HSNHG-X081(024)E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	1	61

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN SAN MATEO COUNTY AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

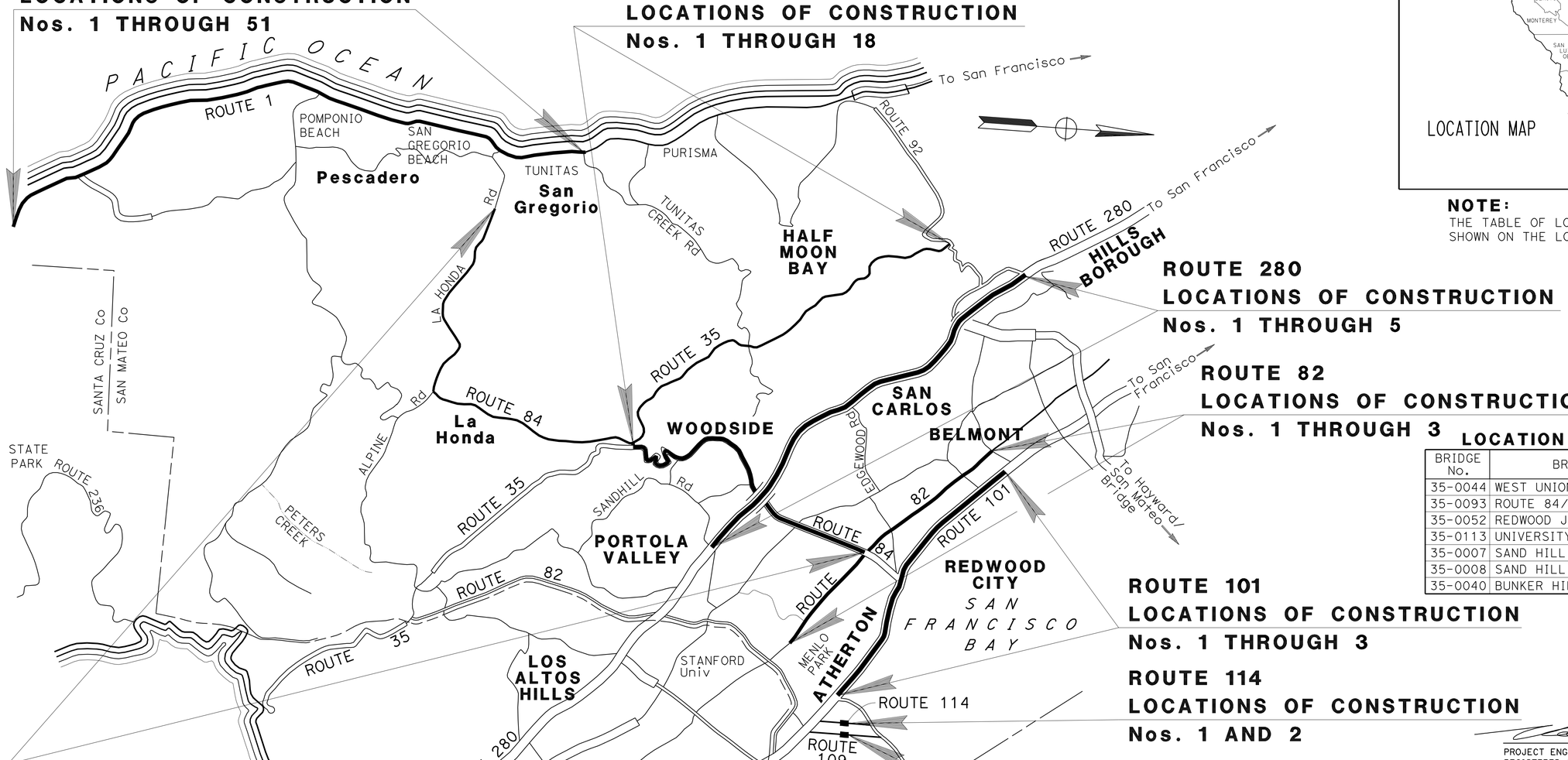
INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE
2-3	LOCATIONS OF CONSTRUCTION
4-24	CONSTRUCTION DETAILS
25-29	CONSTRUCTION AREA SIGNS
30-37	SUMMARY OF QUANTITIES
38-55	REVISED STANDARD PLANS

STRUCTURE PLANS

56-61	TRANSITION ANCHOR BLOCK DETAILS

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



ROUTE 1
LOCATIONS OF CONSTRUCTION
Nos. 1 THROUGH 51

ROUTE 35
LOCATIONS OF CONSTRUCTION
Nos. 1 THROUGH 18

ROUTE 280
LOCATIONS OF CONSTRUCTION
Nos. 1 THROUGH 5

ROUTE 82
LOCATIONS OF CONSTRUCTION
Nos. 1 THROUGH 3

ROUTE 101
LOCATIONS OF CONSTRUCTION
Nos. 1 THROUGH 3

ROUTE 114
LOCATIONS OF CONSTRUCTION
Nos. 1 AND 2

ROUTE 109
LOCATIONS OF CONSTRUCTION
Nos. 1 AND 2

ROUTE 84
LOCATIONS OF CONSTRUCTION
Nos. 1 THROUGH 45

LOCATION MAP

NOTE:
THE TABLE OF LOCATIONS OF CONSTRUCTION IS SHOWN ON THE LOCATIONS OF CONSTRUCTION SHEET.

LOCATION OF CONSTRUCTION

BRIDGE No.	BRIDGE NAME	ROUTE	POST MILE
35-0044	WEST UNION CREEK	84	19.93
35-0093	ROUTE 84/82 SEPARATION	84	24.77
35-0052	REDWOOD JUNCTION OVERHEAD	84	24.86
35-0113	UNIVERSITY Ave OC	101	0.89
35-0007	SAND HILL Rd OC SOUTH	280	1.61
35-0008	SAND HILL Rd OC NORTH	280	1.61
35-0040	BUNKER HILL Rd OC	280	12.32

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

NO SCALE

2/17/10
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

May 10, 2010
PLANS APPROVAL DATE

REGISTERED CIVIL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 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.

PROJECT MANAGER AL B LEE
DESIGN ENGINEER KAM LEUNG

LAST REVISION 02-18-10
DATE PLOTTED => 30-JUN-2010
TIME PLOTTED => 12:45

CONTRACT No.	04-0A8724
PROJECT ID	0400000176

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	2	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 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.

NOTE:
EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY LOCATED.

LOCATIONS OF CONSTRUCTION

ROUTE-LOCATION No.	DESCRIPTION	DIRECTION	PM
1-1	0.9 MILE N OF COUNTY LINE	NB	0.90
1-2	0.9 MILE N OF COUNTY LINE	SB	0.90
1-3	1.0 MILE N OF COUNTY LINE	SB	1.00
1-4	1.05 MILE N OF COUNTY LINE	NB	1.05
1-5	S OF ANO NUEVA PRESERVE	NB	1.20
1-6	S OF ANO NUEVA PRESERVE	SB	1.20
1-7	N OF ANO NUEVA PRESERVE	NB	1.71
1-8	N OF ANO NUEVA PRESERVE	NB	2.65
1-9	N OF ANO NUEVA PRESERVE	SB	3.00
1-10	N OF ANO NUEVA PRESERVE	NB	3.30
1-11	N OF ANO NUEVA PRESERVE	SB	3.40
1-12	NEAR WHITE HOUSE CANYON	NB	4.23
1-13	NEAR WHITE HOUSE CANYON	SB	4.23
1-14	S OF GAZOS CREEK	SB	5.10
1-15	S OF GAZOS CREEK	NB	5.30
1-16	S OF GAZOS CREEK	SB	5.30
1-17	S OF GAZOS CREEK	SB	5.54
1-18	AT GAZOS CREEK 35-51	NB	5.70
1-20	N OF GAZOS CREEK Rd	SB	6.15
1-21	N OF GAZOS CREEK Rd	NB	6.40
1-22	N OF GAZOS CREEK Rd	SB	6.40
1-23	N OF PEGEON POINT Rd (SOUTH)	NB	7.50
1-24	N OF PEGEON POINT Rd (SOUTH)	SB	7.50

LOCATIONS OF CONSTRUCTION

ROUTE-LOCATION No.	DESCRIPTION	DIRECTION	PM
1-25	NEAR PIGEON POINT Rd	NB	7.70
1-26	NEAR PIGEON POINT Rd	SB	7.70
1-27	NEAR PIGEON POINT Rd	SB	7.90
1-28	NEAR PIGEON POINT Rd	SB	7.99
1-29	AT PIGEON POINT Rd (NORTH)	NB	8.60
1-30	N OF PIGEON POINT Rd (NORTH)	SB	8.70
1-31	N OF PIGEON POINT Rd (NORTH)	NB	9.20
1-32	N OF PIGEON POINT Rd (NORTH)	SB	9.20
1-33	N OF PIGEON POINT Rd (NORTH)	NB	9.38
1-34	N OF PIGEON POINT Rd (NORTH)	SB	9.38
1-35	S OF BEAN HOLLOW Rd	SB	9.50
1-36	S OF BEAN HOLLOW Rd	NB	9.50
1-37	S OF BEAN HOLLOW Rd	SB	10.10
1-38	S OF BEAN HOLLOW Rd	NB	10.20
1-39	S OF BEAN HOLLOW Rd	SB	10.20
1-40	NEAR PESCADERO Rd	SB	13.40
1-41	AT PESCADERO CREEK 35-28	NB	14.00
1-42	AT PESCADERO CREEK 35-28	SB	14.00
1-43	AT POMPONIO CREEK 35-29	NB	16.50
1-45	AT SAN GREGORIO CREEK 35-30	NB	18.00
1-46	AT SAN GREGORIO CREEK 35-30	SB	18.00
1-47	AT Jct Rte 84	SB	18.20
1-48	0.4 MILE N OF Jct Rte 84	SB	18.60
1-49	0.7 MILE N OF Jct Rte 84	NB	18.80
1-50	S OF STAGE Rd	NB	19.00
1-51	AT TUNITAS CREEK 35-31	NB	20.98

LOCATIONS OF CONSTRUCTION

ROUTE-LOCATION No.	DESCRIPTION	DIRECTION	PM
35-1	N OF MORSE LANE	NB	11.67
35-2	N OF MORSE LANE	SB	11.78
35-3	N OF MORSE LANE	SB	11.97
35-4	N OF MORSE LANE	NB	12.05
35-5	S OF BEAR GULCH Rd	SB	12.45
35-6	S OF BEAR GULCH Rd	SB	12.56
35-7	S OF BEAR GULCH Rd	SB	12.72
35-8	S OF BEAR GULCH Rd	NB	12.83
35-9	NEAR COUNTY ROAD SOUTH	SB	17.10
35-10	NEAR COUNTY ROAD SOUTH	SB	17.15
35-11	N OF HARKINS Rd	NB	19.19
35-12	N OF HARKINS Rd	SB	20.68
35-13	1.4 MILE S OF Jct Rte 92	NB	21.60
35-14	1.1 MILE S OF Jct Rte 92	SB	21.89
35-15	0.7 MILE S OF Jct Rte 92	NB	22.30
35-16	0.45 MILE S OF Jct Rte 92	SB	22.50
35-17	0.4 MILE S OF Jct Rte 92	SB	22.55
35-18	0.3 MILE S OF Jct Rte 92	NB	22.70

LOCATIONS OF CONSTRUCTION

LC-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG
CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 02-22-10 | DATE PLOTTED => 12-MAY-2010 | TIME PLOTTED => 14:41

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	3	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 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.

NOTE:
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LOCATIONS OF CONSTRUCTION

ROUTE-LOCATION No.	DESCRIPTION	DIRECTION	PM
82-1	AT FAIR OAKS Ave	NB	1.89
82-2	AT ARROYO Ave	NB	6.05
82-3	S OF BELMONT Ave	NB	8.38
84-1	AT SAN GREGORIO CREEK Br 35-165	EB	6.18
84-2	AT SAN GREGORIO CREEK Br 35-165	WB	6.18
84-3	AT SAN GREGORIO CREEK Br 35-166	WB	7.50
84-4	AT SAN GREGORIO CREEK Br 35-166	EB	7.55
84-5	AT LA HONDA CREEK 35-168	EB	8.05
84-6	AT LA HONDA CREEK 35-168	WB	8.05
84-7	W OF MEMORY LANE	EB	8.50
84-8	W OF MEMORY LANE	WB	8.50
84-9	E OF LA HONDA PO	EB	9.15
84-10	W OF LA HONDA Cr 35-169	EB	9.40
84-11	W OF LA HONDA Cr 35-169	EB	9.45
84-12	E OF LA HONDA Cr 35-169	EB	9.80
84-13	E OF LA HONDA Cr 35-169	WB	10.10
84-14	E OF OLD LA HONDA Rd	WB	13.20
84-15	E OF OLD LA HONDA Rd	WB	13.52

LOCATIONS OF CONSTRUCTION

ROUTE-LOCATION No.	DESCRIPTION	DIRECTION	PM
84-16	E OF OLD LA HONDA Rd	WB	13.57
84-17	0.9 MILE W OF Jct Rte 35	WB	14.07
84-18	0.4 MILE W OF Jct Rte 35	WB	14.53
84-19	W OF GRAND VIEW Rd	EB	15.30
84-20	W OF SKYWOOD WAY	EB	15.70
84-21	E OF FRIARS LANE	EB	16.29
84-22	E OF FRIARS LANE	EB	16.49
84-23	E OF FRIARS LANE	WB	16.80
84-24	E OF FRIARS LANE	EB	16.98
84-25	E OF FRIARS LANE	EB	16.99
84-26	E OF BEAR GULCH Rd	EB	19.20
84-27	E OF BEAR GULCH Rd	WB	19.20
84-28	E OF TRIPP Rd	EB	19.70
84-29	NEAR WEST UNION CREEK 35-44	WB	19.81
84-30	NEAR WEST UNION CREEK 35-44	EB	19.93
84-31	NEAR WEST UNION CREEK 35-44	WB	19.93
84-32	NEAR CANADA Rd	EB	20.69
84-34	NEAR HOBART Rd	WB	21.29
84-35	NEAR HOBART Rd	WB	21.35
84-36	AT Jct Rte 280	WB	21.60
84-37	AT MOORE Rd	WB	21.75
84-38	E OF MOORE Rd	WB	21.80
84-39	NEAR HIGH Rd	EB	22.12
84-40	SB 82 LOOP TO NB 84	NB	24.63
84-41	SB 84 TO SB 82	SB	24.67
84-42	NB 84 OFF TO NB 82	NB	24.77
84-43	SB ON FROM NB 82	SB	24.78
84-44	SB OFF TO NB 82	SB	24.84
84-45	REDWOOD JUNCTION OVERHEAD	SB	24.86

LOCATIONS OF CONSTRUCTION

ROUTE-LOCATION No.	DESCRIPTION	DIRECTION	PM
101-1	EB UNIVERSITY Ave OC		0.890
101-2	EB & WB, Jct 84, MEDIAN UC		5.385
101-3	WB WHIPPLE Ave OC		6.623
109-1	NEAR GX-SPTC RR CROSSING	EB	1.500
109-2	NEAR GX-SPTC RR CROSSING	WB	1.500
114-1	NEAR GX-DUBR Br RR CROSSING	EB	5.816
114-2	NEAR GX-DUBR Br RR CROSSING	WB	5.816
280-1	WB SAND HILL Rd OVERCROSSING	WB	1.61
280-2	EB SAND HILL Rd OVERCROSSING	EB	1.61
280-3	EDGEWOOD Rd UNDERCROSSING	EB	6.65
280-4	WB BUNKER HILL Rd OVERCROSSING	WB	12.32
280-5	EB BUNKER HILL Rd OVERCROSSING	EB	12.32

LOCATIONS OF CONSTRUCTION

LC-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG
CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 02-09-10 | DATE PLOTTED => 12-MAY-2010 | TIME PLOTTED => 14:41

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	4	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 CIVIL STATE OF CALIFORNIA

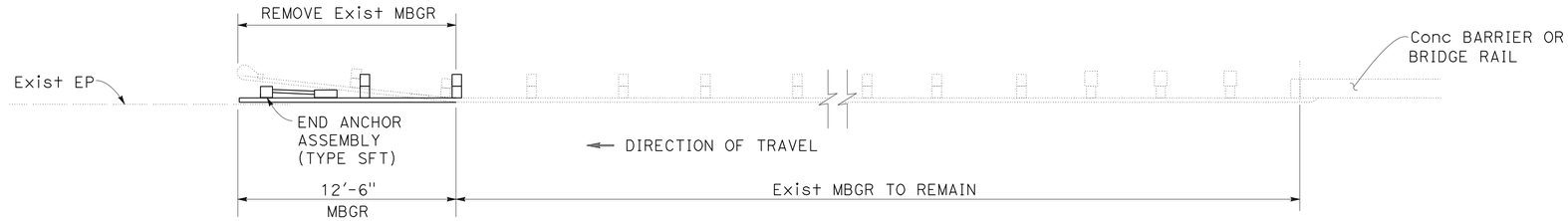
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

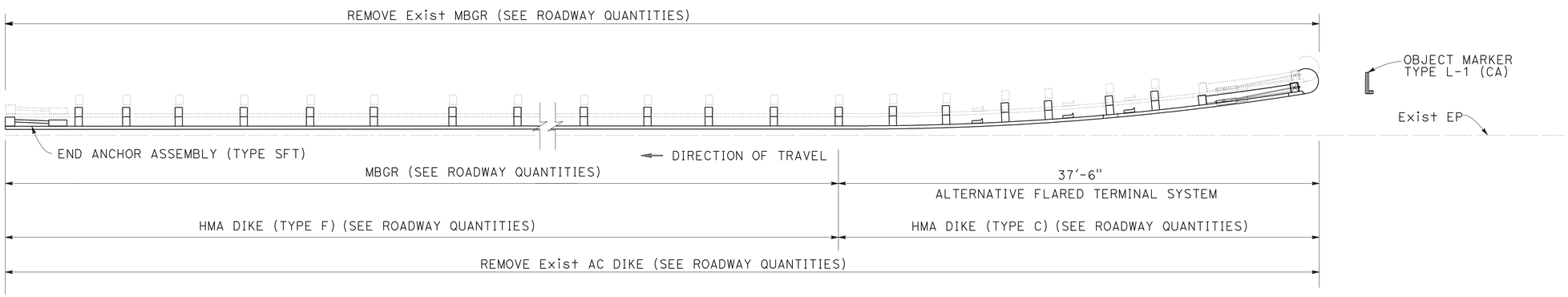
1. EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY LOCATED.
2. EXACT POSITION OF LUMBER ON MBGR SHALL BE DETERMINED BY THE ENGINEER.
3. INSTALL GUARD RAILING DELINEATOR 25 FEET FROM THE END OF MBGR; SPACING 25 FEET.
4. FOR DETAILS NOT SHOWN, SEE Std PLANS MAY 2006.

ABBREVIATION:

HMA - HOT MIX ASPHALT



DETAIL A
Loc 82-3, 84-38



DETAIL B
Loc 82-1

CONSTRUCTION DETAILS
NO SCALE

C-1

REVISED BY	DATE REVISED
TN	02/18/10

HONMING KONG — THANH C NGUYEN

CALCULATED-DESIGNED BY — CHECKED BY

FUNCTIONAL SUPERVISOR — KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — DESIGN

LAST REVISION 03-01-10 — DATE PLOTTED => 13-MAY-2010 TIME PLOTTED => 09:37

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	5	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

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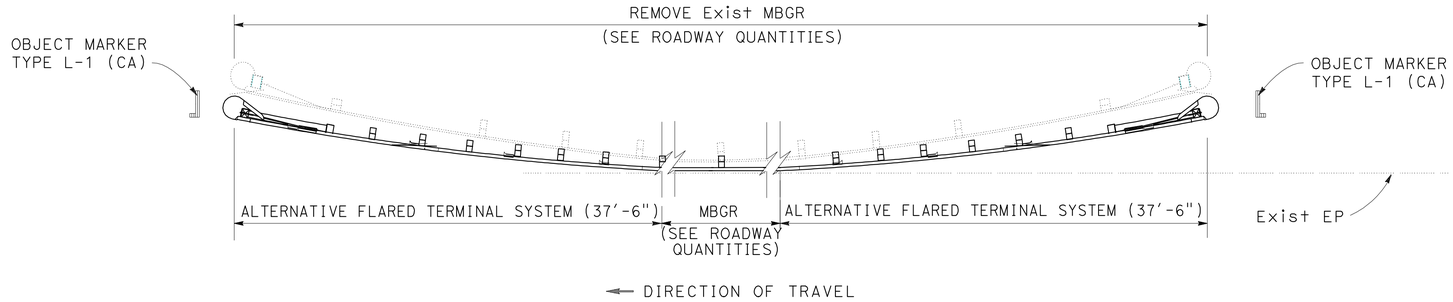
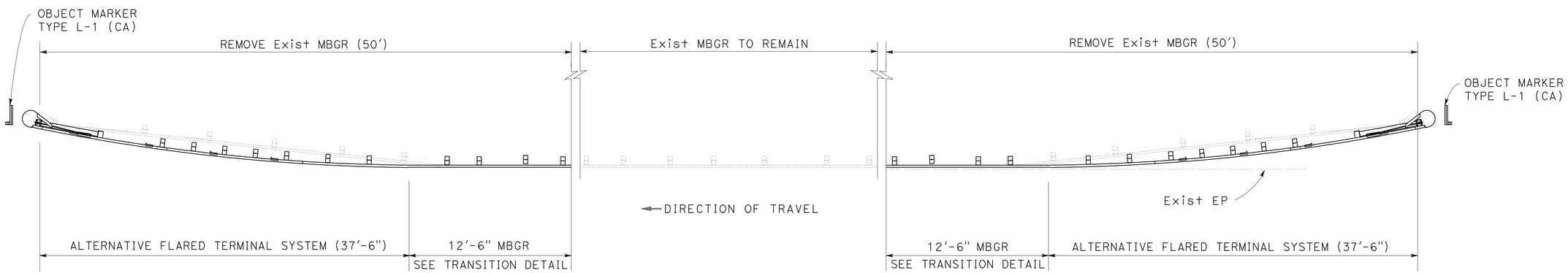


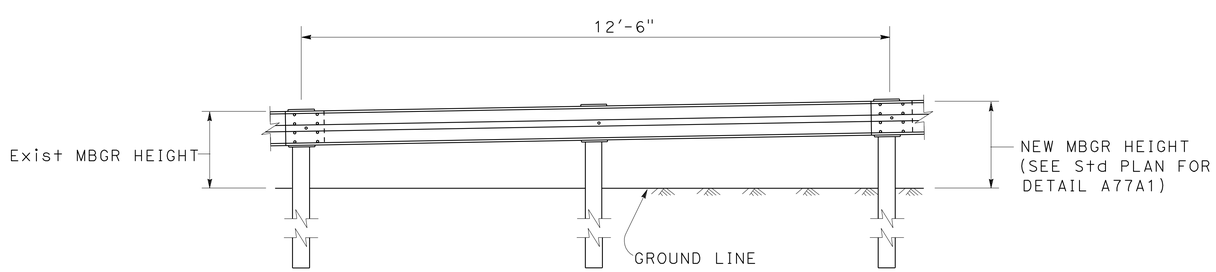
DETAIL C

Loc 84-1, 84-2, 84-16, 84-24, 84-32



DETAIL D

Loc 1-3, 1-4, 1-5, 1-6, 1-43, 1-48, 1-50
35-10, 35-13, 35-14, 35-16, 35-17,
84-8, 84-11, 84-13, 84-18



TRANSITION DETAIL

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

CONSTRUCTION DETAILS

NO SCALE

C-2

REVISED BY	DATE REVISED
TN	02/18/10

HONMING KONG
THANH C NGUYEN

CALCULATED-DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR
KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 02-18-10
DATE PLOTTED => 12-MAY-2010
TIME PLOTTED => 14:41

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	6	61

REGISTERED CIVIL ENGINEER DATE 2/17/10

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

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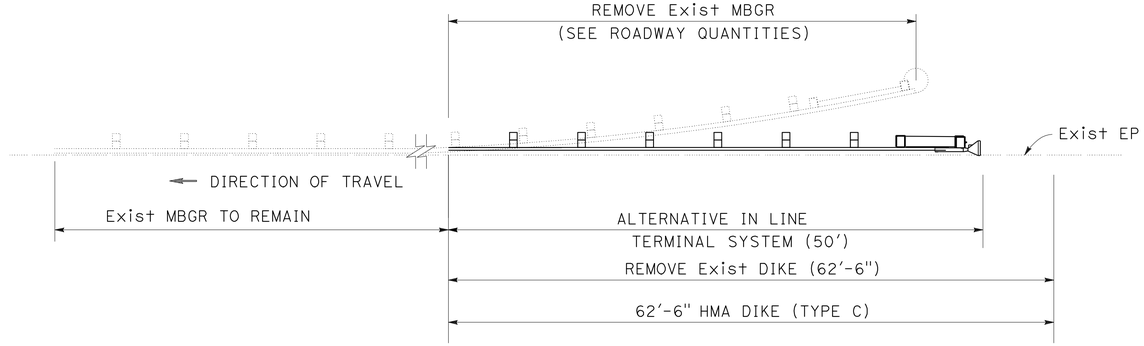
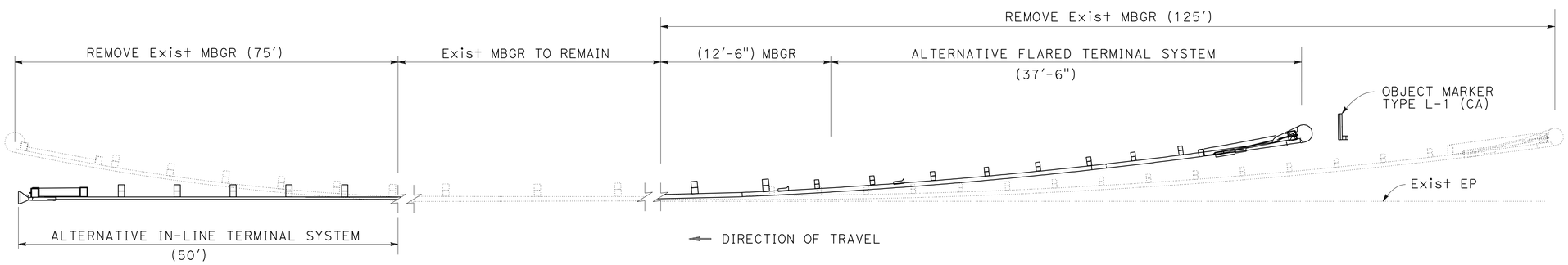


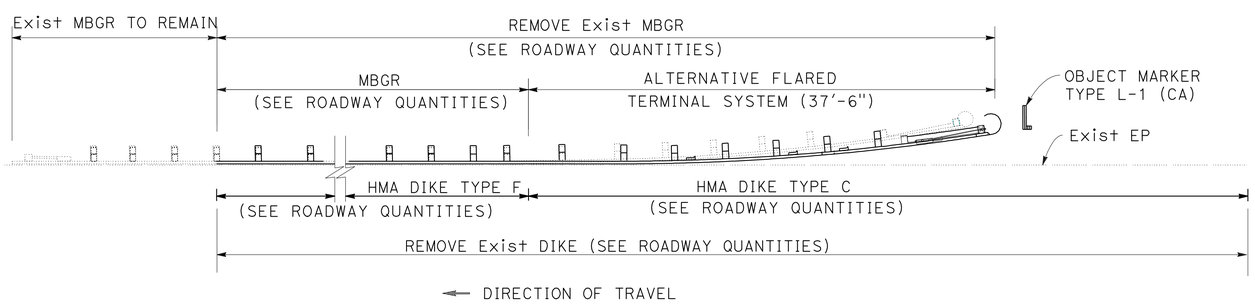
DETAIL E

Loc 84-22



DETAIL F

Loc 84-5



DETAIL G

Loc 84-44

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

CONSTRUCTION DETAILS

NO SCALE

C-3

REVISED BY	DATE REVISED
TN	02/18/10

CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
FUNCTIONAL SUPERVISOR: KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 02-18-10 | DATE PLOTTED => 12-MAY-2010 | TIME PLOTTED => 14:41

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	7	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

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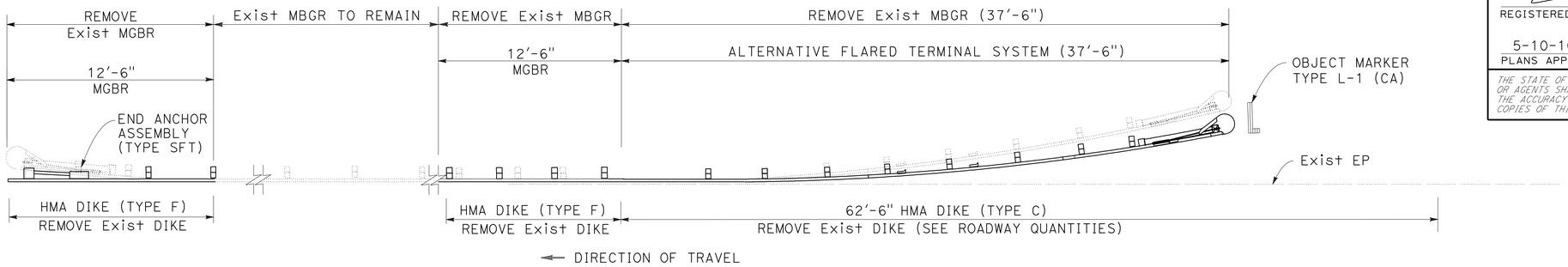
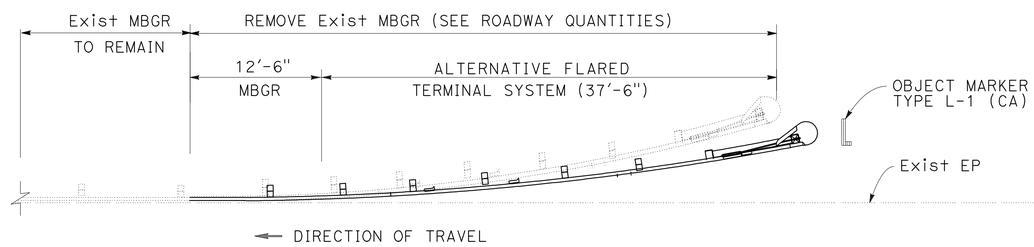


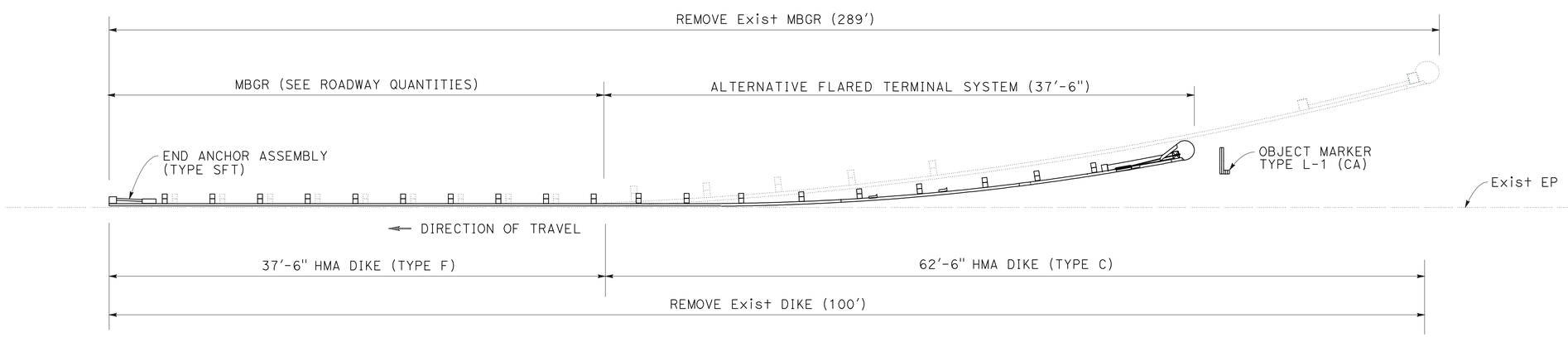
DETAIL H

Loc 84-37



DETAIL I

Loc 1-49, 35-1, 35-2, 35-7
84-15,
109-1, 109-2,
114-1, 114-2



DETAIL J

Loc 84-39

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

CONSTRUCTION DETAILS

NO SCALE

C-4

REVISED BY	DATE REVISED
TN	02/18/10

CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
FUNCTIONAL SUPERVISOR: KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
DESIGN

LAST REVISION 02-18-10
DATE PLOTTED => 12-MAY-2010
TIME PLOTTED => 14:41

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	8	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

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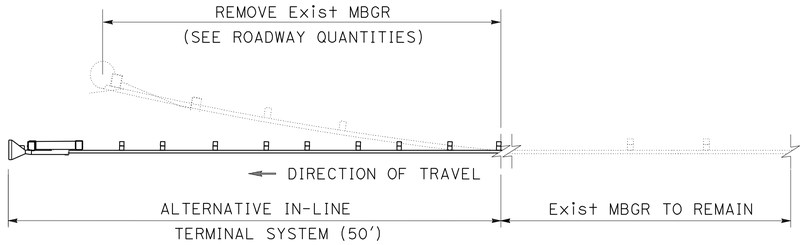
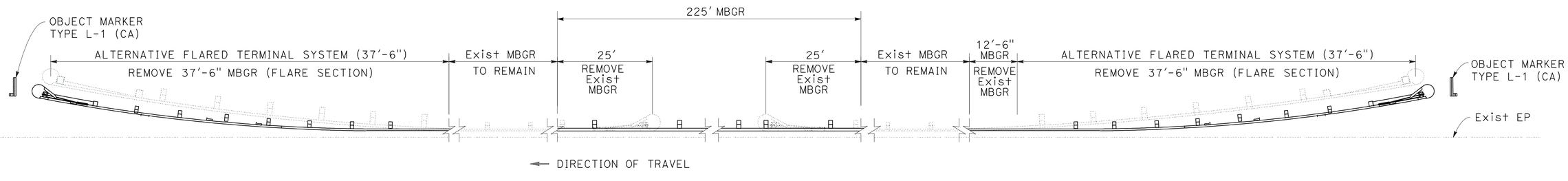


