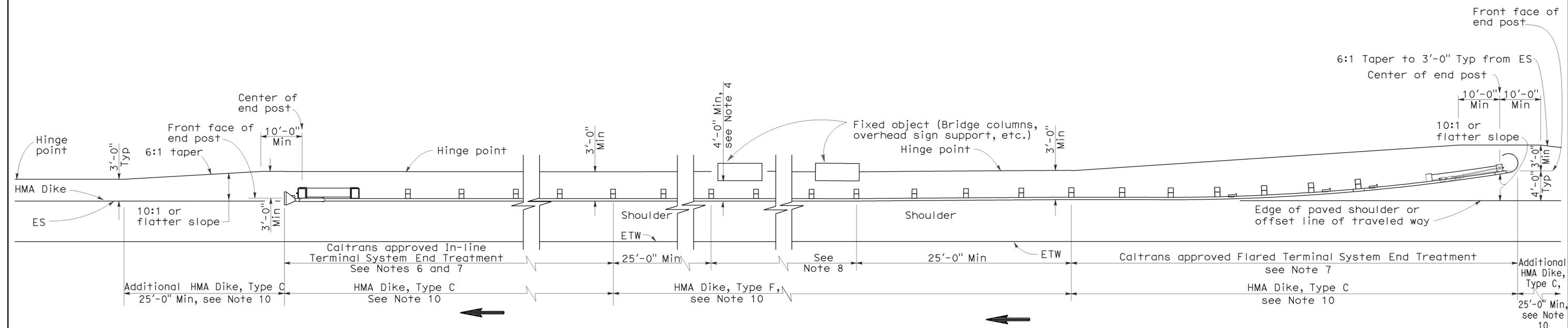
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Note A. For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed object(s).

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Layout Type 16H where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



TYPE 16H LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AND AN IN-LINE TREATMENT AT THE ENDS OF RAILING) See Note 9

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing 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 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by →.

- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans, typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE
RSP A77G6 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G6
DATED MAY 1, 2006 - PAGE 64 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G6

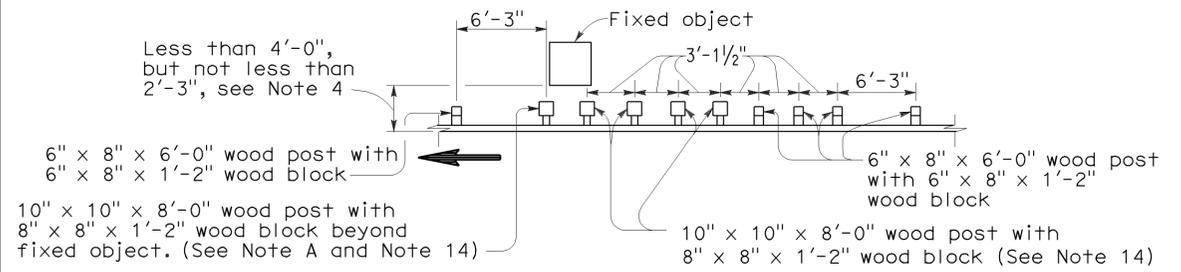
2006 REVISED STANDARD PLAN RSP A77G6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	40	60

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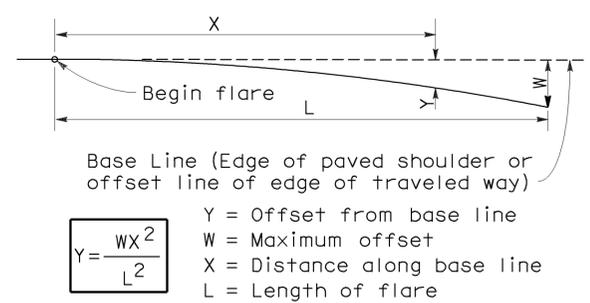
June 6, 2008
 PLANS APPROVAL DATE

To accompany plans dated 3-23-11



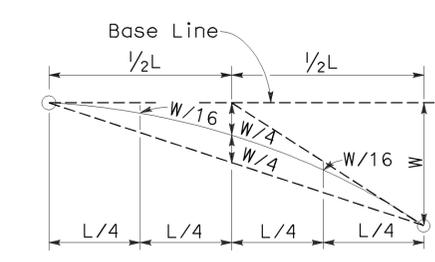
Note A. For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed object(s).

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT



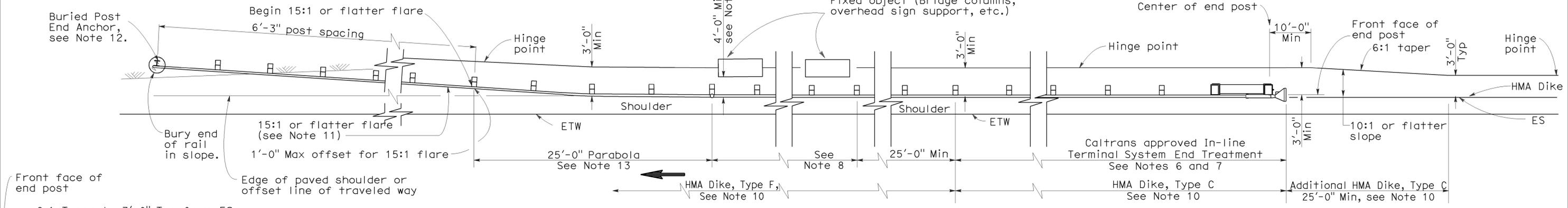
Y = $\frac{WX^2}{L^2}$
 Y = Offset from base line
 W = Maximum offset
 X = Distance along base line
 L = Length of flare

PARABOLIC FLARE OFFSETS



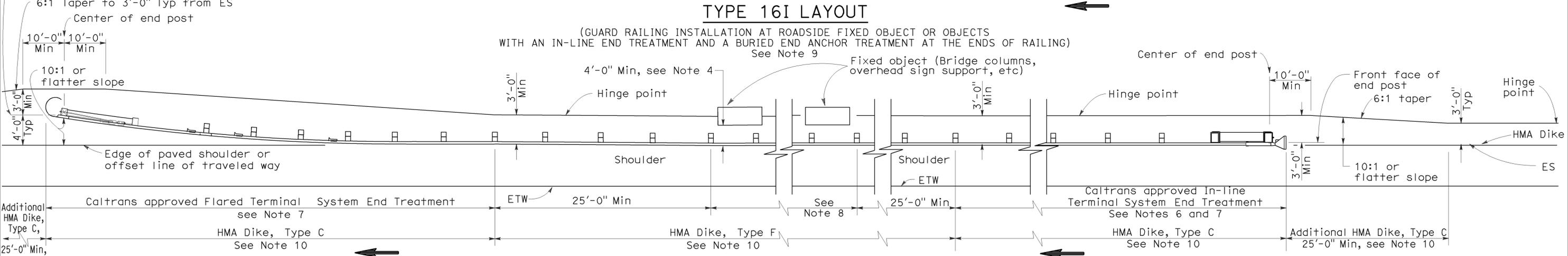
TYPICAL PARABOLIC LAYOUT

Use strengthened railing sections with Layout Types 16I or 16J Layouts where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



TYPE 16I LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AND A BURIED END ANCHOR TREATMENT AT THE ENDS OF RAILING) See Note 9



TYPE 16J LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AND A FLARED END TREATMENT AT THE ENDS OF RAILING) See Note 9

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing 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 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by →.

- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans, are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- The 15:1 or flatter flare for the buried post anchor 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".

- For details of Buried Post End Anchor details, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard RSP Plan A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE

RSP A77G7 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G7 DATED MAY 1, 2006 - PAGE 65 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G7

2006 REVISED STANDARD PLAN RSP A77G7

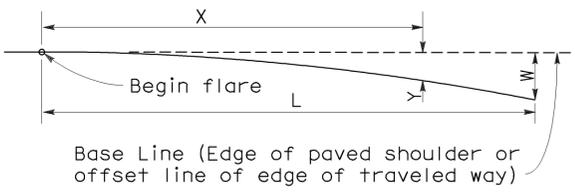
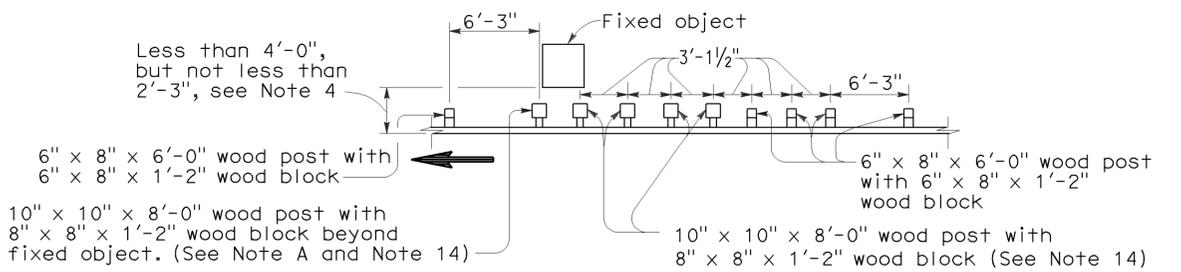
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	41	60

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

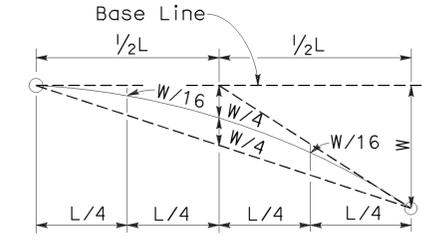
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Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

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

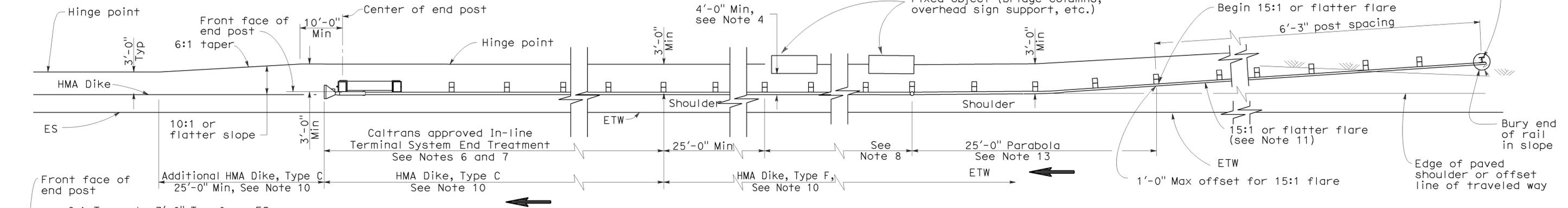


STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

PARABOLIC FLARE OFFSETS

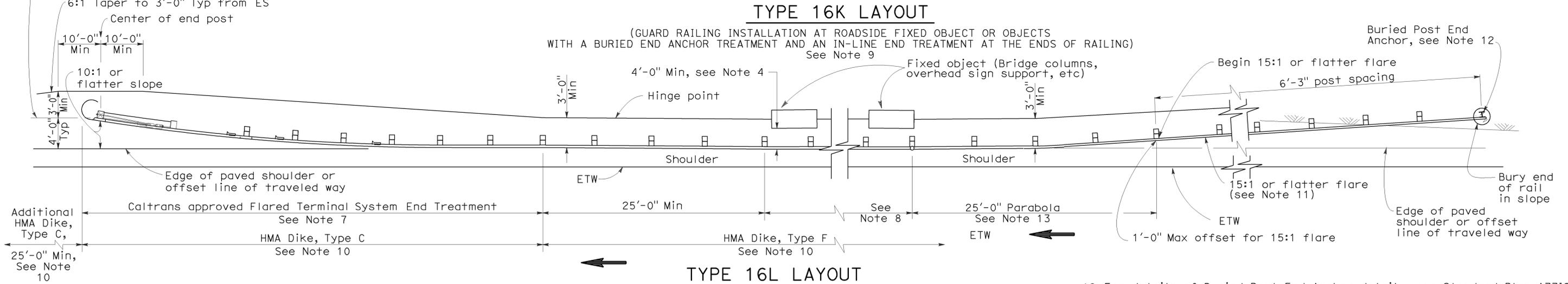
TYPICAL PARABOLIC LAYOUT

Use strengthened railing sections with Layout Types 16K or 16L Layouts where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



TYPE 16K LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AND AN IN-LINE END TREATMENT AT THE ENDS OF RAILING) See Note 9



TYPE 16L LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AND A FLARED END TREATMENT AT THE ENDS OF RAILING) See Note 9

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing 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 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by →.

- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- The 15:1 or flatter flare for the buried post anchor 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".

- For details of Buried Post End Anchor details, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard RSP Plan A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE

RSP A77G8 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G8
DATED MAY 1, 2006 - PAGE 66 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G8

2006 REVISED STANDARD PLAN RSP A77G8

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	42	60

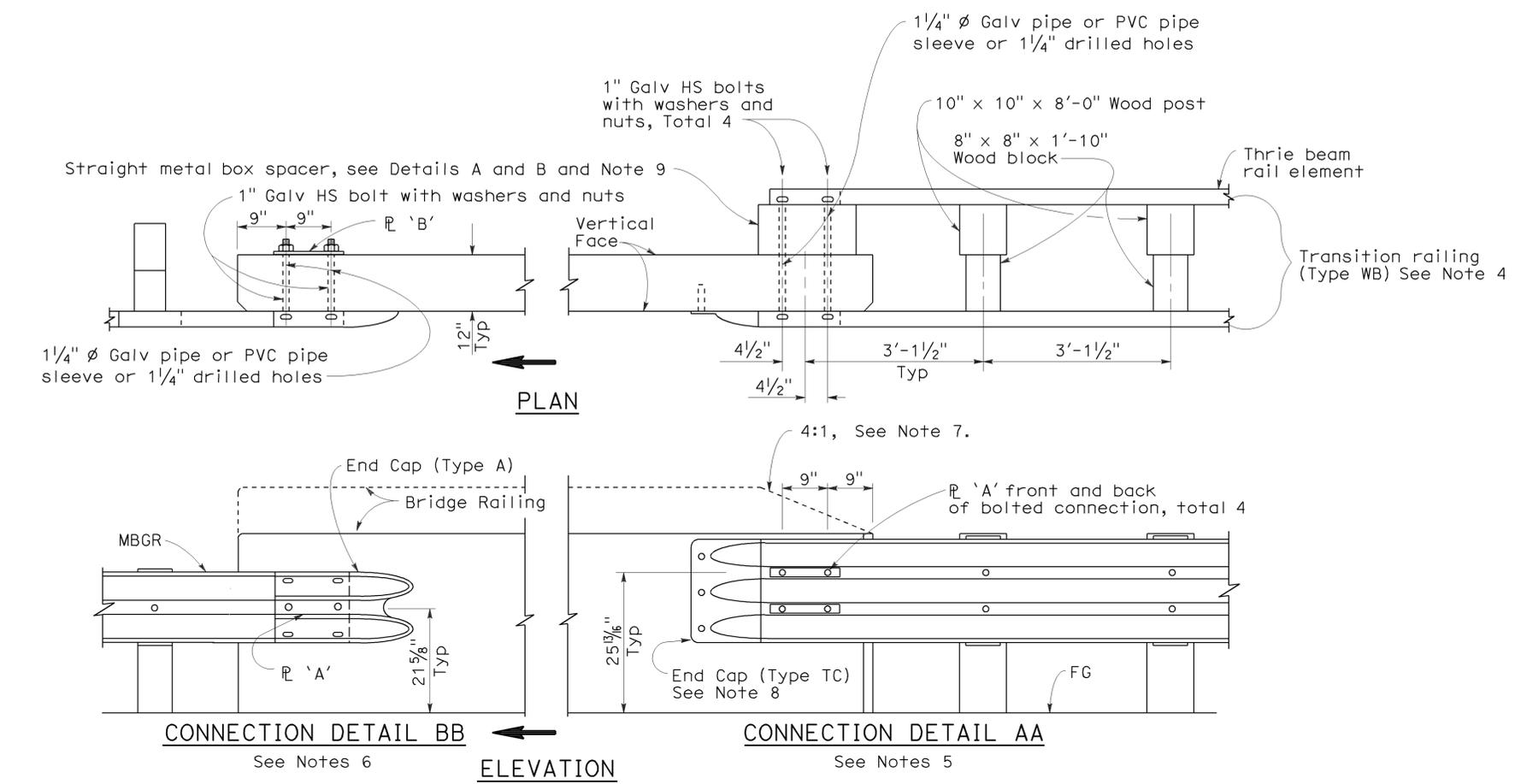
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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Randell D. Hiatt
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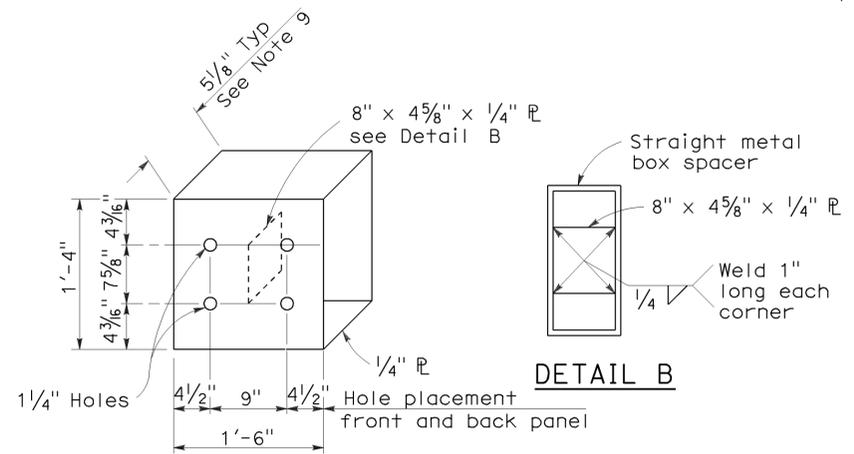
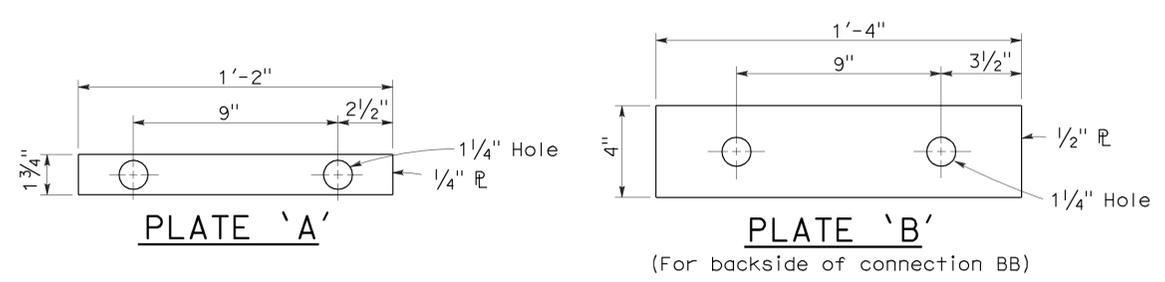
To accompany plans dated 3-23-11



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by →.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail.
8. For details of End Cap (Type TC), see Standard Plan A77J4.
9. See Standard Plan A77J4 for additional details regarding depth dimension for straight metal box spacer.