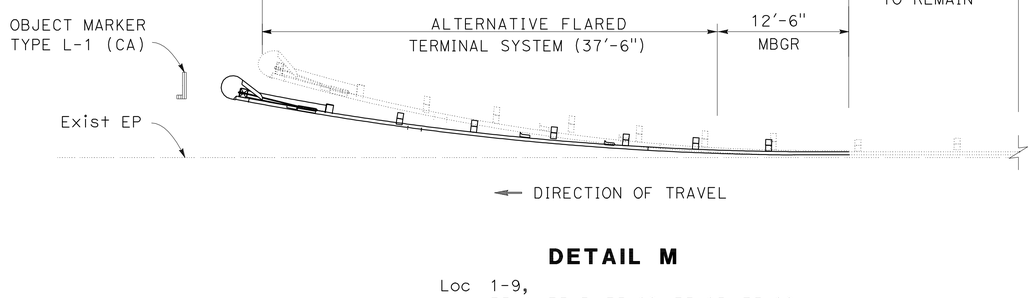
DETAIL K

Loc 1-18,
84-29



DETAIL L

Loc 35-11



DETAIL M

Loc 1-9,
35-4, 35-5, 35-12, 35-15, 35-18,
84-28

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

CONSTRUCTION DETAILS

NO SCALE

C-5

HONMING KONG	REVISED BY
THANH C NGUYEN	DATE REVISED
TN	02/18/10
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	
KAM LEUNG	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 02-18-10 | DATE PLOTTED => 12-MAY-2010 | TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	9	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

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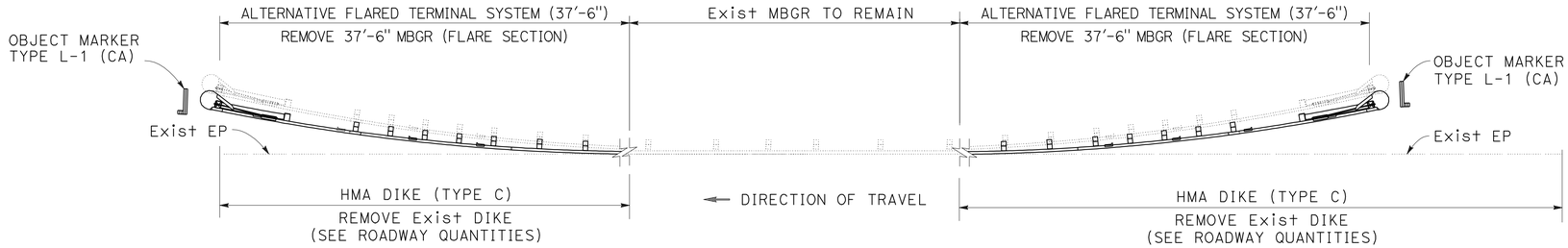
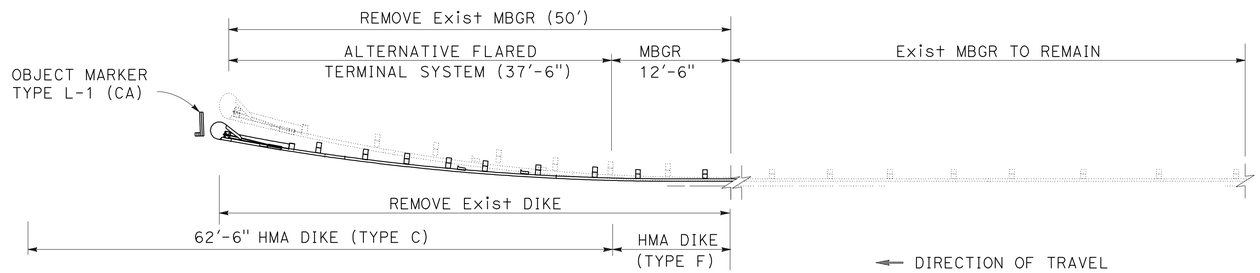


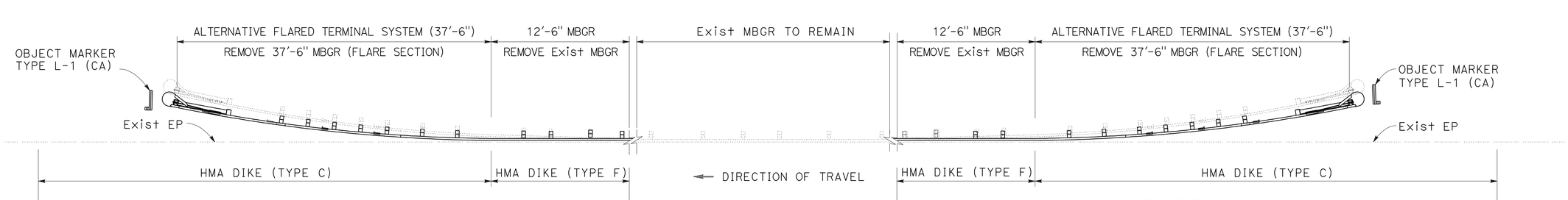
DETAIL N

Loc 1-35, 1-36, 1-37, 1-38, 1-39, 1-41



DETAIL O

Loc 1-40



DETAIL P

Loc 1-1, 1-2, 1-7, 1-8, 1-10, 1-11, 1 -12, 1-13, 1-14, 1-15, 1-16, 1-17
1-20, 1-21, 1-22, 1-23, 1-24, 1-25, 1-26, 1-27, 1-28, 1-31
1-32, 1-33, 1-34

CONSTRUCTION DETAILS

NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

C-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR	KAM LEUNG
CALCULATED-DESIGNED BY	HONMING KONG
CHECKED BY	THANH C NGUYEN
REVISED BY	TN
DATE REVISED	02/18/10

LAST REVISION DATE PLOTTED => 12-MAY-2010
02-18-10 TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	10	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

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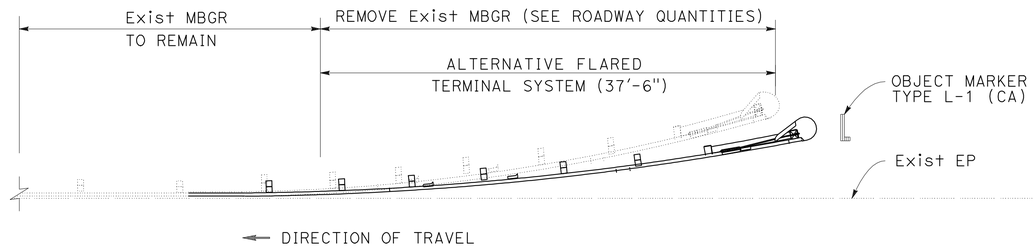

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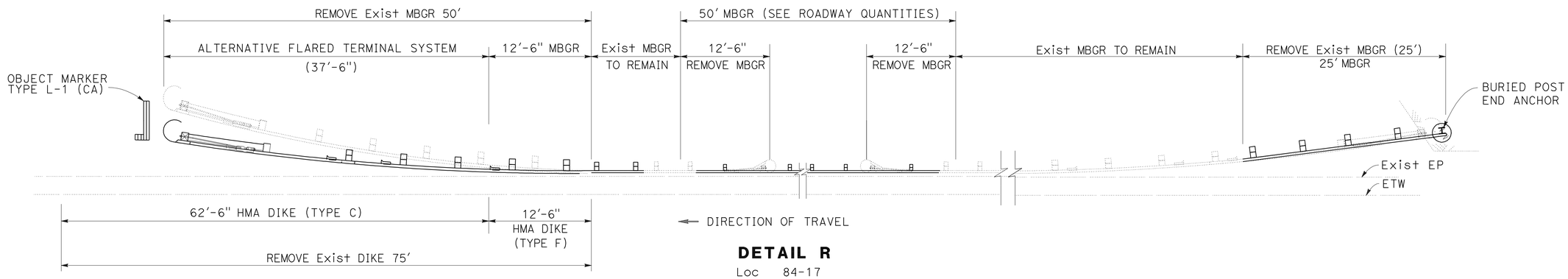
Loc 82-2



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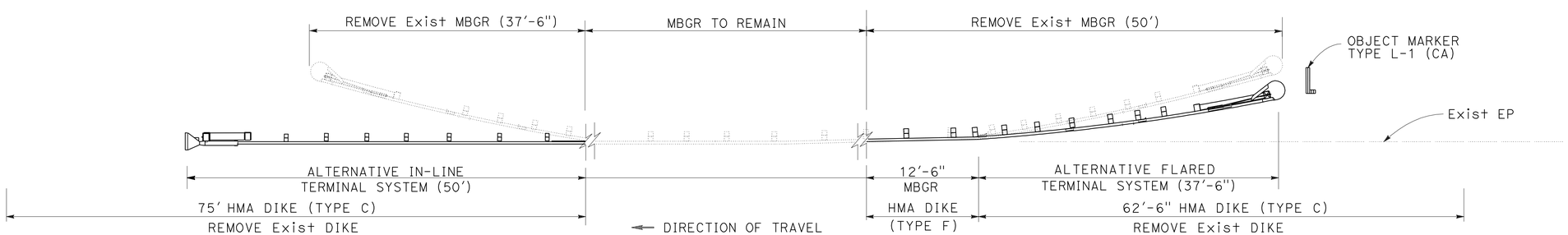
Loc 84-17



DETAIL S
Loc 84-35

CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

C-7

REVISED BY	TN
DATE REVISED	02/18/10
HONMING KONG	
THANH C NGUYEN	
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FUNCTIONAL SUPERVISOR	KAM LEUNG

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LAST REVISION 02-18-10 | DATE PLOTTED => 12-MAY-2010 | TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	11	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

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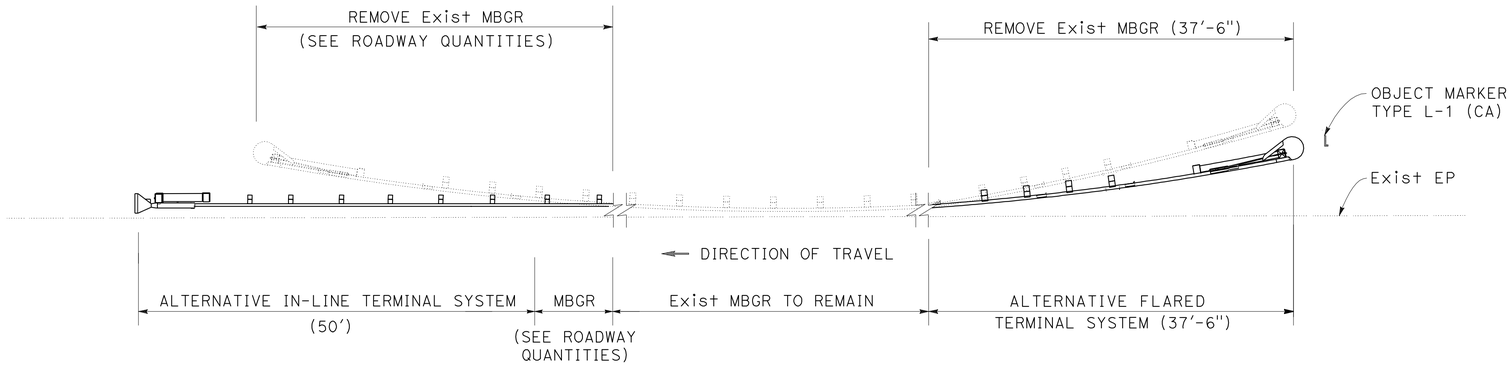
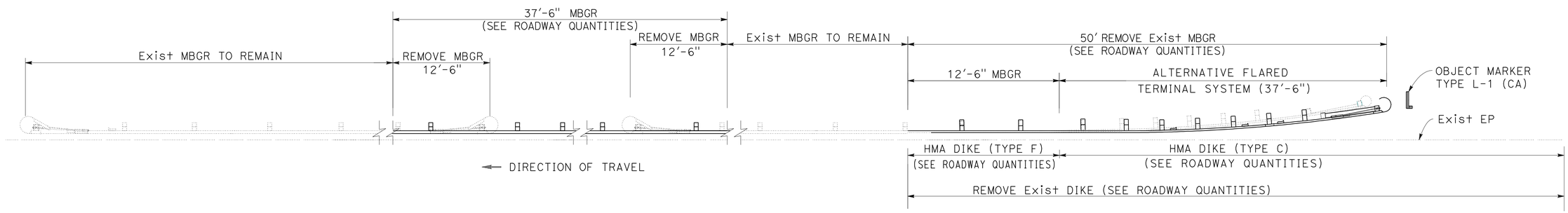


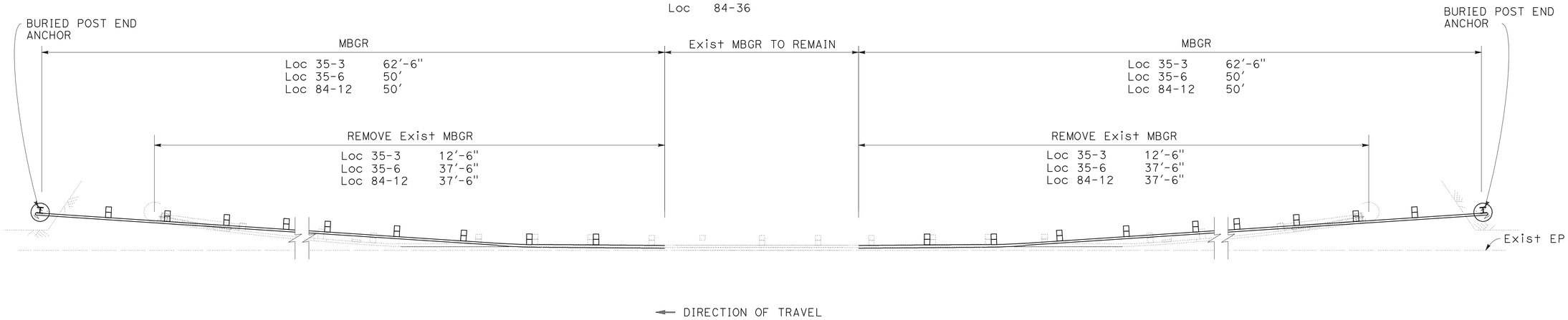
DETAIL T

Loc 84-10, 84-20, 84-21, 84-34



DETAIL U

Loc 84-36



DETAIL V

Loc 35-3, 35-6
84-12

CONSTRUCTION DETAILS

NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

C-8

REVISED BY	DATE REVISED
TN	02/18/10

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LAST REVISION DATE PLOTTED => 12-MAY-2010
02-18-10 TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	12	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

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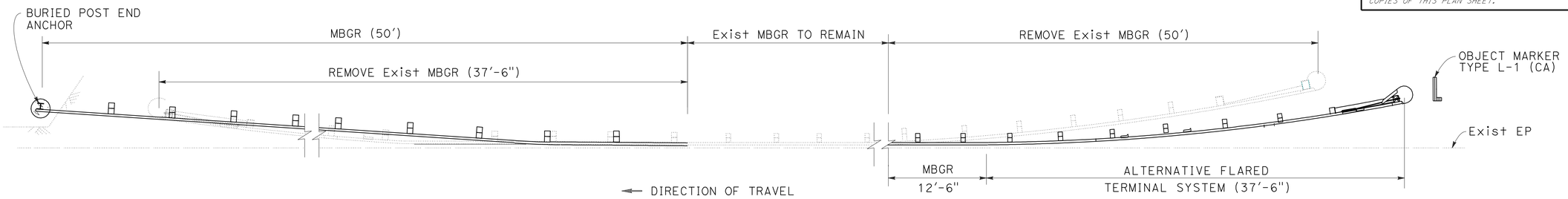
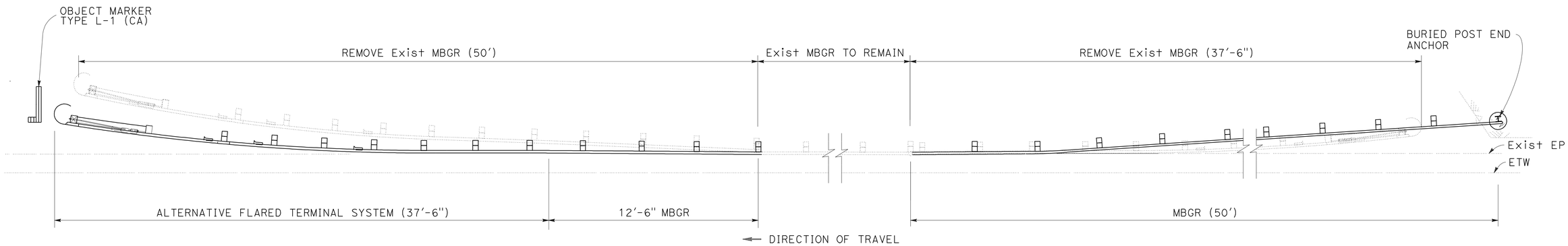


DETAIL W
Loc 84-4, 84-6



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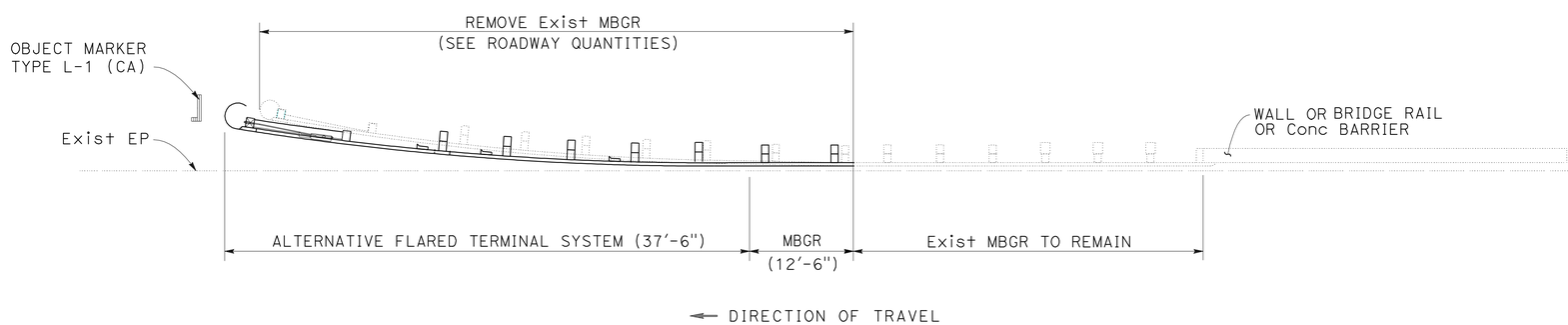
Loc 1-47,
35-8, 35-9,
84-3



DETAIL Y
Loc 1-51, 84-27

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

CONSTRUCTION DETAILS
NO SCALE

C-9

REVISED BY	DATE REVISED
TN	02/18/10

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DATE PLOTTED => 12-MAY-2010
TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82, 84,101,etc.	Var	13	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

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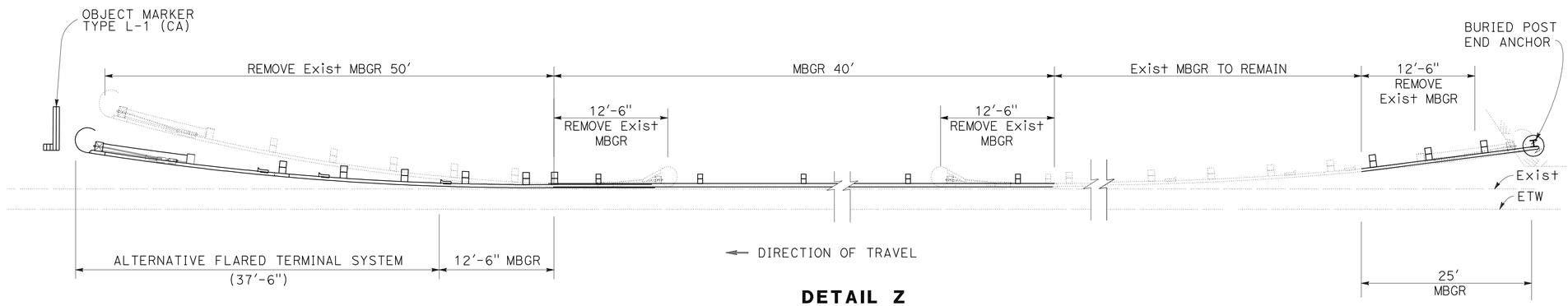
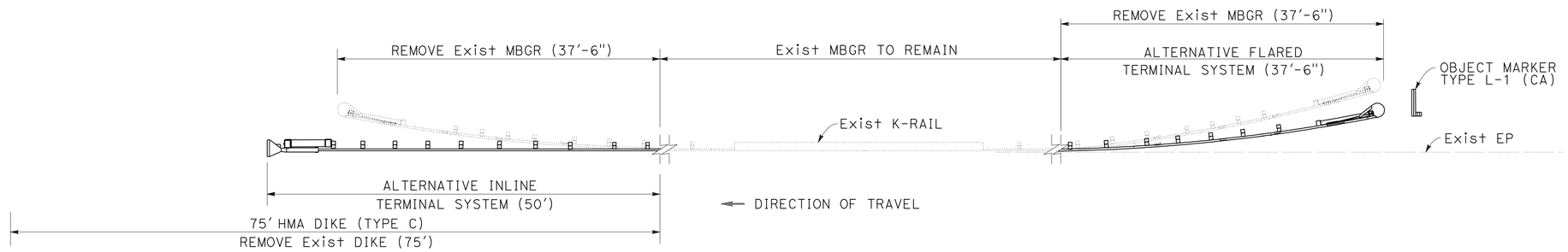
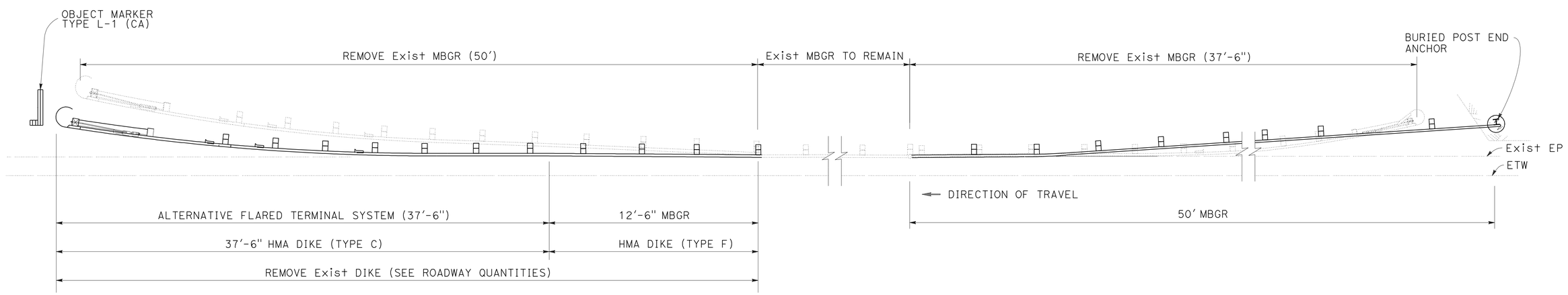


DETAIL Z
Loc 84-7



DETAIL AA
Loc 84-23



DETAIL AB
Loc 1-30

CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

C-10

REVISED BY	DATE REVISED
TN	02/18/10

HONMING KONG — CALCULATED-DESIGNED BY
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82, 84,101,etc.	Var	14	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

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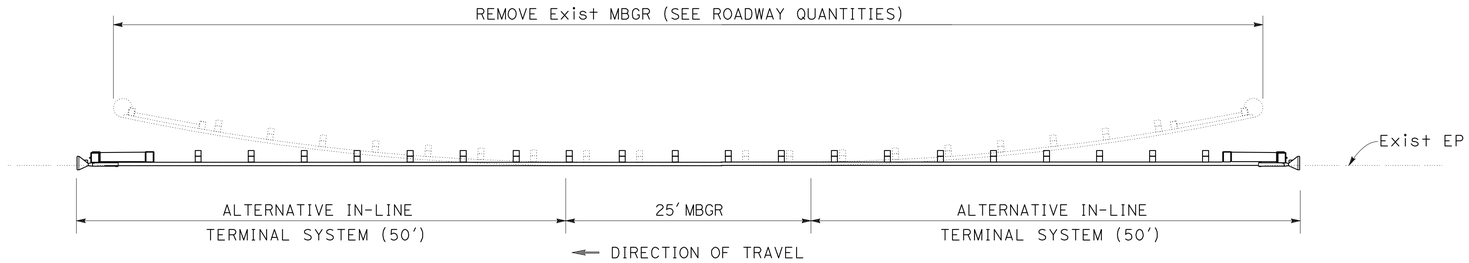
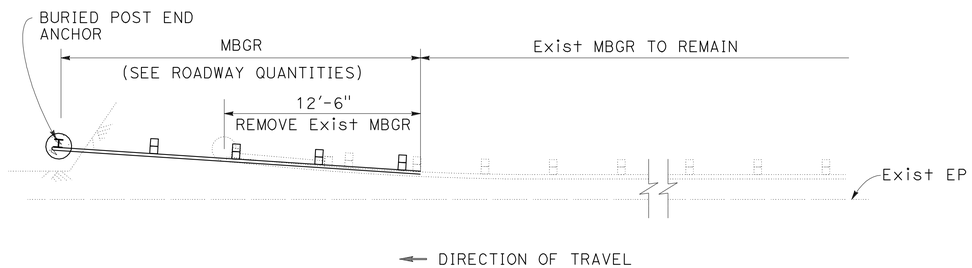


DETAIL AC
Loc 84-25



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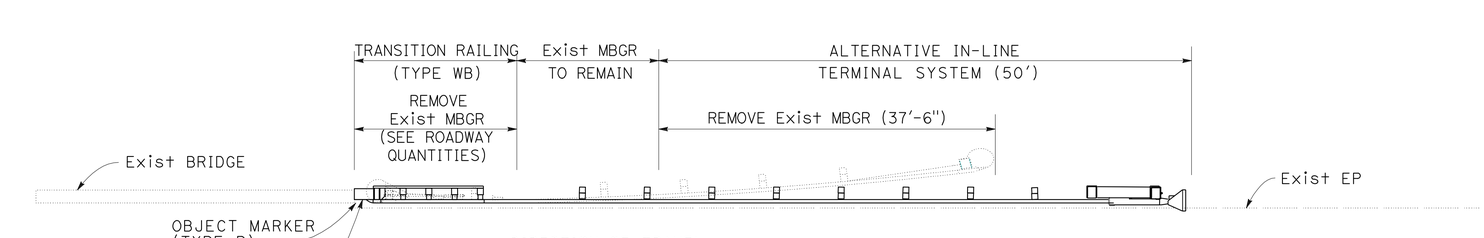
Loc 84-19



DETAIL AE
Loc 84-40, 84-43

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

CONSTRUCTION DETAILS
NO SCALE

C-11

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG
CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION DATE PLOTTED => 12-MAY-2010
TIME PLOTTED => 14:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82, 84,101,etc.	Var	15	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 CIVIL STATE OF CALIFORNIA

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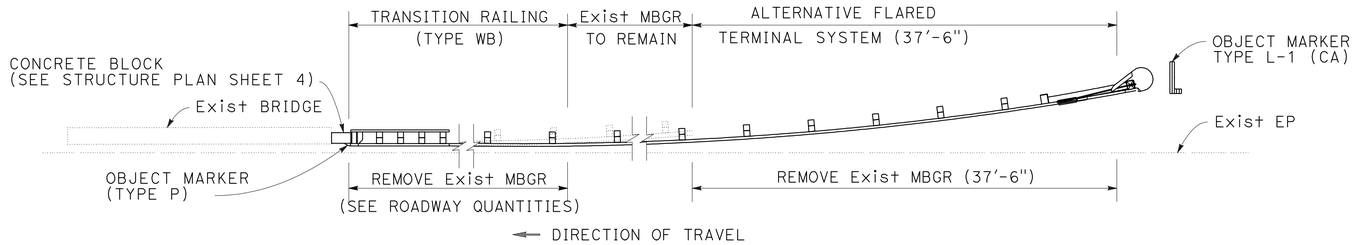
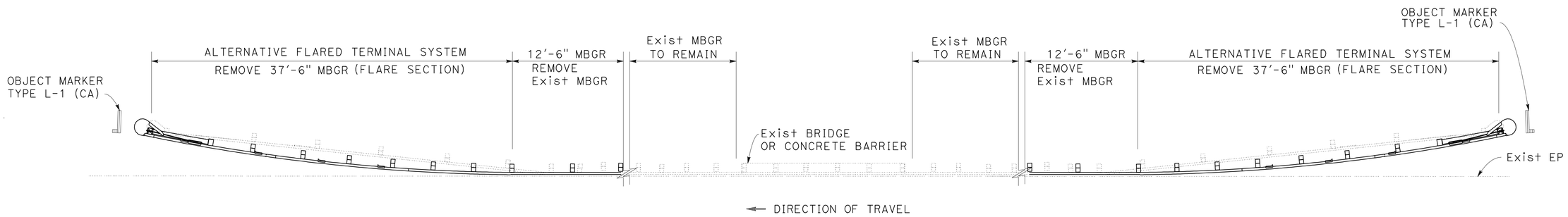


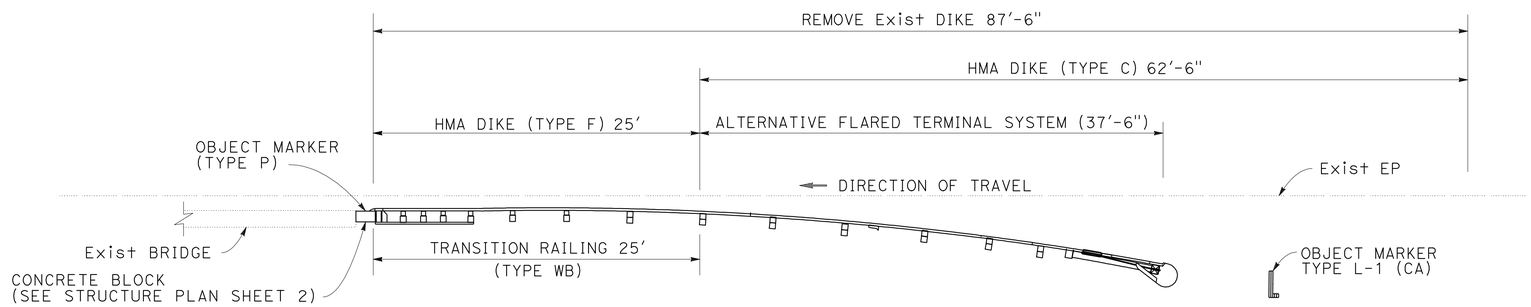
DETAIL AF

Loc 101-1



DETAIL AG

Loc 1-42, 1-45, 1-46
84-26



DETAIL AH

Loc 280-1

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

CONSTRUCTION DETAILS

NO SCALE

C-12

REVISED BY	DATE REVISED
TN	02/18/10

CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
FUNCTIONAL SUPERVISOR: KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION DATE PLOTTED => 13-MAY-2010
02-18-10 TIME PLOTTED => 14:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82, 84,101,etc.	Var	16	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 CIVIL STATE OF CALIFORNIA

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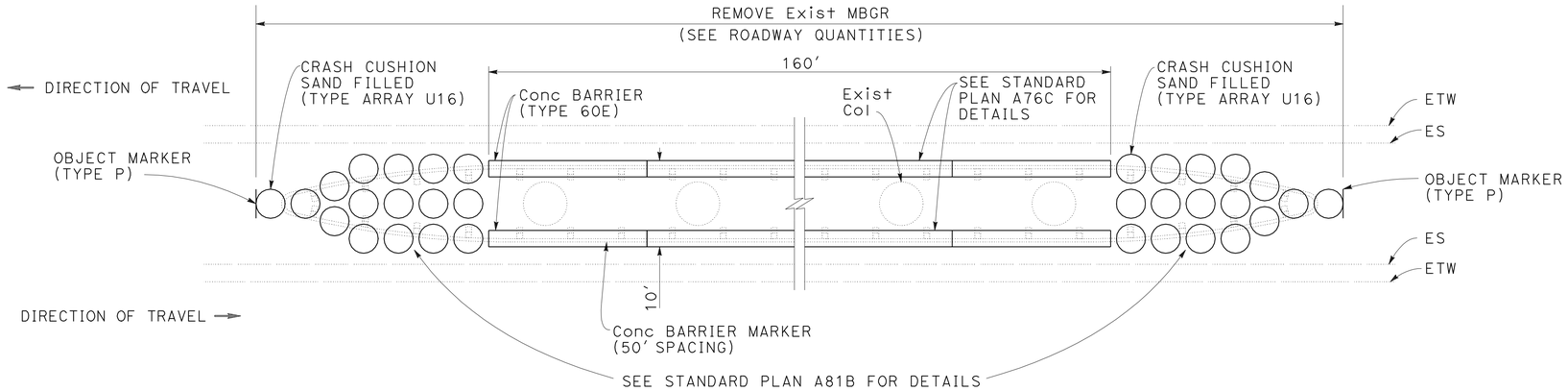
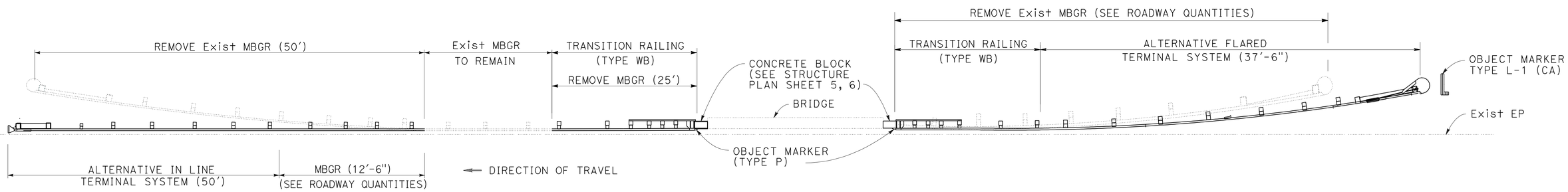


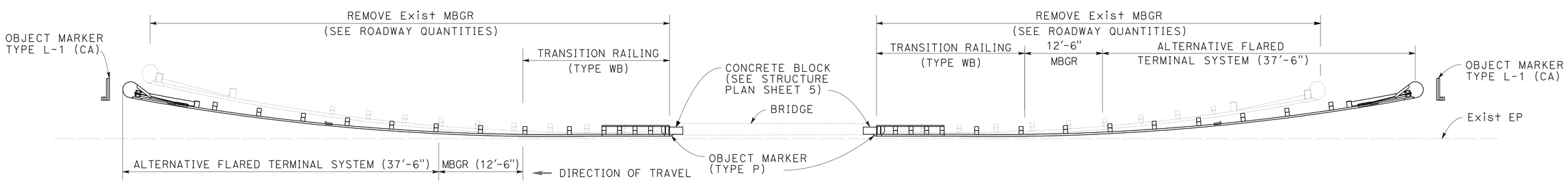
DETAIL AI

Loc 280-3



DETAIL AJ

Loc 84-31



DETAIL AK

Loc 84-30

CONSTRUCTION DETAILS

NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

C-13

REVISED BY	TN
DATE REVISED	02/18/10
HONMING KONG	
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FUNCTIONAL SUPERVISOR	
KAM LEUNG	

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DESIGN

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LAST REVISION 03-01-10 | DATE PLOTTED => 12-MAY-2010 | TIME PLOTTED => 14:52

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82, 84,101,etc.	Var	17	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 CIVIL STATE OF CALIFORNIA