**DETAIL A
STRAIGHT METAL BOX SPACER**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
CONNECTIONS TO
BRIDGE RAILINGS
WITHOUT SIDEWALKS
DETAILS No.1**

NO SCALE

RSP A77J1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J1
DATED MAY 1, 2006 - PAGE 72 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J1

2006 REVISED STANDARD PLAN RSP A77J1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	43	60

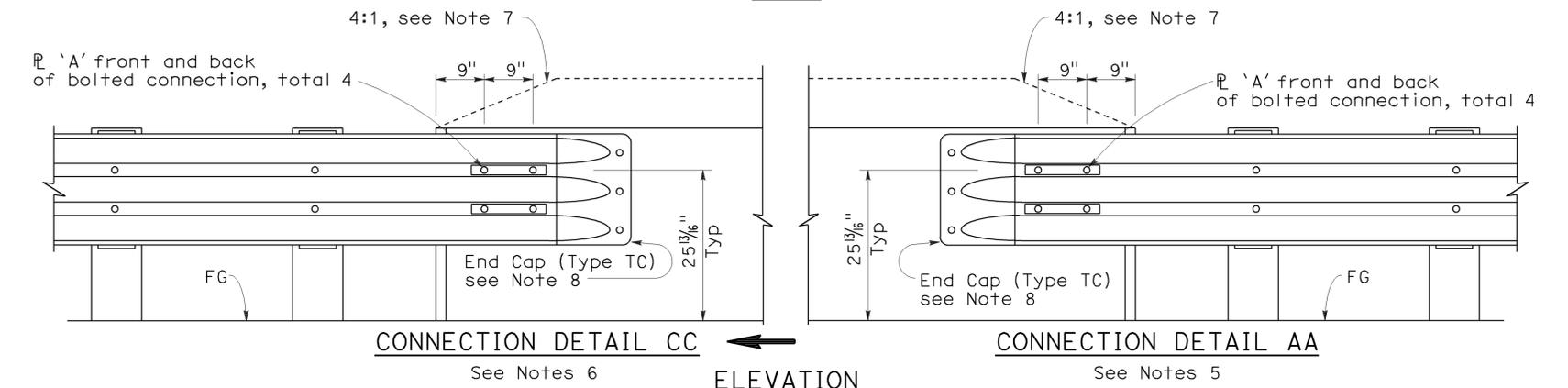
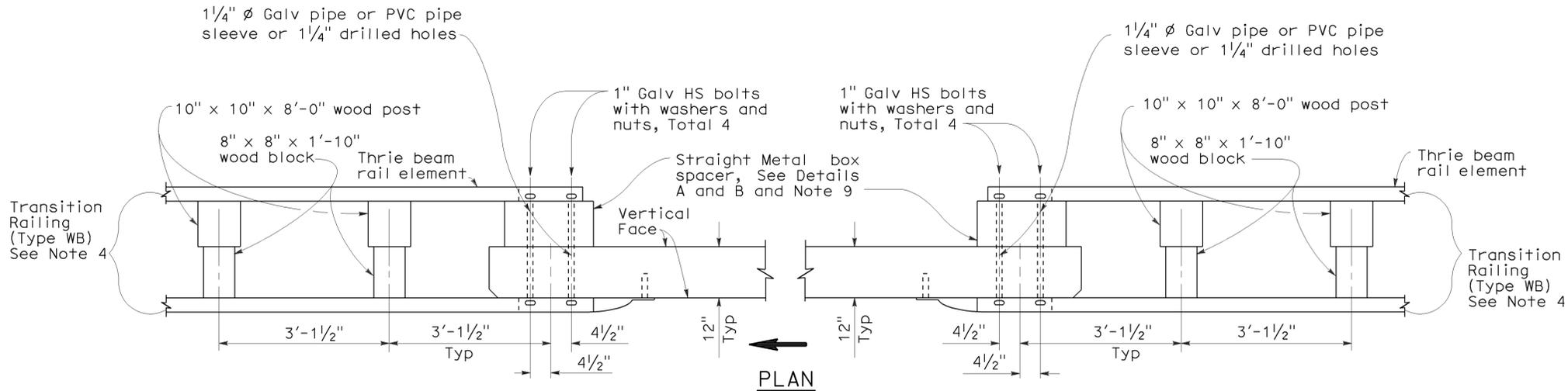
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

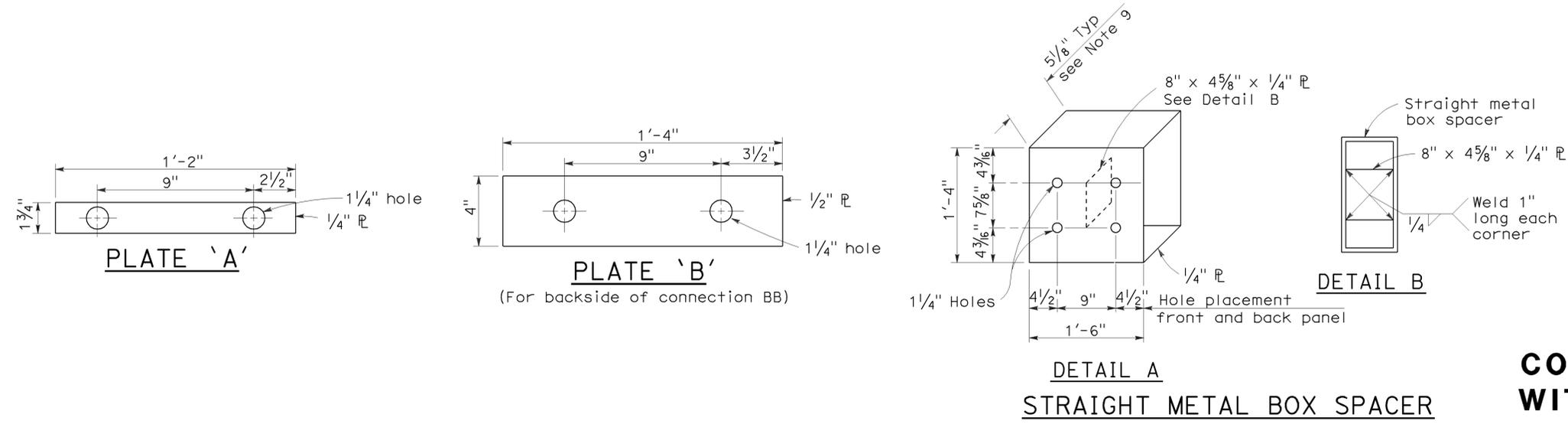
To accompany plans dated 3-23-11



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by →.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Standard Plan A77F4 and Layout Type 12CC on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
8. For details of End Cap (Type TC), see Standard Plans A77J4.
9. See Standard Plans A77J4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.2

NO SCALE
RSP A77J2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J2
DATED MAY 1, 2006 - PAGE 73 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J2

2006 REVISED STANDARD PLAN RSP A77J2

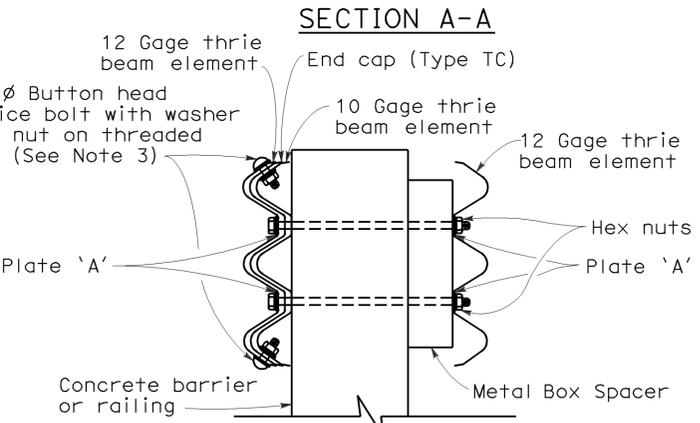
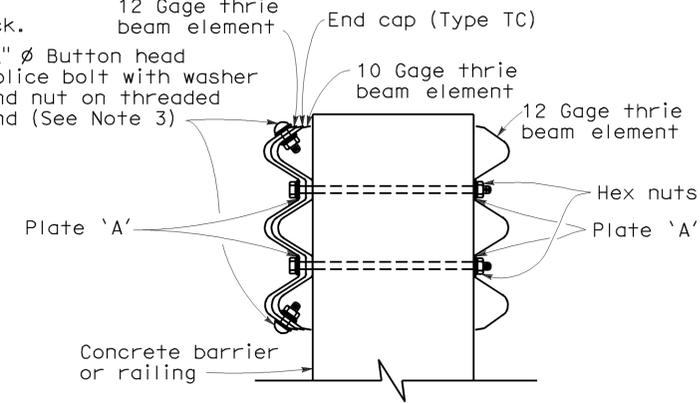
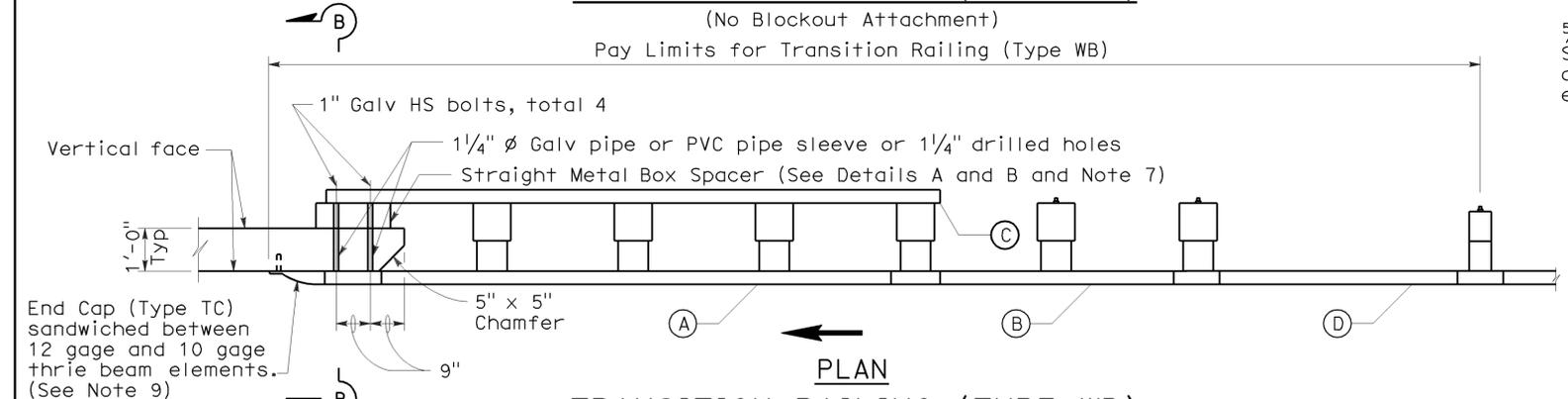
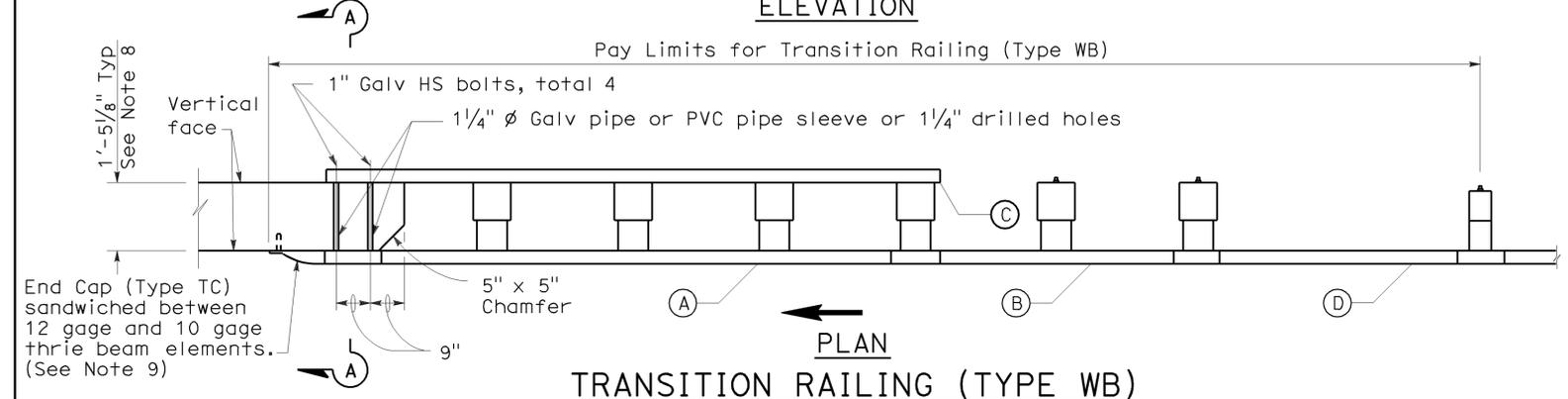
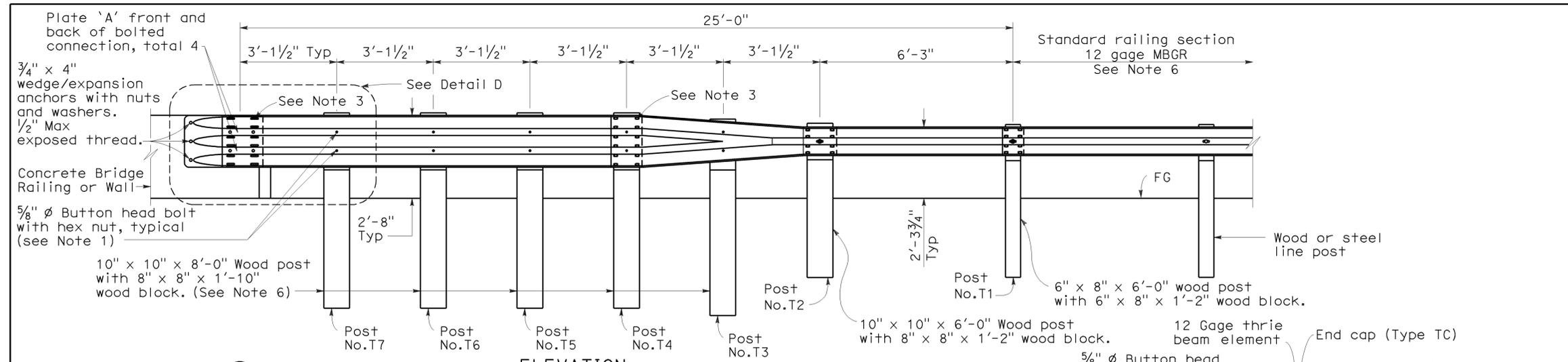
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	44	60

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

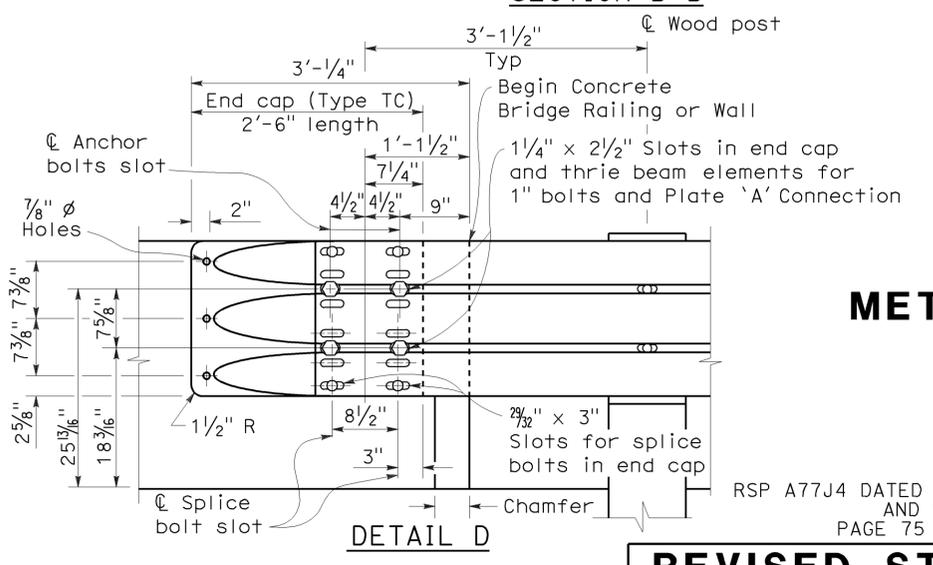
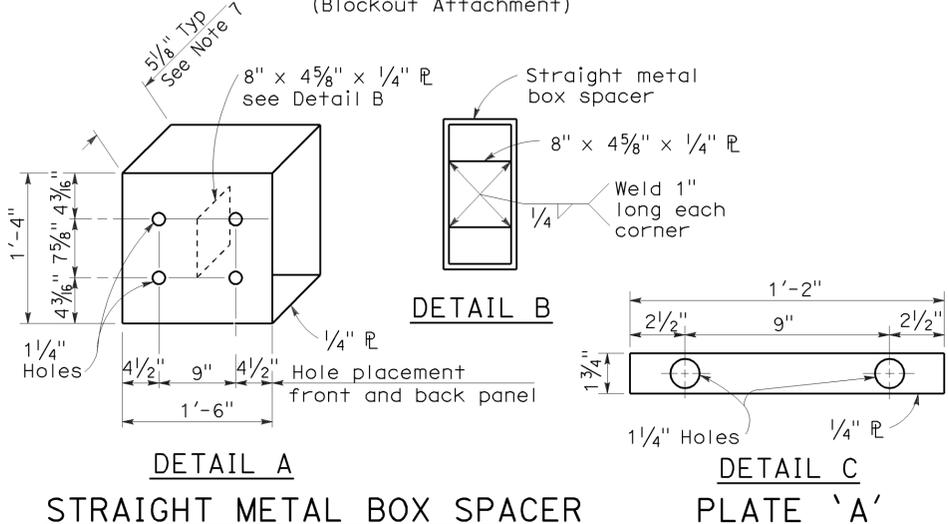
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA



- NOTES:** To accompany plans dated 3-23-11
- Use 5/8 " ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 - The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 - Exterior splice bolt holes for rail element splices at Post No.T4 and the connection to the concrete barrier or railing shall be the standard 29/32 " x 1 1/8 " slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4 " ϕ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No.T4 and the connection to the concrete barrier or railing.
 - Direction of adjacent traffic indicated by \rightarrow .
 - The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
 - Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No.T1.
 - The depth of the metal box spacer varies from the 5 1/8 " to 1 1/2 " and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8 ". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2 ", metal plates similar to Plate 'A' are to be used as spacers.
 - Where the width of the concrete railing or wall is greater than 17 1/8 ", wood blocks are to be used to fill the space created between the backside of Posts No.4 through No.7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 - End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

- LEGEND**
- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
 - (B) One 10 gage "W" beam to thrie beam element.
 - (C) One 12 gage thrie beam element.
 - (D) One 10 gage "W" beam rail element (7'-3 1/2" length)
- 10 gage = 0.135" thick
12 gage = 0.108" thick



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TRANSITION RAILING (TYPE WB)

NO SCALE

RSP A77J4 DATED JUNE 5, 2009 SUPERSEDES RSP A77J4 DATED JUNE 6, 2008
AND STANDARD PLAN A77J4 DATED MAY 1, 2006 -
PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J4

2006 REVISED STANDARD PLAN RSP A77J4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	45	60

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

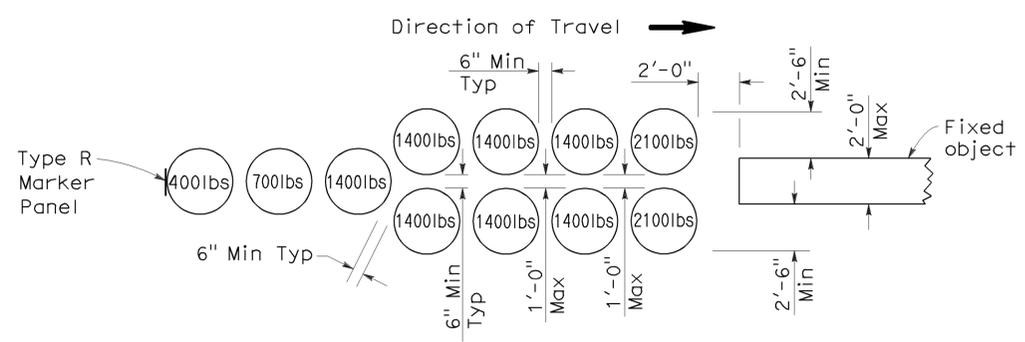
June 6, 2008
PLANS APPROVAL DATE

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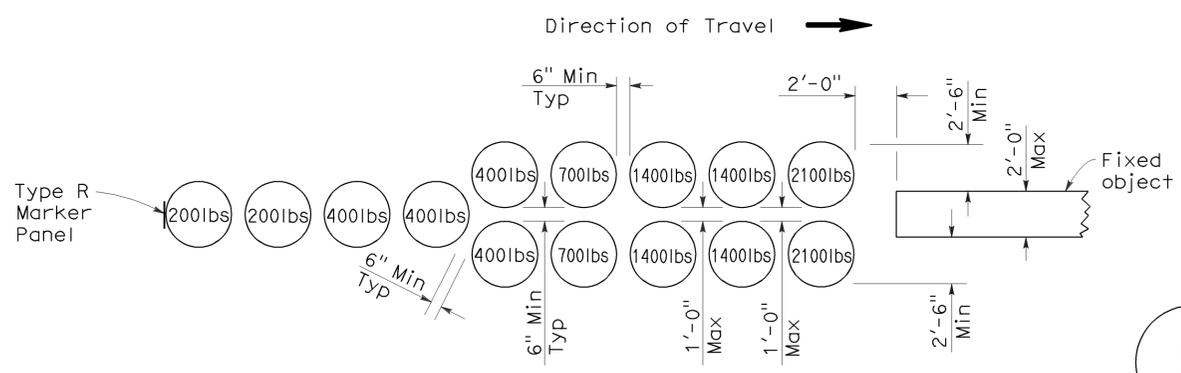
To accompany plans dated 3-23-11



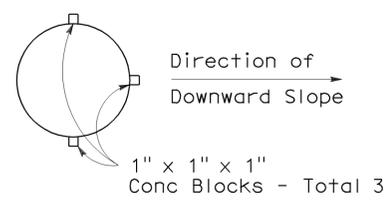
2006 REVISED STANDARD PLAN RSP A81A



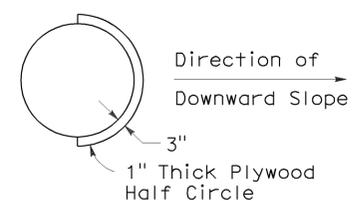
Direction of Travel →
ARRAY 'U11'
Approach speed less than 45 mph



Direction of Travel →
ARRAY 'U14'
Approach speed 45 mph or more

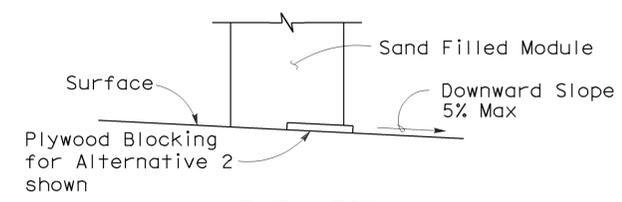


ALTERNATIVE 1

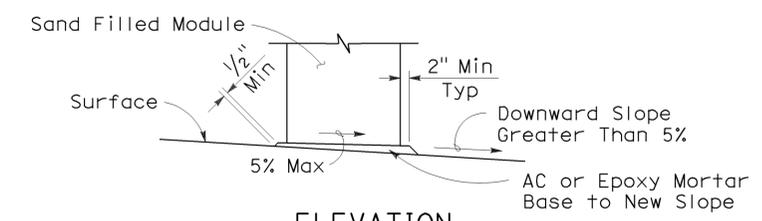


ALTERNATIVE 2

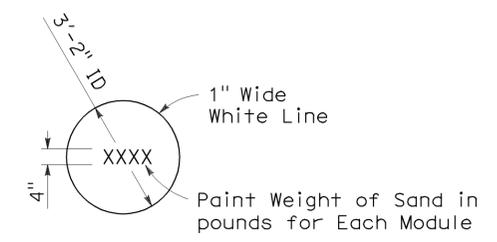
PLAN



ELEVATION
BRIDGE DECK MODULE BLOCKING DETAILS
(See Note 6)



ELEVATION
SLOPED SEAT DETAIL
(See Note 4)



PAINTING DETAIL
(See Note 5)

NOTES:

- (xxx) Indicates module location and mass of sand in pounds for each module. Module spacing is based on the greater diameter of the modules.
- All sand weights are nominal.
- Each module is to contain amount of sand indicated, supported according to the manufacturer's instructions.
- Modules shall be placed on asphalt concrete, epoxy mortar or concrete surface. Modules to be placed on surfacing with greater than 5% downward slope shall be seated as shown.
- Mass of sand and outline of each module shall be painted on the surface at each module location.
- Module blocking, epoxied to the deck surface, is required for all modules placed on bridge decks. Two acceptable alternatives are shown. Other alternatives recommended by the manufacturer and approved by the Engineer will be accepted.
- Place the top of the Type R marker panel 1" below the module lid.
- Approach speeds indicated conform to NCHRP Report criteria.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

RSP A81A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A81A
DATED MAY 1, 2006 - PAGE 99 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A81A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lok, Men	29,175	Var	46	60

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

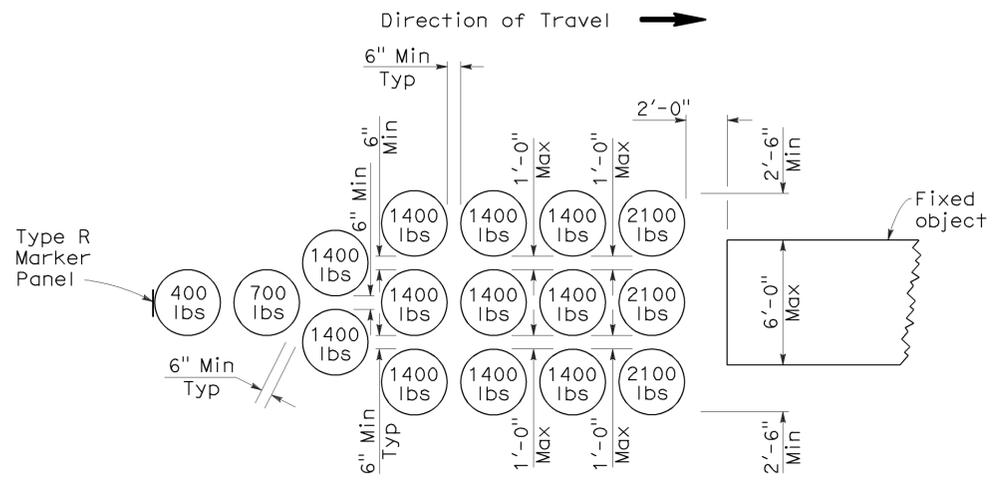
June 6, 2008
PLANS APPROVAL DATE

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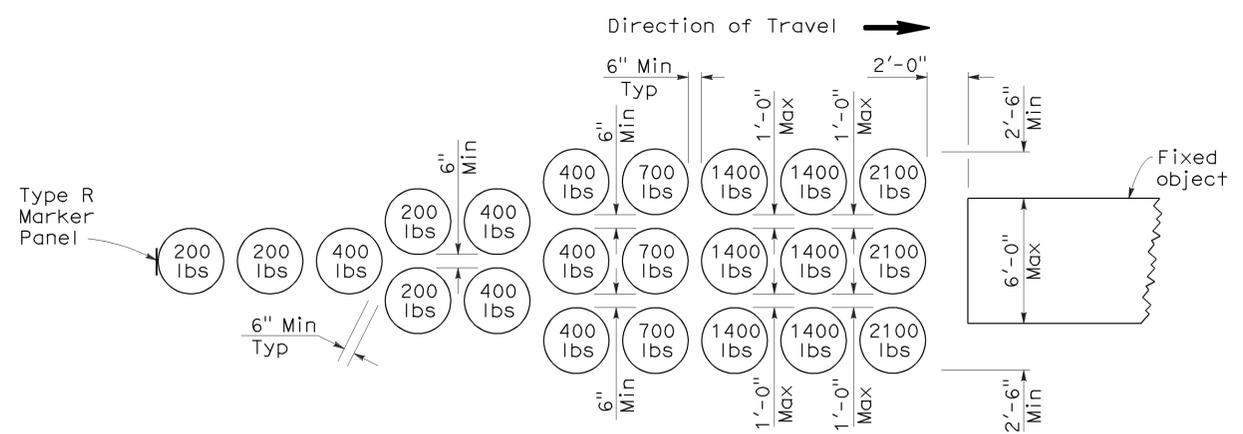
To accompany plans dated 3-23-11

NOTES:

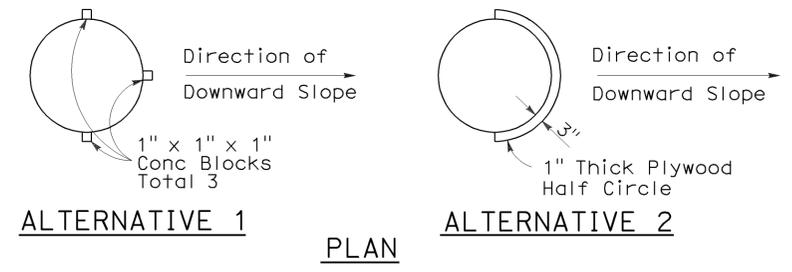
1. (XXX) Indicates module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the modules.
2. All sand weights are nominal.
3. Each module is to contain amount of sand indicated, supported according to the manufacturer's instructions.
4. Modules shall be placed on asphalt concrete, epoxy mortar or concrete surface. Modules to be placed on surfacing with greater than 5% downward slope shall be seated as shown.
5. Mass of sand and outline of each module shall be painted on the surface at each module location.
6. Module blocking, epoxied to the deck surface, is required for all modules placed on bridge decks. Two acceptable alternatives are shown. Other alternatives recommended by the manufacturer and approved by the Engineer will be accepted.
7. Place the top of the Type R marker panel 1" below the module lid.
8. Approach speeds indicated conform to NCHRP Report criteria.



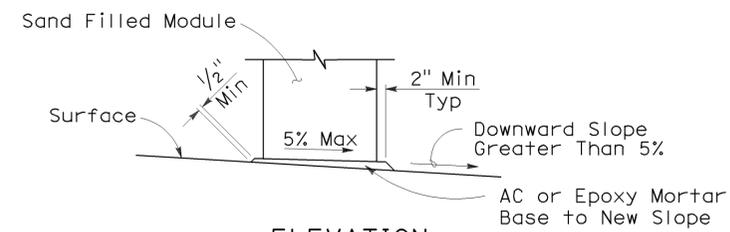
ARRAY 'U16'
Approach speed less than 45 mph



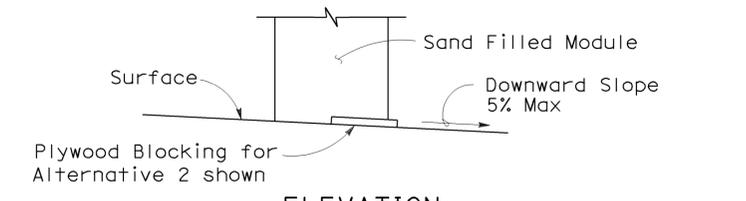
ARRAY 'U21'
Approach speed 45 mph or more



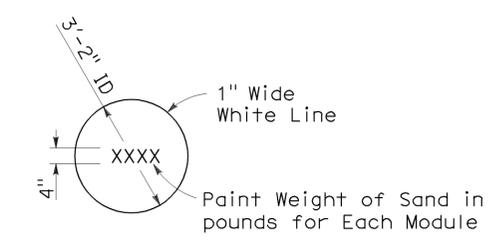
ALTERNATIVE 1 **ALTERNATIVE 2**
PLAN



ELEVATION
SLOPED SEAT DETAIL
(See Note 4)



ELEVATION
BRIDGE DECK MODULE BLOCKING DETAILS
(See Note 6)



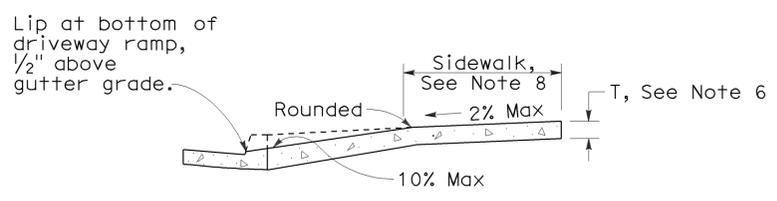
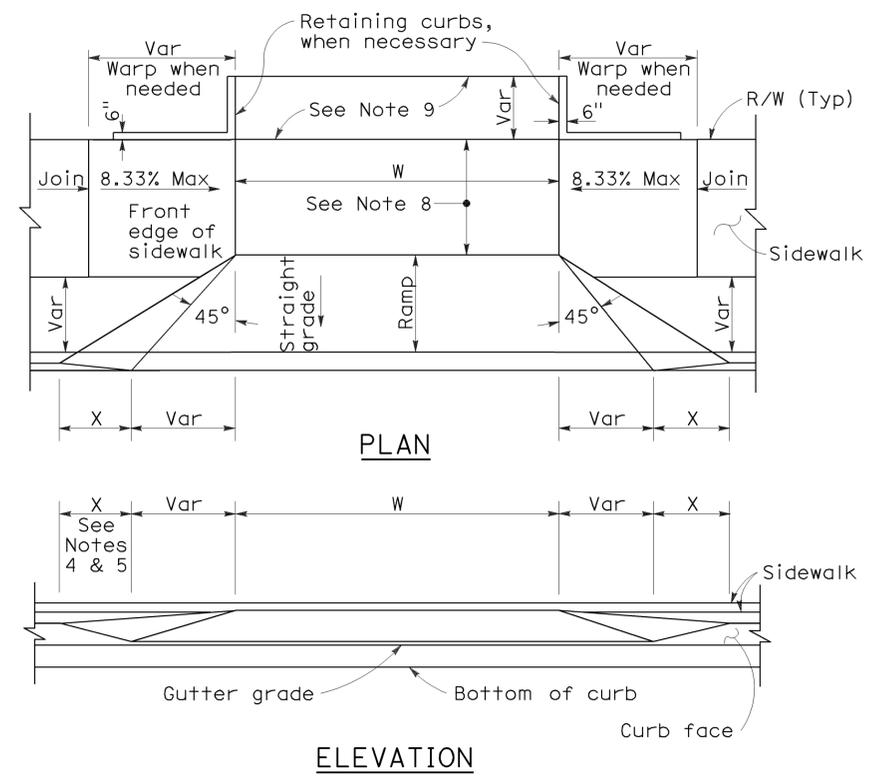
PAINTING DETAIL
(See Note 5)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**
NO SCALE

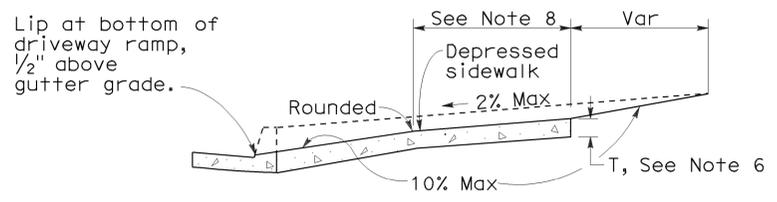
RSP A81B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A81B
DATED MAY 1, 2006 - PAGE 100 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A81B

2006 REVISED STANDARD PLAN RSP A81B



CASE A
Typical driveway, sidewalk not depressed



CASE B
Driveway with depressed sidewalk

SECTIONS

CURB QUANTITIES

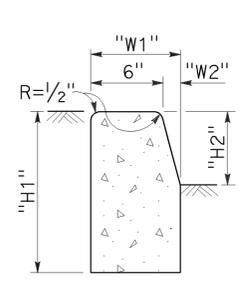
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