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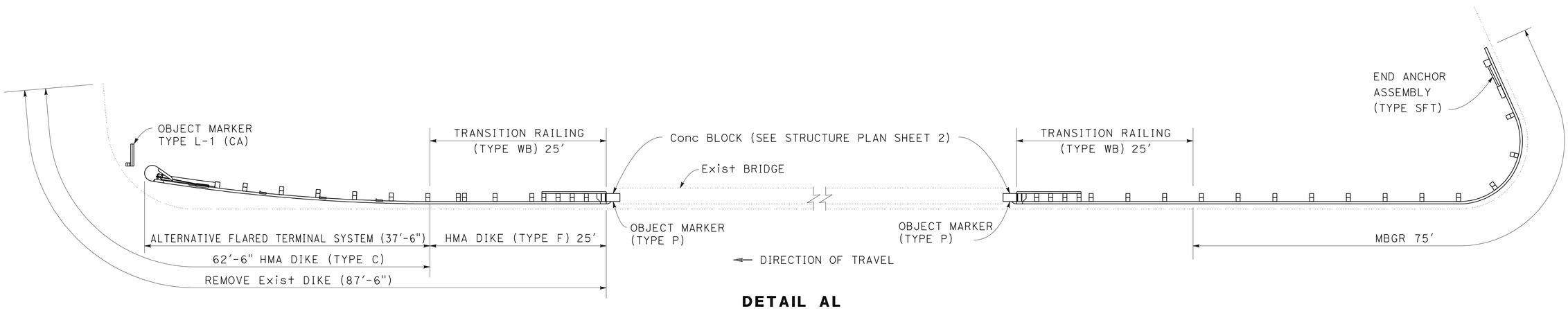
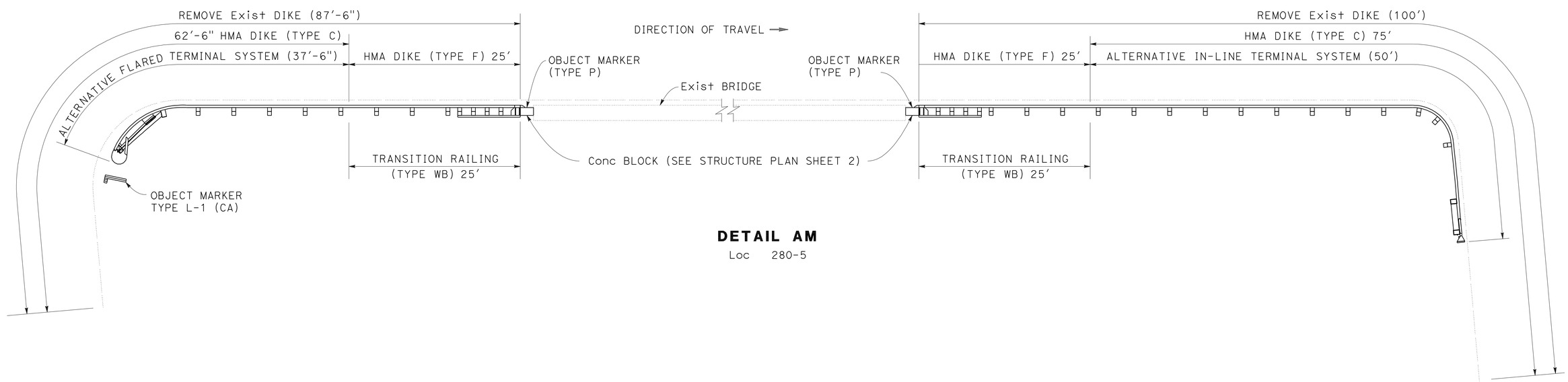


DETAIL AL
Loc 280-4

BUNKER HILL Dr



DETAIL AM
Loc 280-5

CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

C-14

REVISED BY	DATE REVISED
TN	02/18/10

HONMING KONG — THANH C NGUYEN — CALCULATED-DESIGNED BY — CHECKED BY

FUNCTIONAL SUPERVISOR: KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

LAST REVISION 01-28-10 — DATE PLOTTED => 12-MAY-2010 — TIME PLOTTED => 14:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	18	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 CIVIL STATE OF CALIFORNIA

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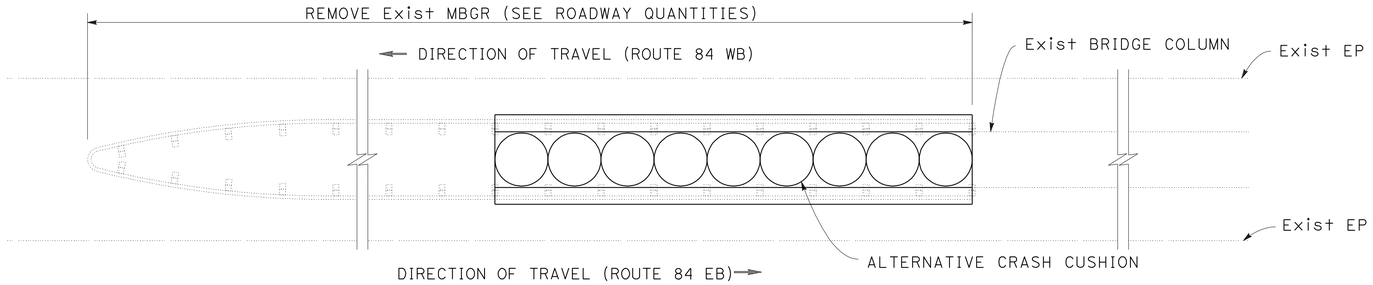
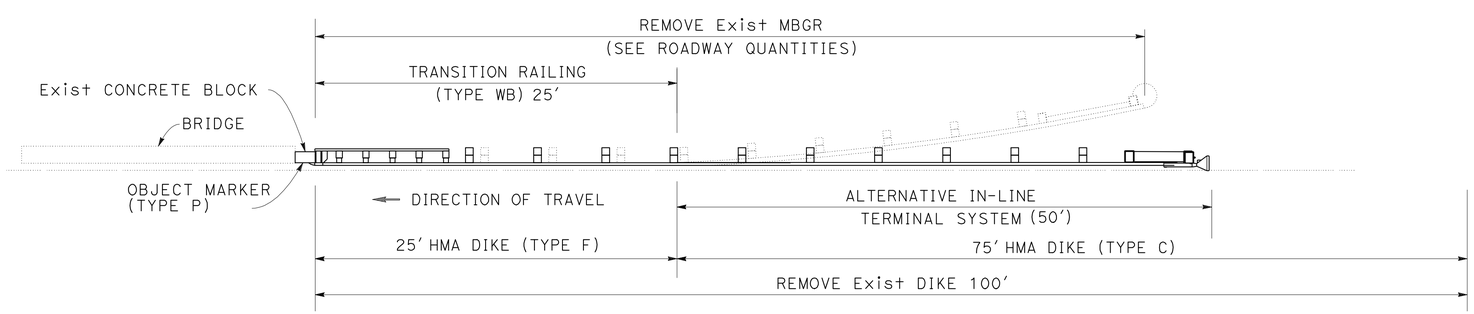


DETAIL AN
Loc 101-2



DETAIL AO
Loc 101-3

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

CONSTRUCTION DETAILS
NO SCALE

C-15

REVISED BY	TN
DATE REVISED	02/18/10
HONMING KONG	
THANH C NGUYEN	
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	
KAM LEUNG	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 01-28-10
DATE PLOTTED => 12-MAY-2010
TIME PLOTTED => 13:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	19	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

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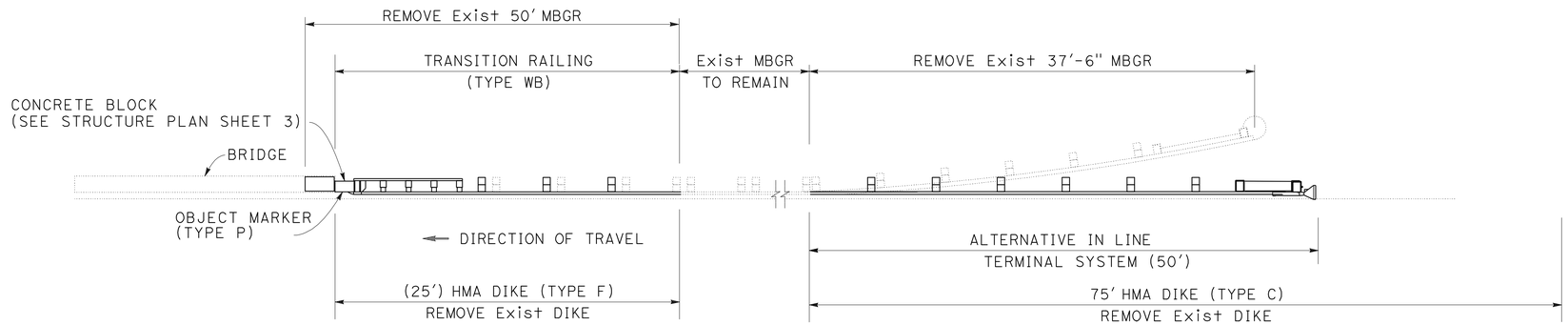
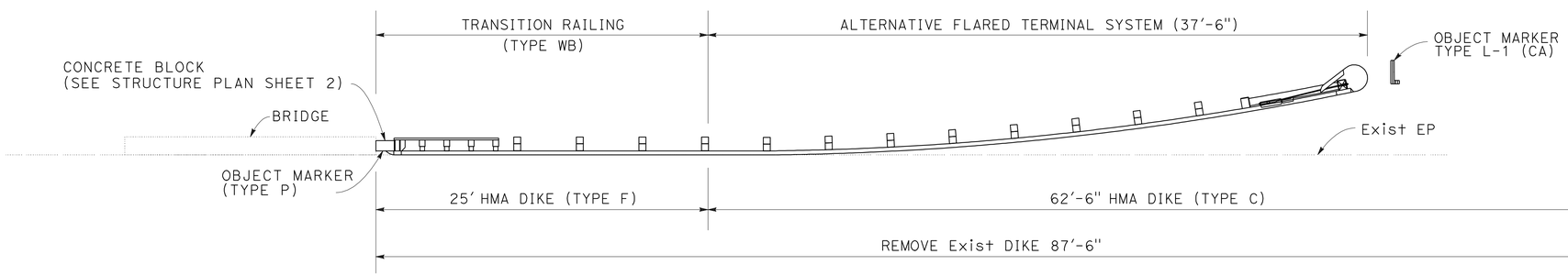
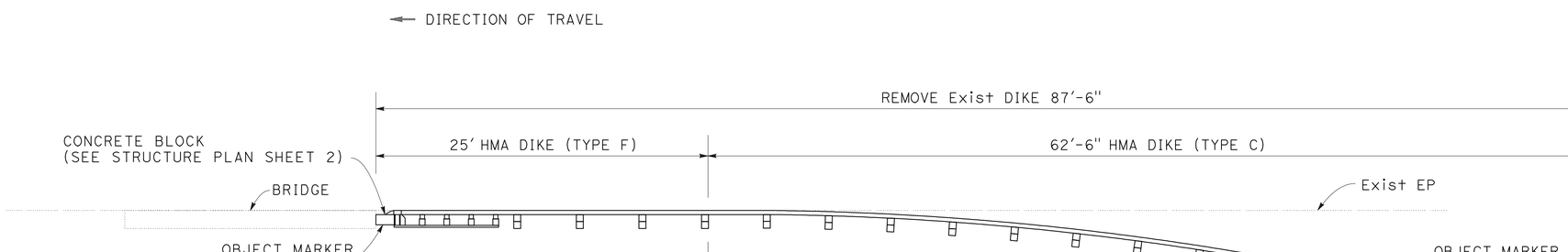


DETAIL AP
Loc 84-45





DETAIL AQ
Loc 280-2

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

CONSTRUCTION DETAILS
NO SCALE

C-16

REVISED BY	DATE REVISED
TN	02/18/10

HONMING KONG — THANH C NGUYEN

CALCULATED-DESIGNED BY — CHECKED BY

FUNCTIONAL SUPERVISOR — KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans — DESIGN

LAST REVISION 01-28-10 | DATE PLOTTED => 13-MAY-2010 | TIME PLOTTED => 09:37

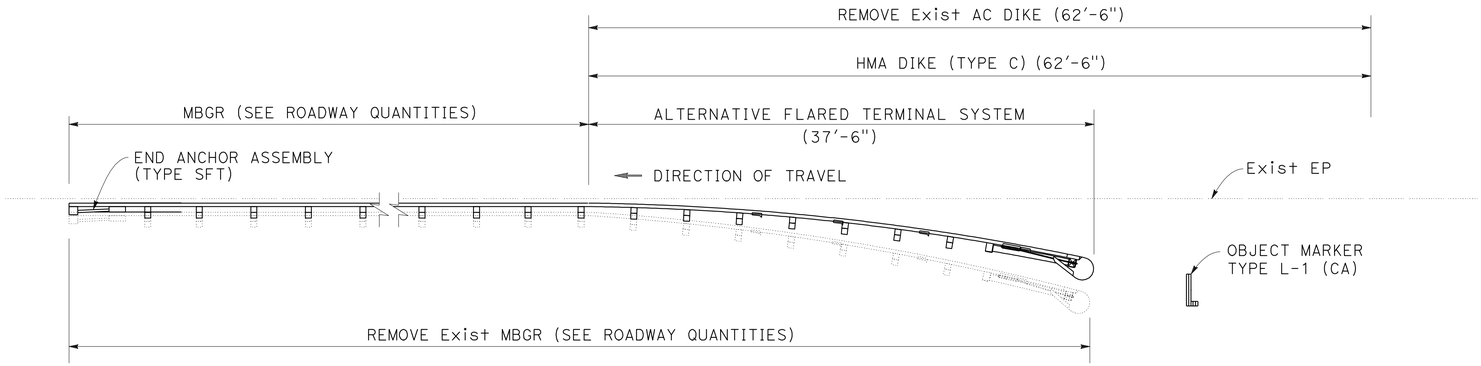
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	20	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

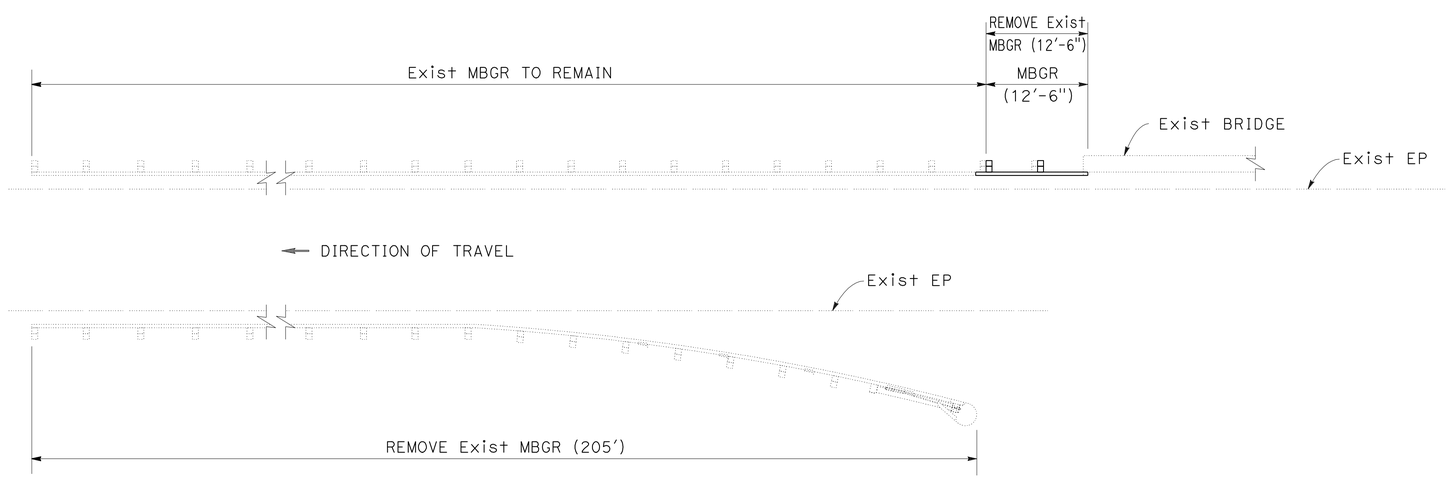
5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
T.C. Nguyen
No. 58137
Exp 6-30-10
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.



DETAIL AR
Loc 84-41



DETAIL AS
Loc 84-42

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

CONSTRUCTION DETAILS
NO SCALE

C-17

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG
CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 02-18-10
DATE PLOTTED => 12-MAY-2010
TIME PLOTTED => 13:56

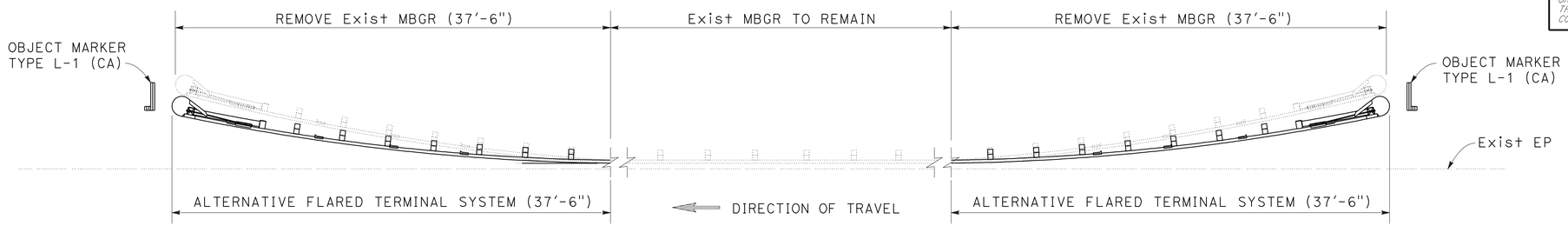
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	21	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

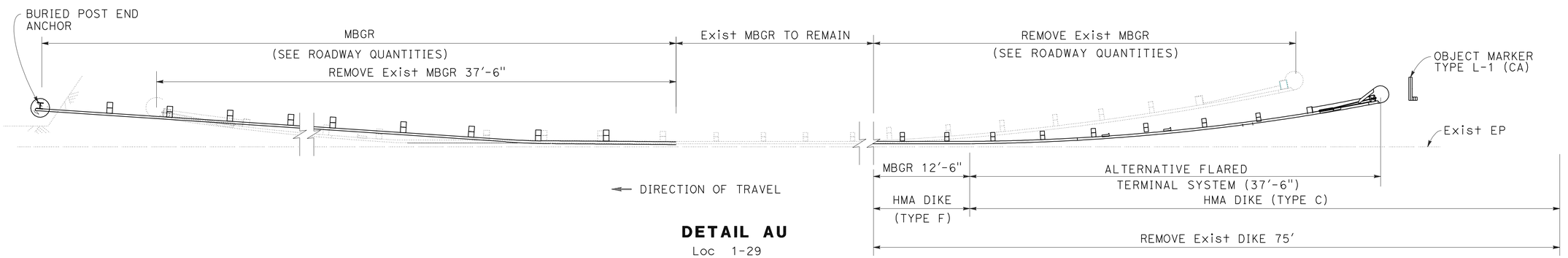
5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
T.C. Nguyen
No. 58137
Exp 6-30-10
CIVIL
STATE OF CALIFORNIA

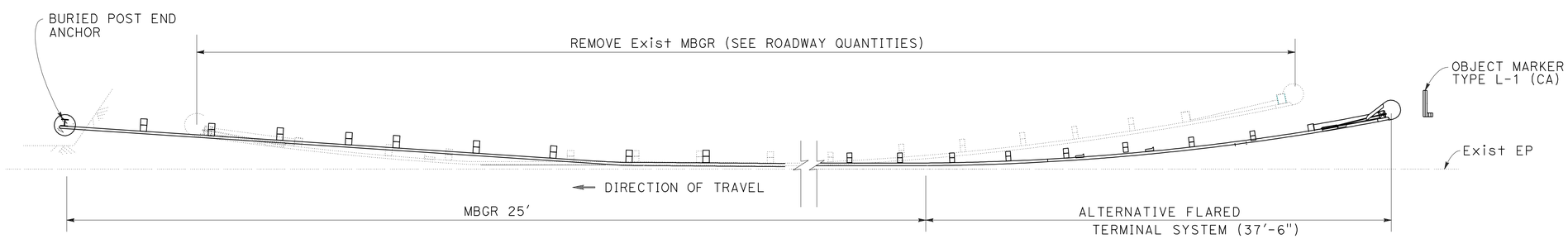
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



DETAIL AT
Loc 84-9



DETAIL AU
Loc 1-29



DETAIL AV
Loc 84-14

CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-1

C-18

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG
CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 02-18-10 | DATE PLOTTED => 12-MAY-2010 | TIME PLOTTED => 13:56

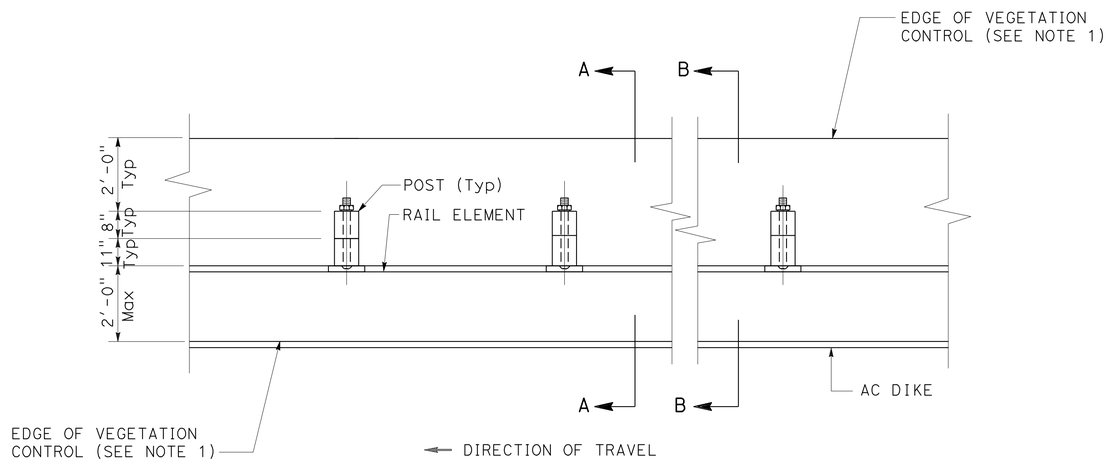
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	22	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 CIVIL STATE OF CALIFORNIA

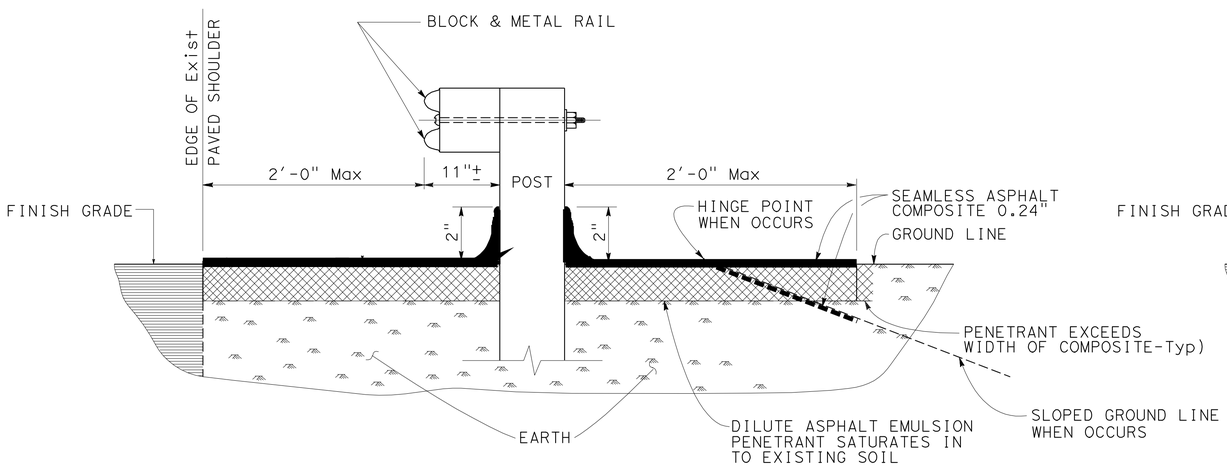
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



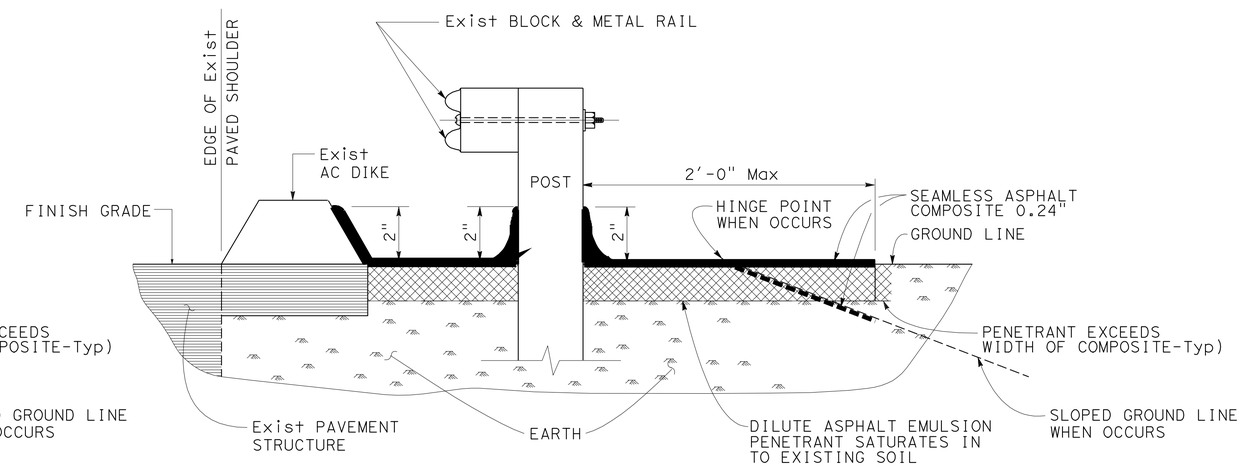
PLAN

NOTES:

1. THE WIDTH OF THE VEGETATION BARRIER SHOWN IS TYPICAL 24 INCHES MAXIMUM, FROM RAILING IN FRONT AND FROM POST IN THE BACK. GRUBBED SMOOTH SURFACE FREE OF VEGETATION IS REQUIRED PRIOR TO INSTALLATION.
2. IF THERE IS AN EXISTING DIKE UNDER THE RAILING OR LESS THAN 24'' FROM THE FRONT OF THE RAILING, THE SEAMLESS COMPOSITE SHALL BE INSTALLED UP TO THE TOP 2 INCHES OF THE INSIDE WALL OF THE DIKE TO PROVIDE SOLID ANCHORAGE, AND PREVENT A GAP AT THE JUNCTION OF THE VEGETATION BARRIER AND DIKE.
3. WHERE PAVED SHOULDER EXISTS WITHIN 24'' IN FRONT OF THE RAILING, INSTALL VEGETATION CONTROL BARRIER UP TO THE EDGE OF PAVED SHOULDER. SEAMLESS ASPHALT COMPOSITE IS NOT INTENDED FOR VEHICLE TRAFFIC.
4. DIRECTION OF ADJACENT TRAFFIC INDICATED BY ←.



SECTION A-A



SECTION B-B

CONSTRUCTION DETAILS
(METAL BEAM GUARD RAILING TYPICAL VEGETATION CONTROL SEAMLESS ASPHALT COMPOSITE SECTION)

NO SCALE

C-19

REVISED BY	DATE REVISED
TN	02/18/10

HONMING KONG — THANH C NGUYEN — CALCULATED-DESIGNED BY / CHECKED BY

FUNCTIONAL SUPERVISOR: KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans® — DESIGN

LAST REVISION 02-18-10 — DATE PLOTTED => 12-MAY-2010 — TIME PLOTTED => 13:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	23	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

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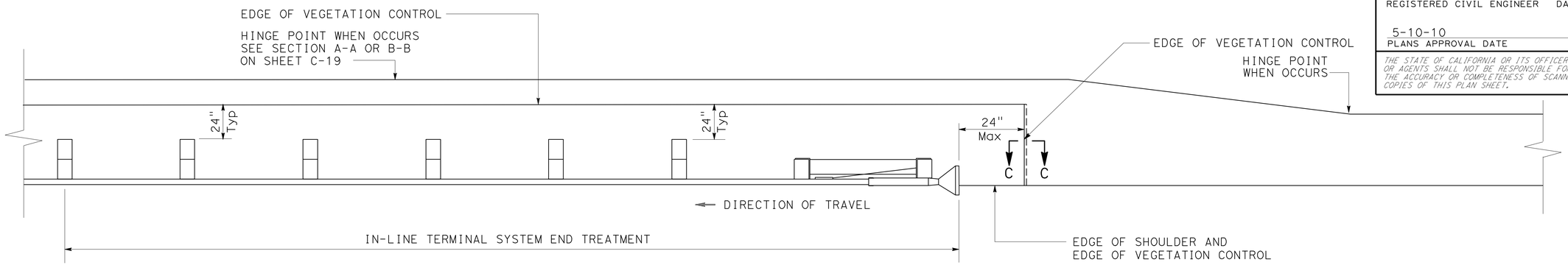
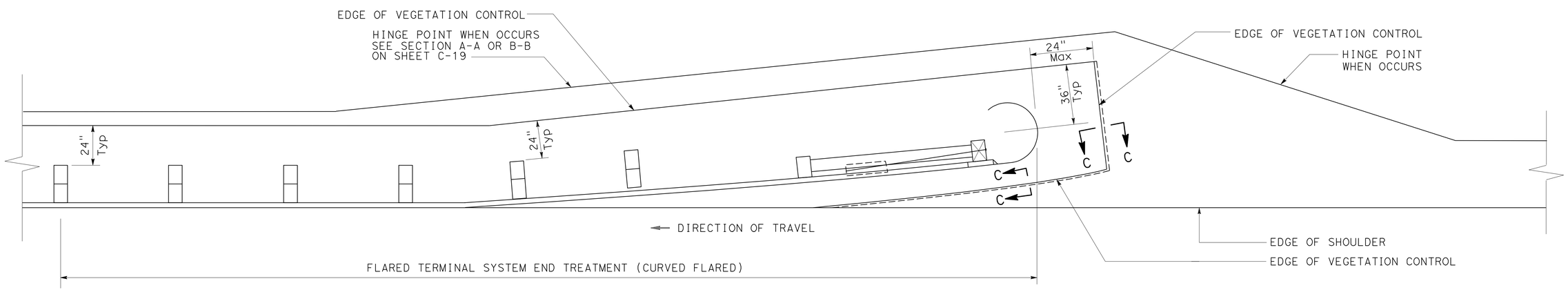
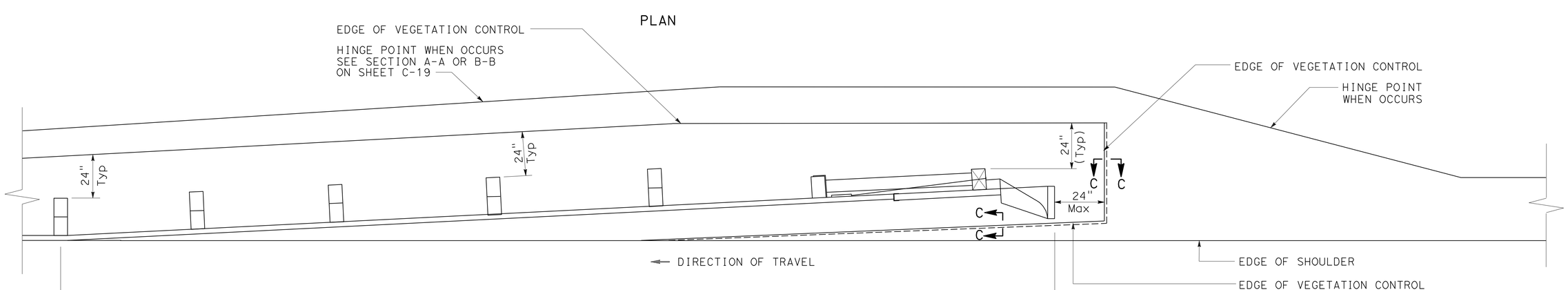


PLAN



PLAN



PLAN

CONSTRUCTION DETAILS
(METAL BEAM GUARD RAILING TYPICAL VEGETATION CONTROL FOR TERMINAL SYSTEM END TREATMENT)

NO SCALE

C-20

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-19

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG
CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION DATE PLOTTED => 12-MAY-2010
TIME PLOTTED => 13:56
02-18-10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	24	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 CIVIL STATE OF CALIFORNIA