TABLE A

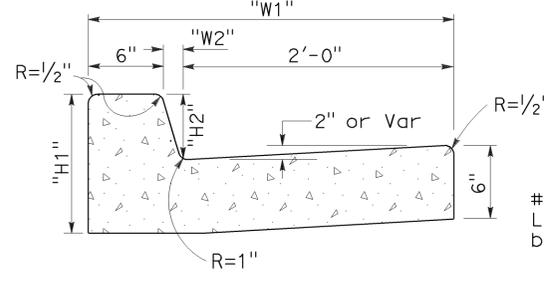
CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8 1/2"	3 1/2"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-8"

To accompany plans dated 3-23-11

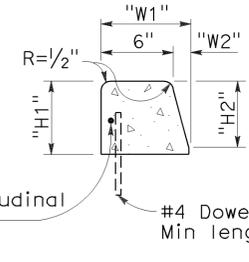
DRIVEWAYS



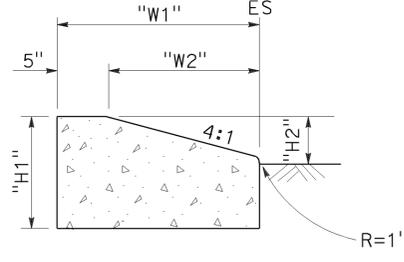
TYPE A1 CURBS
See Table A



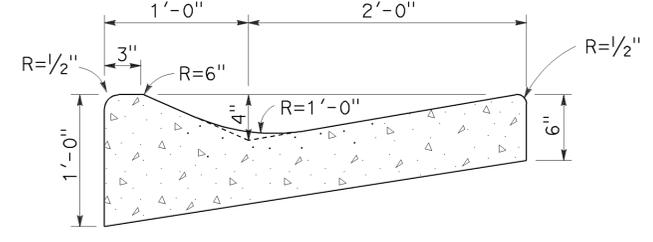
TYPE A2 CURBS
See Table A



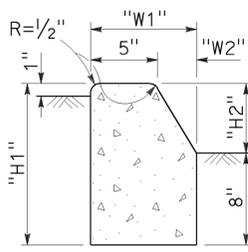
TYPE A3 CURBS
Superimposed on existing pavement
See Table A



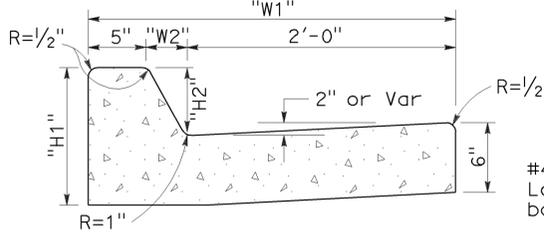
TYPE D CURBS
See Table A



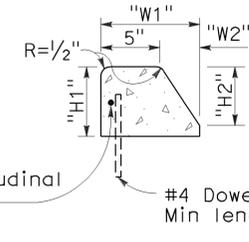
TYPE E CURB



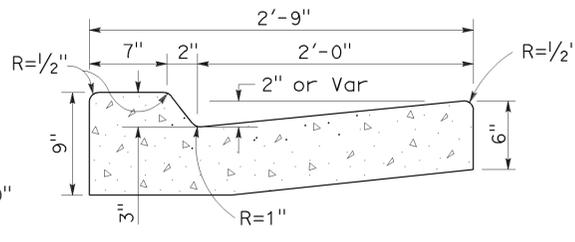
TYPE B1 CURBS
See Table A



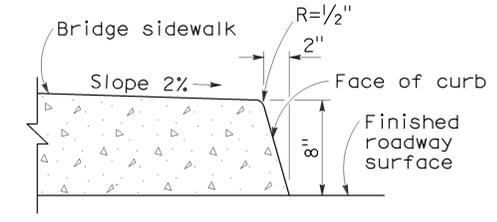
TYPE B2 CURBS
See Table A



TYPE B3 CURBS
Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB
On Bridges

CURBS

NOTES:

- Case A driveway section typically applies.
- Use Case B driveway section when ramp slopes would exceed 10% in Case A.
- Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
- X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
- X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
- Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
- Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
- Minimum width of clear passageway for sidewalk shall be 4'-0".
- Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
- Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

RSP A87A DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A87A
DATED MAY 1, 2006 - PAGE 113 OF THE STANDARD PLANS BOOK DATED MAY 2006.

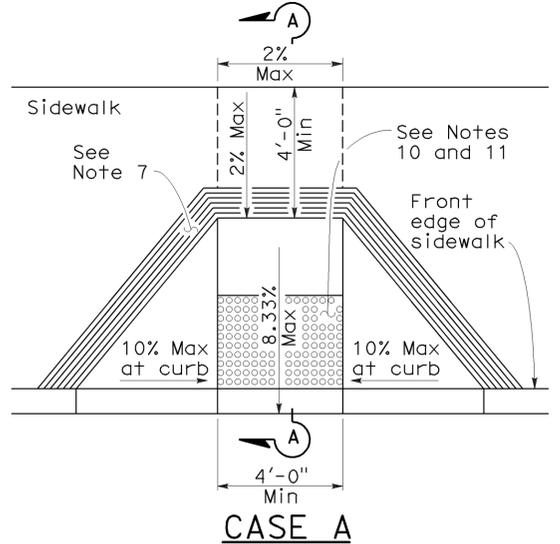
REVISED STANDARD PLAN RSP A87A

2006 REVISED STANDARD PLAN RSP A87A

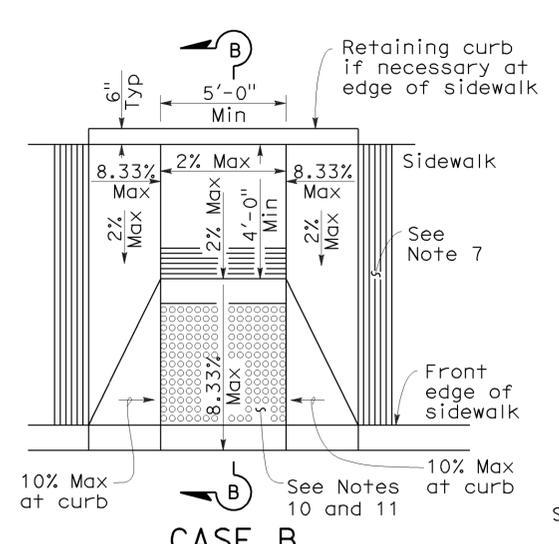
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	48	60

H. David Cordova
 REGISTERED CIVIL ENGINEER
 September 1, 2006
 PLANS APPROVAL DATE
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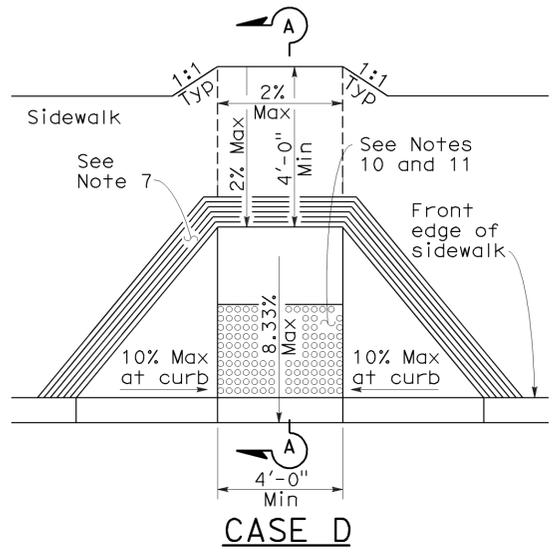
REGISTERED PROFESSIONAL ENGINEER
 Hector David Cordova
 No. C41957
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA



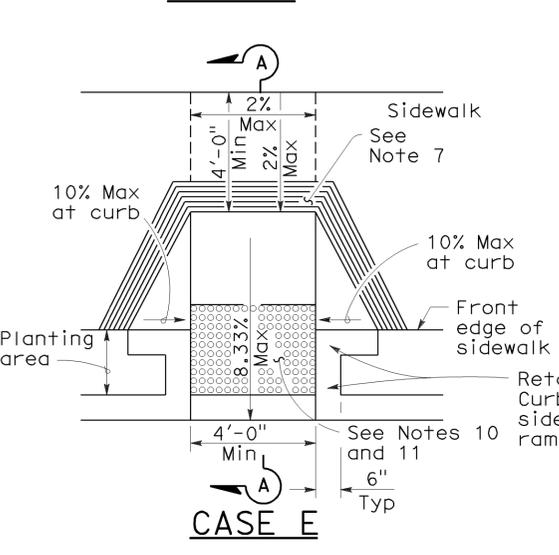
CASE A



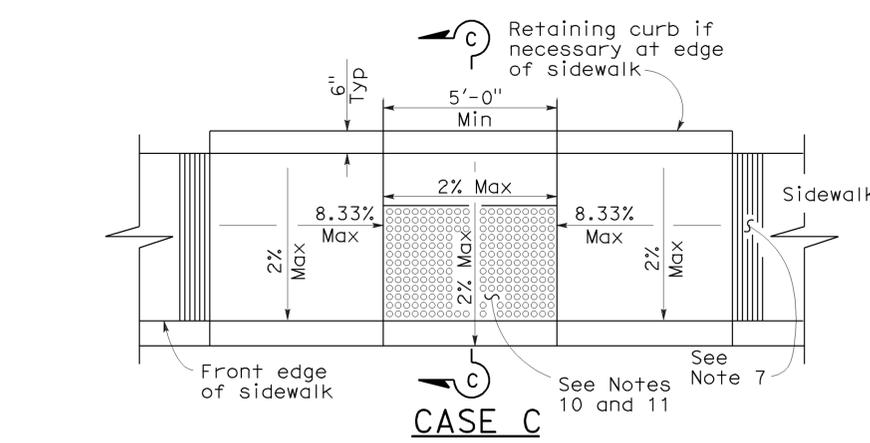
CASE B



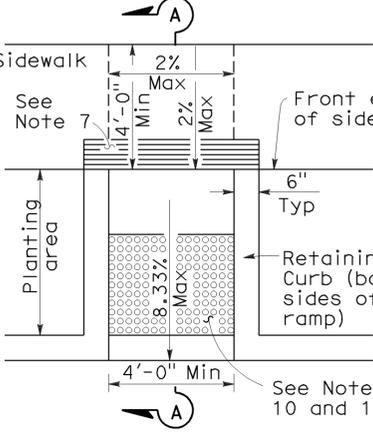
CASE D



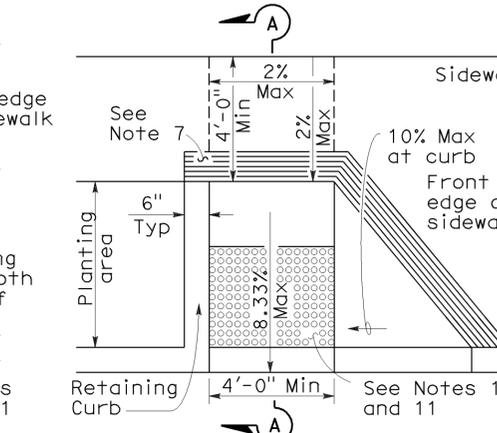
CASE E



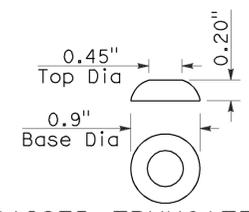
CASE C



CASE F



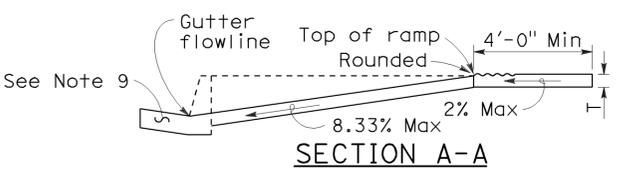
CASE G



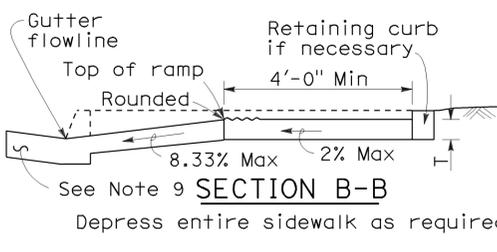
RAISED TRUNCATED DOME

NOTES:

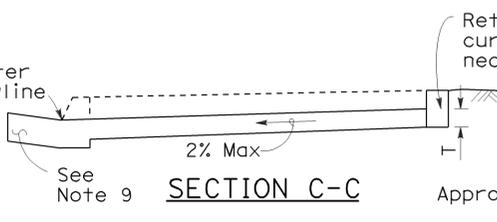
- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
- If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-0" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
- When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
- As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
- If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-0".
- Side slope of ramp flares vary uniformly from a maximum of 10% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
- The curb ramp shall be outlined, as shown, with a 1'-0" wide border with 1/4" grooves approximately 3/4" on center. See grooving detail.
- Transitions from ramps and landing to walks, gutters or streets shall be flush and free of abrupt changes.
- Maximum slopes of adjoining gutters, the road surface immediately adjacent to the curb ramp or accessible route shall not exceed 5 percent within 4'-0" of the top and bottom of the curb ramp.
- Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Special Provisions.
- The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
- Sidewalk and ramp thickness, "T", shall be 3/2" minimum.
- Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
- For retrofit conditions, removal and replacement of curb apron will be at the Contractor's option, unless otherwise shown on project plans.



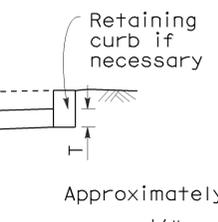
SECTION A-A



SECTION B-B



SECTION C-C



GROOVING DETAIL

1.67" to 2.35"
Center to
center spacing

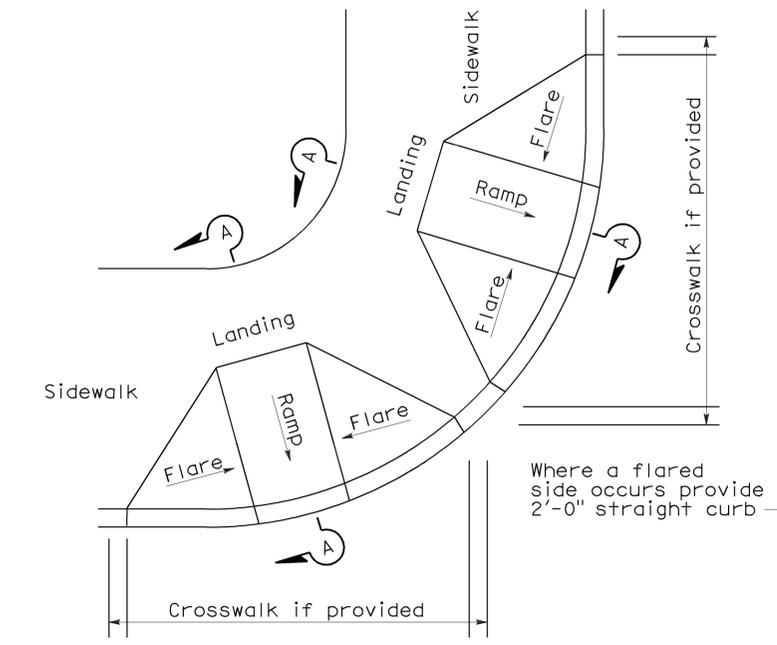
**RAISED TRUNCATED DOME PATTERN (IN-LINE)
DETECTABLE WARNING SURFACE**

See Note 10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

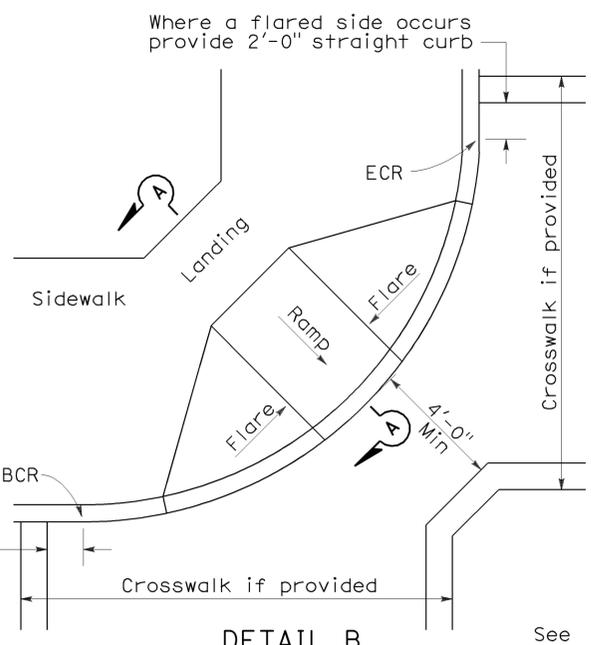
NO SCALE



DETAIL A

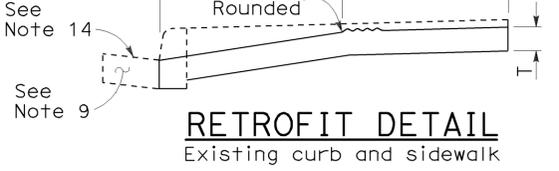
TYPICAL TWO-RAMP CORNER INSTALLATION

See Note 1



**DETAIL B
TYPICAL ONE-RAMP
CORNER INSTALLATION**

See Notes 1 and 3



RETROFIT DETAIL

Existing curb and sidewalk

RSP A88A DATED SEPTEMBER 1, 2006 SUPERSEDES STANDARD PLAN A88A
DATED MAY 1, 2006 - PAGE 115 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A88A

2006 REVISED STANDARD PLAN RSP A88A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	49	60

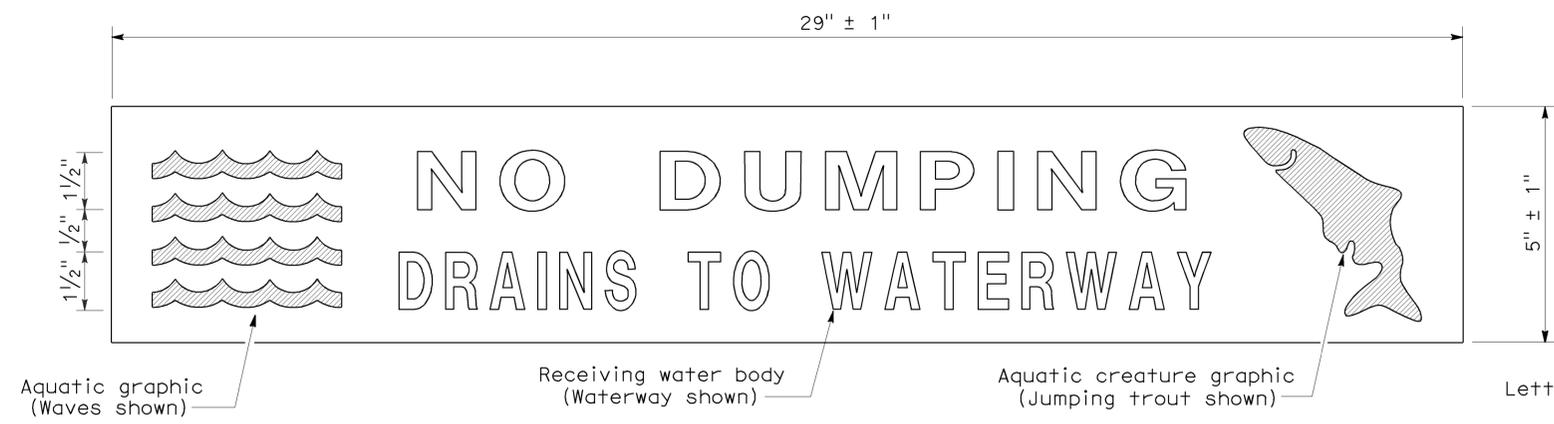
Robert B. Schott
LICENSED LANDSCAPE ARCHITECT

April 3, 2009
PLANS APPROVAL DATE

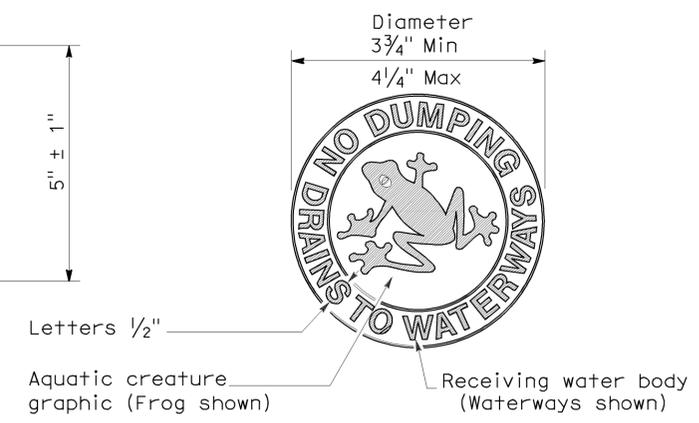
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STATE OF CALIFORNIA
LICENSED LANDSCAPE ARCHITECT
Robert B. Schott
11-30-10
2-25-09
DATE

To accompany plans dated 3-23-11



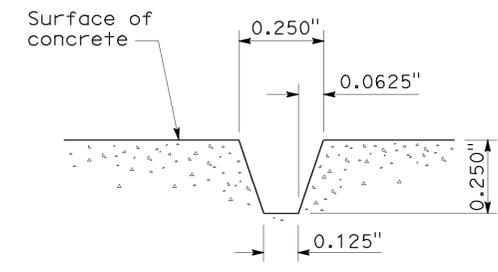
PLAN
DRAINAGE INLET MARKER
(PREFABRICATED THERMOPLASTIC)



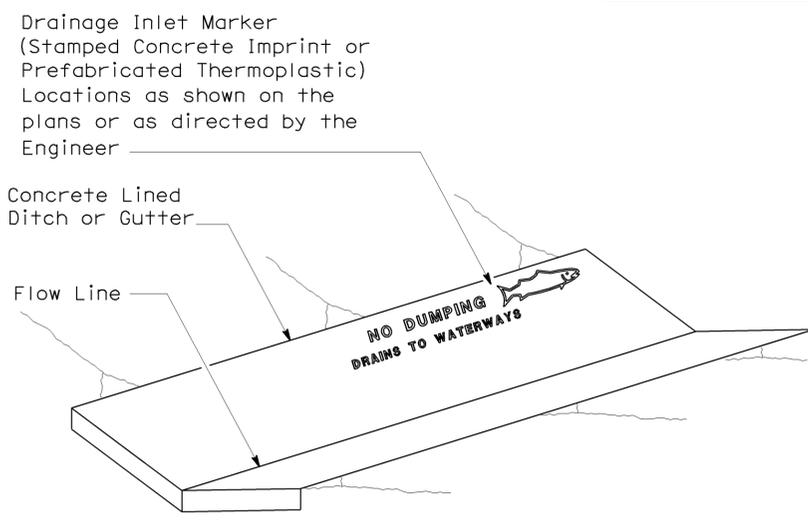
PLAN
DRAINAGE INLET MARKER
(MEDALLION)



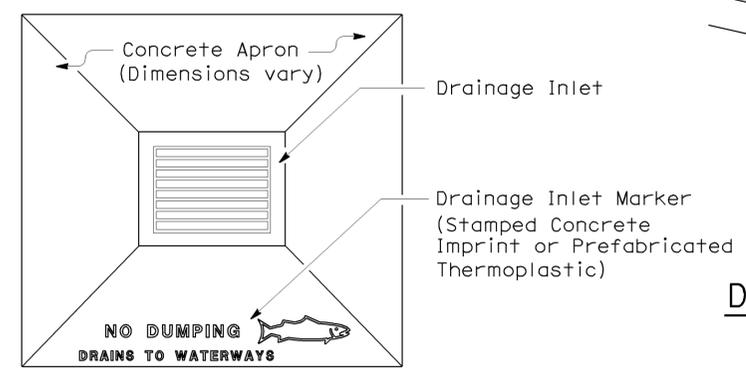
PLAN
DRAINAGE INLET MARKER
(STAMPED CONCRETE IMPRINT)



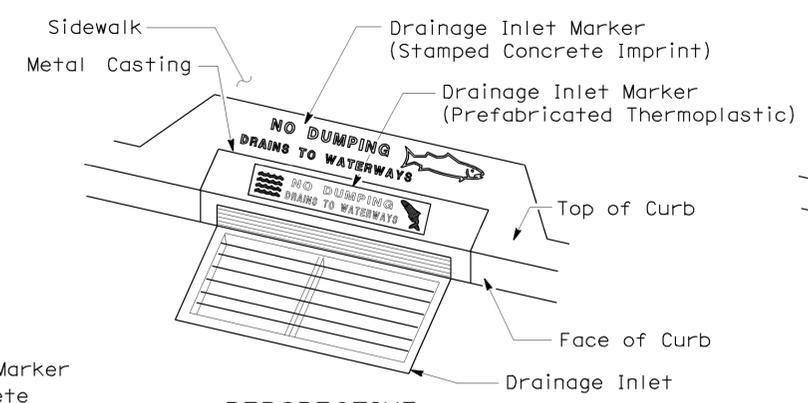
SECTION A-A
STAMPED CONCRETE
IMPRINT DETAIL



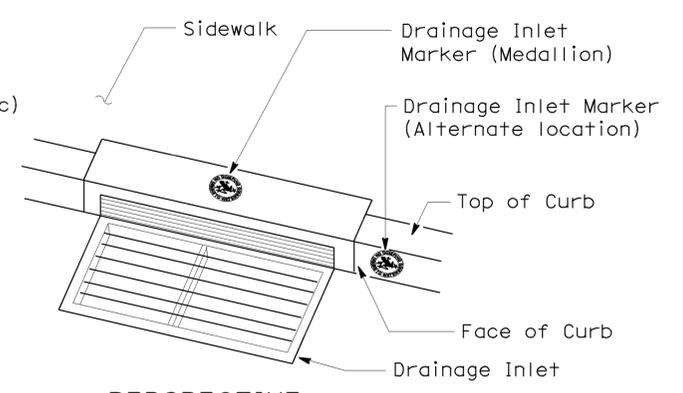
PERSPECTIVE
DRAINAGE INLET MARKER ON
CONCRETE LINED DITCH



PLAN
DRAINAGE INLET MARKER ON
DRAINAGE INLET APRON



PERSPECTIVE
DRAINAGE INLET MARKER ON
DRAINAGE INLET



PERSPECTIVE
DRAINAGE INLET MARKER (MEDALLION)
ON DRAINAGE INLET

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DRAINAGE INLET MARKERS
NO SCALE
NSP D71 DATED APRIL 3, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	50	60

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

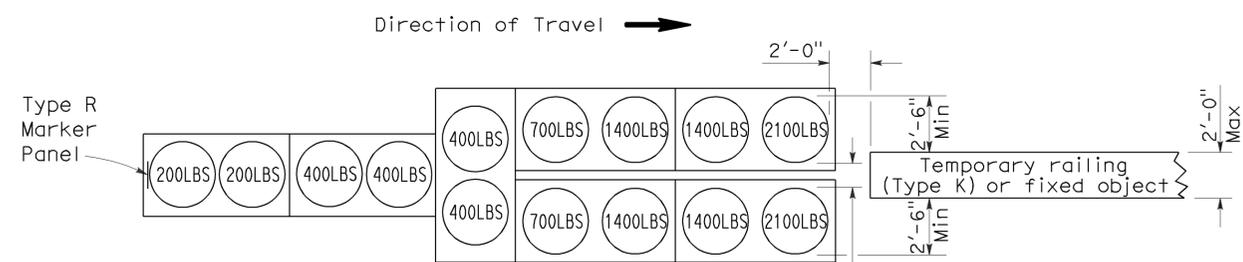
June 6, 2008
PLANS APPROVAL DATE

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

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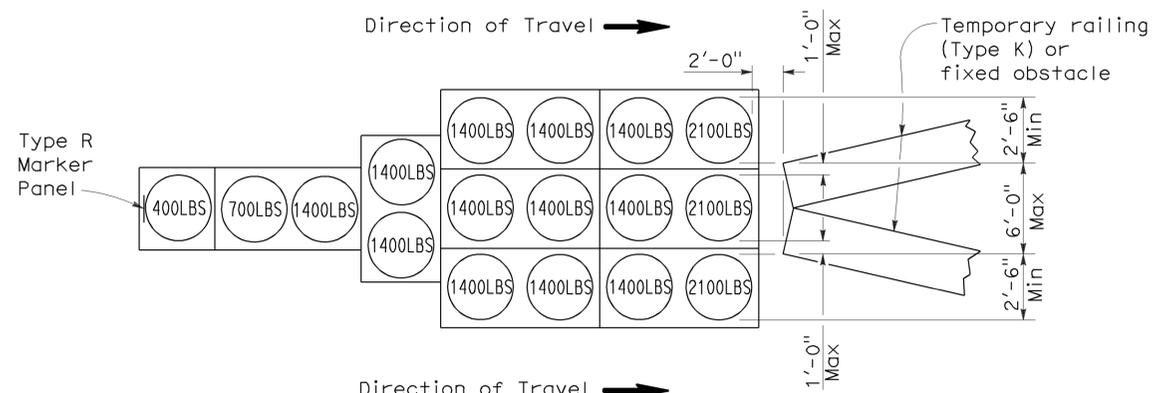
To accompany plans dated 3-23-11

2006 REVISED STANDARD PLAN RSP T1A



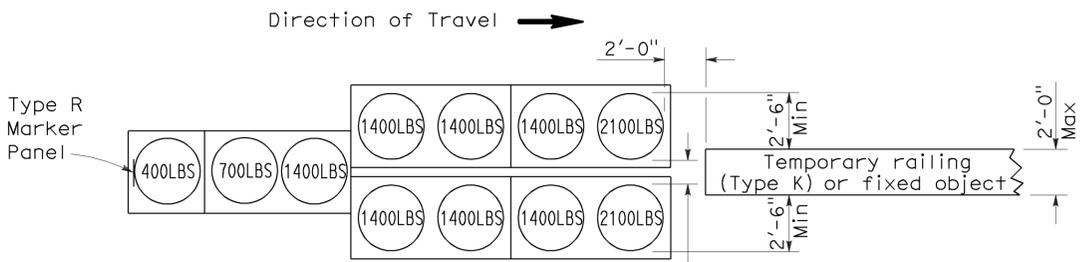
ARRAY 'TU14'

Approach speed 45 mph or more



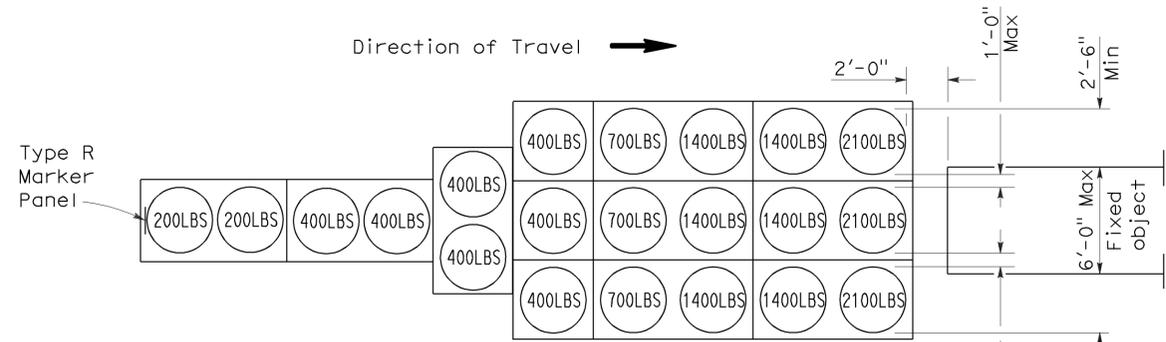
ARRAY 'TU17'

Approach speed less than 45 mph



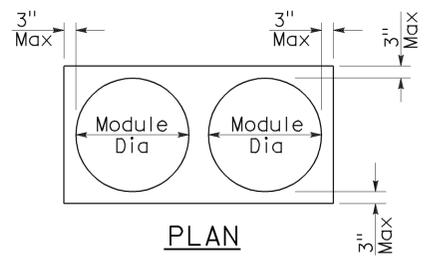
ARRAY 'TU11'

Approach speed less than 45 mph

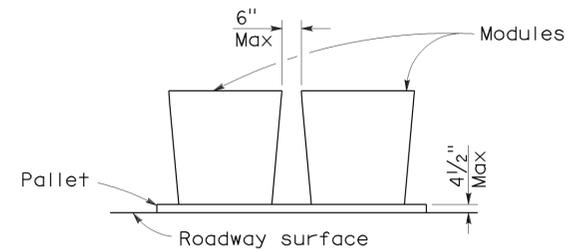


ARRAY 'TU21'

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	51	60

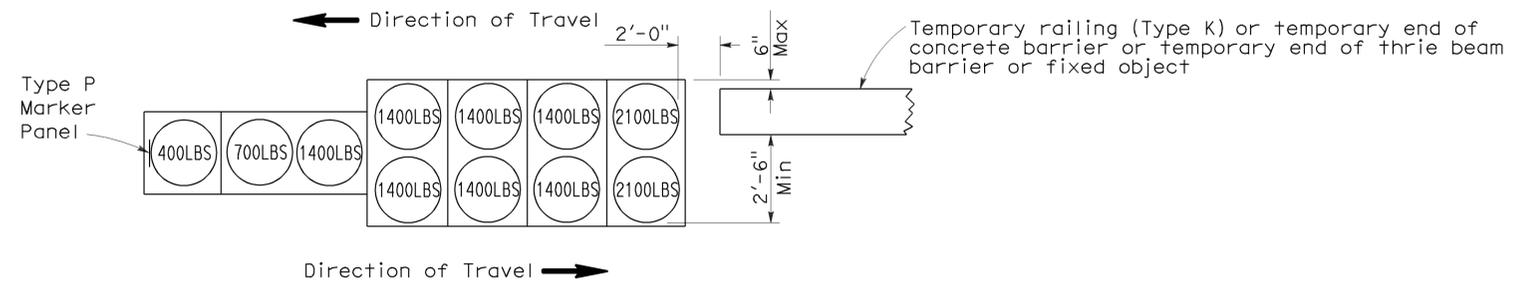
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

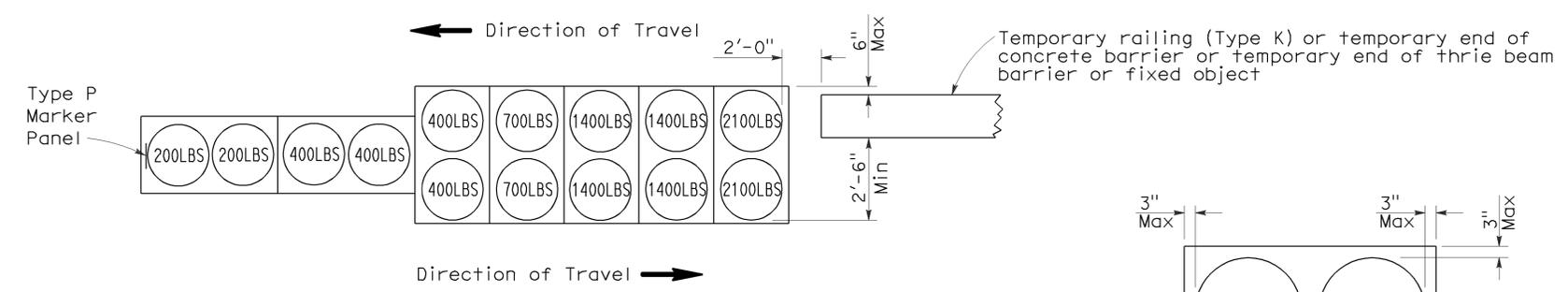
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

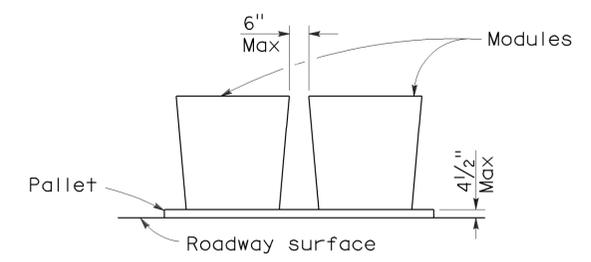
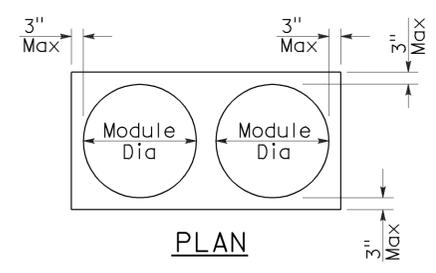
To accompany plans dated 3-23-11