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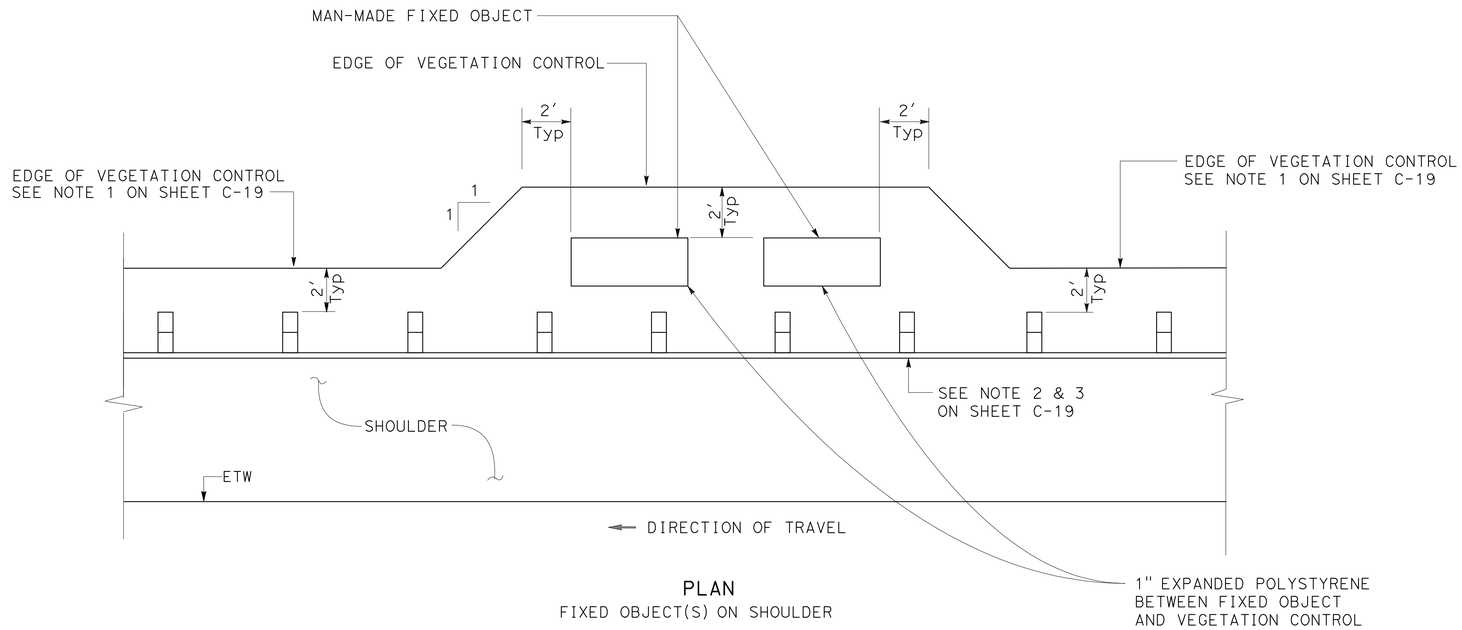
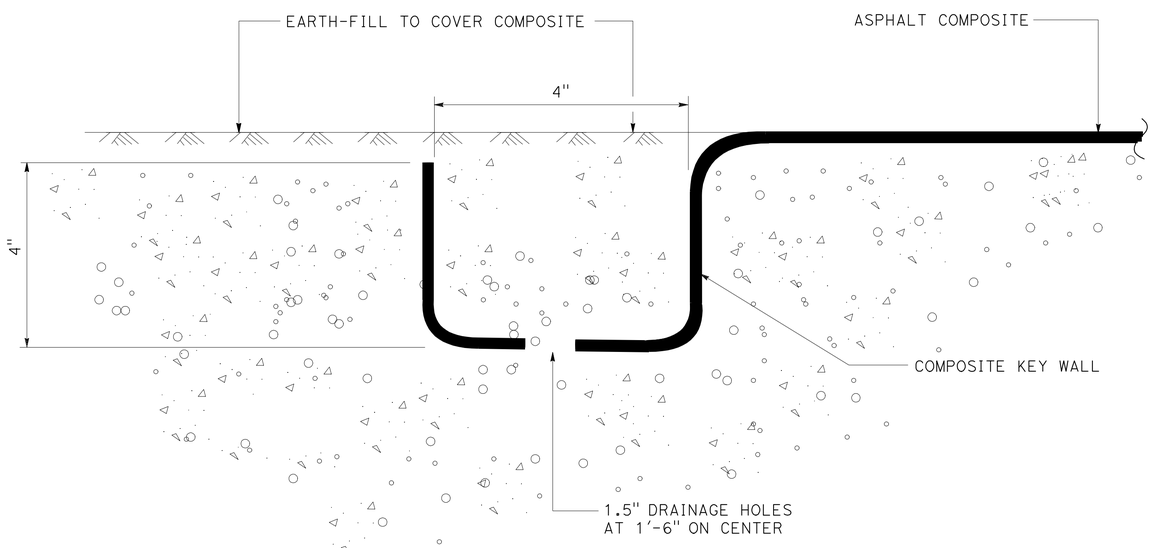


PLAN
FIXED OBJECT(S) ON SHOULDER



SECTION C-C
EDGE - KEY DETAIL

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET C-19

CONSTRUCTION DETAILS
(METAL BEAM GUARD RAILING TYPICAL VEGETATION CONTROL AT FIXED OBJECT)

NO SCALE

C-21

REVISED BY	DATE REVISED
TN	02/18/10

HONMING KONG — THANH C NGUYEN

CALCULATED-DESIGNED BY / CHECKED BY

FUNCTIONAL SUPERVISOR: KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — DESIGN — Caltrans

LAST REVISION 02-18-10 | DATE PLOTTED => 12-MAY-2010 | TIME PLOTTED => 13:57

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	25	61

REGISTERED CIVIL ENGINEER 2/23/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Jerilyn L. Struven No. 49964 Exp. 12-31-10 CIVIL STATE OF CALIFORNIA

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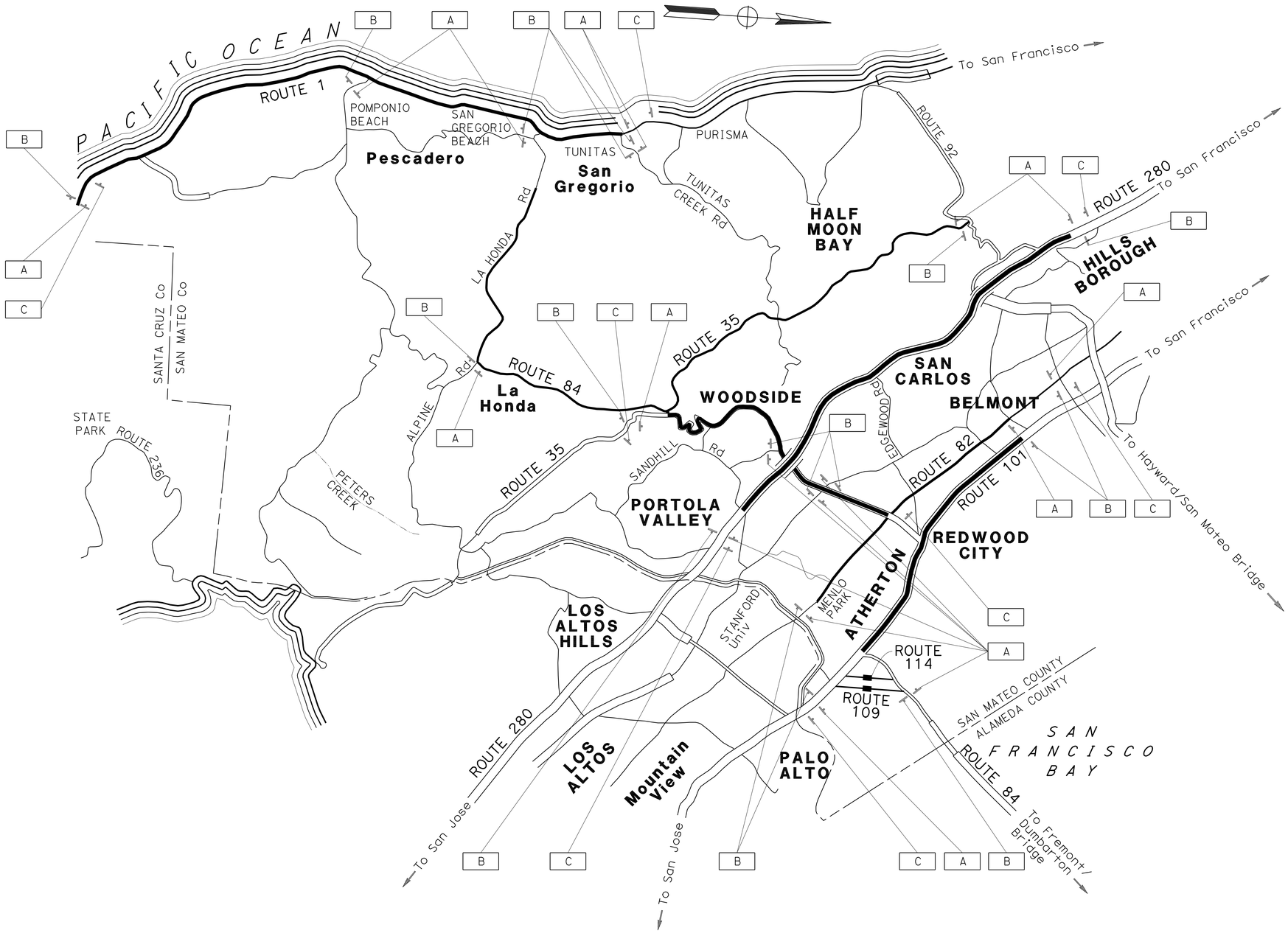
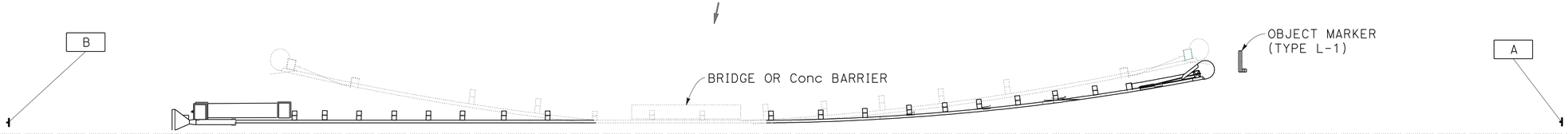


LEGEND:

- [No.] SIGN INSTALLATION NUMBER
- [A] CONSTRUCTION AREA SIGNS
- → DIRECTION OF TRAFFIC
- X RAMP OR CONNECTOR TO BE CLOSED

NOTES:

1. EXACT LOCATION AND POSITION OF SIGNS TO BE DETERMINED BY THE ENGINEER.
2. DIMENSIONS FOR SIGN PANEL, LETTERING, AND POST ARE IN INCHES.



TYPICAL CONSTRUCTION AREA SIGNS FOR INSTALLING MBGR

CONSTRUCTION AREA SIGNS

NO SCALE

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-1

REVISED BY	TN
DATE REVISED	02/18/10
CALCULATED-DESIGNED BY	STEPHEN LAU
CHECKED BY	JERILYN L. STRUVEN
FUNCTIONAL SUPERVISOR	ROLAND AU-YEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 01-27-10 | DATE PLOTTED => 12-MAY-2010 | TIME PLOTTED => 13:57

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	26	61

REGISTERED CIVIL ENGINEER 2/23/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Jerilyn L. Struven
No. 49964
Exp. 12-31-10
CIVIL
STATE OF CALIFORNIA

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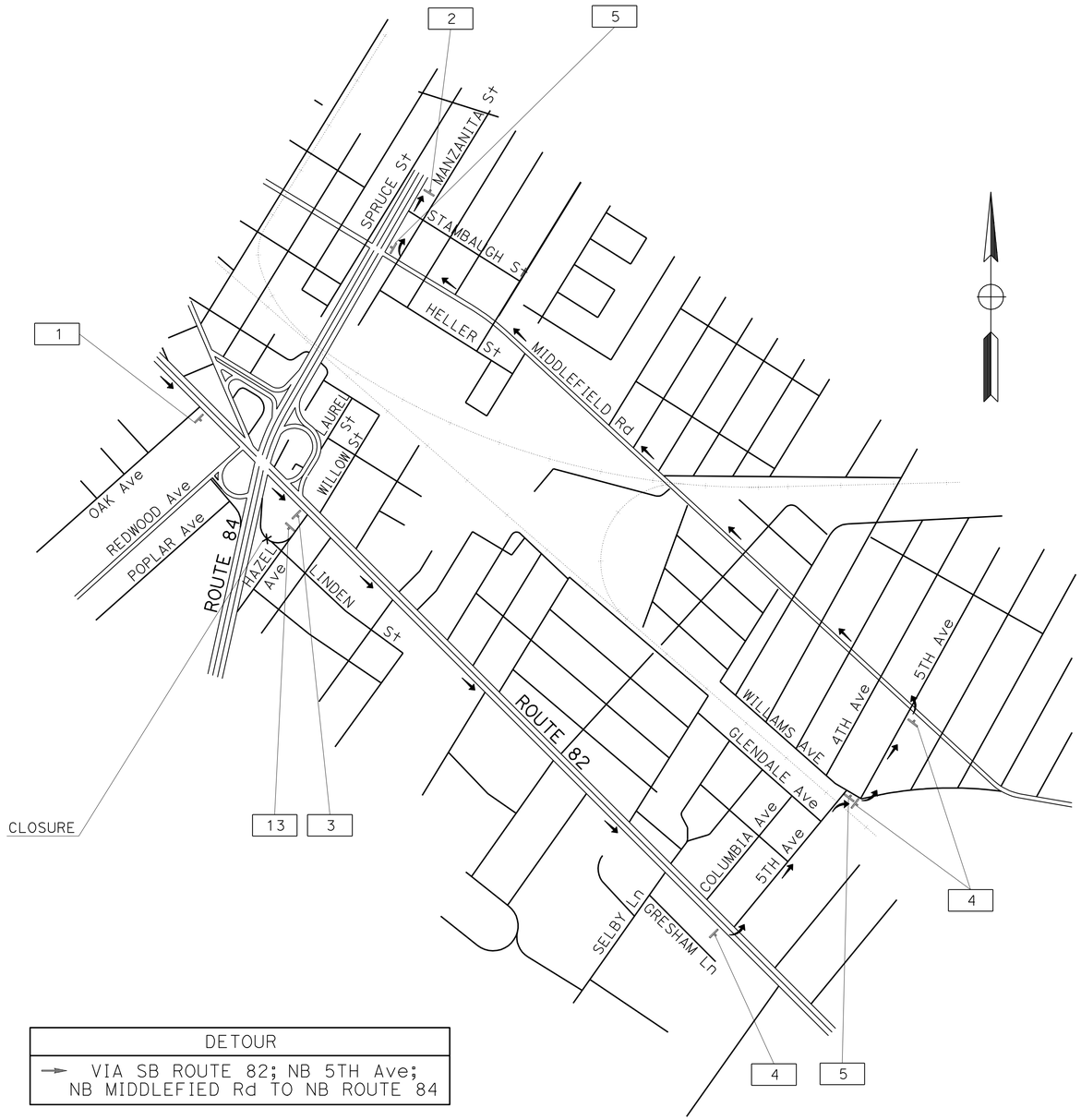
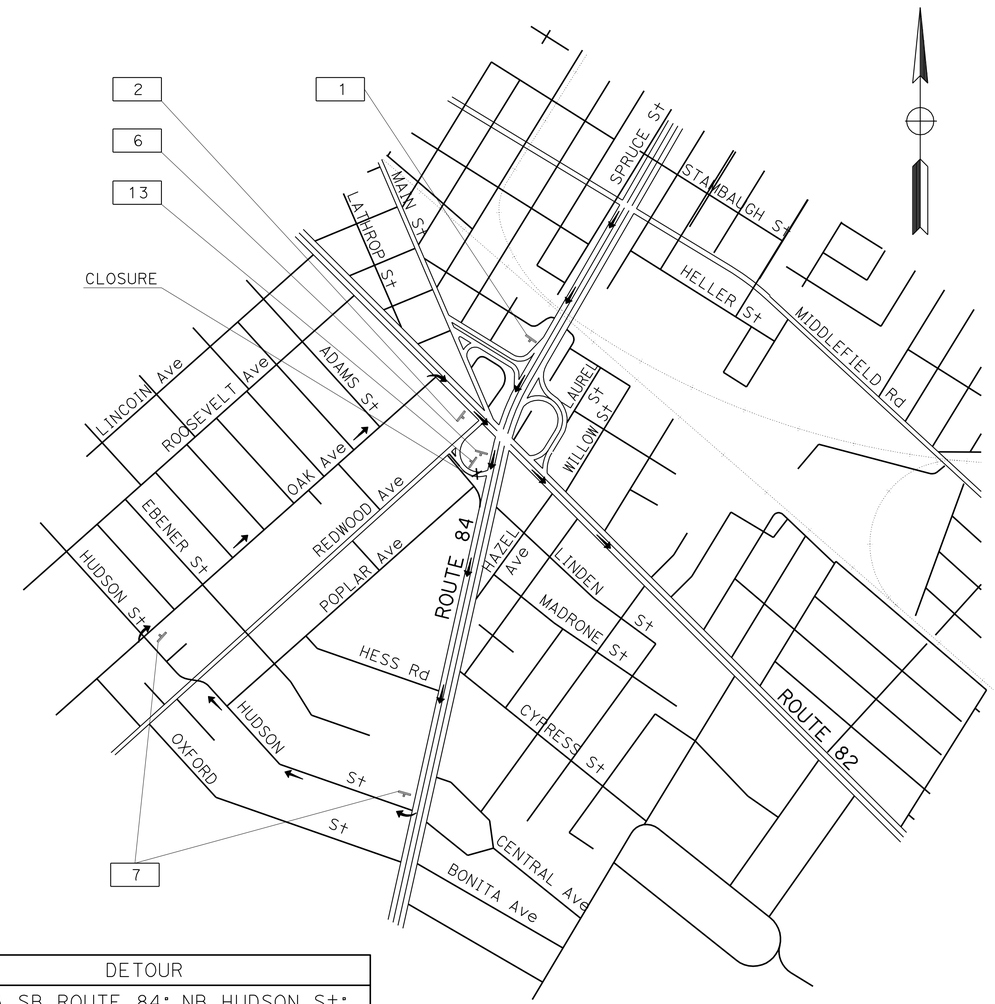


DETOUR
→ VIA SB ROUTE 82; NB 5TH Ave; NB MIDDLEFIED Rd TO NB ROUTE 84

DETOUR PLAN No. 1
NB ROUTE 84 CONNECTOR ON-RAMP
FROM SB ROUTE 82
CLOSED



DETOUR
→ VIA SB ROUTE 84; NB HUDSON St; EB OAK Ave TO SB ROUTE 84

DETOUR PLAN No. 2
SB ROUTE 84 CONNECTOR OFF-RAMP
TO SB ROUTE 82
CLOSED

CONSTRUCTION AREA SIGNS
NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET CS-1

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
CALCULATED-DESIGNED BY: STEPHEN LAU
CHECKED BY: JERILYN L. STRUVEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION DATE PLOTTED => 12-MAY-2010
TIME PLOTTED => 13:57
12-07-09

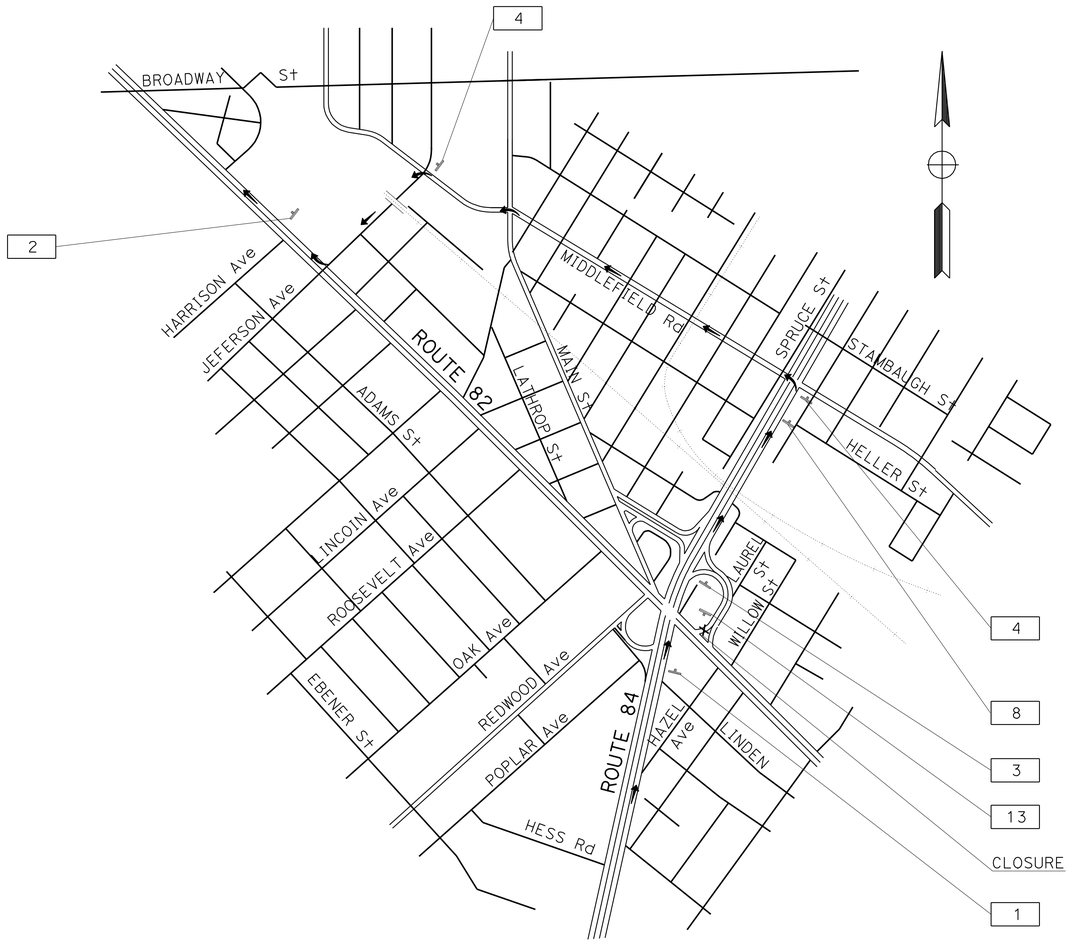
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	27	61

REGISTERED CIVIL ENGINEER 2/23/10 DATE

5-10-10
PLANS APPROVAL DATE

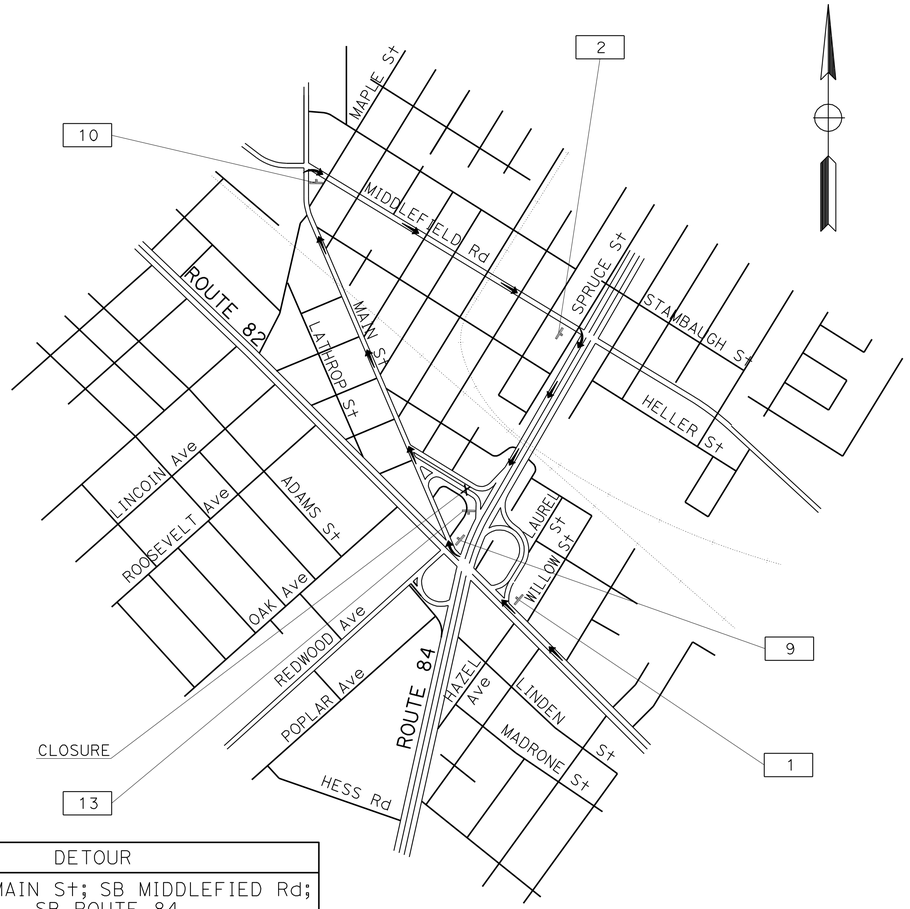
REGISTERED PROFESSIONAL ENGINEER Jerilyn L. Struven No. 49964 Exp. 12-31-10 CIVIL STATE OF CALIFORNIA

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.



DETOUR
→ VIA NB ROUTE 84; NB MIDDLEFIED Rd; WB JEFFERSON TO NB ROUTE 82

DETOUR PLAN No. 3
NB ROUTE 84 CONNECTOR OFF-RAMP
TO NB ROUTE 82
CLOSED



DETOUR
→ VIA NB MAIN St; SB MIDDLEFIED Rd; SB ROUTE 84

DETOUR PLAN No. 4
SB ROUTE 84 CONNECTOR ON-RAMP
FROM NB ROUTE 82
CLOSED

CONSTRUCTION AREA SIGNS

NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET CS-1

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
CALCULATED-DESIGNED BY: STEPHEN LAU
CHECKED BY: JERILYN L. STRUVEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 12-07-09
DATE PLOTTED => 12-MAY-2010
TIME PLOTTED => 13:57

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => trcarol
DGN FILE => 40a8721a003.dgn
CU 04227
EA 0A8721

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	28	61

REGISTERED CIVIL ENGINEER 2/23/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Jerilyn L. Struven No. 49964 Exp. 12-31-10 CIVIL STATE OF CALIFORNIA

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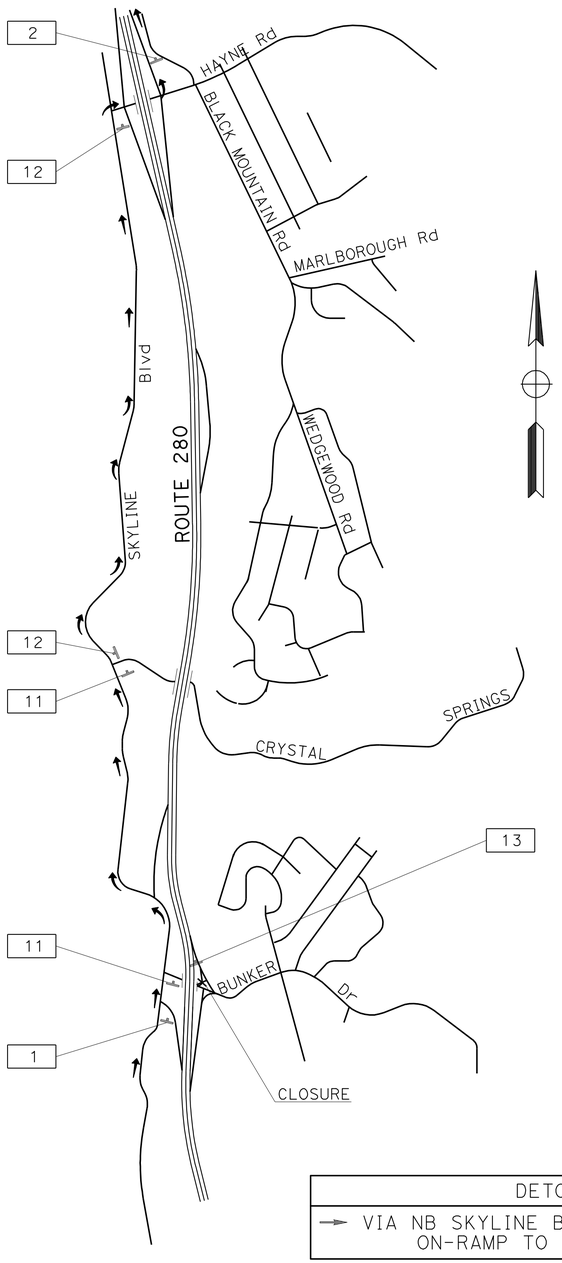

DETOUR
→ VIA NB SKYLINE Blvd; EB HAYNE Rd; ON-RAMP TO NB ROUTE 280

DETOUR PLAN No. 6
SEGMENT NB ROUTE 280 ON-RAMP
FROM EB BUNKER HILL Dr
CLOSED

DETOUR
→ VIA SB ROUTE 84; CONNECTOR OFF-RAMP TO SB ROUTE 82; WB REDWOOD Ave; NB HUDSON St; EB OAK Ave; NB ROUTE 82

DETOUR PLAN No. 5
SB ROUTE 84 CONNECTOR OFF-RAMP
TO NB ROUTE 82
CLOSED

CONSTRUCTION AREA SIGNS
NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET CS-1

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
CALCULATED-DESIGNED BY: STEPHEN LAU
CHECKED BY: JERILYN L. STRUVEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 12-07-09
DATE PLOTTED => 12-MAY-2010
TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	29	61

REGISTERED CIVIL ENGINEER 2/23/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Jerilyn L. Struven No. 49964 Exp. 12-31-10 CIVIL STATE OF CALIFORNIA

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STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	MUTCD CODE	MESSAGE	PANEL SIZE	NUMBER OF POST AND SIZE	No. OF SIGNS
A	W20-1	ROAD WORK AHEAD	48" x 48"	(ONE) 4" x 4"	18
B	G20-2	END ROAD WORK	48" x 24"	(ONE) 4" x 4"	18
C	C40A	TRAFFIC FINES DOUBLED IN WORK ZONES	48" x 48"	(ONE) 4" x 4"	8
1	W20-2	DETOUR AHEAD	48" x 48"	(ONE) 4" x 4"	6
2	M4-8A	END DETOUR	30" x 18"	(ONE) 4" x 4"	6
3	SC3(↑)	DETOUR (STRAIGHT ARROW)	48" x 18"	(ONE) 4" x 4"	3
	M3-1	NORTH	21" x 9"		
	G28-1(82)	ROUTE SHIELD	28" x 24"		
4	M4-1(L↑)	DETOUR (LEFT)	48" x 18"	(ONE) 4" x 4"	6
	M3-1	NORTH	21" x 9"		
	G28-1(82)	ROUTE SHIELD	28" x 24"		
5	M4-1(R↑)	DETOUR (RIGHT)	48" x 18"	(ONE) 4" x 4"	4
	M3-1	NORTH	21" x 9"		
	G28-1(82)	ROUTE SHIELD	28" x 24"		
6	SC3(↑)	DETOUR (STRAIGHT ARROW)	48" x 18"	(ONE) 4" x 4"	1
	M3-3	SOUTH	21" x 9"		
	G28-1(82)	ROUTE SHIELD	28" x 24"		
7	M4-10(R↑)	DETOUR (RIGHT)	48" x 18"	(ONE) 4" x 4"	2
	M3-3	SOUTH	21" x 9"		
	G28-1(82)	ROUTE SHIELD	28" x 24"		
8	M3-8	DETOUR	24" x 25"	(ONE) 4" x 4"	2
	M3-1	NORTH	21" x 9"		
	G28-1(82)	ROUTE SHIELD	28" x 24"		
	M6-2(↗)	DETOUR (DIAGONAL ARROW)	21" x 15"		
9	M3-8	DETOUR	24" x 25"	(ONE) 4" x 4"	1
	M3-3	SOUTH	21" x 9"		
	G28-1(84)	ROUTE SHIELD	28" x 24"		
	M6-2(↗)	DETOUR (DIAGONAL ARROW)	48" x 18"		
10	M4-10(R↑)	DETOUR (RIGHT)	48" x 18"	(ONE) 4" x 4"	1
	M3-3	SOUTH	21" x 9"		
	G28-1(84)	ROUTE SHIELD	28" x 24"		
11	SC3(↑)	DETOUR (STRAIGHT ARROW)	48" x 18"	(ONE) 4" x 4"	2
	M3-1	NORTH	21" x 9"		
	G27-2(280)	ROUTE SHIELD	30" x 25"		
12	M4-10(R↑)	DETOUR (RIGHT)	48" x 18"	(ONE) 4" x 4"	2
	M3-1	NORTH	21" x 9"		
	G27-2(280)	ROUTE SHIELD	30" x 25"		
13	SC6-4(CA)	RAMP CLOSED	60" x 48"	(ONE) 4" x 4"	6

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET CS-1

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

CONSTRUCTION AREA SIGNS

CS-5

REVISED BY	DATE REVISED
TN	02/18/10

CALCULATED-DESIGNED BY: STEPHEN LAU
CHECKED BY: JERILYN L. STRUVEN
FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 01-27-10 | DATE PLOTTED => 12-MAY-2010 | TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	30	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 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.

ROADWAY QUANTITIES

ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE	TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	CONCRETE BARRIER (TYPE 60E)	CONCRETE BARRIER MARKER	CRASH CUSHION SAND FILLED (TYPE ARRAY U16)	ALTERNATIVE CRASH CUSHION	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS
					LF			EA	TON	LF		EA				LF	EA					LF	EA				SQYD	
1-1	0.9 MILE N OF COUNTY LINE	NB	0.90	11E	100	100	100.0		0.85	75.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-2	0.9 MILE N OF COUNTY LINE	SB	0.90	11E	100	100	100.0		0.85	75.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-3	1.0 MILE N OF COUNTY LINE	SB	1.00	11E			100.0					2		4		25.0		2									68	SEE DETAIL D, SHEET C-2
1-4	1.05 MILE N OF COUNTY LINE	NB	1.05	11E			100.0					2		4		25.0		2									68	SEE DETAIL D, SHEET C-2
1-5	S OF ANO NUEVA PRESERVE	NB	1.20	11E			100.0					2		4		25.0		2									68	SEE DETAIL D, SHEET C-2
1-6	S OF ANO NUEVA PRESERVE	SB	1.20	11E			100.0					2		4		25.0		2									68	SEE DETAIL D, SHEET C-2
1-7	N OF ANO NUEVA PRESERVE	NB	1.71	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-8	N OF ANO NUEVA PRESERVE	NB	2.65	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-9	N OF ANO NUEVA PRESERVE	SB	3.00	11E			50.0					1		2		12.5		1									34	SEE DETAIL M, SHEET C-5
1-10	N OF ANO NUEVA PRESERVE	NB	3.30	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-11	N OF ANO NUEVA PRESERVE	SB	3.40	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-12	NEAR WHITE HOUSE CANYON	NB	4.23	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2								1	68	SEE DETAIL P, SHEET C-6
1-13	NEAR WHITE HOUSE CANYON	SB	4.23	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-14	S OF GAZOS CREEK	SB	5.10	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2								1	68	SEE DETAIL P, SHEET C-6
1-15	S OF GAZOS CREEK	NB	5.30	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-16	S OF GAZOS CREEK	SB	5.30	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-17	S OF GAZOS CREEK	SB	5.54	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-18	AT GAZOS CREEK 35-51	NB	5.70	11D			12.5							2					1									SEE DETAIL K, SHEET C-5
1-20	N OF GAZOS CREEK Rd	SB	6.15	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-21	N OF GAZOS CREEK Rd	NB	6.40	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-22	N OF GAZOS CREEK Rd	SB	6.40	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-23	N OF PEGEON POINT Rd (SOUTH)	NB	7.50	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-24	N OF PEGEON POINT Rd (SOUTH)	SB	7.50	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
	SHEET TOTAL				2450	2450	2162.5		19.85	2025.0	425.0	43		88		537.5		43	1							2	1462	

(N) = NOT A SEPARATE PAY ITEM FOR INFORMATION ONLY
* FOR DETAIL NOT SHOWN, SEE Std PLAN

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG
CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 03-01-10
DATE PLOTTED => 13-MAY-2010
TIME PLOTTED => 14:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	31	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 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.

ROADWAY QUANTITIES

ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE	TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	CONCRETE BARRIER (TYPE 60E)	CONCRETE BARRIER MARKER	CRASH CUSHION SAND FILLED (TYPE ARRAY U16)	ALTERNATIVE CRASH CUSHION	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS
					LF			EA	TON	LF		EA				LF	EA					LF	EA				SQYD	
1-25	NEAR PIGEON POINT Rd	NB	7.70	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-26	NEAR PIGEON POINT Rd	SB	7.70	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-27	NEAR PIGEON POINT Rd	SB	7.90	11E	125	125	100.0		1.02	100.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-28	NEAR PIGEON POINT Rd	SB	7.99	11E	125	125	100.0		1.02	100.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-29	AT PIGEON POINT Rd (NORTH)	NB	8.60	11G	75	75	87.5		0.61	62.5	12.5	1		4		62.5		1			1							SEE DETAIL AU, SHEET C-18
1-30	N OF PIGEON POINT Rd (NORTH)	SB	8.70	11L	50	50	87.5		0.43	37.5	12.5	1		4		62.5		1			1							SEE DETAIL AB, SHEET C-10
1-31	N OF PIGEON POINT Rd (NORTH)	NB	9.20	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-32	N OF PIGEON POINT Rd (NORTH)	SB	9.20	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-33	N OF PIGEON POINT Rd (NORTH)	NB	9.38	11E	150	150	100.0		1.21	125.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-34	N OF PIGEON POINT Rd (NORTH)	SB	9.38	11E	100	100	100.0		0.85	75.0	25.0	2		4		25.0		2									68	SEE DETAIL P, SHEET C-6
1-35	S OF BEAN HOLLOW Rd	SB	9.50	11E	125	125	75.0		0.89	125.0		2		4				2									68	SEE DETAIL N, SHEET C-6
1-36	S OF BEAN HOLLOW Rd	NB	9.50	11E	125	125	75.0		0.89	125.0		2		4				2									68	SEE DETAIL N, SHEET C-6
1-37	S OF BEAN HOLLOW Rd	SB	10.10	11E	75	75	75.0		0.54	75.0		2		4				2									68	SEE DETAIL N, SHEET C-6
1-38	S OF BEAN HOLLOW Rd	NB	10.20	11E	75	75	75.0		0.54	75.0		2		4				2									68	SEE DETAIL N, SHEET C-6
1-39	S OF BEAN HOLLOW Rd	SB	10.20	11E	75	75	75.0		0.54	75.0		2		4				2									68	SEE DETAIL N, SHEET C-6
1-40	NEAR PESCADERO Rd	SB	13.40	11E	50	50	50.0		0.61	62.5	12.5	1		2		12.5		1										SEE DETAIL O, SHEET C-6
1-41	AT PESCADERO CREEK 35-28	NB	14.00	12B	125	125	75.0		0.89	125.0		2		4				2										SEE DETAIL N, SHEET C-6
1-42	AT PESCADERO CREEK 35-28	SB	14.00	12B			100.0					2		4		25.0		2										SEE DETAIL AG, SHEET C-12
1-43	AT POMPONIO CREEK 35-29	NB	16.50	11E			100.0					2		4		25.0		2										SEE DETAIL D, SHEET C-2
1-45	AT SAN GREGORIO CREEK 35-30	NB	18.00	12B			100.0	2				2		2		25.0		2										SEE DETAIL AG, SHEET C-12
1-46	AT SAN GREGORIO CREEK 35-30	SB	18.00	12B			100.0	1				2		2		25.0		2										SEE DETAIL AG, SHEET C-12
1-47	AT Jct Rte 84	SB	18.20	11L			87.5					1		2		62.5		1			1						34	SEE DETAIL X, SHEET C-9
1-48	0.4 MILE N OF Jct Rte 84	SB	18.60	11E			100.0	2				2		4		25.0		2									68	SEE DETAIL D, SHEET C-2
1-49	0.7 MILE N OF Jct Rte 84	NB	18.80	11E			50.0	1				1		2		12.5		1									34	SEE DETAIL I, SHEET C-4
1-50	S OF STAGE Rd	NB	19.00	11E			100.0					2		4		25.0		2									68	SEE DETAIL D, SHEET C-2
1-51	AT TUNITAS CREEK 35-31	NB	20.98	12BB			50.0					1		2		12.5		1									34	SEE DETAIL Y, SHEET C-9
	SHEET TOTAL				1875	1875	2262.5	6	14.88	1662.5	237.5	46		92		575.0		46			3						1122	
	SUBTOTAL ROUTE 1				4325	4325	4425.0	6	34.73	3687.5	662.5	89		180		1112.5		89	1		3					2	2584	

SUMMARY OF QUANTITIES

Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

HONMING KONG — REVISED BY — TN
THANH C NGUYEN — DATE REVISED — 02/18/10
CALCULATED-DESIGNED BY
CHECKED BY
FUNCTIONAL SUPERVISOR
KAM LEUNG

LAST REVISION 03-01-10
DATE PLOTTED => 13-MAY-2010
TIME PLOTTED => 14:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	32	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 CIVIL STATE OF CALIFORNIA

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ROADWAY QUANTITIES

ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE	TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	CONCRETE BARRIER (TYPE 60E)	CONCRETE BARRIER MARKER	CRASH CUSHION SAND FILLED (TYPE ARRAY U16)	ALTERNATIVE CRASH CUSHION	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS
					LF			EA	TON	LF		EA				LF	EA					LF	EA				SQYD	
35-1	N OF MORSE LANE	NB	11.67	11G			50.0	1				1		2		12.5		1										SEE DETAIL I, SHEET C-4
35-2	N OF MORSE LANE	SB	11.78	11G			50.0	1				1		2		12.5		1										SEE DETAIL I, SHEET C-4
35-3	N OF MORSE LANE	SB	11.97	11F			25.0	1						6		125.0					2							SEE DETAIL V, SHEET C-8
35-4	N OF MORSE LANE	NB	12.05	11L			50.0					1		2		12.5		1										SEE DETAIL M, SHEET C-5
35-5	S OF BEAR GULCH Rd	SB	12.45	11L			50.0					1		2		12.5		1										SEE DETAIL M, SHEET C-5
35-6	S OF BEAR GULCH Rd	SB	12.56	11F			75.0							4		100.0					2							SEE DETAIL V, SHEET C-8
35-7	S OF BEAR GULCH Rd	SB	12.72	11G			50.0					1		2		12.5		1										SEE DETAIL I, SHEET C-4
35-8	S OF BEAR GULCH Rd	NB	12.83	11L			87.5	1				1		4		62.5		1			1							SEE DETAIL X, SHEET C-9
35-9	NEAR COUNTY ROAD SOUTH	SB	17.10	11L			87.5					1		4		62.5		1			1							SEE DETAIL X, SHEET C-9
35-10	NEAR COUNTY ROAD SOUTH	SB	17.15	11E			100.0					2		4		25.0		2										SEE DETAIL D, SHEET C-2
35-11	N OF HARKINS Rd	NB	19.19	11E			137.5	2				2		10		237.5		2										SEE DETAIL L, SHEET C-5
35-12	N OF HARKINS Rd	SB	20.68	11E			50.0	1				1		2		12.5		1										SEE DETAIL M, SHEET C-5
35-13	1.4 MILE S OF Jct Rte 92	NB	21.60	11E			100.0	1				2		4		25.0		2										SEE DETAIL D, SHEET C-2
35-14	1.1 MILE S OF Jct Rte 92	SB	21.89	11E			100.0	1				2		4		25.0		2								1		SEE DETAIL D, SHEET C-2
35-15	0.7 MILE S OF Jct Rte 92	NB	22.30	11L			50.0					1		2		12.5		1										SEE DETAIL M, SHEET C-5
35-16	0.45 MILE S OF Jct Rte 92	SB	22.50	11E			100.0	1				2		4		25.0		2										SEE DETAIL D, SHEET C-2
35-17	0.4 MILE S OF Jct Rte 92	SB	22.55	11E			100.0	1				2		4		25.0		2										SEE DETAIL D, SHEET C-2
35-18	0.3 MILE S OF Jct Rte 92	NB	22.70	11L			50.0					1		2		12.5		1										SEE DETAIL M, SHEET C-5
	SHEET TOTAL						1312.5	11				22		64		812.5		22			6					1		
	SUBTOTAL ROUTE 35						1312.5	11				22		64		812.5		22			6					1		

SUMMARY OF QUANTITIES

Q-3

HONMING KONG — REVISED BY — TN
THANH C NGUYEN — DATE REVISED — 02/18/10
CALCULATED-DESIGNED BY
CHECKED BY
FUNCTIONAL SUPERVISOR — KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION — DATE PLOTTED => 13-MAY-2010 — 03-01-10 — TIME PLOTTED => 14:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	33	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 CIVIL STATE OF CALIFORNIA

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ROADWAY QUANTITIES

ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE	TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	CONCRETE BARRIER (TYPE 60E)	CONCRETE BARRIER MARKER	CRASH CUSHION SAND FILLED (TYPE ARRAY U16)	ALTERNATIVE CRASH CUSHION	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS
					LF			EA	TON	LF		EA				LF	EA					LF	EA				SQYD	
82-1	AT FAIR OAKS Ave	NB	1.89	11B	75.0	75.0	75.0		0.74	37.5	37.5	1		2		37.5		1		1								SEE DETAIL B, SHEET C-1
82-2	AT ARROYO Ave	NB	6.05	12B			37.5					1		1				1									42	SEE DETAIL Q, SHEET C-7
82-3	S OF BELMONT Ave	NB	8.38	11B			12.5								1	12.5				1								SEE DETAIL A, SHEET C-1
	SUBTOTAL ROUTE 82				75.0	75.0	125.0		0.74	37.5	37.5	2		3	1	50.0		2		2							42	
84-1	AT SAN GREGORIO CREEK Br 35-165	EB	6.18	11E			227.0					2		4		152.0		2								2		SEE DETAIL C, SHEET C-2
84-2	AT SAN GREGORIO CREEK Br 35-165	WB	6.18	11E			203.0					2		4		128.0		2								1		SEE DETAIL C, SHEET C-2
84-3	AT SAN GREGORIO CREEK Br 35-166	WB	7.50	11L			87.5					1		8		62.5		1			1					1		SEE DETAIL X, SHEET C-9
84-4	AT SAN GREGORIO CREEK Br 35-166	EB	7.55	11G			87.5					1		4		62.5		1			1					1		SEE DETAIL W, SHEET C-9
84-5	AT LA HONDA CREEK 35-168	EB	8.05	11H			200.0					1		4		12.5		1	1							1		SEE DETAIL F, SHEET C-3
84-6	AT LA HONDA CREEK 35-168	WB	8.05	11G			87.5					1		7		62.5		1			1					2		SEE DETAIL W, SHEET C-9
84-7	W OF MEMORY LANE	EB	8.50	11L			87.5					1		12		77.5		1			1							SEE DETAIL Z, SHEET C-10
84-8	W OF MEMORY LANE	WB	8.50	11E			100.0					2		6		25.0		2										SEE DETAIL D, SHEET C-2
84-9	E OF LA HONDA PO	EB	9.15	11E			75.0					2		4				2								1		SEE DETAIL AT, SHEET C-18
84-10	W OF LA HONDA Cr 35-169	EB	9.40	11H			75.0					1		3				1	1									SEE DETAIL T, SHEET C-8
84-11	W OF LA HONDA Cr 35-169	EB	9.45	11E			100.0					2		4		25.0		2										SEE DETAIL D, SHEET C-2
84-12	E OF LA HONDA Cr 35-169	EB	9.80	11F			77.0							4		100.0					2							SEE DETAIL V, SHEET C-8
84-13	E OF LA HONDA Cr 35-169	WB	10.10	11E			100.0					2		4		25.0		2								1		SEE DETAIL D, SHEET C-2
84-14	E OF OLD LA HONDA Rd	WB	13.20	11G			53.0					1		2		25.0		1			1							SEE DETAIL AV, SHEET C-18
84-15	E OF OLD LA HONDA Rd	WB	13.52	11E			50.0					1		2		12.5		1										SEE DETAIL I, SHEET C-4
	SHEET TOTAL				75.0	75.0	1735.0		0.74	37.5	37.5	22		75	1	820		22	2	2	7					10	42	

SUMMARY OF QUANTITIES

Q-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG
CALCULATED-DESIGNED BY: THANH C NGUYEN
CHECKED BY: HONMING KONG
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 03-01-10 DATE PLOTTED => 13-MAY-2010 TIME PLOTTED => 14:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	34	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 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.

ROADWAY QUANTITIES

ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE	TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	CONCRETE BARRIER (TYPE 60E)	CONCRETE BARRIER MARKER	CRASH CUSHION SAND FILLED (TYPE ARRAY U16)	ALTERNATIVE CRASH CUSHION	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS
					LF			EA	TON	LF		EA				LF	EA					LF	EA				SQYD	
84-16	E OF OLD LA HONDA Rd	WB	13.57	11E			75.0					2		3		12.5		2										SEE DETAIL C, SHEET C-2
84-17	0.9 MILE W OF Jct Rte 35	WB	14.07	11L	75.0	75.0	100.0	2	0.61	62.5	12.5	1		4		87.5		1			1							SEE DETAIL R, SHEET C-7
84-18	0.4 MILE W OF Jct Rte 35	WB	14.53	11E			100.0	2				2		4		25.0		2										SEE DETAIL D, SHEET C-2
84-19	W OF GRAND VIEW Rd	EB	15.30	11G			12.5	1								25.0					1							SEE DETAIL AD, SHEET C-11
84-20	W OF SKYWOOD WAY	EB	15.70	11H			87.5	1				1		4		12.5		1	1									SEE DETAIL T, SHEET C-8
84-21	E OF FRIARS LANE	EB	16.29	11H			87.5					1		3		12.5		1	1									SEE DETAIL T, SHEET C-8
84-22	E OF FRIARS LANE	EB	16.49	12A	62.5	62.5	37.5		0.45	62.5				2					1									SEE DETAIL E, SHEET C-3
84-23	E OF FRIARS LANE	WB	16.80	11H	75.0	75.0	75.0	2	0.54	75.0		1		3				1	1							1		SEE DETAIL AA, SHEET C-10
84-24	E OF FRIARS LANE	EB	16.98	11E			87.5	1				2		2		12.5		2								1		SEE DETAIL C, SHEET C-2
84-25	E OF FRIARS LANE	EB	16.99	11D			123.0							5		25.0			2									SEE DETAIL AC, SHEET C-11
84-26	E OF BEAR GULCH Rd	EB	19.20	12B			100.0	2				2						2										SEE DETAIL AG, SHEET C-12
84-27	E OF BEAR GULCH Rd	WB	19.20	12B			50.0	1				1		2		12.5		1										SEE DETAIL Y, SHEET C-9
84-28	E OF TRIPP Rd	EB	19.70	11E			50.0					1		2		12.5		1									34	SEE DETAIL M, SHEET C-5
84-29	NEAR WEST UNION CREEK 35-44	WB	19.81	11D			50.0							2					1							1	34	SEE DETAIL K, SHEET C-5
84-30	NEAR WEST UNION CREEK 35-44	EB	19.93	12B,12BB			120.0					2	2	4		25.0	2	2										SEE DETAIL AK, SHEET C-13 AND STRUCTURE SHEET 5
84-31	NEAR WEST UNION CREEK 35-44	WB	19.93	12B,12AA			114.0					1	2	4		12.5	2	1	1							1		SEE DETAIL AJ, SHEET C-13 AND STRUCTURE SHEET 5, 6
84-32	NEAR CANADA Rd	EB	20.69	11E			64.0	1				2		2		12.5		2								1	63	SEE DETAIL C, SHEET C-2
84-34	NEAR HOBART Rd	WB	21.29	11H			75.0					1		4				1	1							1	68	SEE DETAIL T, SHEET C-8
84-35	NEAR HOBART Rd	WB	21.35	11H	150.0	150.0	87.5		1.14	137.5	12.5	1		4		12.5		1	1							1	68	SEE DETAIL S, SHEET C-7
84-36	AT Jct Rte 280	WB	21.60	11B	75.0	75.0	75.0		0.61	62.5	12.5	1			2	50.0		1										SEE DETAIL U, SHEET C-8
84-37	AT MOORE Rd	WB	21.75	11B	87.5	87.5	62.5		0.76	62.5	25.0	1			3	25.0		1		1						1		SEE DETAIL H, SHEET C-4
84-38	E OF MOORE Rd	WB	21.80	11B	12.5	12.5	12.5		0.15		12.5				2	12.5				1								SEE DETAIL A, SHEET C-1
84-39	NEAR HIGH Rd	EB	22.12	11B	100.0	100.0	289.0		0.94	62.5	37.5	1				37.5		1		1						1		SEE DETAIL J, SHEET C-4
84-40	SB 82 LOOP TO NB 84	NB	24.63	12A			87.5						1		2		1		1							1		SEE DETAIL AE, SHEET C-11 AND STRUCTURE SHEET 3
84-41	SB 84 TO SB 82	SB	24.67	11B	62.5	62.5	205.0	7	0.45	62.5		1			7	150.0		1		1								SEE DETAIL AR, SHEET C-17
84-42	NB 84 OFF TO NB 82	NB	24.77	12DD			217.5	2								12.5												SEE DETAIL AS, SHEET C-17
84-43	SB ON FROM NB 82	SB	24.78	12A			107.5						1		2		1		1							1		SEE DETAIL AE, SHEET C-11 AND STRUCTURE SHEET 3
84-44	SB OFF TO NB 82	SB	24.84	11B	75.0	75.0	50.0	3	0.61	62.5	12.5	1			3	12.5		1								1		SEE DETAIL G, SHEET C-3
84-45	REDWOOD JUNCTION OVERHEAD	SB	24.86	12A	100.0	100.0	87.5	2	0.85	75.0	25.0		1		2		1		1							1		SEE DETAIL AP, SHEET C-16 AND STRUCTURE SHEET 3
	SUBTOTAL ROUTE 84				875	875	4300.0	27	7.11	725.0	150.0	46	7	126	23	1370	7	46	15	4	9					23	267	
	SHEET TOTAL				875	875	2690.0	27	7.11	725.0	150.0	26	7	54	23	600.0	7	26	13	4	2					13	267	

SUMMARY OF QUANTITIES

Q-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG
CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 03-01-10
DATE PLOTTED => 13-MAY-2010
TIME PLOTTED => 14:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	35	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 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.

ROADWAY QUANTITIES

ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE	TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	CONCRETE BARRIER (TYPE 60E)	CONCRETE BARRIER MARKER	CRASH CUSHION SAND FILLED (TYPE ARRAY U16)	ALTERNATIVE CRASH CUSHION	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS
					LF			EA	TON	LF		EA				LF	EA					LF	EA				SQYD	
101-1	EB UNIVERSITY Ave OC		0.890	12B			82.5					1	1	2			1	1										SEE DETAIL AF, SHEET C-12 AND STRUCTURE SHEET 4
101-2	EB & WB, Jct 84, MEDIAN UC		5.385				100.0																		1			SEE DETAIL AN, SHEET C-15
101-3	WB WHIPPLE Ave OC		6.623	12B	100.0	100.0	75.0		0.85	75.0	25.0		1	2			1		1									SEE DETAIL AO, SHEET C-15
	SUBTOTAL ROUTE 101				100.0	100.0	257.5		0.85	75.0	25.0	1	2	4			2	1	1						1			
109-1	NEAR GX-SPTC RR CROSSING	EB	1.500	11B			50.0	1				1			2	12.5		1									34	SEE DETAIL I, SHEET C-4
109-2	NEAR GX-SPTC RR CROSSING	WB	1.500	11B			50.0	1				1			2	12.5		1									34	SEE DETAIL I, SHEET C-4
	SUBTOTAL ROUTE 109						100.0	2				2			4	25.0		2									68	
114-1	NEAR GX-DUBR BR RR CROSSING	EB	5.816	11B			50.0					1			2	12.5		1									34	SEE DETAIL I, SHEET C-4
114-2	NEAR GX-DUBR BR RR CROSSING	WB	5.816	11B			50.0					1			2	12.5		1									34	SEE DETAIL I, SHEET C-4
	SUBTOTAL ROUTE 114						100.0					2			4	25.0		2									68	
	SHEET TOTAL				100.0	100.0	457.5	2	0.85	75.0	25.0	5	2	4	8	50.0	2	5	1						1		136	

SUMMARY OF QUANTITIES

Q-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG
CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN
REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 03-01-10 DATE PLOTTED => 13-MAY-2010 TIME PLOTTED => 14:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	36	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 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.

ROADWAY QUANTITIES

ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE	TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	CONCRETE BARRIER (TYPE 60E)	CONCRETE BARRIER MARKER	CRASH CUSHION SAND FILLED (TYPE ARRAY U16)	ALTERNATIVE CRASH CUSHION	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS
					LF			EA	TON	LF		EA				LF	EA					LF	EA				SQYD	
280-1	WB SAND HILL Rd OVERCROSSING	WB	1.61	12B	87.5	87.5			0.76	62.5	25.0	1	1		2		1	1										SEE DETAIL AH, SHEET C-12 AND STRUCTURE SHEET 2
280-2	EB SAND HILL Rd OVERCROSSING	EB	1.61	12B	175.0	175.0		1	1.52	125.0	50.0	2	2		4		2	2								1		SEE DETAIL AQ, SHEET C-16 AND STRUCTURE SHEET 2
280-3	EDGEWOOD Rd UNDERCROSSING	EB	6.65				420						2									160	8	2		1		SEE DETAIL AI, SHEET C-13
280-4	WB BUNKER HILL Rd OVERCROSSING	WB	12.32	12BB	87.5	87.5			0.76	62.5	25.0	1	2	7		75.0	2	1		1								SEE DETAIL AL, SHEET C-14 AND STRUCTURE SHEET 2
280-5	EB BUNKER HILL Rd OVERCROSSING	EB	12.32	12B,12AA	187.5	187.5			1.61	137.5	50.0	1	2	7			2	1	1									SEE DETAIL AM, SHEET C-14 AND STRUCTURE SHEET 2
	SUBTOTAL ROUTE 280				537.5	537.5	420	1	4.65	387.5	150.0	5	9	14	6	75.0	7	5	1	1		160		2		2		
	SHEET TOTAL				537.5	537.5	420	1	4.65	387.5	150.0	5	9	14	6	75.0	7	5	1	1		160	8	2		2		
	TOTAL				5912.5	5912.5	11040.0	47	48.08	4912.5	1025.0	169	18	391	38	3470.0	16	169	18	7	18	160	8	2	1	28	3029	

SUMMARY OF QUANTITIES

Q-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG

CALCULATED-DESIGNED BY: HONMING KONG
CHECKED BY: THANH C NGUYEN

REVISED BY: TN
DATE REVISED: 02/18/10

LAST REVISION 03-01-10
DATE PLOTTED => 13-MAY-2010
TIME PLOTTED => 14:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1,35,82,84, 101,*etc.*	Var	37	61

REGISTERED CIVIL ENGINEER 2/17/10 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER T.C. Nguyen No. 58137 Exp 6-30-10 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.

STRUCTURE QUANTITIES

ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	BRIDGE NUMBER	STRUCTURE EXCAVATION (N)	STRUCTURE BACKFILL (N)	BRIDGE REMOVAL (PORTION)	MINOR CONCRETE (MINOR STRUCTURE)	DRILL AND BOND DOWEL	BAR REINFORCING STEEL (BRIDGE) (N)
					CY				LF	LB
84-30	WEST UNION CREEK	EB	19.93	35-0044	3.20	2.41	0.24	1.63	7.50	300.95
84-31	WEST UNION CREEK	WB	19.93	35-0044	3.20	2.41	0.24	1.63	18.00	300.95
84-40	FIVE POINT SEPARATION SB 82 LOOP TO NB 84	NB	24.63	35-0093	6.07	3.80		6.00	6.00	843.48
84-43	FIVE POINT SEPARATION SB ON FROM NB 82	SB	24.78	35-0093	12.14	7.58		12.10	8.00	1686.95
84-45	REDWOOD JUNCTION OVERHEAD	SB	24.86	35-0052	6.63	4.17		6.72	6.00	935.51
101-1	EB UNIVERSITY Ave OC	EB	0.89	35-0113	5.06	3.26		5.57	6.00	805.44
280-1	WB SAND HILL Rd OC	WB	1.61	35-0008	2.44	1.70	1.89	1.84	6.00	268.00
280-2	EB SAND HILL Rd OC	EB	1.61	35-0007	4.89	3.41	3.78	3.68	12.00	536.01
280-4	WB BUNKER HILL Rd OC	WB	12.32	35-0040	4.89	3.41	3.78	3.68	12.00	536.01
280-5	EB BUNKER HILL Rd OC	EB	12.32	35-0040	4.89	3.41	3.78	3.68	12.00	536.01
SHEET TOTAL					53.41	35.56	13.71	46.53	91.50	6749.31

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

ENVIRONMENTALLY SENSITIVE AREAS (ESA)

COUNTY	SAN MATEO	SAN MATEO
ROUTE	1	1
NB	X	X
PM	0.70 TO 0.72	1.12 TO 1.22
ESA NAME	ESA 1	ESA 2; MBGR 1-5
TEMPORARY FENCE (TYPE ESA)	0	260 LF

ARCHAEOLOGICAL MONITORING AREA (AMA) (N)

COUNTY	SAN MATEO
ROUTE	1
NB, SB	X
PM	1.12 TO 1.22
ESA NAME	AMA 1

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

SUMMARY OF QUANTITIES

Q-8

CALCULATED-DESIGNED BY	NIRANJEN KANEPATHIPILLAI
CHECKED BY	THANH C NGUYEN
REVISED BY	TN
DATE REVISED	02/18/10
FUNCTIONAL SUPERVISOR	KAM LEUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 02-22-10 | DATE PLOTTED => 13-MAY-2010 | TIME PLOTTED => 09:38

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	38	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

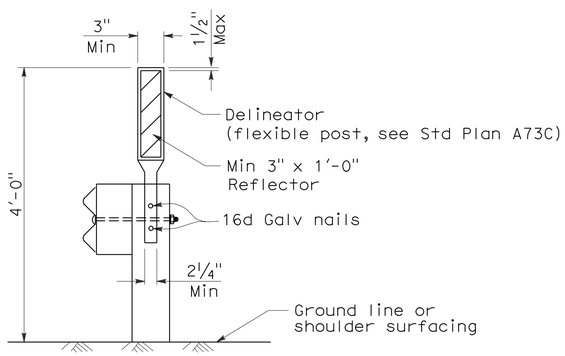
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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

To accompany plans dated 5-10-10

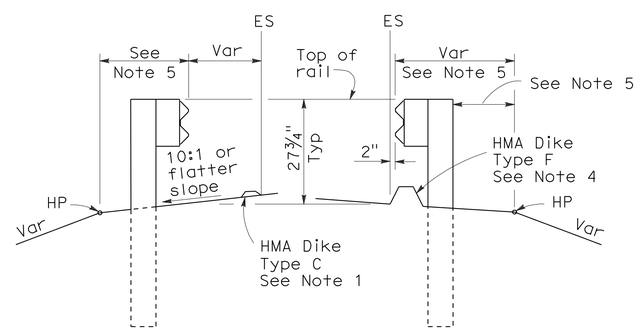
NOTES:

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



GUARD RAILING DELINEATION

See Note 3



DIKE POSITIONING

See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL RAILING DELINEATION AND DIKE POSITIONING DETAILS

NO SCALE

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

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	39	61

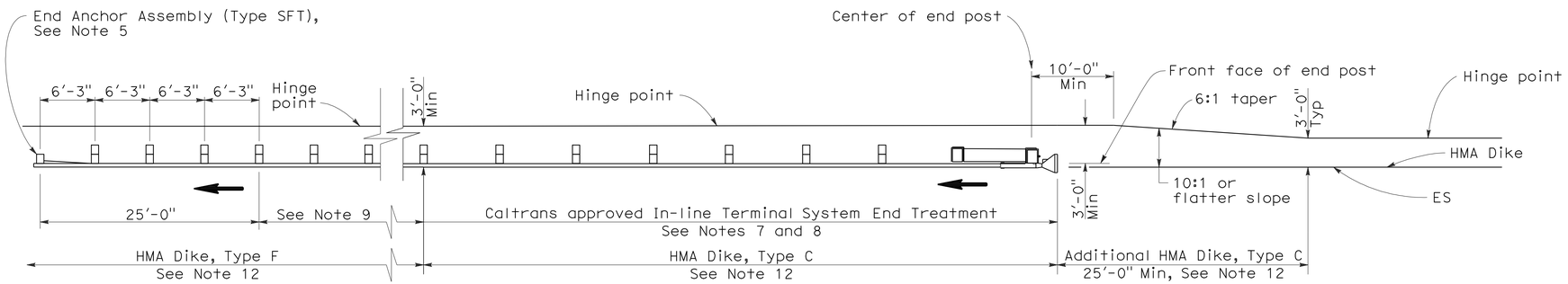
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

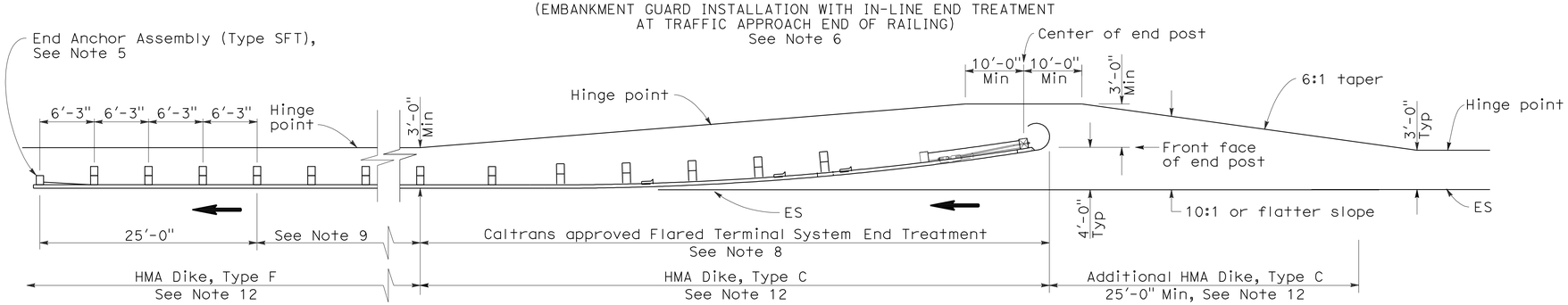
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 5-10-10



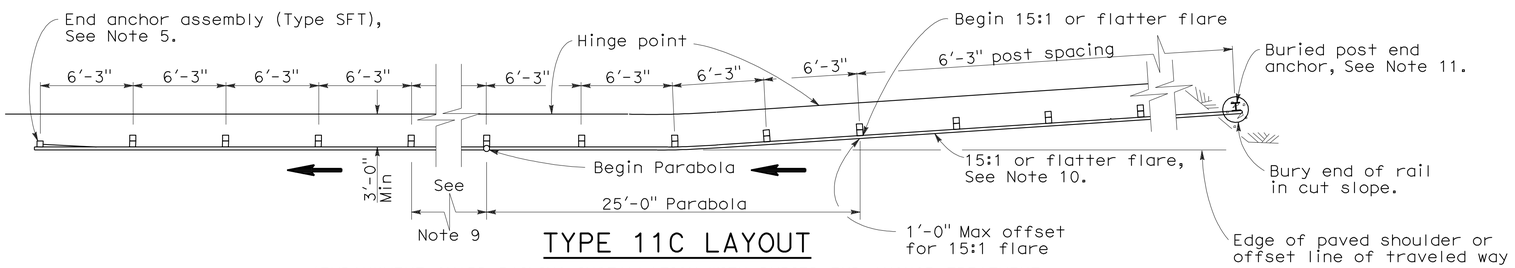
TYPE 11A LAYOUT

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



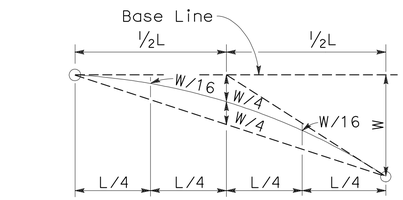
TYPE 11B LAYOUT

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

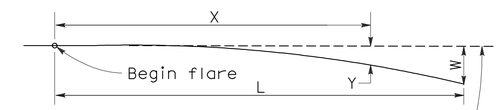


TYPE 11C LAYOUT

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



TYPICAL PARABOLIC LAYOUT

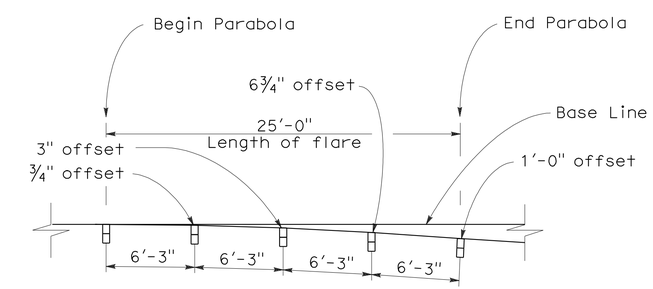


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

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:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

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

REVISED STANDARD PLAN RSP A77E1

2006 REVISED STANDARD PLAN RSP A77E1

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	40	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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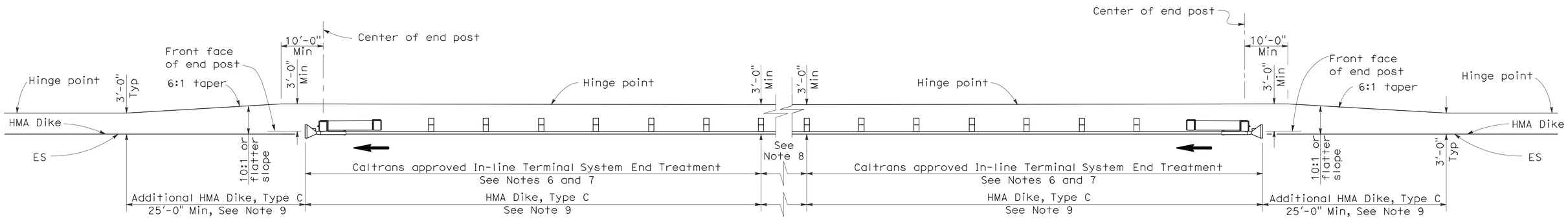
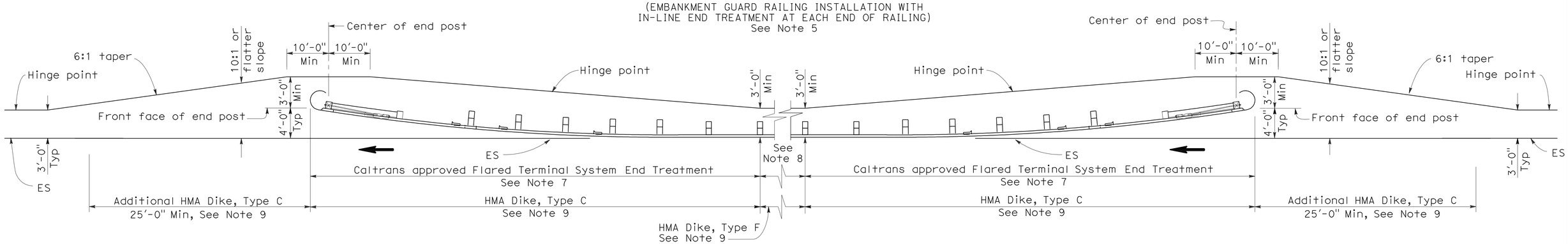
To accompany plans dated 5-10-10