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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	52	60

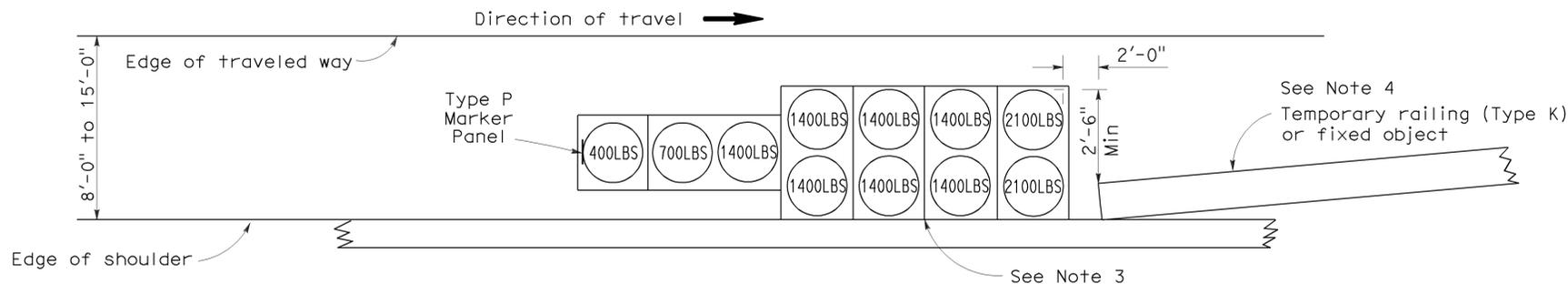
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

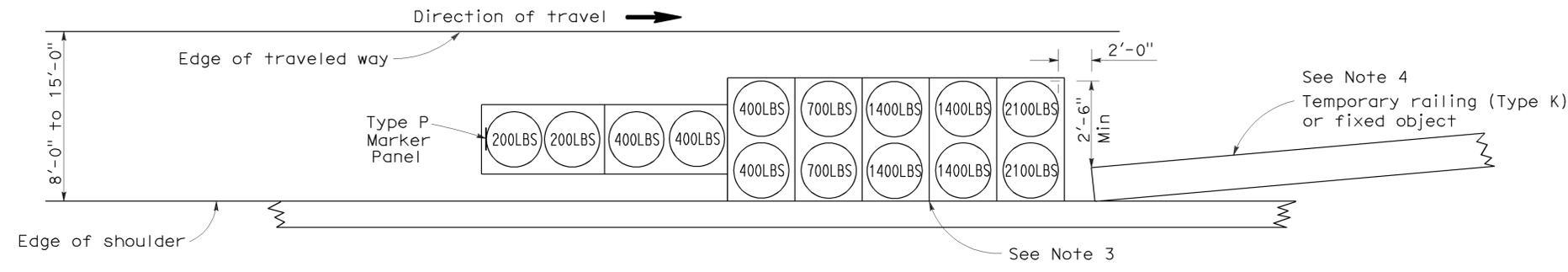
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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To accompany plans dated 3-23-11



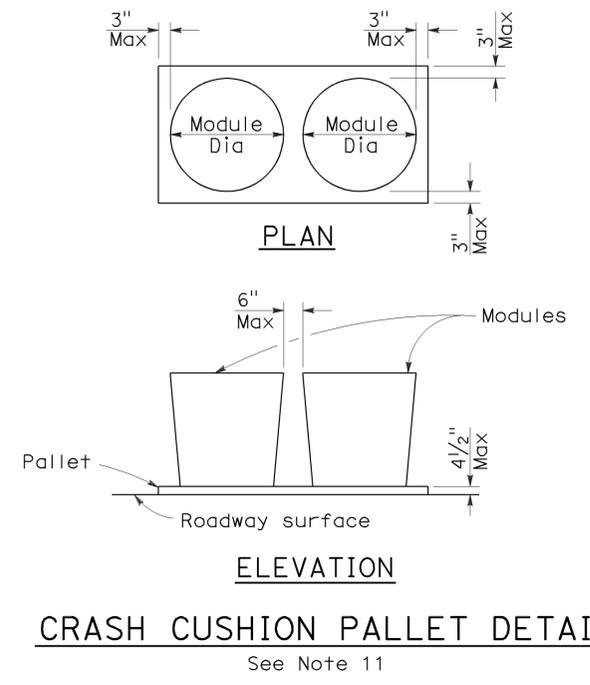
ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



ARRAY 'TS14'
Approach speed 45 mph or more
See Note 9

NOTES:

- (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.
- All sand weights are nominal.
- 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.
- 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.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
- Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
- Refer to Standard Plan A73B for marker details.
- 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.
- Approach speeds indicated conform to NCHRP 350 Report criteria.
- 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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	53	60

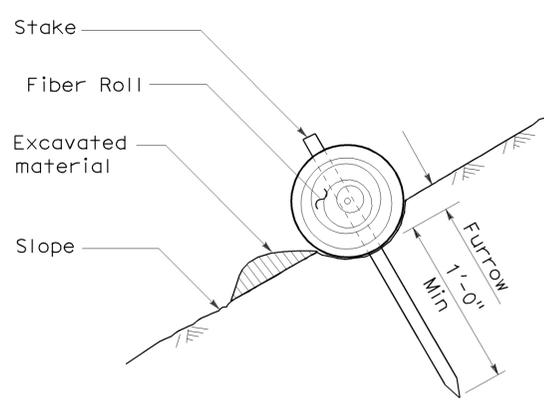
Robert B. Schott
LICENSED LANDSCAPE ARCHITECT

April 3, 2009
PLANS APPROVAL DATE

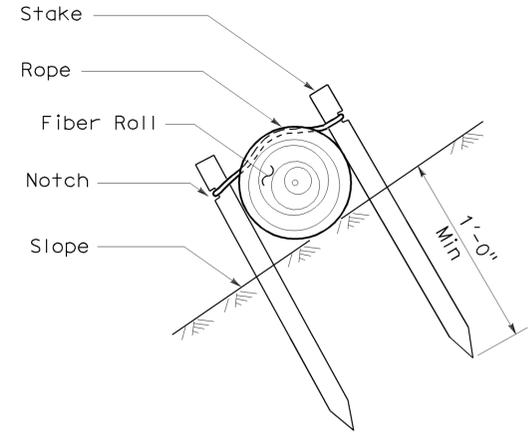
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STATE OF CALIFORNIA
LICENSED LANDSCAPE ARCHITECT
Robert B. Schott
11-30-10
2-25-09
date

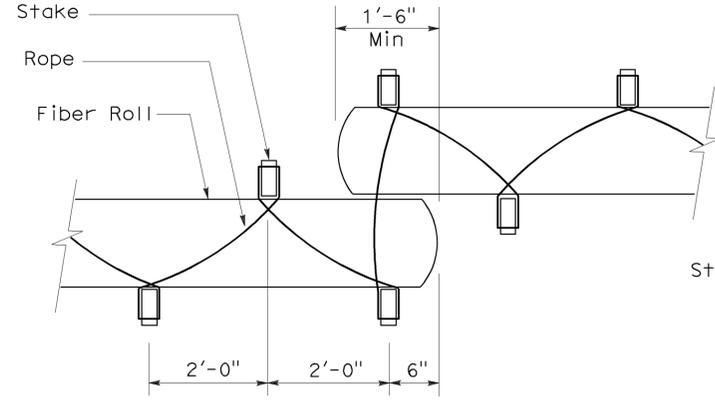
To accompany plans dated 3-23-11



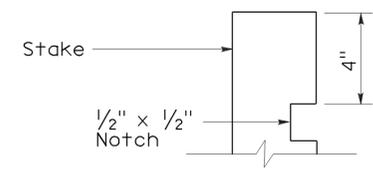
SECTION
TEMPORARY FIBER ROLL (TYPE 1)



SECTION
TEMPORARY FIBER ROLL (TYPE 2)

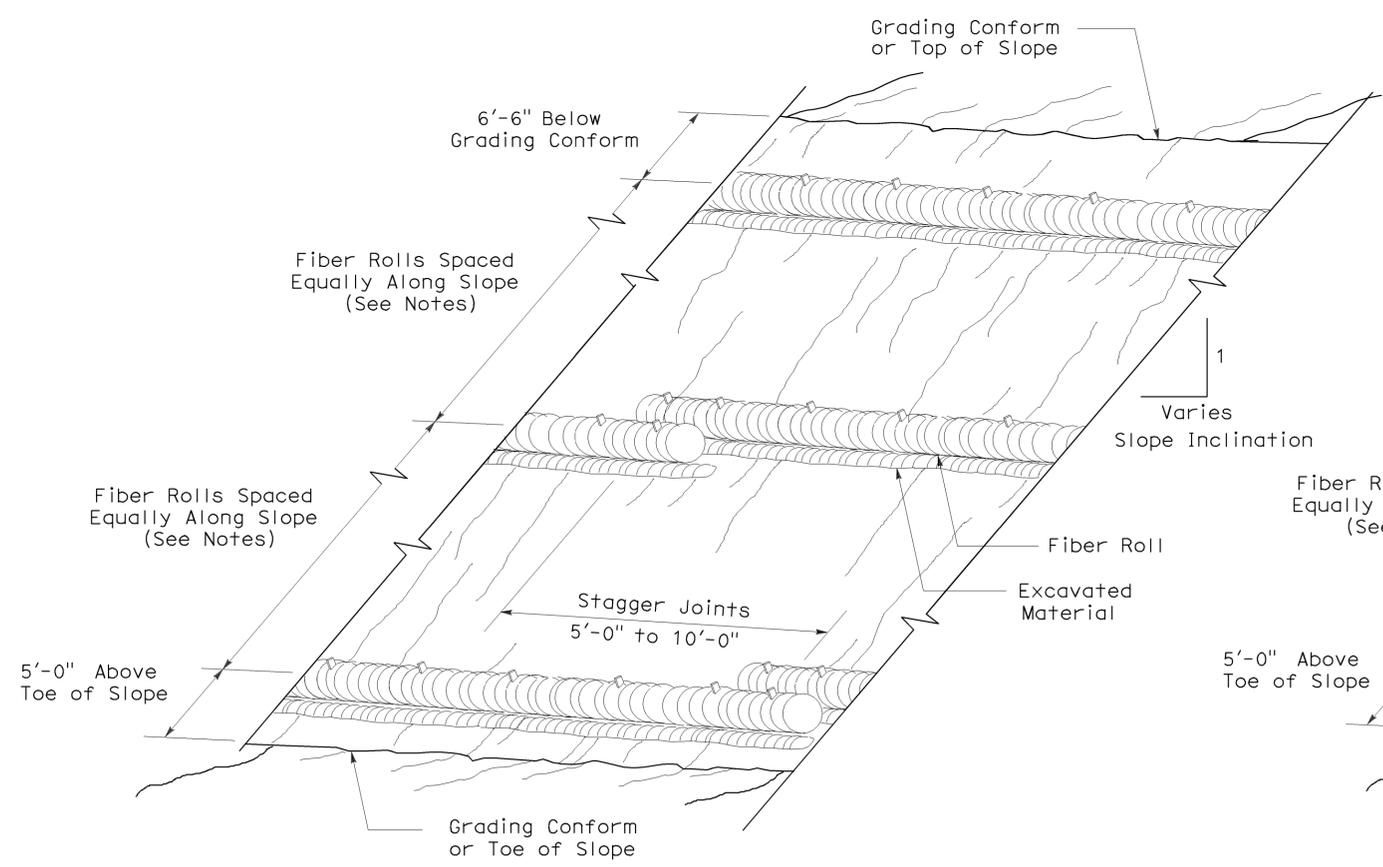


PLAN

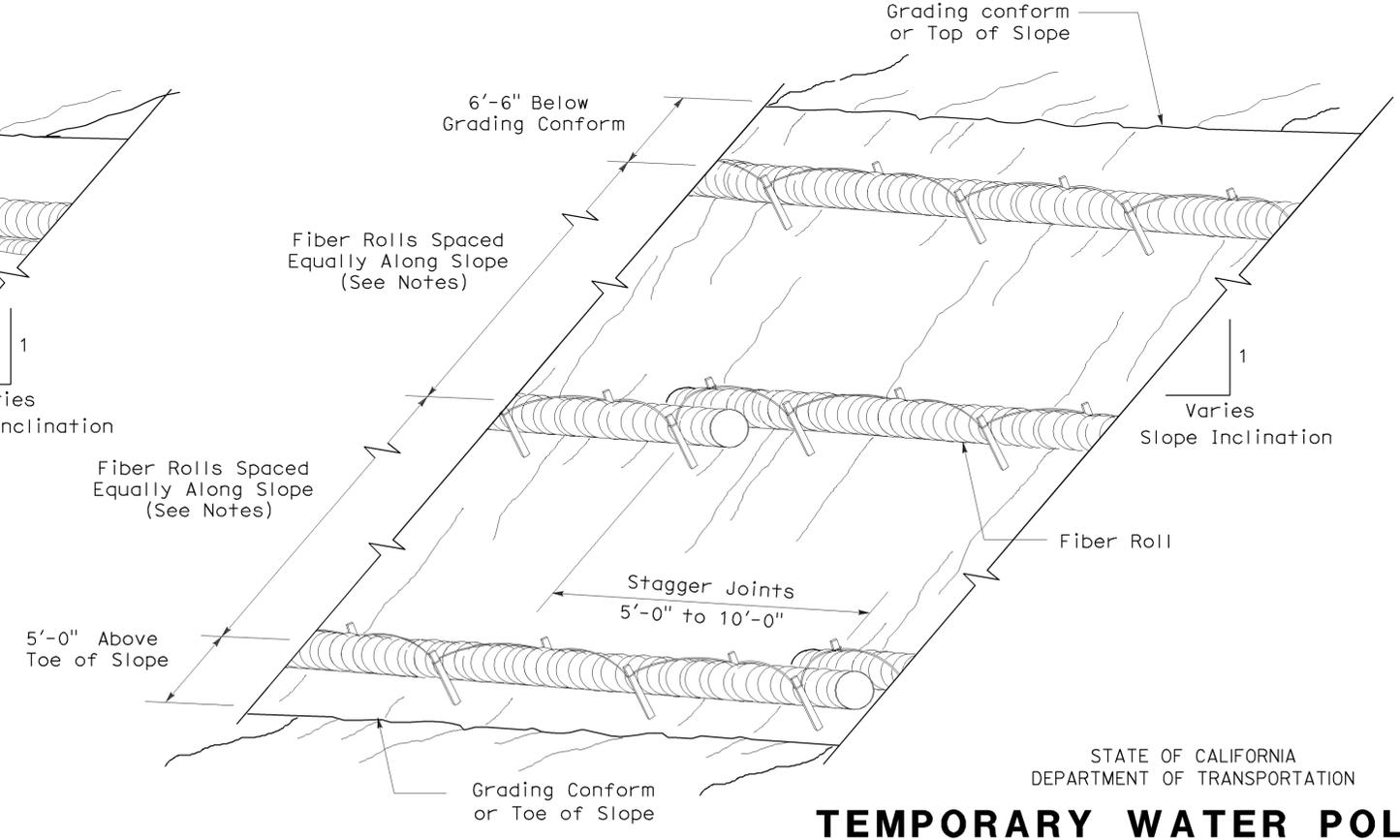


ELEVATION
STAKE NOTCH DETAIL

- NOTES:**
1. Temporary fiber roll spacing varies depending upon slope inclination.
 2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)

NO SCALE

RSP T56 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN T56 DATED MAY 1, 2006 - PAGE 232 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T56

232

2006 REVISED STANDARD PLAN RSP T56

ELECTROLIERS

STANDARD TYPES		
15, 15D		High mast light pole
15 STRUCTURE		Double Arm lighting standard
21, 21D STRUCTURE		Existing electrolier
30		Electrolier foundation (Future installation)
31	NOTES:	
32	1. Luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31, 32, 35 and 36-20A Standards, unless otherwise specified. Luminaires shall be 200 W HPS when installed on other type standards or poles, unless otherwise specified.	
35	2. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.	
36-20A	3. Variations noted adjacent to symbol on project plans.	

- Electrolier (see project notes or project plans)
- Luminaire on wood pole

STANDARD NOTES:

- AB** Abandon. If applied to conduit, remove conductors.
- BC** Install pull box in existing conduit run.
- BP** Pedestrian barricade, type as indicated on plan.
- CB** Install conduit into existing pull box.
- CC** Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
- CF** Conduit to remain for future use. Remove conductors. Install pull wire or rope.
- DH** Detector handhole.
- FA** Foundation to be abandoned.
- IS** Install sign on signal mast arm.
- NS** No slip base on standard.
- PEC** Photoelectric control.
- PEU** Photoelectric unit.
- RC** Equipment or material to be removed and become the property of the Contractor.
- RE** Remove electrolier, fuses and ballast. Tape ends of conductors.
- RL** Relocate equipment.
- RR** Remove and reuse equipment.
- RS** Remove and salvage equipment.
- SC** Splice new to existing conductors.
- SD** Service disconnect.
- SF** Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
- TSP** Telephone service point.

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbs	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	GFCI	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISNS	iisns	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4B	mas-4B	
MAS-4C	mas-4C	
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL		Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	54	60

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

Jeffery G. McRae
No. E14512
Exp. 6-30-08
ELECTRICAL
STATE OF CALIFORNIA

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To accompany plans dated 3-23-11

SOFFIT AND WALL MOUNTED LUMINAIRES

- Pendant, 70 W HPS unless otherwise specified.
- Flush, 70 W HPS unless otherwise specified.
- Wall surface, 70 W HPS unless otherwise specified.
- Existing soffit or wall luminaire to remain unmodified.
- Existing soffit or wall luminaire to be modified as specified.

NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SYMBOLS AND ABBREVIATIONS)**

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A
DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	55	60

REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 3-23-11

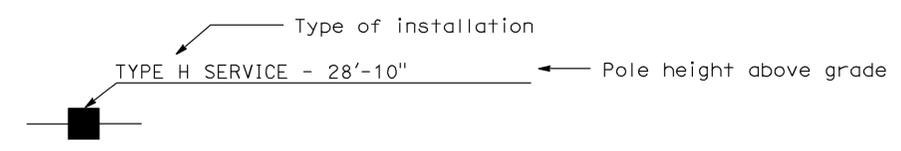
CONDUIT

PROPOSED	EXISTING	
---	---	Lighting Conduit, unless otherwise indicated or noted
---	---	Traffic signal conduit
-C-	-c-	Communication conduit
-T-	-t-	Telephone conduit
-F-	-f-	Fire alarm conduit
-FO-	-fo-	Fiber optic conduit
---	---	Conduit termination
		Conduit riser in/on structure or service pole

SERVICE EQUIPMENT

PROPOSED	EXISTING	
---OH	---oh	Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy with anchor
		Utility transformer - ground mounted
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

PROPOSED	EXISTING	
		Overhead sign - Single post
		Overhead sign - Two post
		Overhead sign - Mounted on structure
		Overhead sign with electrolier

SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" indicates all non-arrow sections louvered "LG" indicates louvered green section only "PV" indicates 12" programmed visibility sections "8" indicates all 8" sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
		Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
		Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet

SIGNAL EQUIPMENT Cont

PROPOSED	EXISTING	
		Guard post
		Type 1 Standard with "Meter On" sign
		Emergency Vehicle detector

NOTES:

- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.
- Signal indication shall be LED.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SYMBOLS AND ABBREVIATIONS)**
 NO SCALE

RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

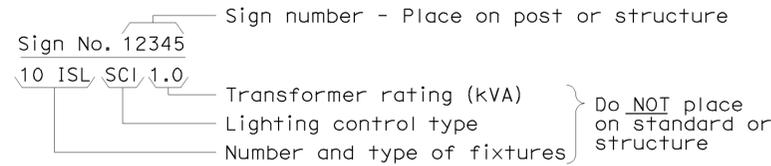
REVISED STANDARD PLAN RSP ES-1B

2006 REVISED STANDARD PLAN RSP ES-1B

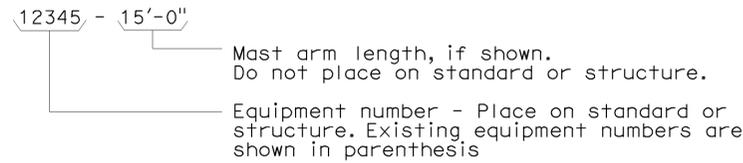
To accompany plans dated 3-23-11

EQUIPMENT IDENTIFICATION

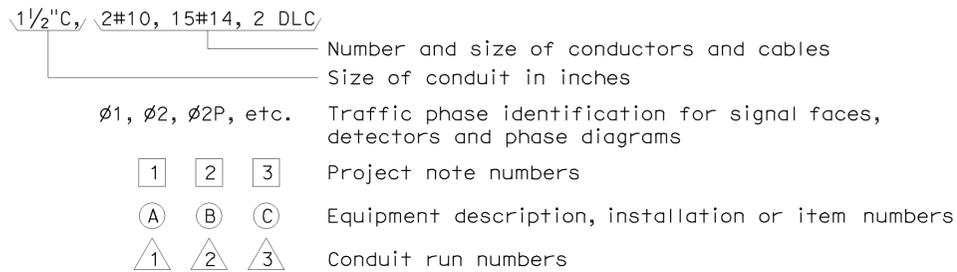
ILLUMINATED SIGN IDENTIFICATION NUMBER:



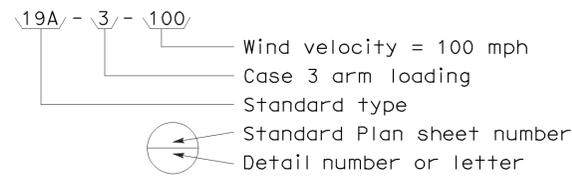
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



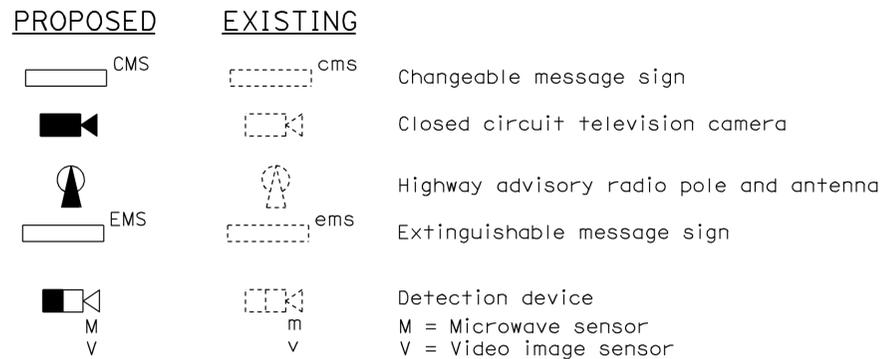
CONDUIT AND CONDUCTOR IDENTIFICATION:



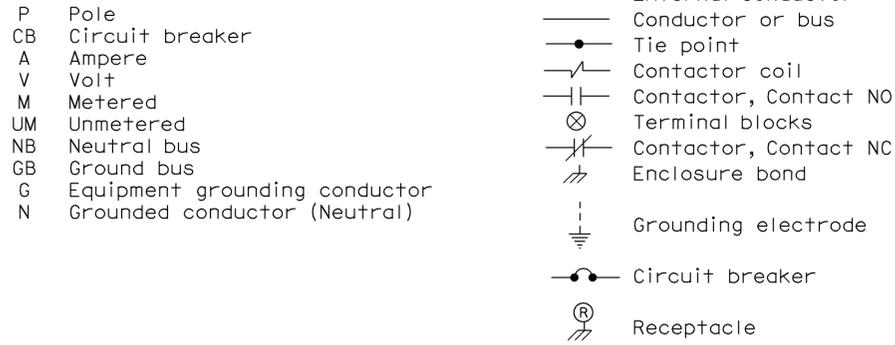
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



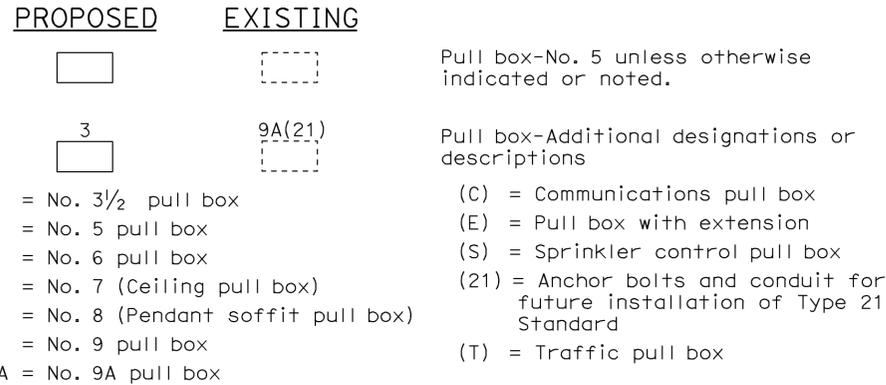
MISCELLANEOUS EQUIPMENT



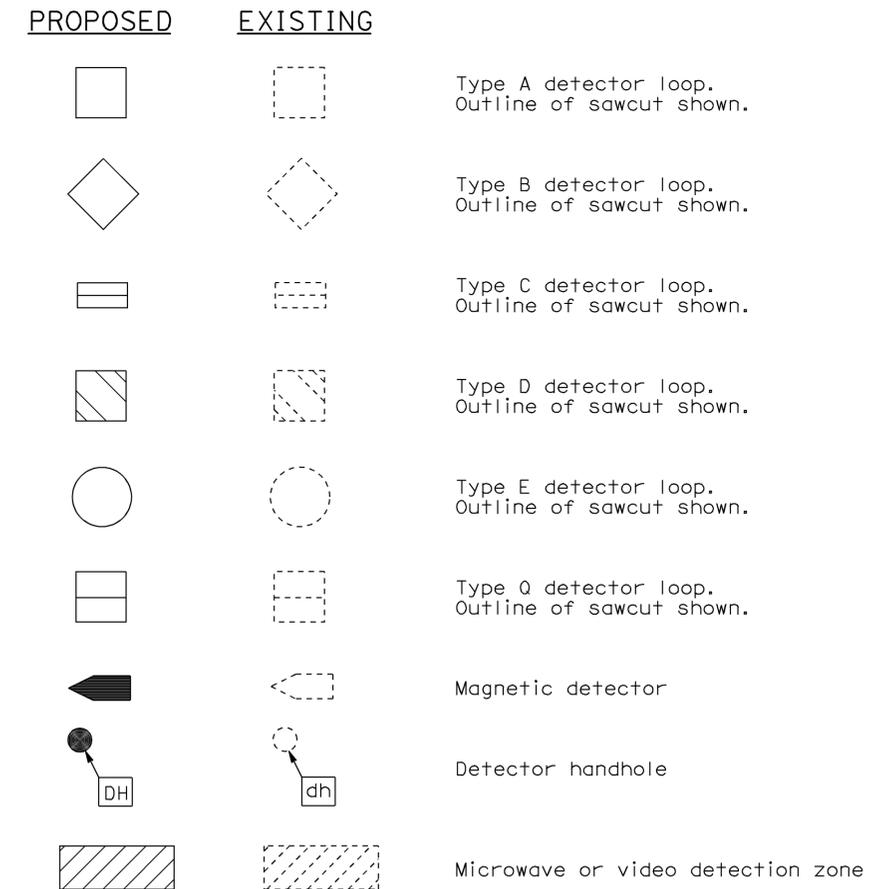
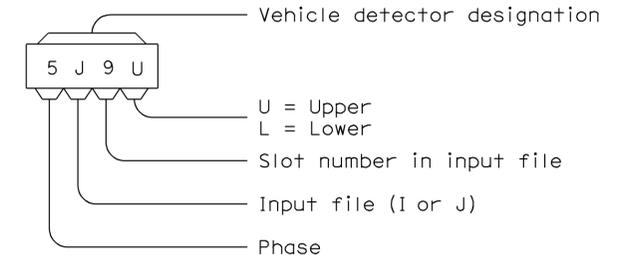
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

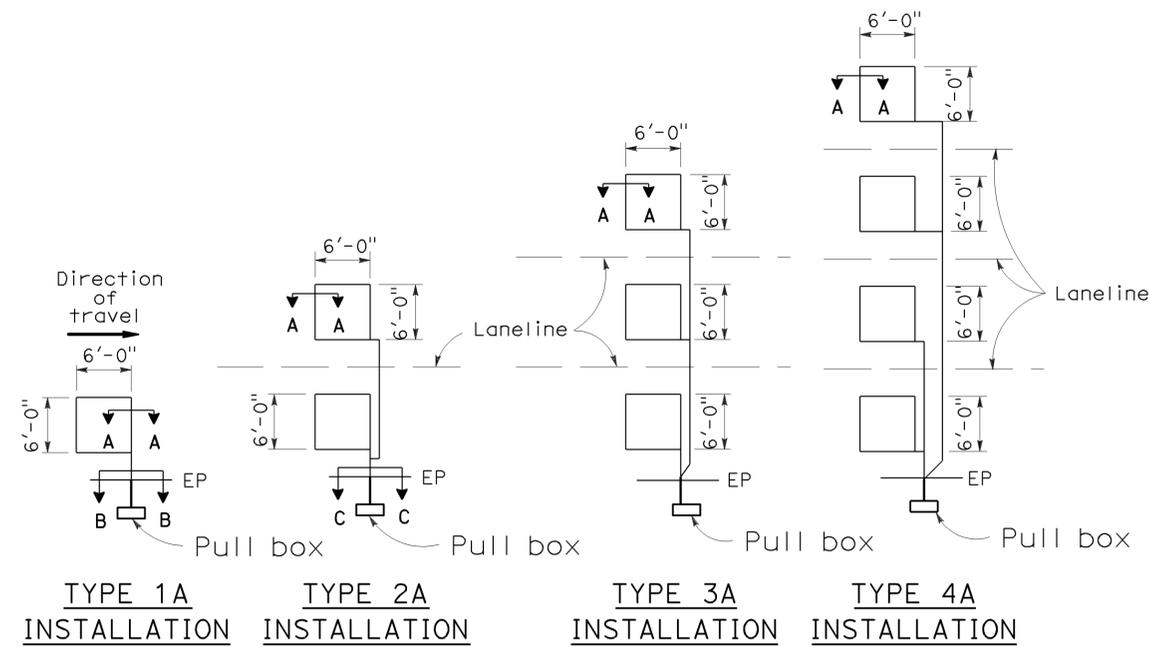
NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C
 DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

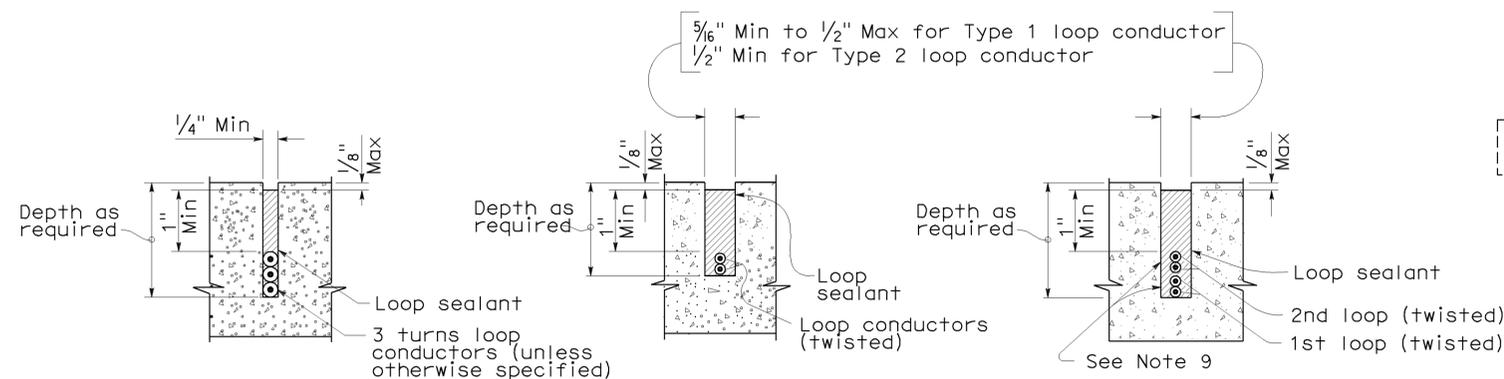
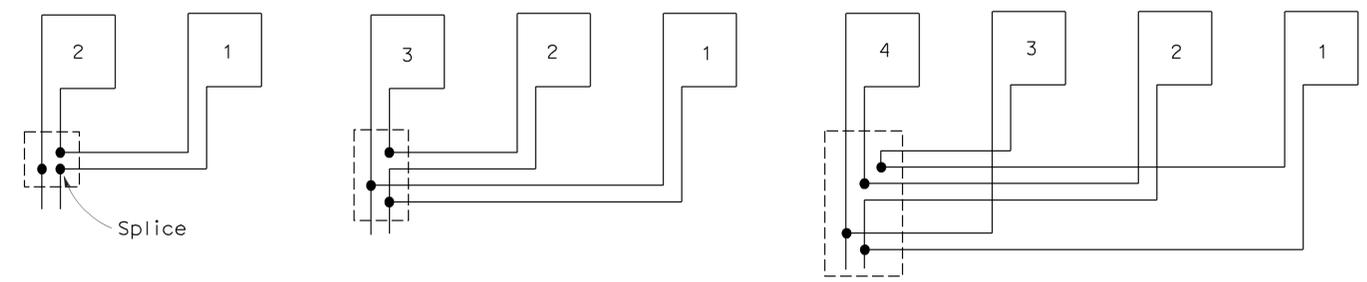
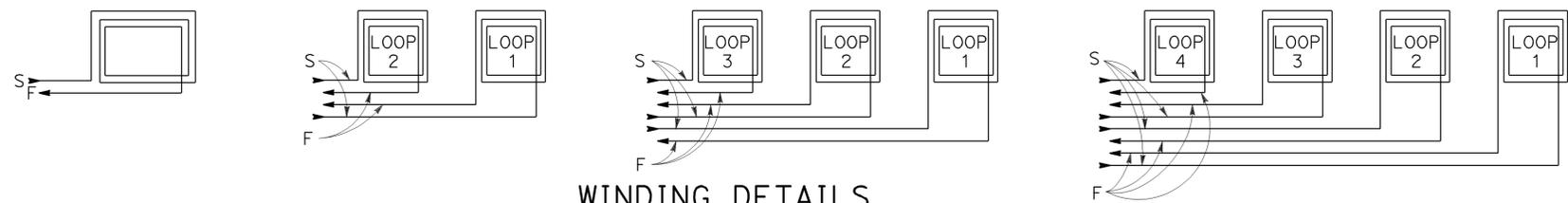
2006 REVISED STANDARD PLAN RSP ES-1C

LOOP INSTALLATION PROCEDURE

- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no sharp edges.
- Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
- Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
- Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
- Install loop conductor in slot using a 3/16" to 1/4" thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
- No more than 2 twisted pairs shall be installed in one sawed slot.
- Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
- The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per 3'-4" minimum) before being placed in the slot and conduit leading to pull box.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
- Fill slots as shown in details.
- Splice loop conductors to lead-in-cable. Splices shall be soldered.
- End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
- Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
- Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.