TYPE 11D LAYOUT

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



TYPE 11E LAYOUT

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

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

REVISED STANDARD PLAN RSP A77E2

2006 REVISED STANDARD PLAN RSP A77E2

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	41	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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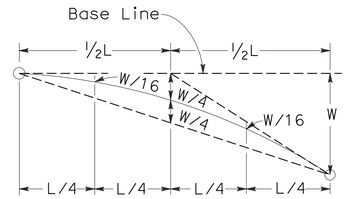
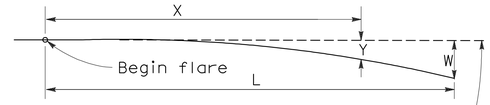
To accompany plans dated 5-10-10

2006 REVISED STANDARD PLAN RSP A77E3



TYPICAL PARABOLIC LAYOUT

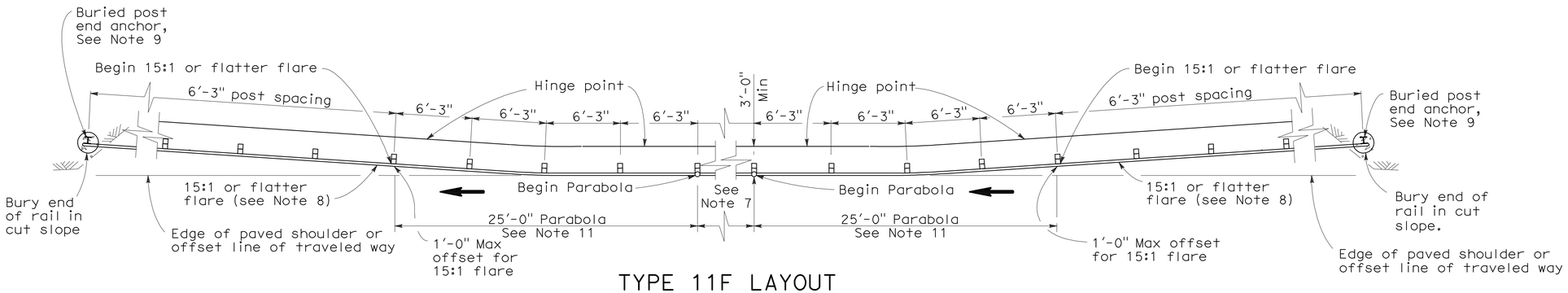


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

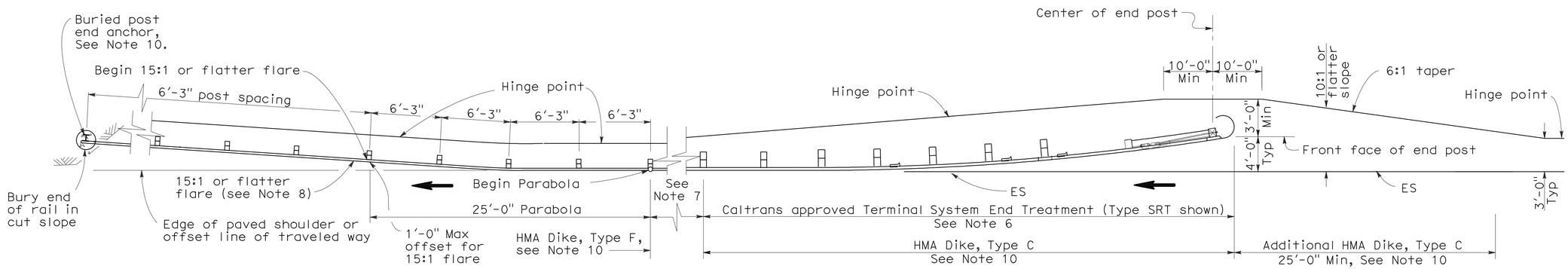
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPE 11F LAYOUT

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



TYPE 11G LAYOUT

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

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

REVISED STANDARD PLAN RSP A77E3

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	42	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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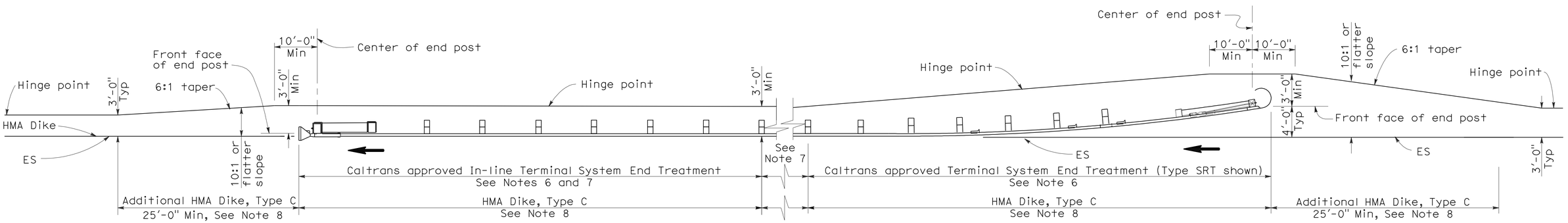
To accompany plans dated 5-10-10



TYPE 11H LAYOUT

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

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

REVISED STANDARD PLAN RSP A77E4

2006 REVISED STANDARD PLAN RSP A77E4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	43	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
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CIVIL
STATE OF CALIFORNIA

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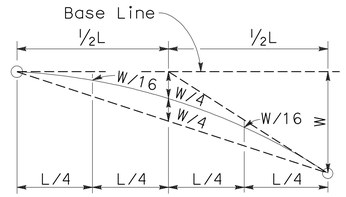
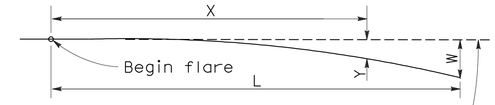
To accompany plans dated 5-10-10



TYPICAL PARABOLIC LAYOUT

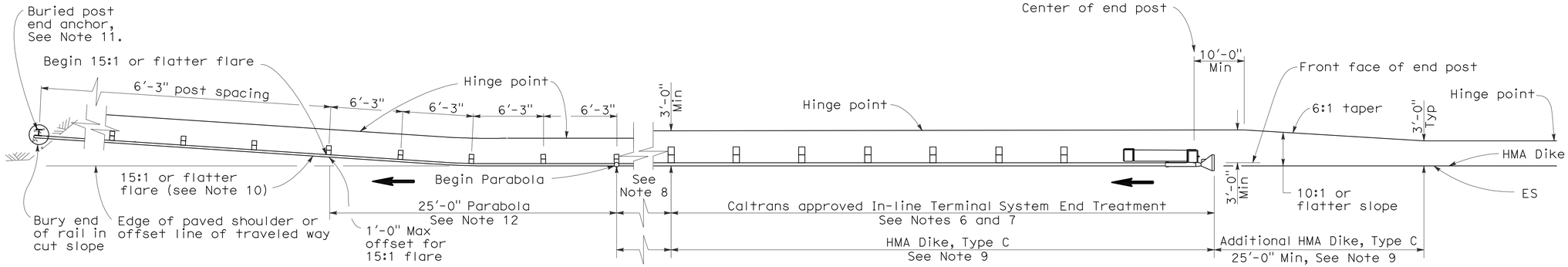


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

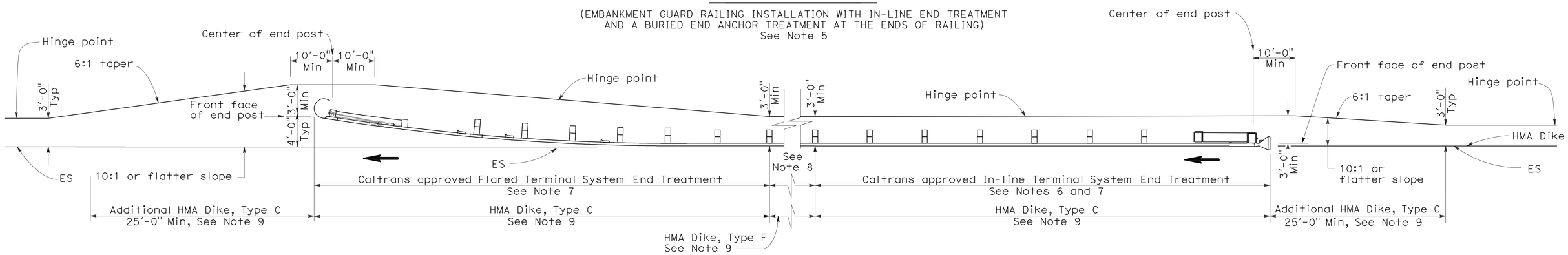
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPE 11I LAYOUT

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



TYPE 11J LAYOUT

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

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

REVISED STANDARD PLAN RSP A77E5

2006 REVISED STANDARD PLAN RSP A77E5

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	44	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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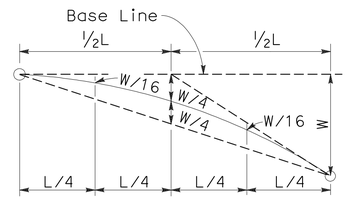
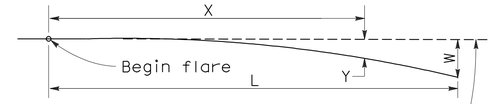
To accompany plans dated 5-10-10



TYPICAL PARABOLIC LAYOUT

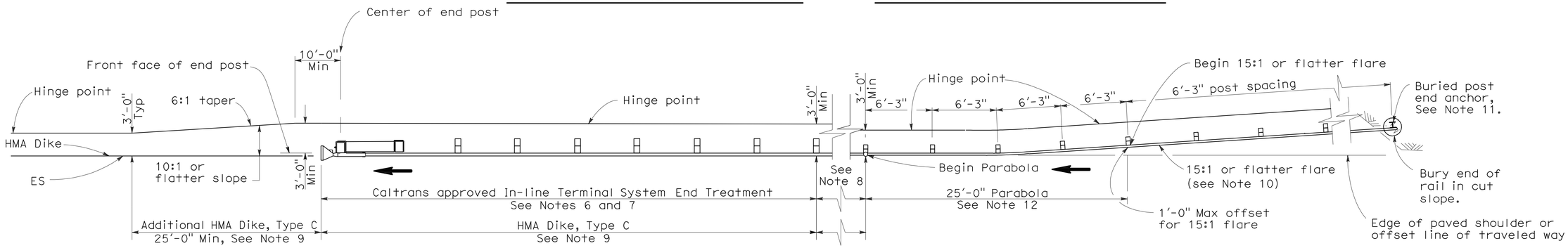


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

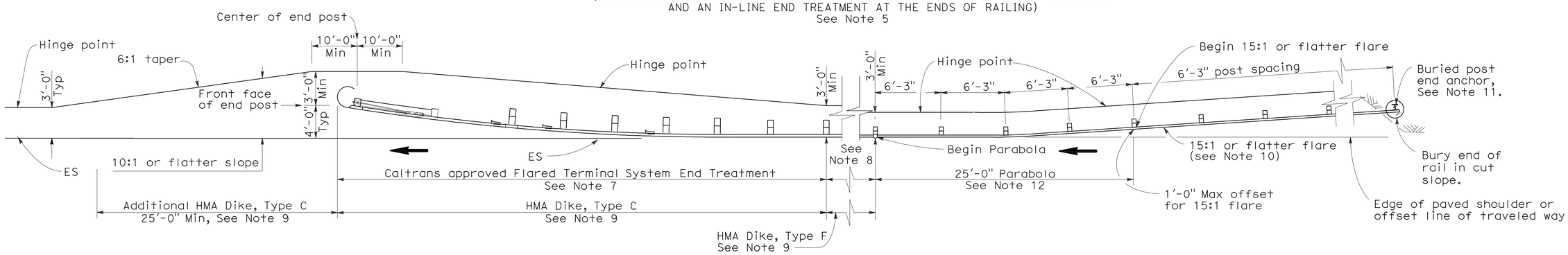
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPE 11K LAYOUT

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



TYPE 11L LAYOUT

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

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

REVISED STANDARD PLAN RSP A77E6

2006 REVISED STANDARD PLAN RSP A77E6

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc	Var	45	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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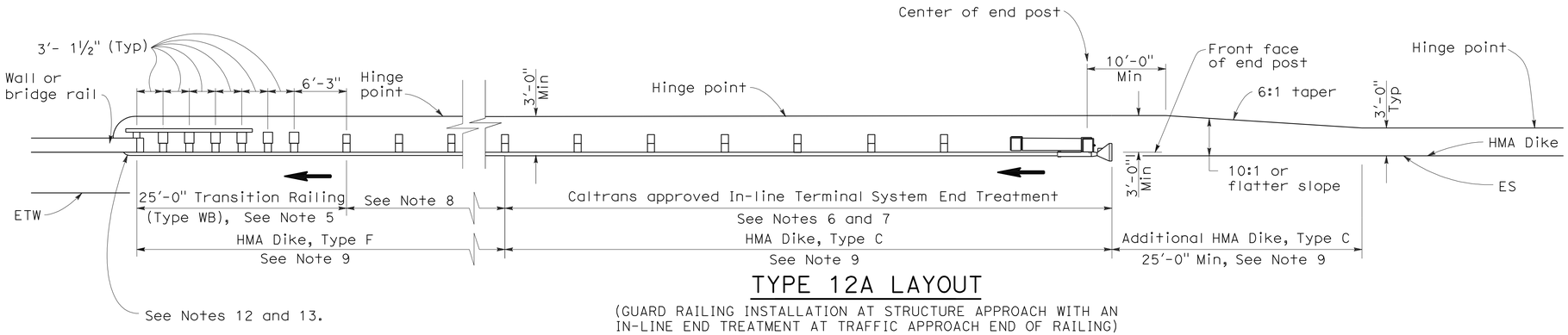
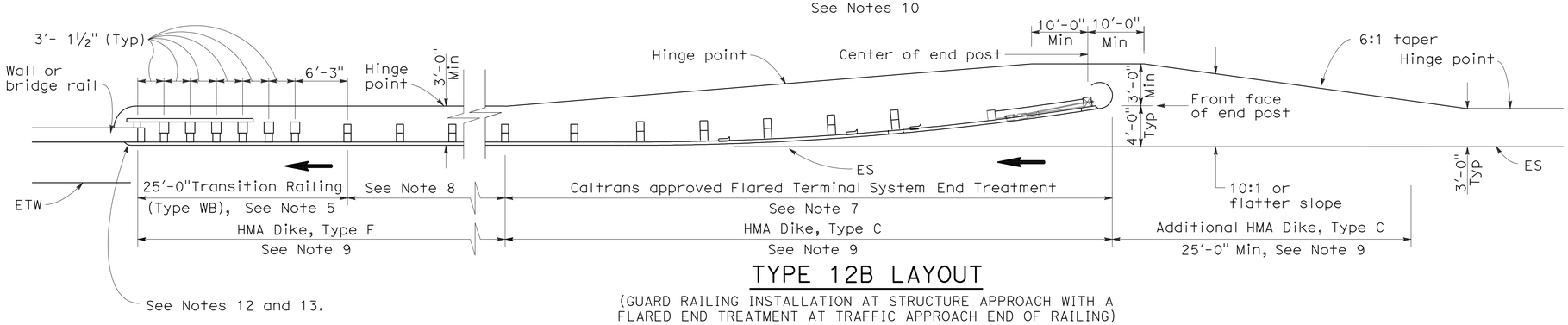
To accompany plans dated 5-10-10



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:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by ➡.
5. For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
6. In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
7. The type of terminal system end treatment to be used will be shown on the Project Plans.
8. Dependent on site conditions (embankment height, 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.
9. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
10. Type 12A or Type 12B Layouts are typically used:
    a. 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.
    b. 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.
    c. To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
    d. To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
11. 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.
12. 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.
13. 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

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	46	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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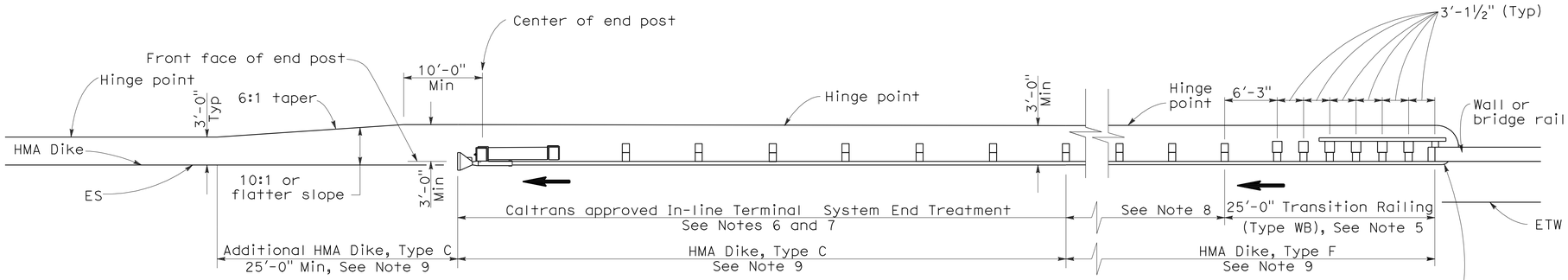
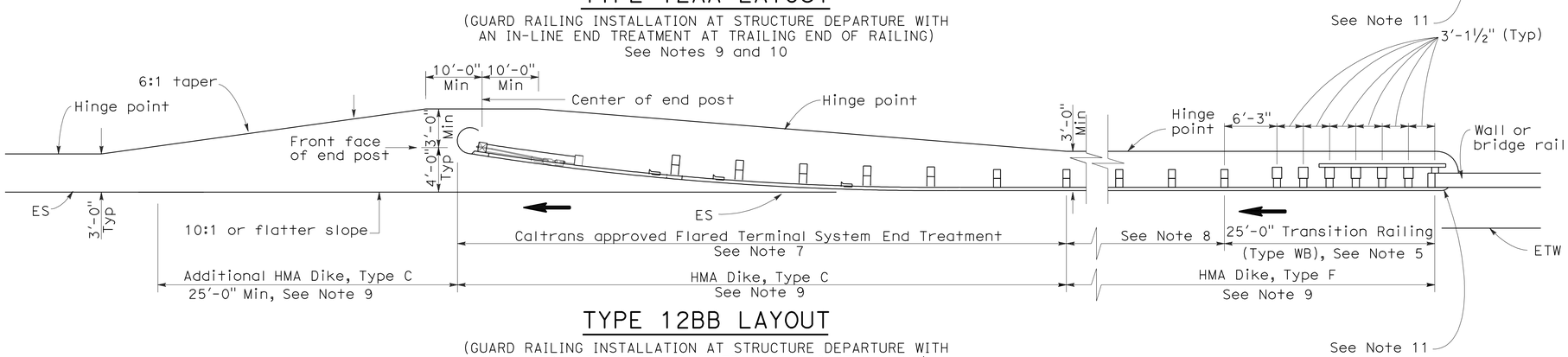
To accompany plans dated 5-10-10



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:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1-2" notched wood blocks or 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.
4. Direction of adjacent traffic indicated by ➡.
5. For Transition Railing (Type WB) details for Types 12AA and 12BB Layouts, see Standard Plan A77J4.
6. In-line Terminal System Treatments are used where site conditions will not accommodate a flared end treatment.
7. The type of terminal system to be used will be shown on the Project Plans.
8. 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.
9. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
10. 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.
11. 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

2006 REVISED STANDARD PLAN RSP A77F4

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc	Var	47	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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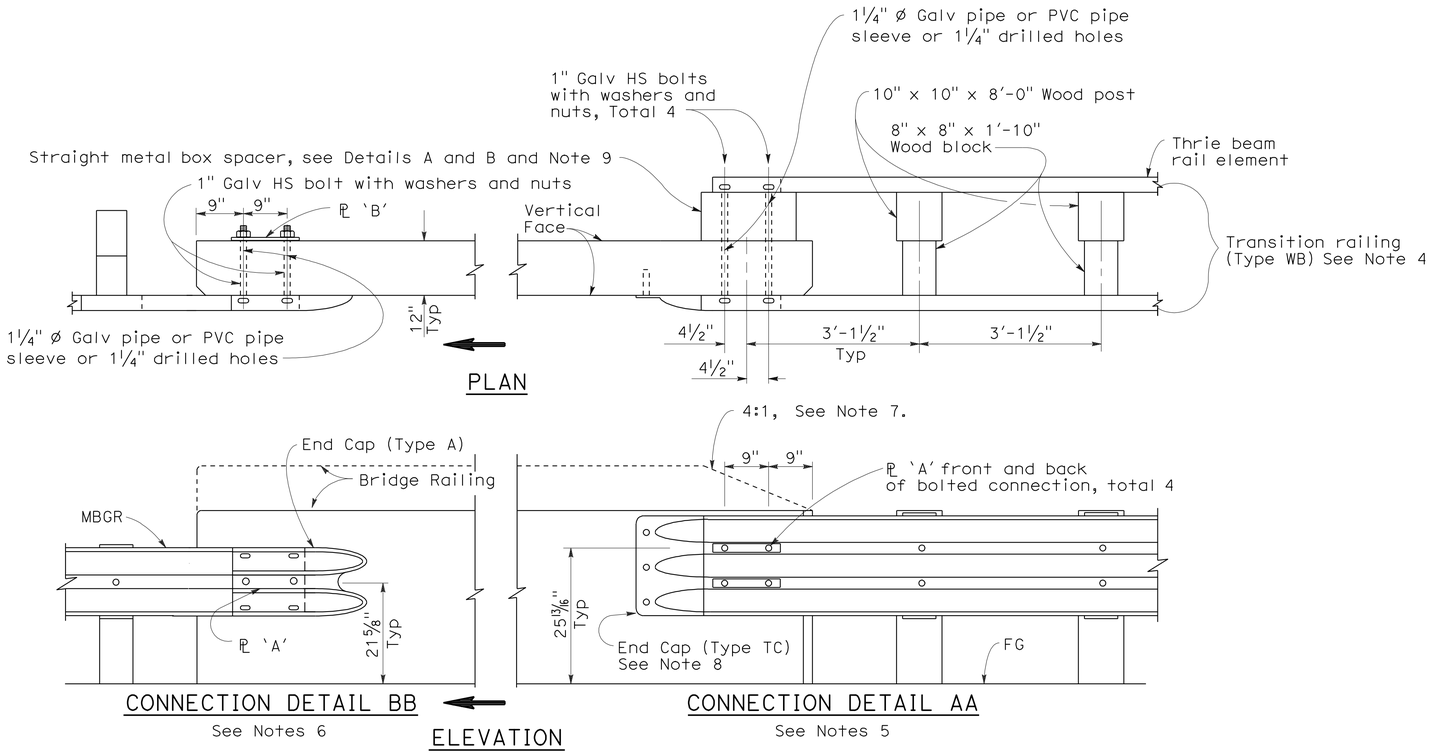
To accompany plans dated 5-10-10



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.

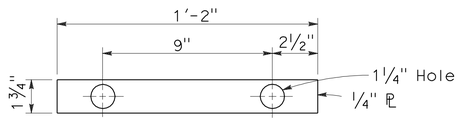


PLATE 'A'

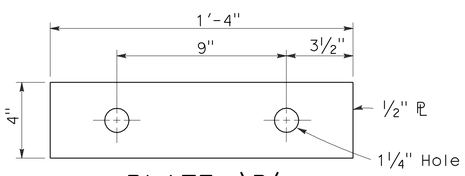
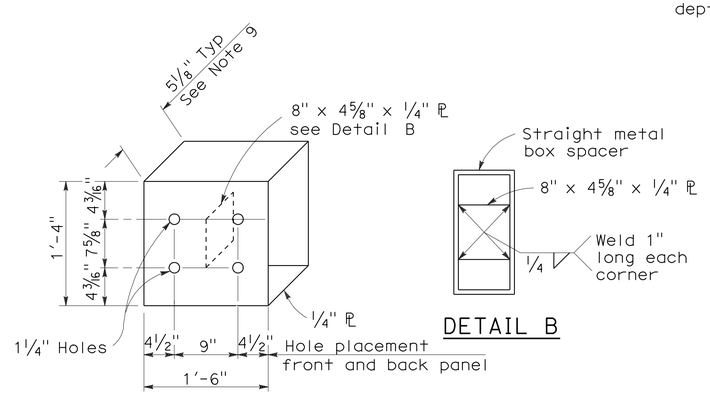


PLATE 'B'
(For backside of connection BB)



DETAIL B

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
04	SM	1,35,82,84, 101, etc	Var	48	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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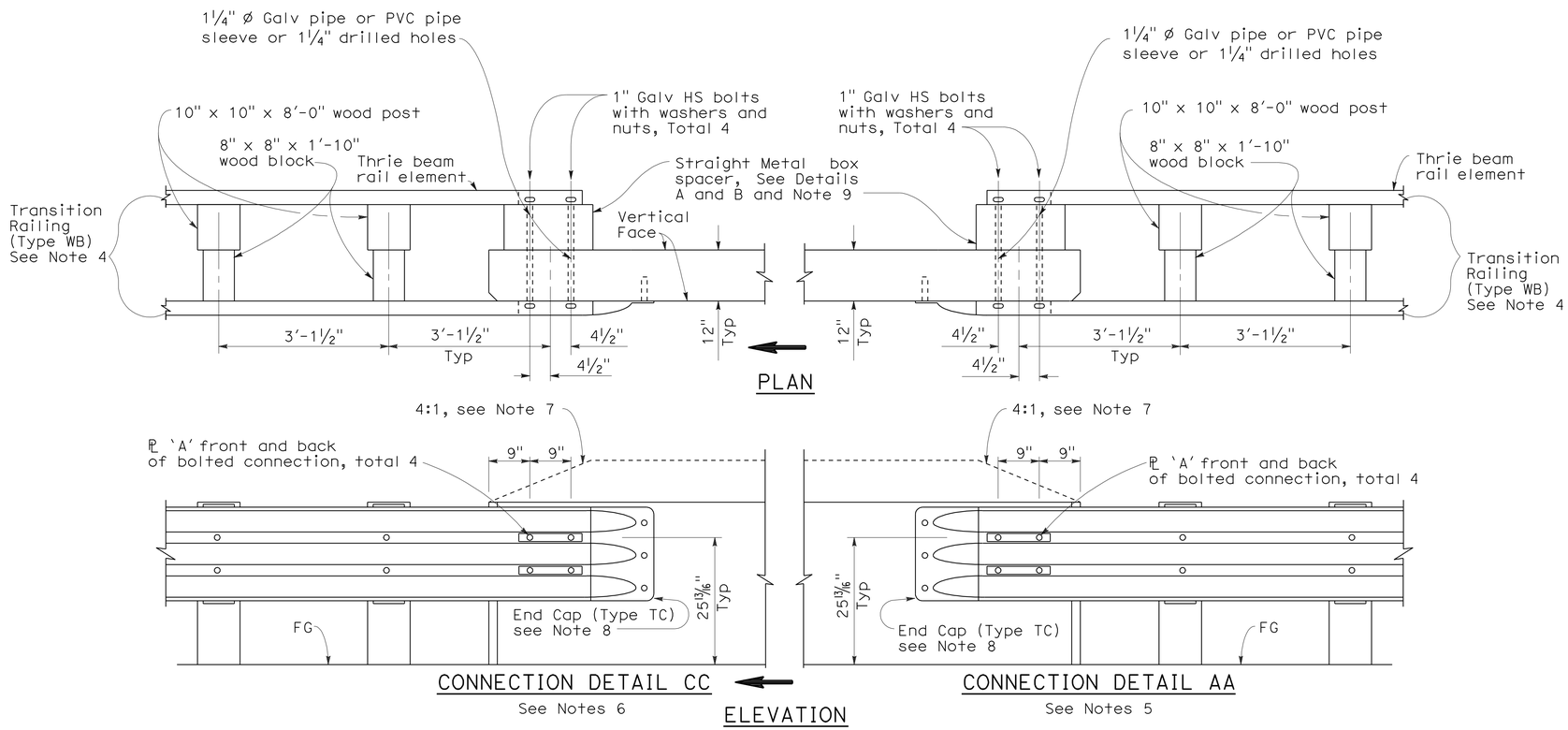
To accompany plans dated 5-10-10



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.

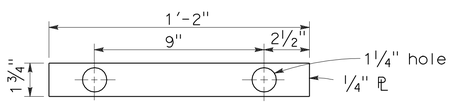


PLATE 'A'

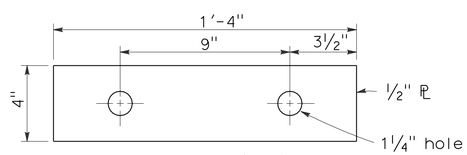
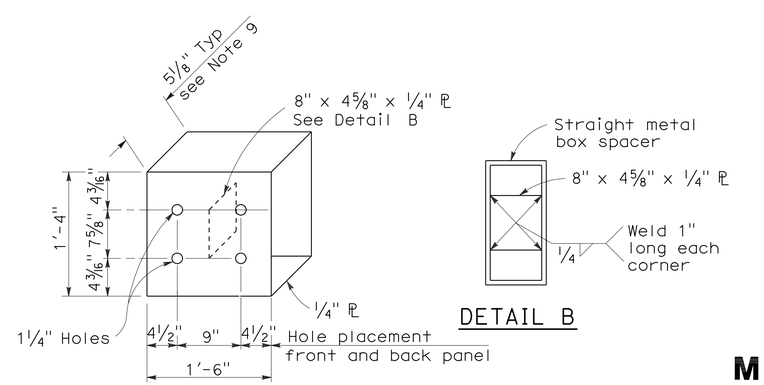


PLATE 'B'
(For backside of connection BB)



DETAIL A

DETAIL B

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

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	49	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
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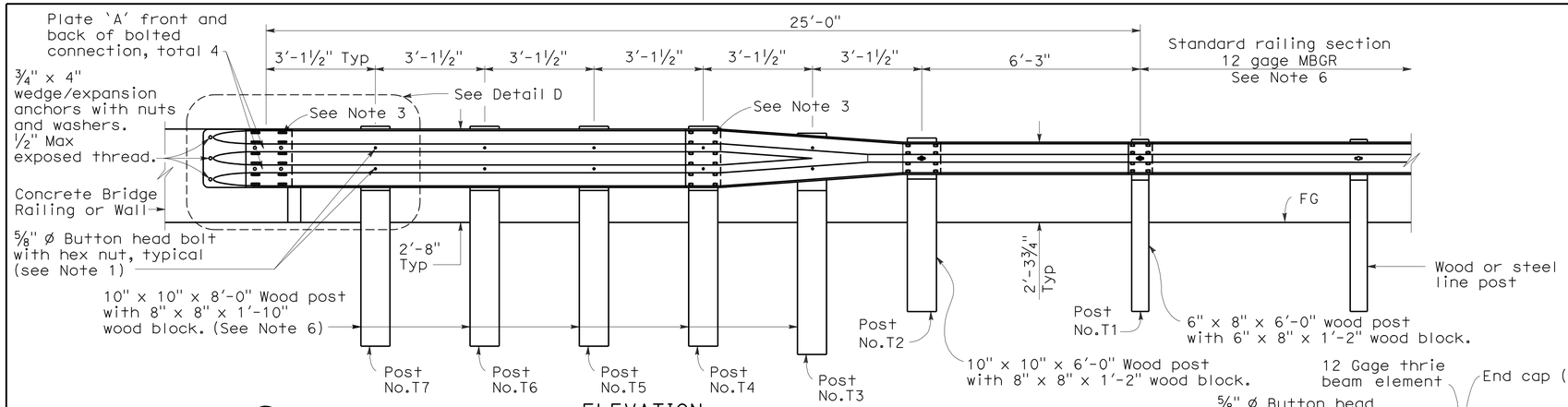
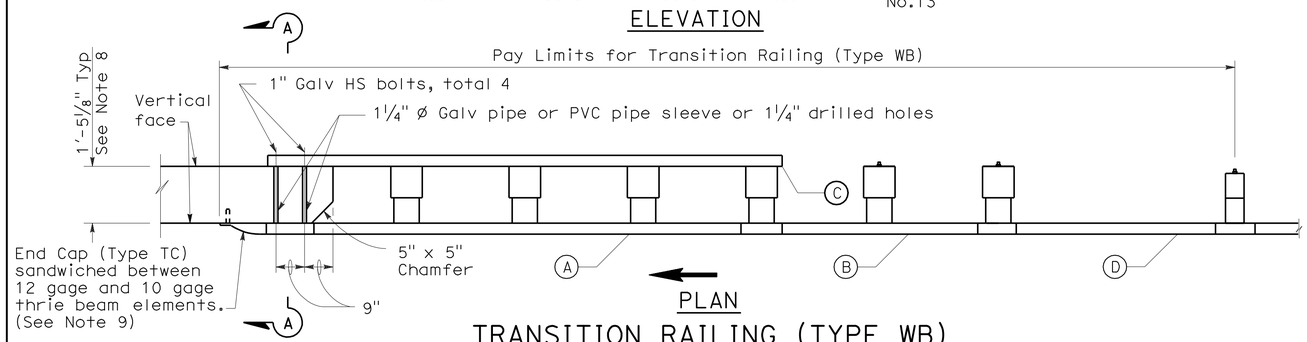


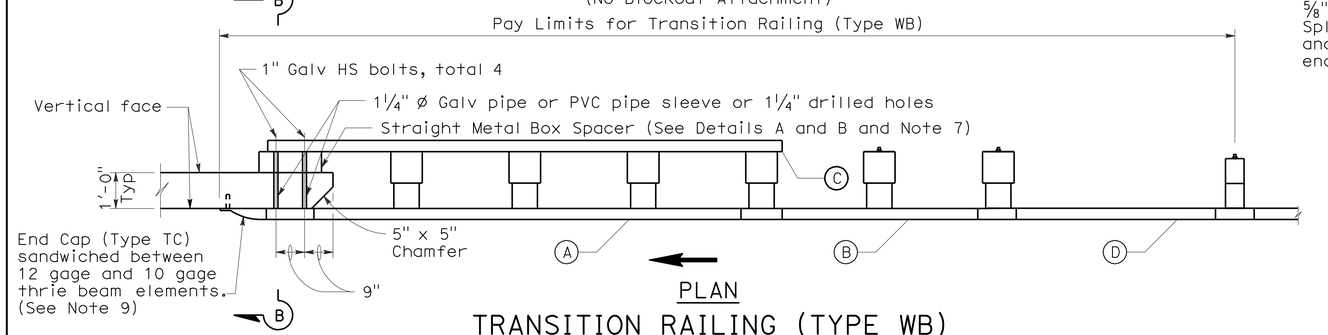
ELEVATION



PLAN

TRANSITION RAILING (TYPE WB)

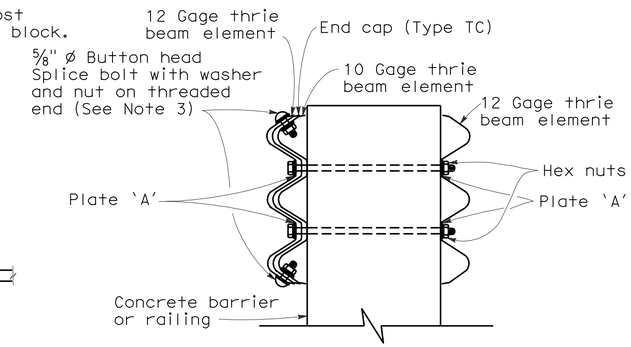
(No Blockout Attachment)



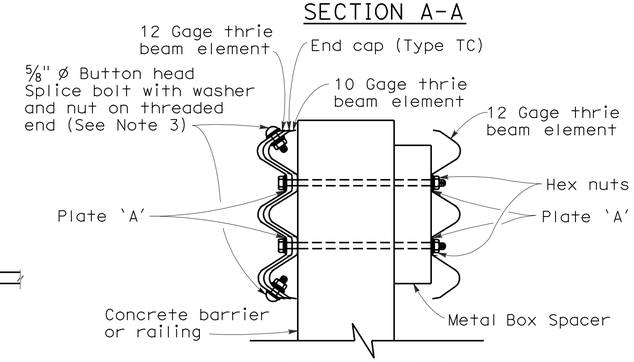
PLAN

TRANSITION RAILING (TYPE WB)

(Blockout Attachment)



SECTION A-A



SECTION B-B

LEGEND

(A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).