- 1A thru 4A = 1 Type A loop configuration in each lane.
 - 1B thru 4B = 1 Type B loop configuration in each lane.
 - 1C = 1 Type C loop configuration entering lanes as required.
 - 1D thru 4D = 1 Type D loop configuration in each lane.
 - 1E thru 4E = 1 Type E loop configuration in each lane.
 - 1Q thru 4Q = 1 Type Q loop configuration in each lane.
- (Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)



ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-5A

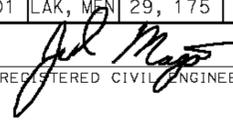
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Lak, Men	29,175	Var	57	60

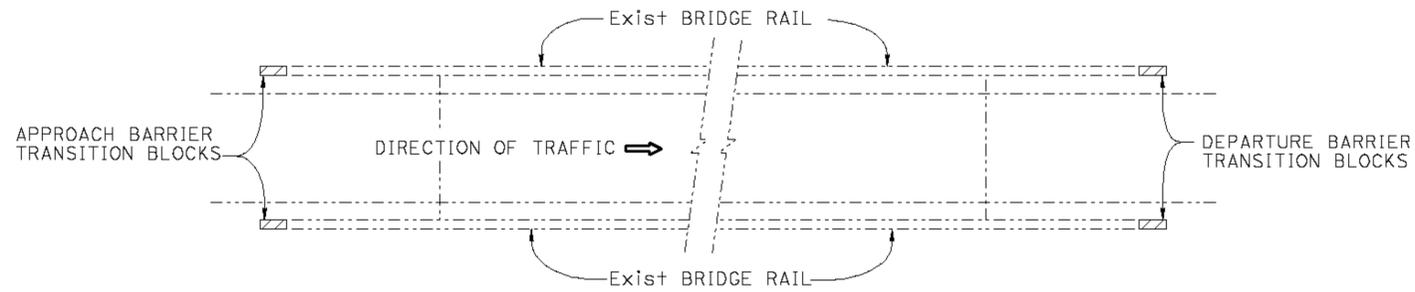
October 5, 2007
PLANS APPROVAL DATE

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER
No. E14512
Exp. 6-30-08
ELECTRICAL
STATE OF CALIFORNIA

To accompany plans dated 3-23-11

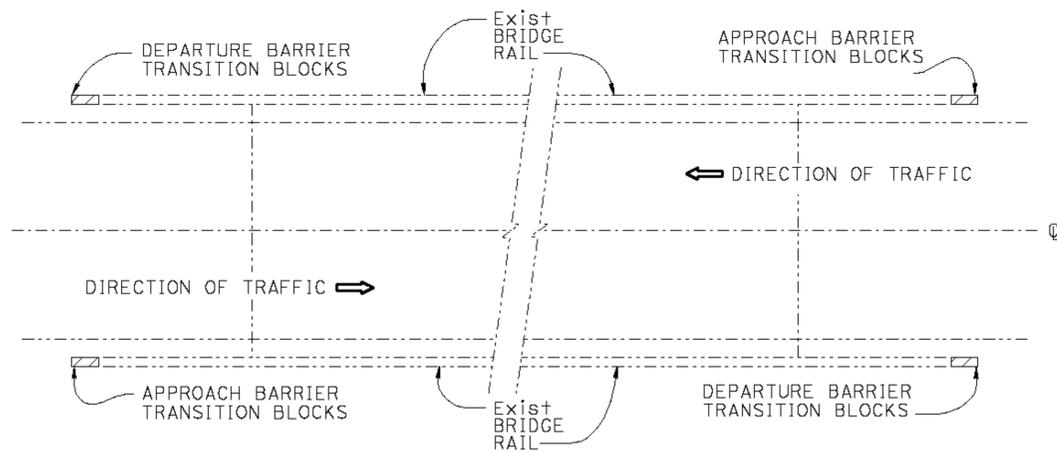
2006 REVISED STANDARD PLAN RSP ES-5A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	LAK, MEN	29, 175	VARIES	58	60
 REGISTERED CIVIL ENGINEER			DATE		
			2-10-11		
PLANS APPROVAL DATE			3-23-11		
			No.	C61500	
			Exp.	6/30/11	
			CIVIL		
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.					



**ONE WAY BRIDGES
(PLAN A)**
NO SCALE

Note:
For MBGR see ROADWAY PLANS



**TWO WAY BRIDGES
(PLAN B)**
NO SCALE

Note:
See "Roadway Plans" for work locations.

INDEX TO PLANS

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	TYPE 27 BARRIER TRANSITION (CASE 1)
3.	TYPE 27 BARRIER TRANSITION (CASE 2)

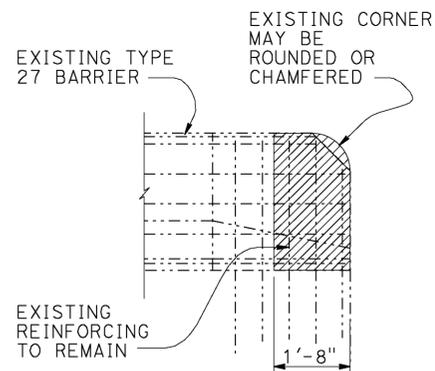
STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
RSP A77J2	METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILING DETAILS
RSP A77J3	METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILING DETAILS

QUANTITIES

TRANSITION ANCHOR BLOCKS TYPE 27 (CASE 1 & 2) 59 LF

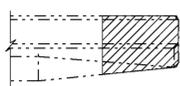
JAMES SAGAR DESIGN ENGINEER	DESIGN	BY J MAGANA	CHECKED G DORIA	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY" PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	TRANSITION ANCHOR BLOCKS GENERAL PLAN				
	DETAILS	BY B EDWARDS	CHECKED J MAGANA	LAYOUT	BY J MAGANA			CHECKED G DORIA		VARIES			
	QUANTITIES	BY G DORIA	CHECKED G DORIA	SPECIFICATIONS	BY K HODGSON			PLANS AND SPECS COMPARED K HODGSON		VARIES			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						0 1 2 3	UNIT: 3625	PROJECT NUMBER & PHASE: 0100020305 1	CONTRACT NO.: 3994u1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 1	OF 3



ELEVATION

SECTION A-A

1/2"=1'-0"



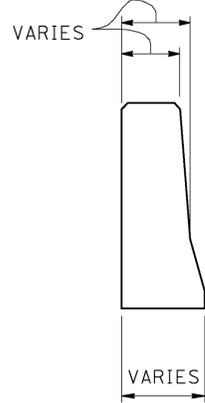
PLAN

DEMOLITION

1/2"=1'-0"

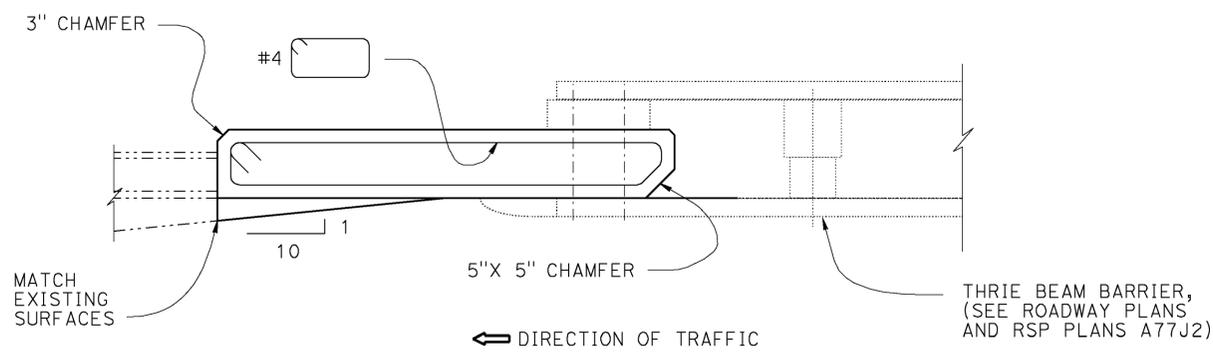
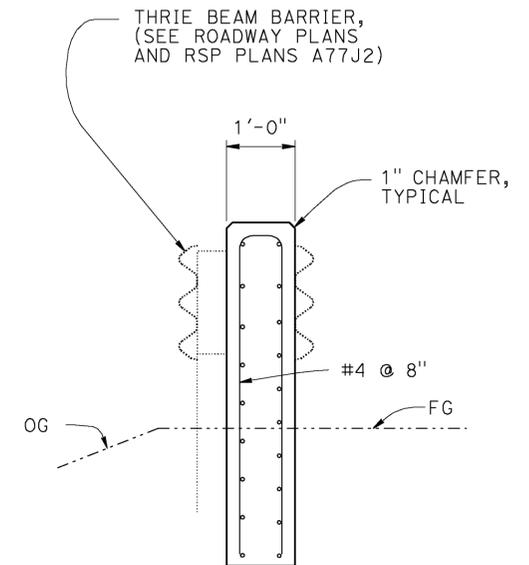
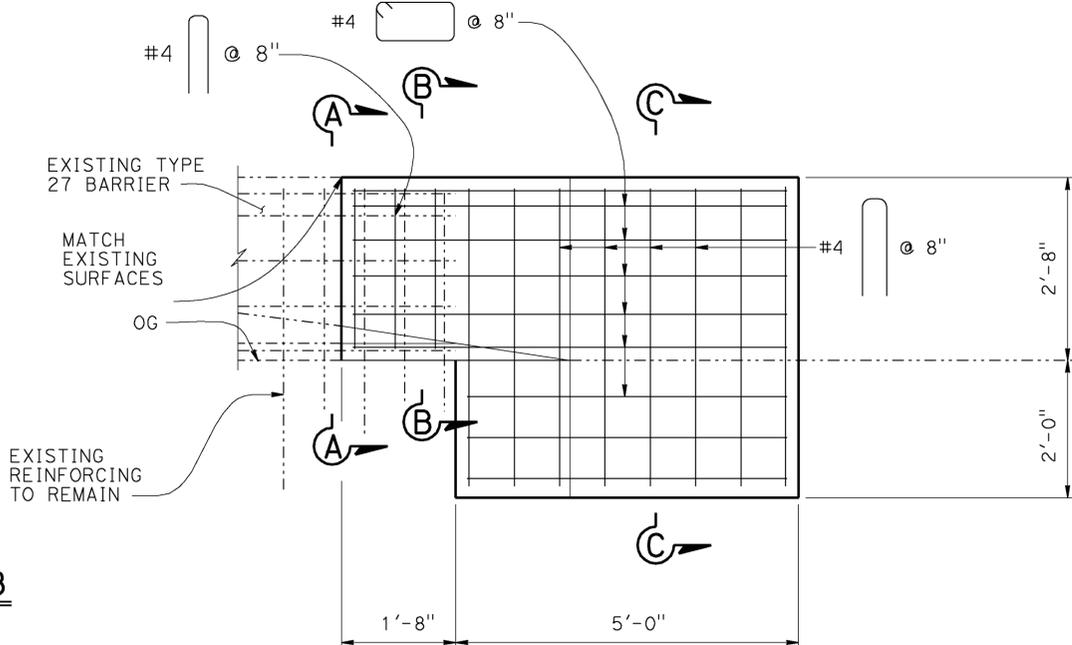
NOTE:

1. See "GENERAL PLAN" (GP) for identification of GP Type.
2. For limits of excavation and backfill, see "ROADWAY PLANS" and "STANDARD PLANS", May 2006 A62C, Section E-E.
3. See "ROADWAY PLANS" plans for work locations.
4. Minimum 1" cover, typical.



SECTION B-B

NO SCALE



LOCATION TABLE OF TYPE 27 BARRIER TRANSITION BLOCK (TYPE WB) APPLICATIONS

Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of "WB" connections @		GP TYPE (See Note 1)	Concrete Barrier (Transition Anchor Block) (LF)
					Approach End	Departure End		
14-0052	ST HELENA CREEK	29	0.17	NB	1		B	21
				SB	1	1		
14-0053	ST HELENA CREEK	29	1.26	NB	1	1	B	28
				SB	1	1		

LEGEND

- Indicates existing structure
- Indicates new construction
- /// Concrete Removal

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY J MAGANA	CHECKED G DORIA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	VARIES	TYPE 27 BARRIER TRANSITION (CASE 1) TRANSITION ANCHOR BLOCK DETAILS
DETAILS	BY PC WELLS/B EDWARDS	CHECKED J MAGANA			POST MILE	VARIES	
QUANTITIES	BY J MAGANA	CHECKED G DORIA			VARIES		

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3
 UNIT: 3625 PROJECT NUMBER & PHASE: 0100020305 1 CONTRACT NO.: 3994u1
 DISREGARD PRINTS BEARING EARLIER REVISION DATES

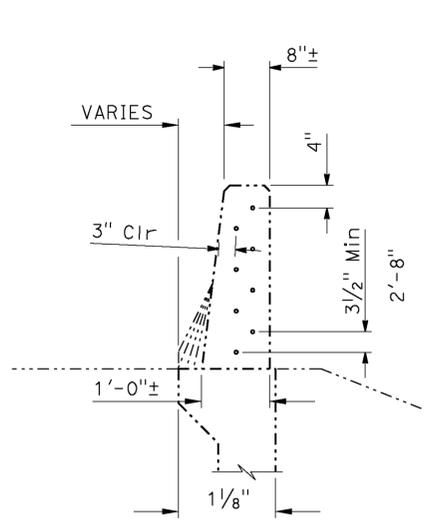
REVISION DATES	SHEET	OF
	2	3

FILE => 01-3994u1+tabd101.dgn

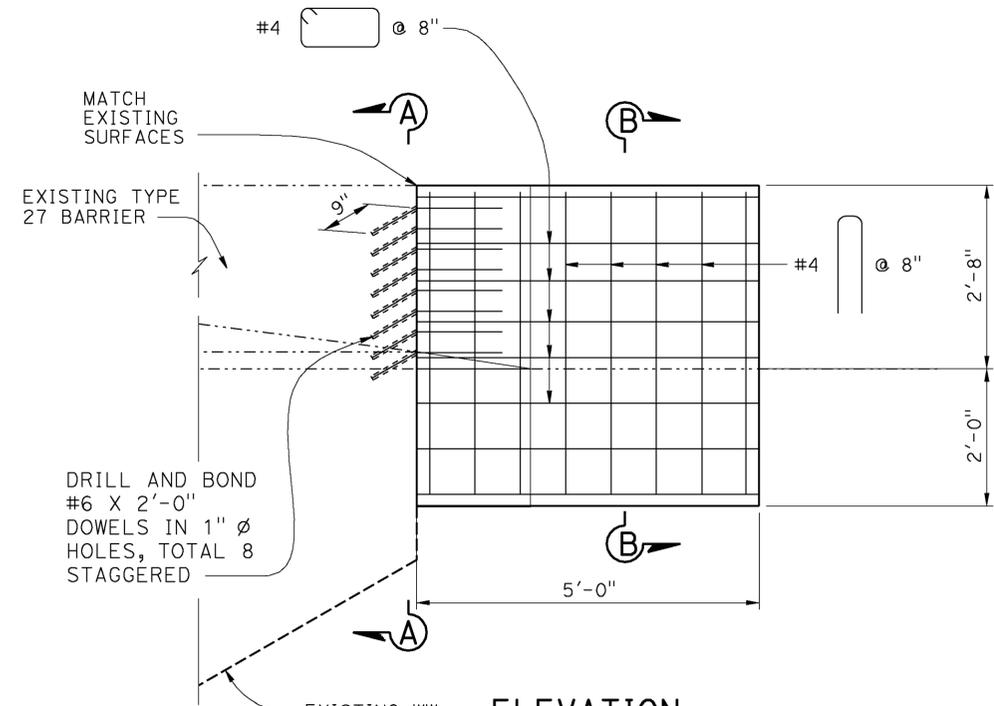
DATE PLOTTED => 15-FEB-2011 USERNAME => pwslls

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	MEN	175	8.50	60	60

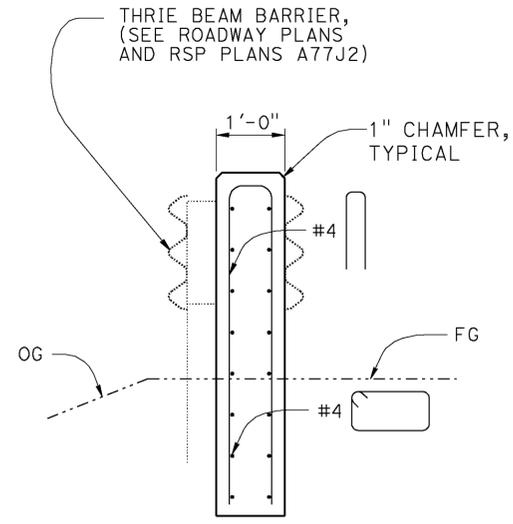
2-10-11
 REGISTERED CIVIL ENGINEER DATE
 3-23-11
 PLANS APPROVAL DATE
 No. C61500
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA



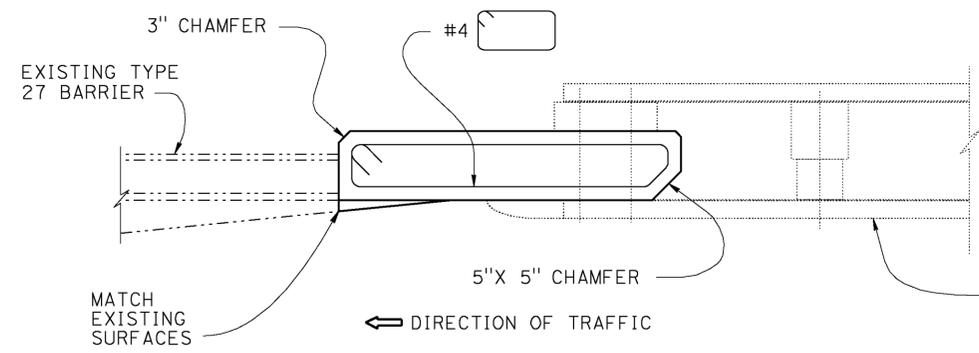
SECTION A-A
3/4"=1'-0"



ELEVATION
3/4"=1'-0"



SECTION B-B
3/4"=1'-0"



PLAN
3/4"=1'-0"

THRIE BEAM BARRIER,
(SEE ROADWAY PLANS
AND RSP PLANS A77J2)

- NOTES:
1. See General Plan (GP) for identification of GP type.
 2. For limits of excavation and backfill, see 2006 Standard Plans A62C, section E-E.
 3. See "Roadway Plans" for work locations
 4. Minimum 1" cover, typical.

LOCATION TABLE OF TYPE 27 BARRIER TRANSITION BLOCK (TYPE WB) APPLICATIONS

Bridge No.	Location	Route	Post Mile	Direction	No. of "WB"connections		GP Type (See Note 1)	Concrete Barrier (Transition Anchor Block) (LF)
					Approach End	Departure End		
10-0275	MCDOWELL SIDEHILL VIADUCT	175	8.5	WB	1	1	B	10

LEGEND

- INDICATES EXISTING STRUCTURE
- INDICATES NEW CONSTRUCTION

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORNERING OF FABRICATING ANY MATERIAL

DESIGN	BY J MAGANA	CHECKED G DORIA
DETAILS	BY B EDWARDS	CHECKED J MAGANA
QUANTITIES	BY J MAGANA	CHECKED G DORIA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO.	10-0275
POST MILE	8.50

TYPE 27 BARRIER TRANSITION (CASE 2)
TRANSITION ANCHOR BLOCK DETAILS