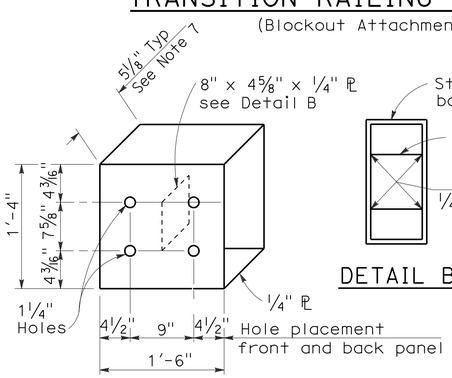
(B) One 10 gage "W" beam to thrie beam element.

(C) One 12 gage thrie beam element.

(D) One 10 gage "W" beam rail element (7'-3½" length)

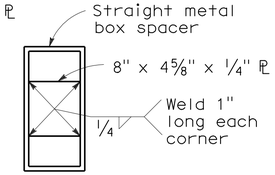
10 gage = 0.135" thick

12 gage = 0.108" thick

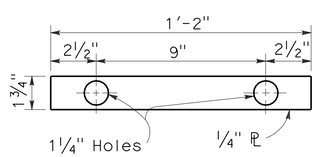


DETAIL A

STRAIGHT METAL BOX SPACER

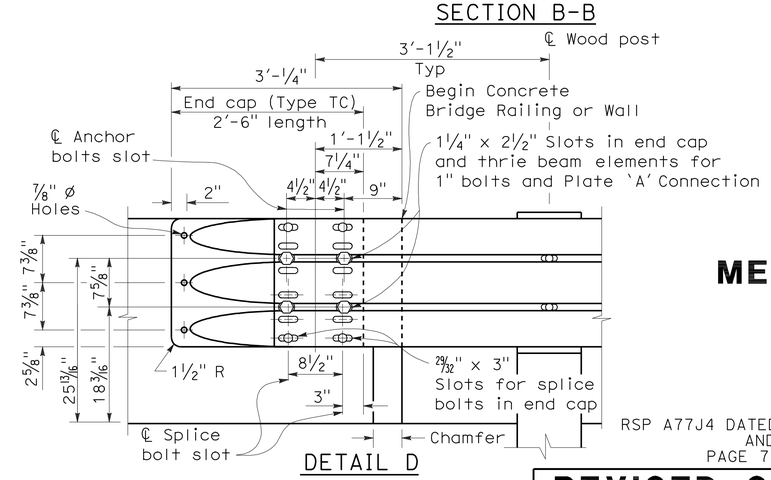


DETAIL B



DETAIL C

PLATE 'A'



DETAIL D

NOTES:

To accompany plans dated 5-10-10

1. Use 5/8 " ø Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
2. 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.
3. 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 " ø. 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.
4. Direction of adjacent traffic indicated by →.
5. The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
6. 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.
7. 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.
8. 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.
9. 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.

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

5-14-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	50	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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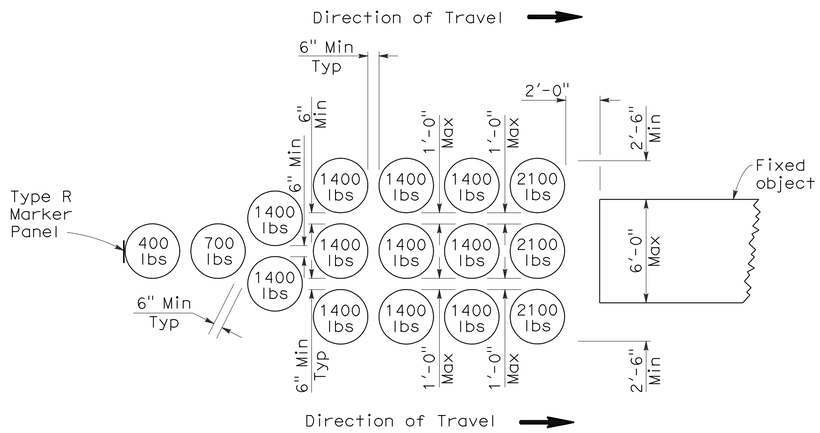
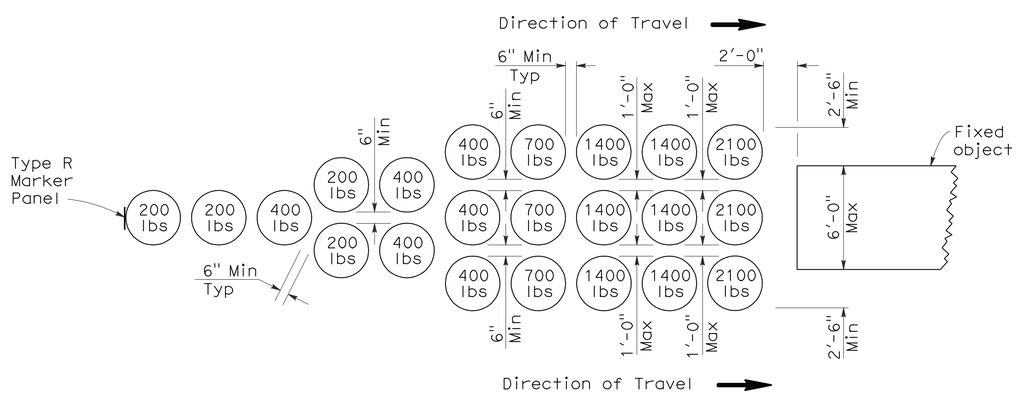
To accompany plans dated 5-10-10



ARRAY 'U16'

Approach speed less than 45 mph

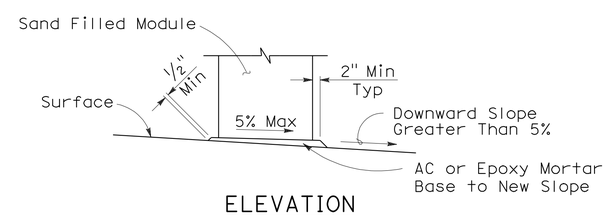


ARRAY 'U21'

Approach speed 45 mph or more

NOTES:

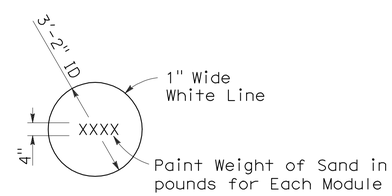
1. (XXX) Indicates module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the modules.
2. All sand weights are nominal.
3. Each module is to contain amount of sand indicated, supported according to the manufacturer's instructions.
4. Modules shall 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.



ELEVATION

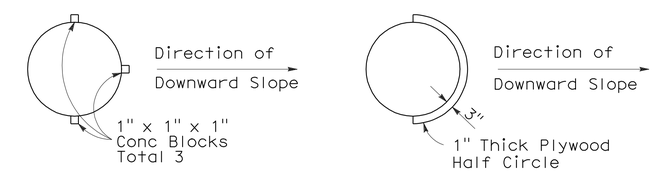
SLOPED SEAT DETAIL

(See Note 4)



PAINTING DETAIL

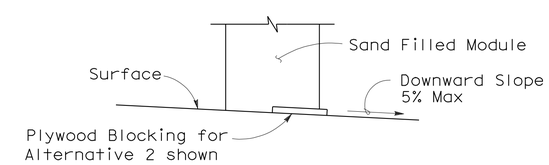
(See Note 5)



ALTERNATIVE 1

ALTERNATIVE 2

PLAN



ELEVATION

BRIDGE DECK MODULE BLOCKING DETAILS

(See Note 6)

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

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	51	61

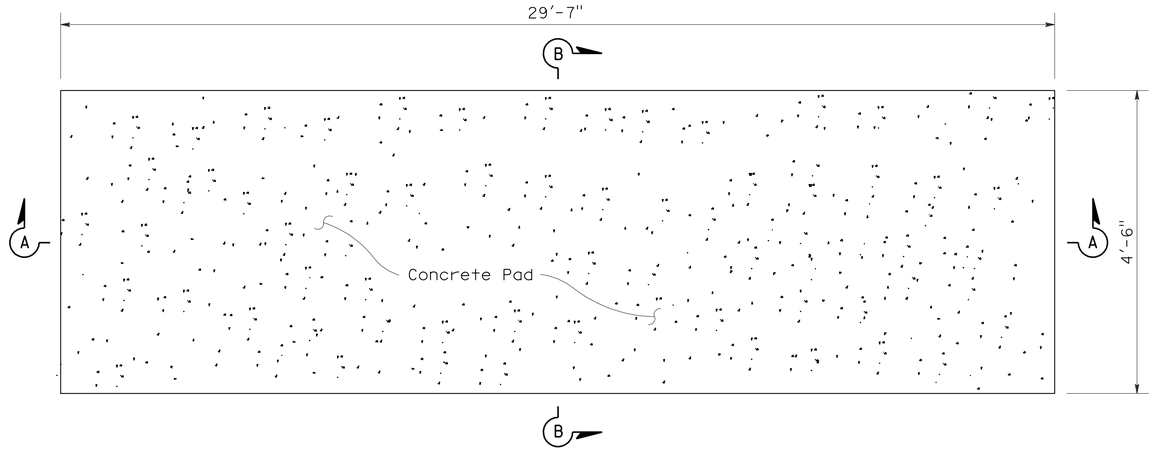
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

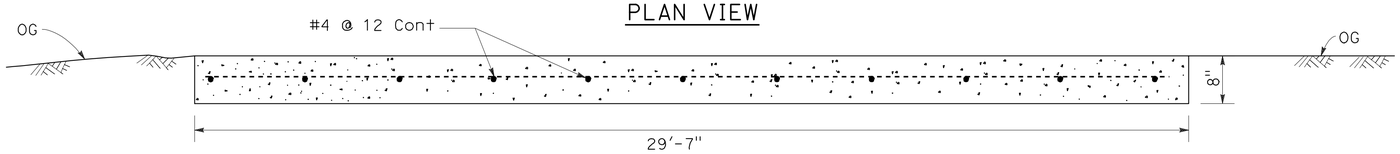
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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

To accompany plans dated 5-10-10

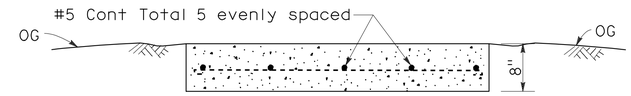


PLAN VIEW



SECTION A-A

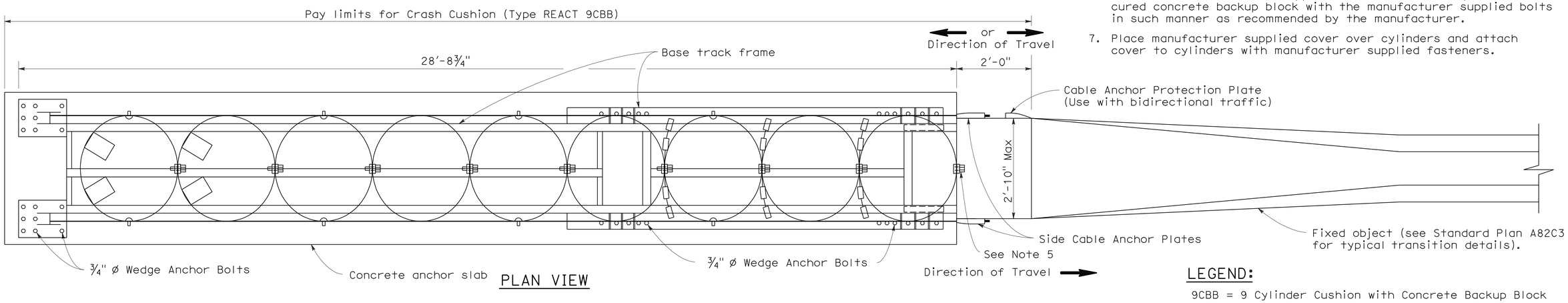
CONCRETE ANCHOR SLAB



SECTION B-B

NOTES:

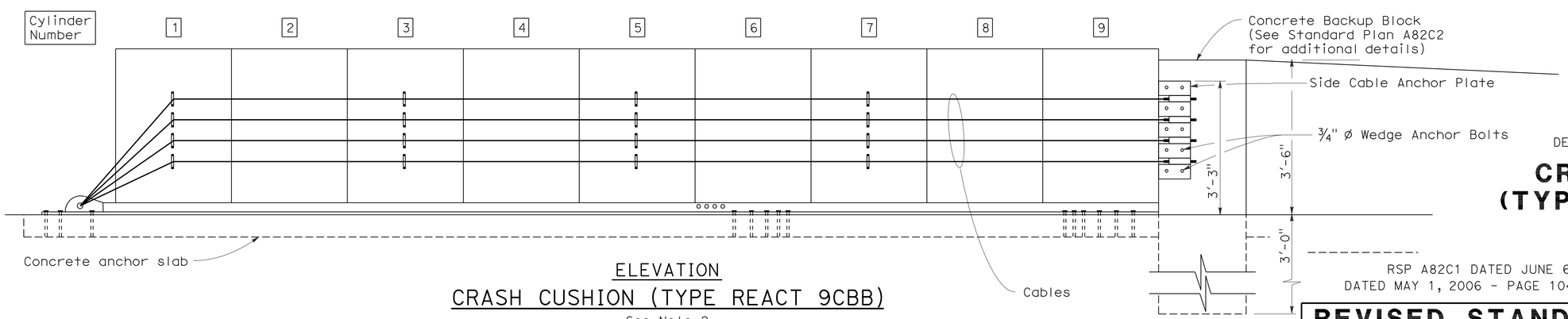
1. For additional details of this crash cushion, refer to manufacturer's installation instructions.
2. For details of the REACT Crash Cushion with self contained backup support (no concrete backup block), see Standard Plan A82D1.
3. The base track frame with cylinders attached comes from the manufacturer as a completely pre-assembled unit.
4. Place the crash cushion unit on the cured concrete anchor slab and use the base track frame of the crash cushion as a template for drilling anchor bolt holes. Drill holes in slab and attach crash cushion with wedge anchor bolts supplied by the manufacturer.
5. Attach last cylinder to concrete backup block with manufacturer supplied fastener in such manner as recommended by the manufacturer.
6. Attach the manufacturer supplied side cable anchor plates to the cured concrete backup block with the manufacturer supplied bolts in such manner as recommended by the manufacturer.
7. Place manufacturer supplied cover over cylinders and attach cover to cylinders with manufacturer supplied fasteners.



PLAN VIEW

LEGEND:

9CBB = 9 Cylinder Cushion with Concrete Backup Block



ELEVATION

CRASH CUSHION (TYPE REACT 9CBB)

See Note 2

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CRASH CUSHION (TYPE REACT 9CBB)

NO SCALE

RSP A82C1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A82C1 DATED MAY 1, 2006 - PAGE 104 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A82C1

2006 REVISED STANDARD PLAN RSP A82C1

4-21-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	52	61

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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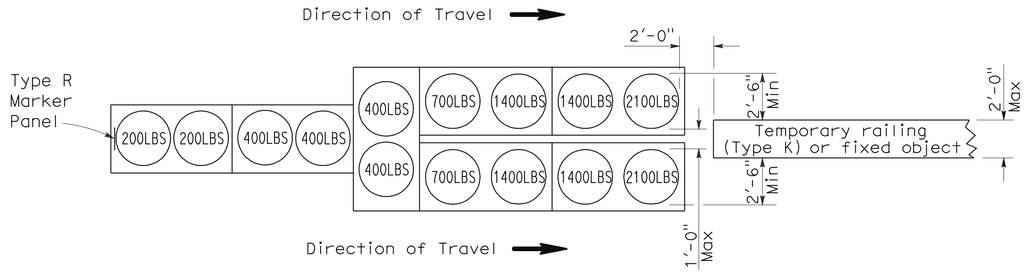
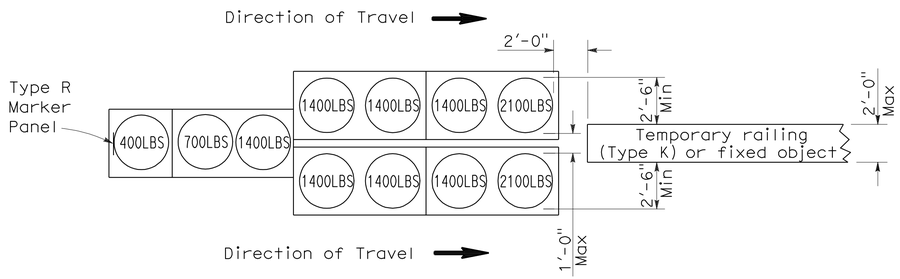
To accompany plans dated 5-10-10



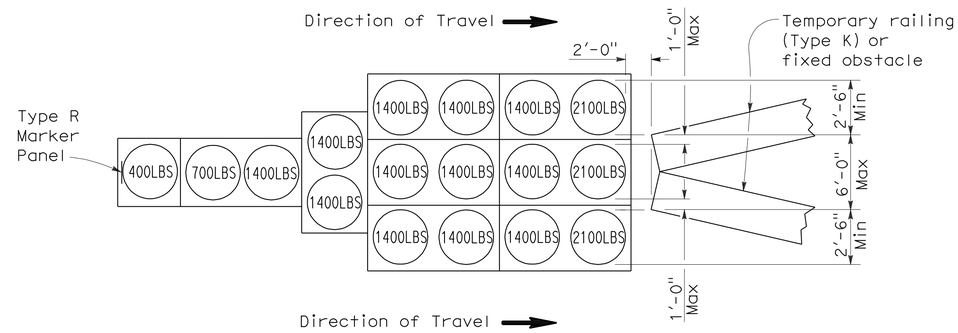
ARRAY 'TU14'

Approach speed 45 mph or more



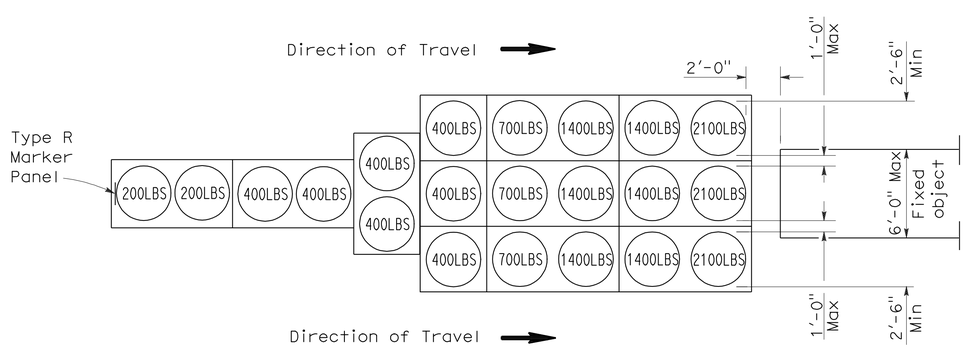
ARRAY 'TU11'

Approach speed less than 45 mph



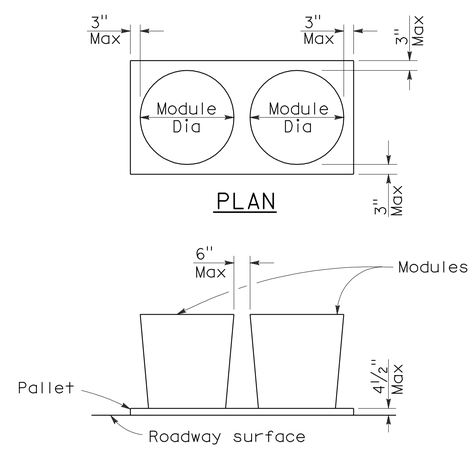
ARRAY 'TU17'

Approach speed less than 45 mph



ARRAY 'TU21'

Approach speed 45 mph or more



PLAN

ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	53	61

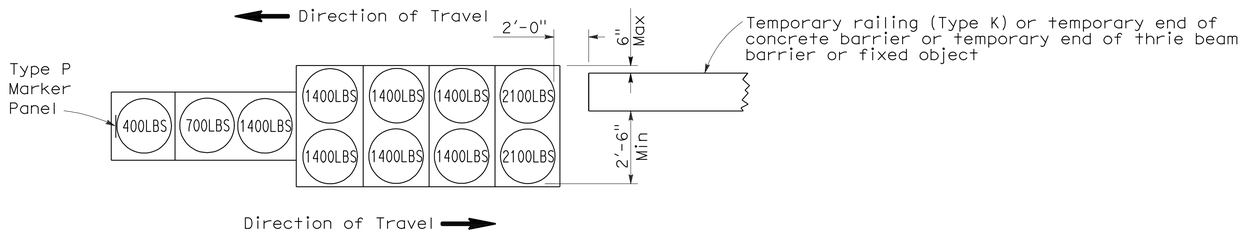
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

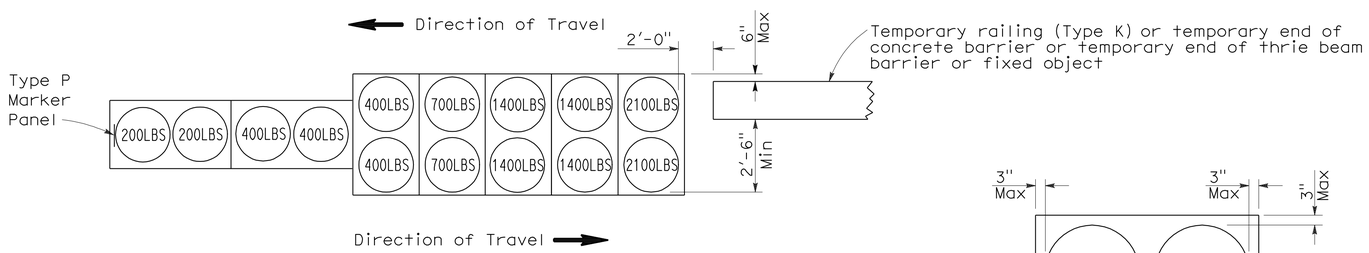
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 5-10-10



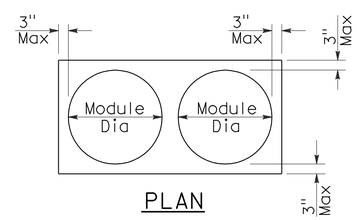
ARRAY 'TB11'

Approach speed less than 45 mph

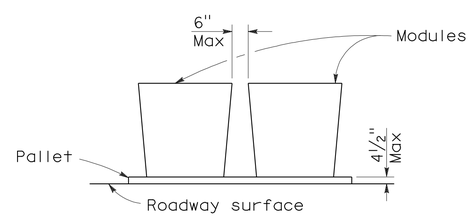


ARRAY 'TB14'

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 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
04	SM	1,35,82,84, 101, etc.	Var	54	61

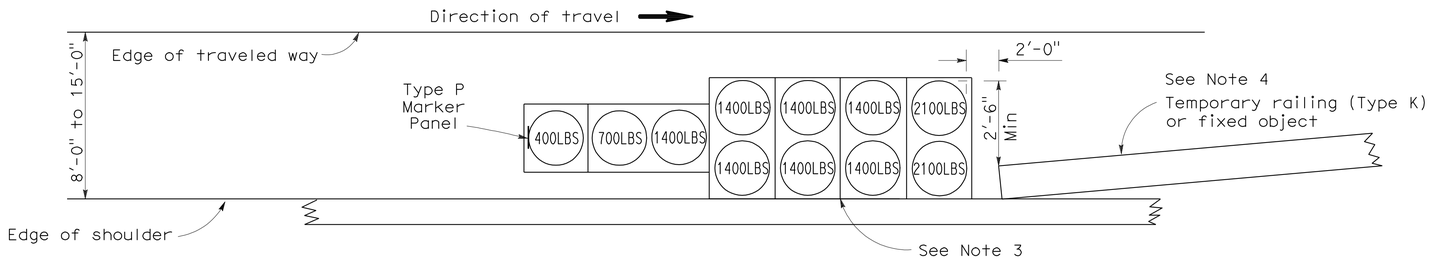
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

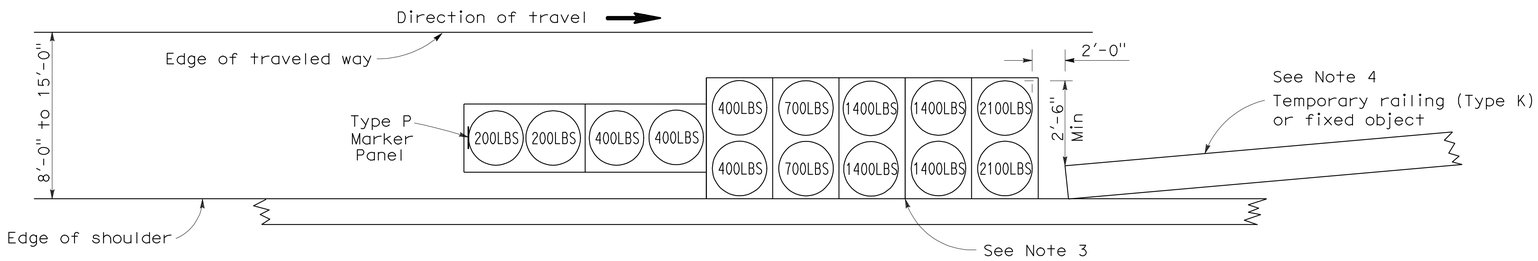
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 5-10-10



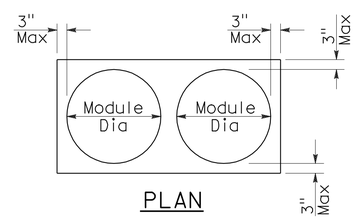
ARRAY 'TS11'

Approach speed less than 45 mph
See Note 9

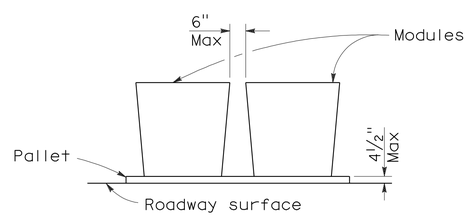


ARRAY 'TS14'

Approach speed 45 mph or more
See Note 9



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 11

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (SHOULDER INSTALLATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	55	61

Robert B Schott
LICENSED LANDSCAPE ARCHITECT

April 3, 2009
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT — Robert B. Schott — 3025 — Signature — 11-30-10 Renewal Date — 2-25-09 Date — STATE OF CALIFORNIA

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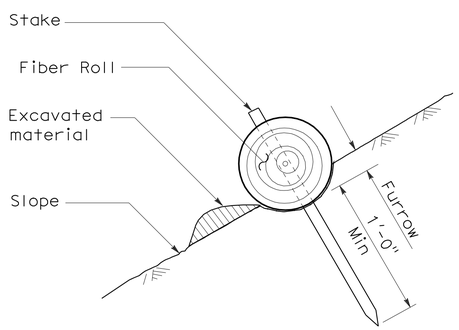
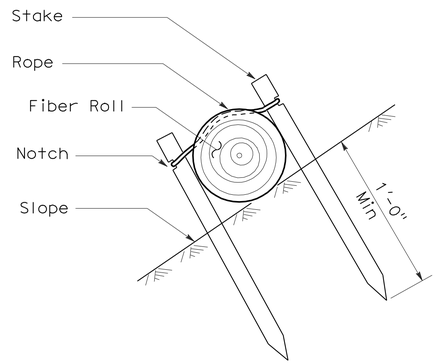
To accompany plans dated 5-10-10

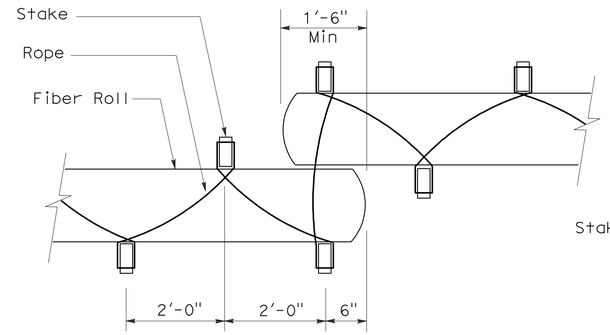


SECTION

TEMPORARY FIBER ROLL (TYPE 1)

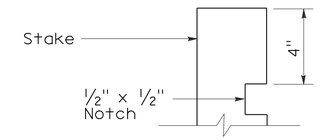


SECTION



PLAN

TEMPORARY FIBER ROLL (TYPE 2)

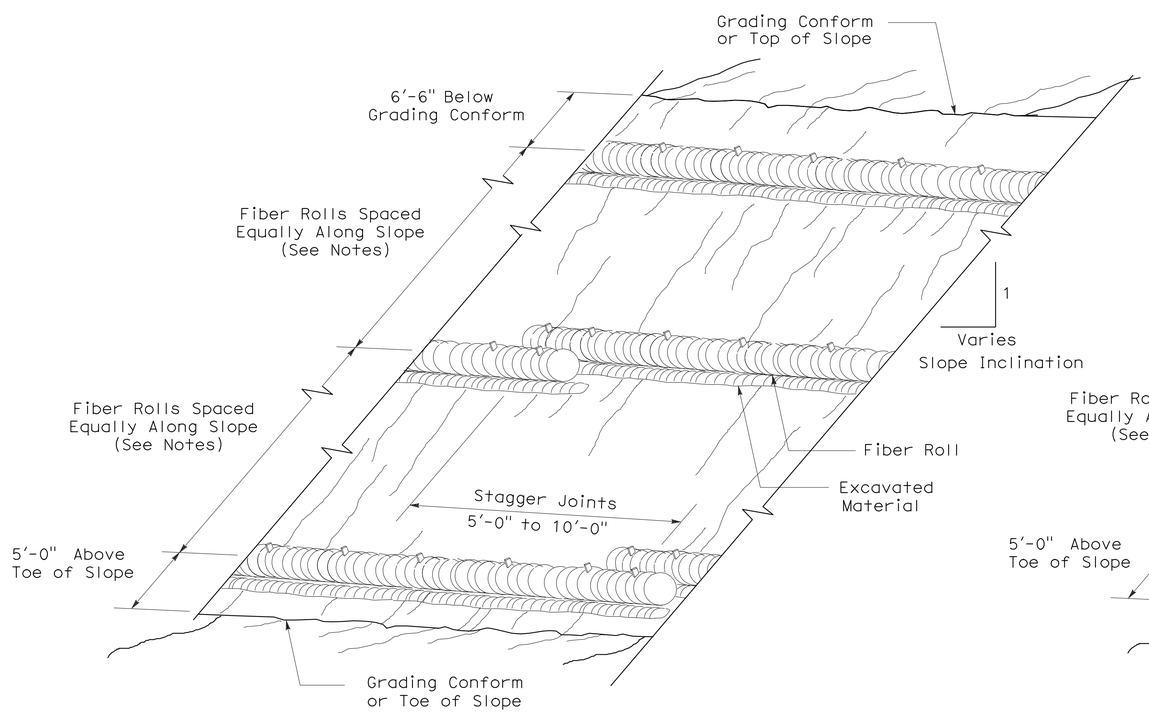


ELEVATION

STAKE NOTCH DETAIL

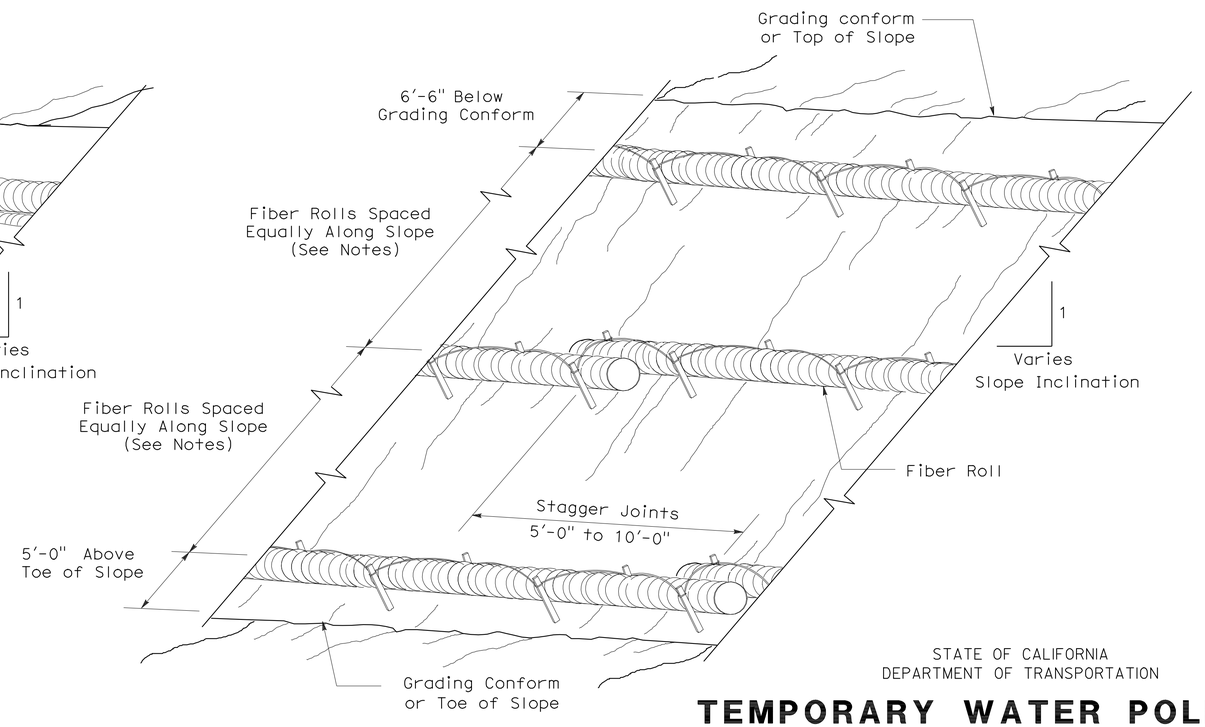
NOTES:

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

2006 REVISED STANDARD PLAN RSP T56

2-23-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	56	61

11-18-09
REGISTERED CIVIL ENGINEER DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
SUONG T. VU
No. C055212
Exp. 6/30/10
CIVIL
STATE OF CALIFORNIA

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

INDEX TO PLANS

SHEET No.	TITLE
1	INDEX TO PLANS
2	TYPE 1 QM BARRIER
3	TYPE 2 BARRIER
4	STEEL RAILING BARRIER
5	CONCRETE BARRIER (CASE 1)
6	CONCRETE BARRIER (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 A77J4	METAL BEAM GUARD RAILING -TRANSITION RAILING (TYPE WB)

	BY	CHECKED
DESIGN	N KANEPATHIPILLAI	S VU
DETAILS	B EDWARDS/P. WELLS	N KANEPATHIPILLAI
QUANTITIES	D SANDHU	Y. SONG

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. VARIES
POST MILE VARIES

INDEX TO PLANS
TRANSITION ANCHOR BLOCK DETAILS

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 0A8721

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 10/18/09 11/17/09

REVISION DATES

SHEET 1 OF 6

FILE => 040a8721aitp.dgn

USERNAME => trstrk DATE PLOTTED => 12-MAY-2010 TIME PLOTTED => 16:00

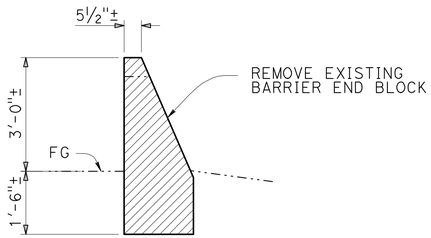
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	57	61

REGISTERED CIVIL ENGINEER 11-18-09 DATE

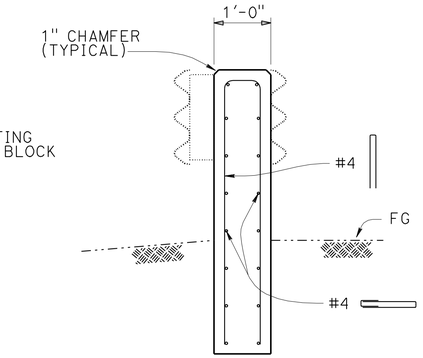
5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SUONG T. VU No. C055212 Exp. 6/30/10 CIVIL STATE OF CALIFORNIA

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



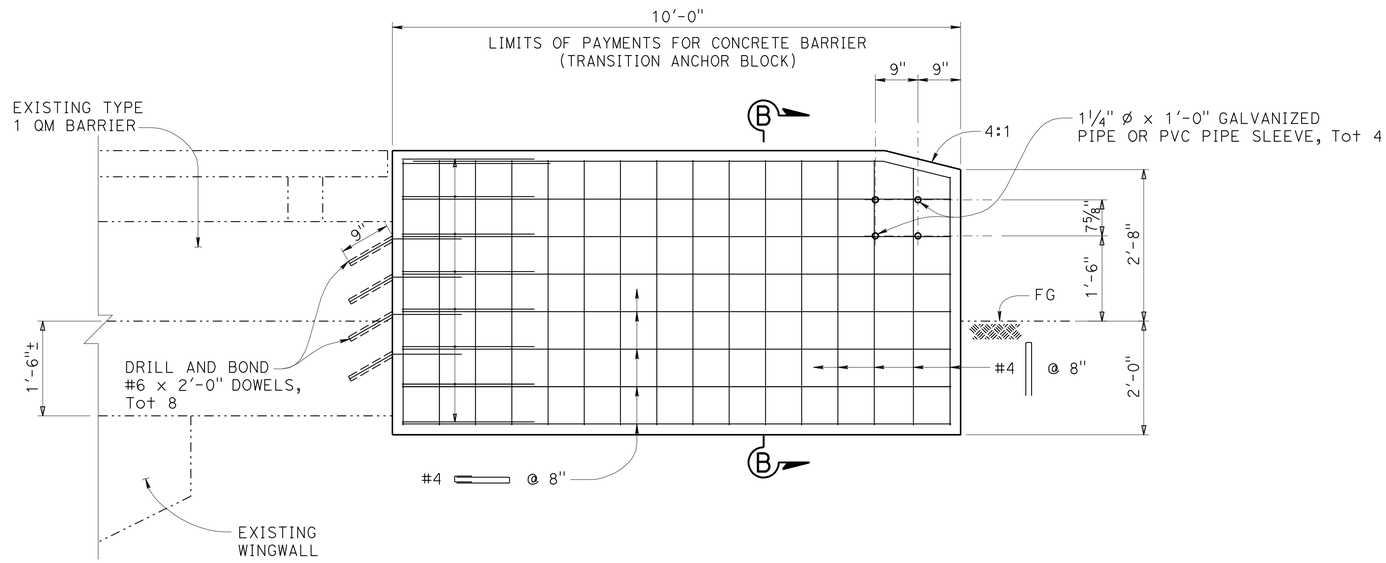
SECTION A-A
NO SCALE



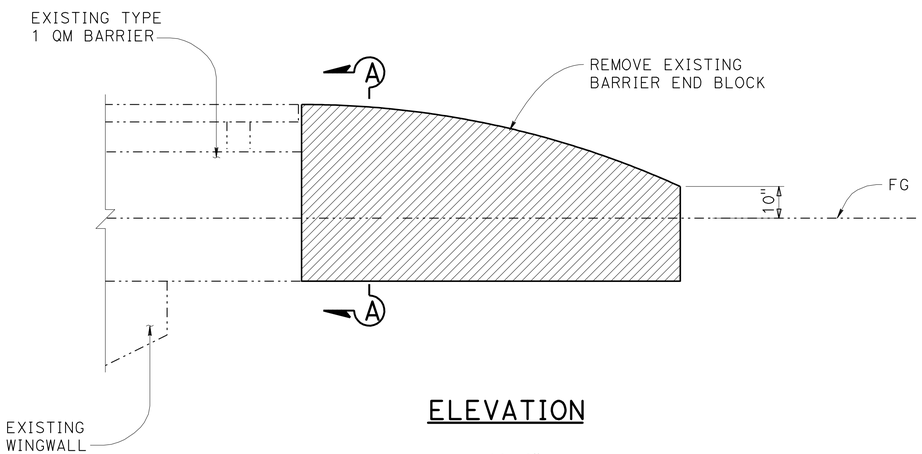
SECTION B-B
NO SCALE

LOCATION TABLE OF TYPE 1 QM BARRIER TRANSITION ANCHOR BLOCK APPLICATIONS

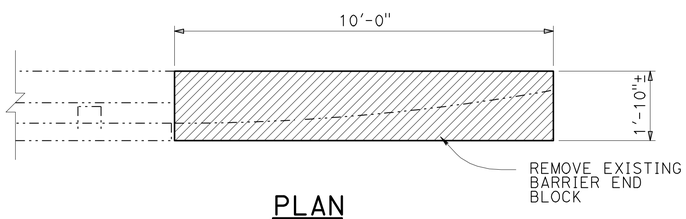
BRIDGE No.	BRIDGE NAME	ROUTE, POST MILE	DIRECTION	No. OF CONNECTIONS (WB)	
				LEADING	TRAILING
35-0007	SAND HILL ROAD OC (S)	280, 1.613	EB	1 LEFT 1 RIGHT	
35-0008	SAND HILL ROAD OC (N)	280, 1.613	WB	1 LEFT	
35-0040	BUNKER HILL DRIVE OC	280, 12.319	EB WB	1 1	1 1



ELEVATION
NO SCALE

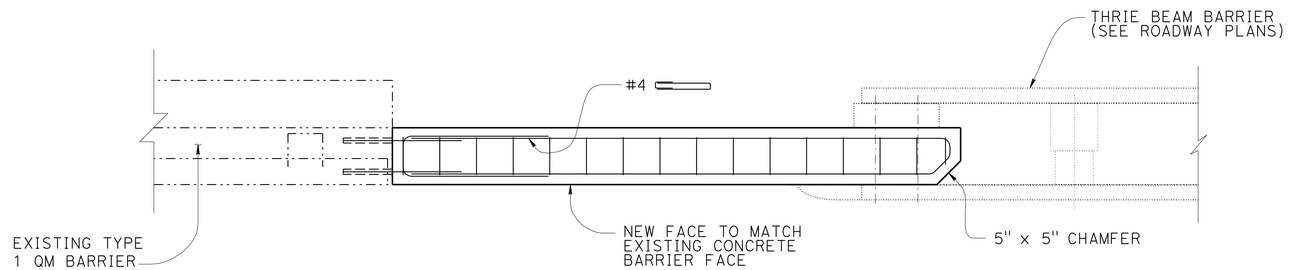


ELEVATION



PLAN

BRIDGE REMOVAL (PORTION)
NO SCALE



PLAN
NO SCALE

NOTE:

1. FOR LIMITS OF EXCAVATION AND BACKFILL, SEE STANDARD PLANS, MAY 2006, A62C, SECTION E-E.

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

LEGEND

- INDICATES EXISTING STRUCTURE
- INDICATES NEW CONSTRUCTION
- BRIDGE REMOVAL (PORTION)

	BY	CHECKED
DESIGN	N KANEPATHIPILLAI	S VU
DETAILS	P C WELLS/B EDWARDS	N KANEPATHIPILLAI
QUANTITIES	D SANDHU	Y SONG

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. VARIES
POST MILE VARIES

TYPE 1 QM BARRIER TRANSITION ANCHOR BLOCK DETAILS

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 0A8721

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 9/11/09 10/5/09 10/16/09 10/26/09 10/27/09 11/06/09 11/17/09

SHEET 2 OF 6

FILE => 040a8721tbrdt01.dgn

USERNAME => trstrk DATE PLOTTED => 12-MAY-2010 TIME PLOTTED => 16:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	58	61

REGISTERED CIVIL ENGINEER 11-18-09 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SUONG T. VU No. C055212 Exp. 6/30/10 CIVIL STATE OF CALIFORNIA

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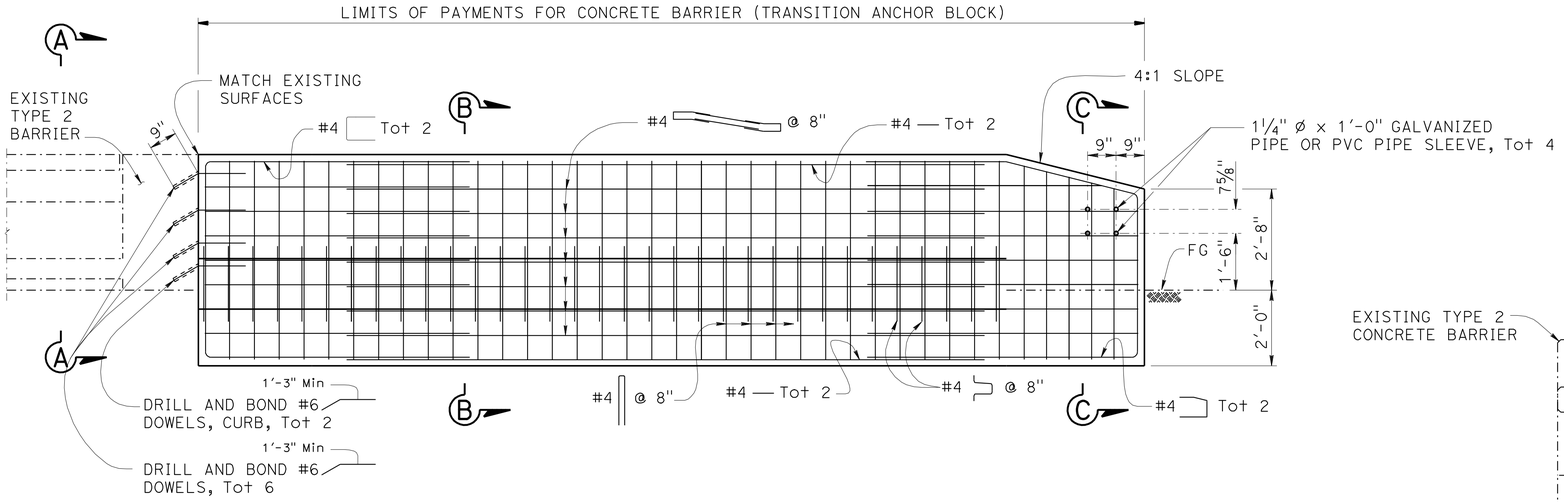
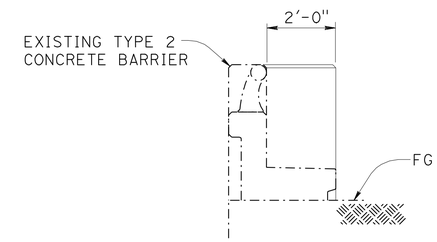


ELEVATION
no scale



SECTION A-A
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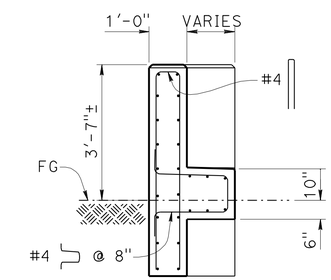
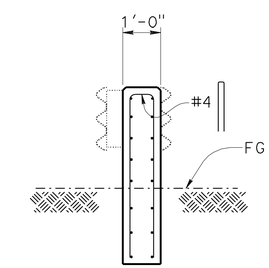


SECTION B-B
NO SCALE

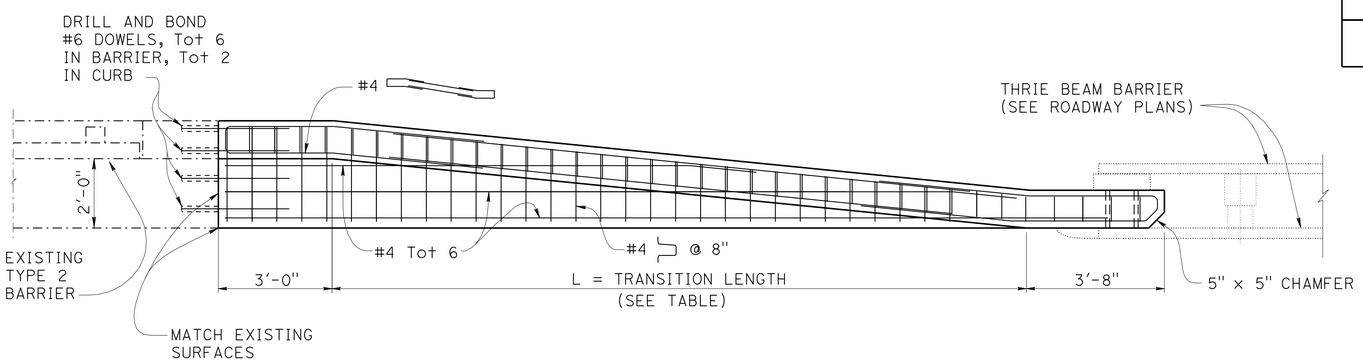


SECTION C-C
NO SCALE

LOCATION TABLE OF TYPE 2 BARRIER TRANSITION ANCHOR BLOCK APPLICATIONS

BRIDGE No.	BRIDGE NAME	ROUTE, POST MILE	DIRECTION	No. OF CONNECTIONS (WB) LEADING END	No. OF CONNECTIONS (WB) TRAILING END	L (FT)
35-0093	FIVE POINTS SEPARATION	84, 24.68	NB SB	1 1		20* 40
35-0052	REDWOOD JUNCTION OVERHEAD	84, 24.86	NB SB	1		20

* NB LEADING END L = 20' (SIDEWALK HEIGHT 10")
SB LEADING END L = 40' (SIDEWALK HEIGHT 6")



PLAN
NO SCALE

NOTES:

1. FOR LIMITS OF EXCAVATION AND BACKFILL SEE STANDARD PLANS MAY 2006 A62C, SECTION E-E.
2. CONDUITS MAY BE LOCATED IN EXISTING SIDEWALK. MITIGATE EXISTING CONDUIT TO ITS RESPECTFUL LOCATION.
3. MATCH TO ALL EXISTING BARRIER AND SIDEWALK GRADE.

LEGEND

-·-·-·-·- INDICATES EXISTING STRUCTURE

——— INDICATES NEW CONSTRUCTION

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

	BY	CHECKED
DESIGN	N KANEPATHIPILLAI	S VU
DETAILS	B EDWARDS	N KANEPATHIPILLAI
QUANTITIES	D SANDHU	Y SONG

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. VARIES
POST MILE VARIES

TYPE 2 BARRIER
TRANSITION ANCHOR BLOCK DETAILS

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 0A8721

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 9/11/09 9/17/09 10/6/09 10/14/09 11/17/09

REVISION DATES

SHEET 3 OF 6

FILE => 040a8721tbrdt02.dgn

USERNAME => trstrk DATE PLOTTED => 12-MAY-2010 TIME PLOTTED => 16:04

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	59	61

REGISTERED CIVIL ENGINEER 11-18-09 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SUONG T. VU No. C055212 Exp. 6/30/10 CIVIL STATE OF CALIFORNIA

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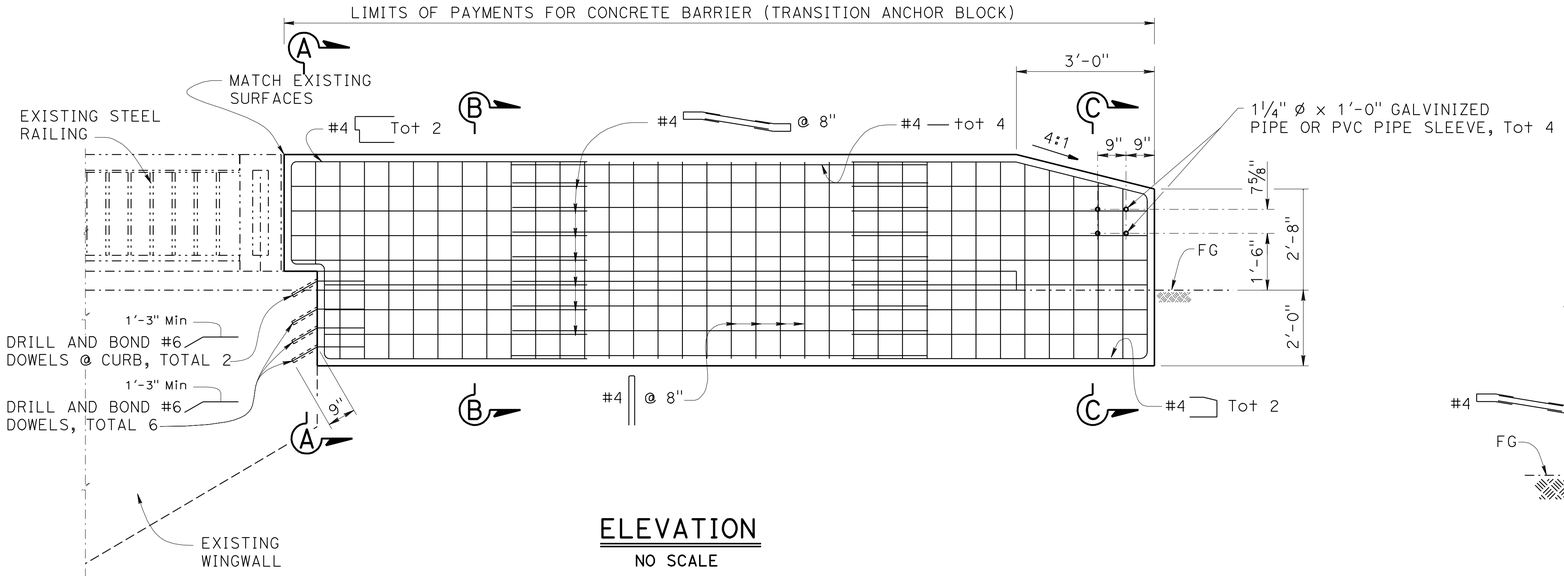
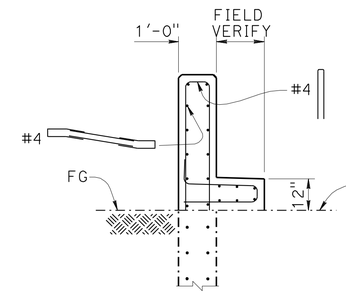
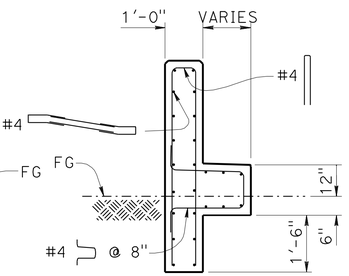


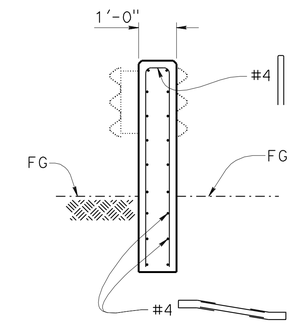
ELEVATION
NO SCALE



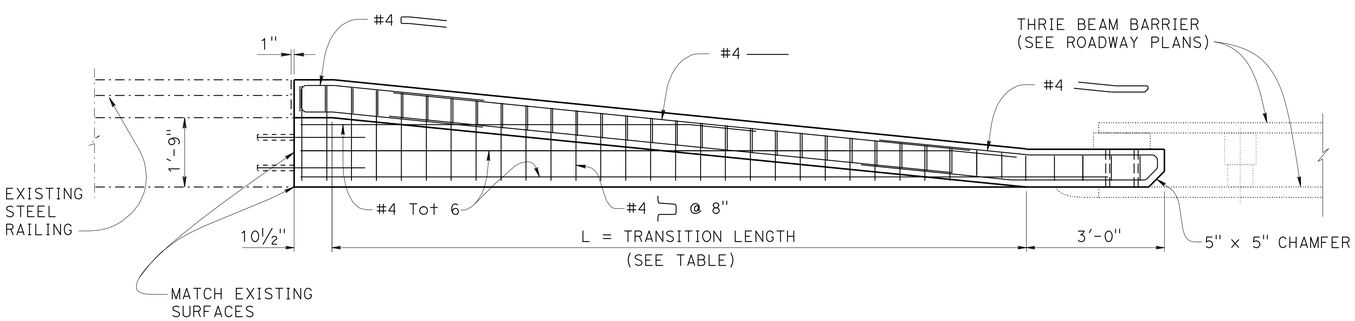
SECTION A-A
NO SCALE



SECTION B-B
NO SCALE



SECTION C-C
NO SCALE



PLAN
NO SCALE

NOTES:

1. FOR LIMITS OF EXCAVATION AND BACKFILL SEE STANDARD PLANS, MAY 2006, A62C, SECTION E-E.
2. EPOXY FILL DRILLED HOLES FOR BOLTS USED TO FASTEN MBGR TO EXISTING END BLOCK, UNLESS HOLES WERE CAST USING PIPE SLEEVES.

LEGEND

INDICATES EXISTING STRUCTURE

INDICATES NEW CONSTRUCTION

LOCATION TABLE OF STEEL RAILING BARRIER TRANSITION ANCHOR BLOCK APPLICATIONS

BRIDGE No.	BRIDGE NAME	ROUTE, POST MILE	DIRECTION	No. OF CONNECTIONS (WB) LEADING END	L	SIDEWALK HEIGHT
35-0113	UNIVERSITY AVENUE OC	101, 0.89	EB	1	17'-6"	12"

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

	BY	CHECKED
DESIGN	N KANEPATHIPILLAI	S VU
DETAILS	B EDWARDS	N KANEPATHIPILLAI
QUANTITIES	D SANDHU	Y SONG

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. VARIES
POST MILE VARIES

STEEL RAILING BARRIER TRANSITION ANCHOR BLOCK DETAILS

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 0A8721

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 9/17/09 10/2/09 10/23/09 10/29/09 11/17/09

SHEET 4 OF 6

FILE => 040a8721tbrdt03.dgn

USERNAME => trstrk DATE PLOTTED => 12-MAY-2010 TIME PLOTTED => 16:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SM	1,35,82,84, 101,etc.	Var	60	61

REGISTERED CIVIL ENGINEER 11-18-09 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SUONG T. VU No. C055212 Exp. 6/30/10 CIVIL STATE OF CALIFORNIA

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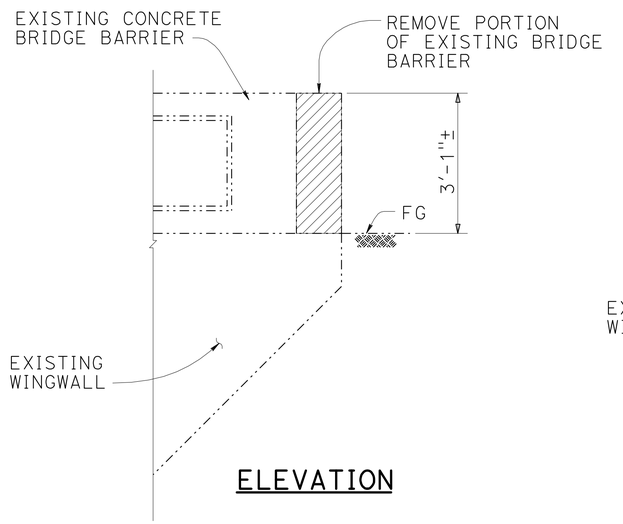
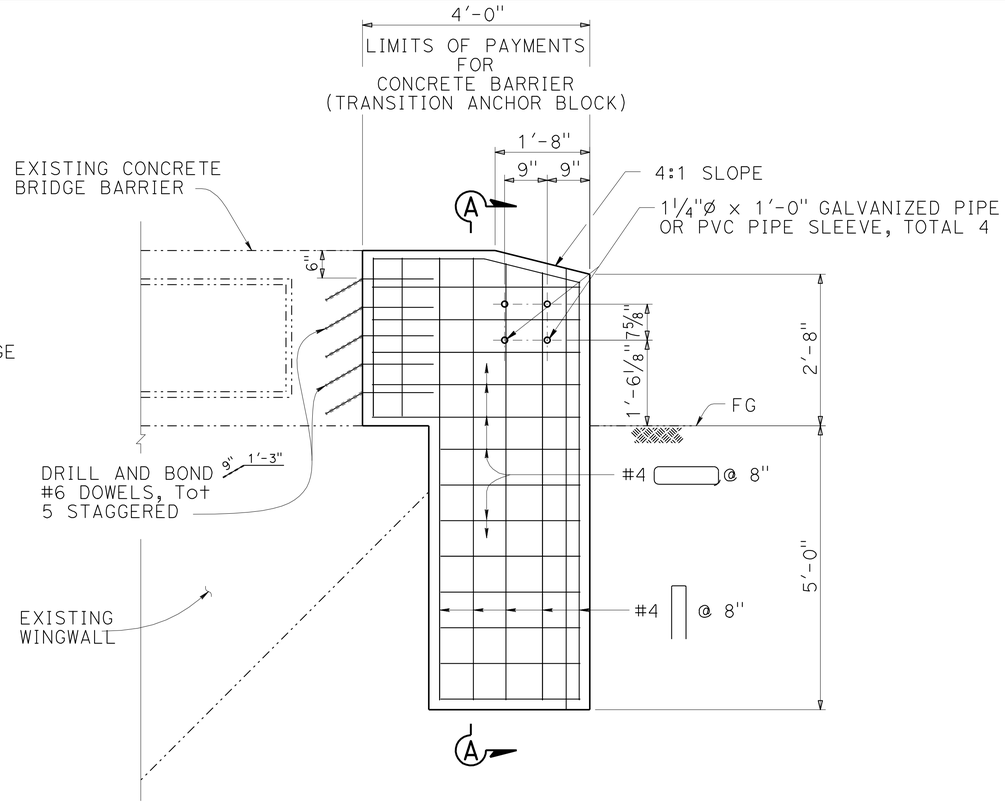


ELEVATION



ELEVATION

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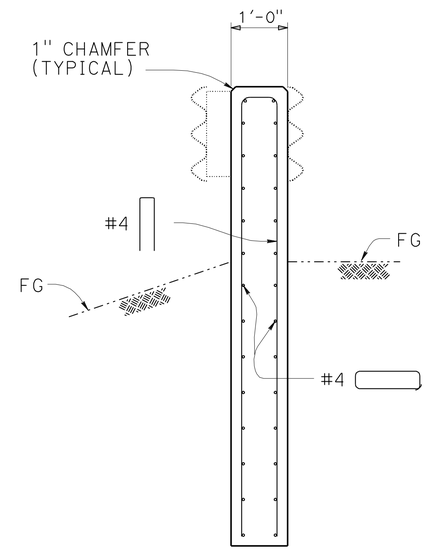
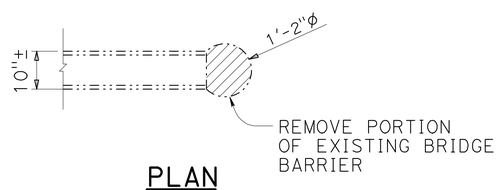


SECTION A-A

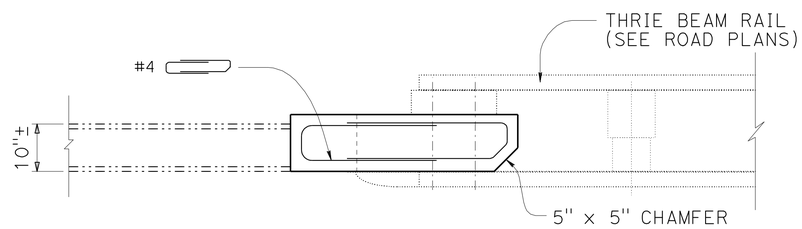
NO SCALE



PLAN

BRIDGE REMOVAL (PORTION)

NO SCALE



PLAN

NO SCALE

NOTE:

1. FOR LIMITS OF EXCAVTION AND BACKFILL, SEE STANDARD PLAN, MAY 2006, A62C, SECTION E-E.

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

LEGEND

-·-·-·- INDICATES EXISTING STRUCTURE

——— INDICATES NEW CONSTRUCTION

BRIDGE REMOVAL (PORTION)

LOCATION TABLE OF CONCRETE BARRIER (CASE 1)
TRANSITION ANCHOR BLOCK APPLICATION

BRIDGE No.	BRIDGE NAME	ROUTE, POST MILE	DIRECTION	No. OF CORRECTION (WB)	
				LEADING	TRAILING
35-0044	WEST UNION CREEK	84/19.93	EB	1	1*
35-0044	WEST UNION CREEK	84/19.93	WB		1

* EB TRAILING END Exist BARRIER HEIGHT IS 2'-10", SLOPE ON TRANSITION BLOCK TO BE 4:1 TO MEET 2'-8" HEIGHT REQUIREMENT AND THRIE BEAM CONNECTION.

	BY	CHECKED
DESIGN	N KANEPATHIPILLAI	S VU
DETAILS	P C WELLS/B EDWARDS	N KANEPATHIPILLAI
QUANTITIES	D SANDHU	Y SONG

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. VARIES
POST MILE VARIES

CONCRETE BARRIER (CASE 1)
TRANSITION ANCHOR BLOCK DETAILS

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 0A8721

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 8/24/09 10/12/09 10/26/09 11/17/09

SHEET 5 OF 6

FILE => 040a8721tbrdt04.dgn

USERNAME => trstrk DATE PLOTTED => 12-MAY-2010 TIME PLOTTED => 16:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SM	1,35,82,84, 101, etc.	Var	61	61

REGISTERED CIVIL ENGINEER 11-18-09 DATE

5-10-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SUONG T. VU No. C055212 Exp. 6/30/10 CIVIL STATE OF CALIFORNIA

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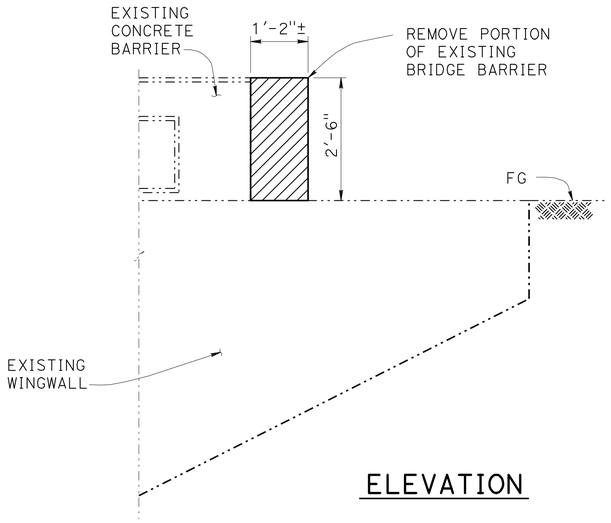
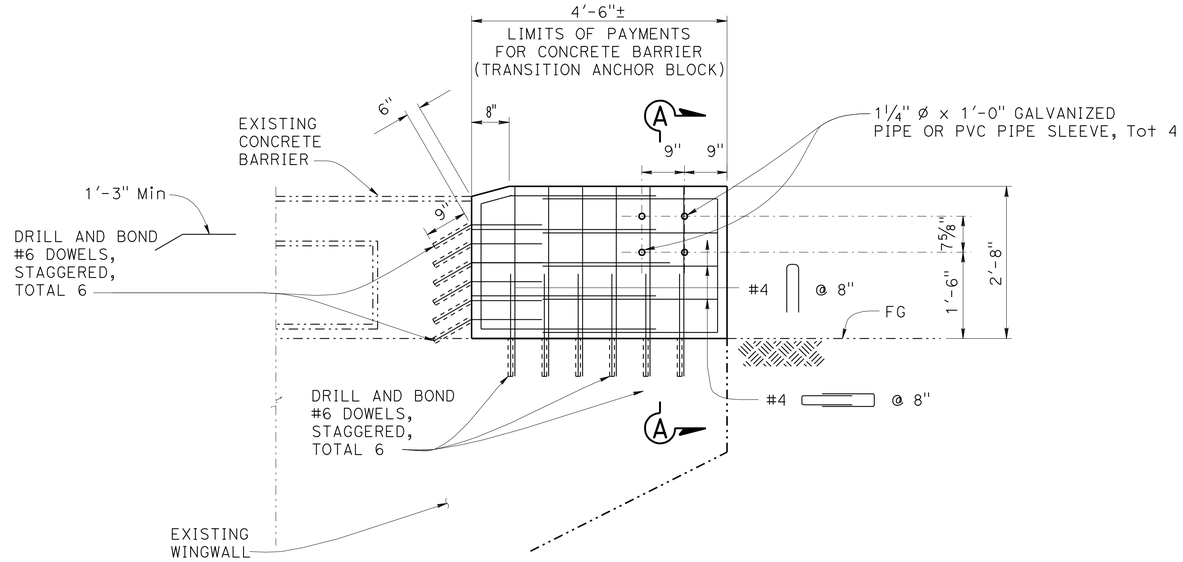
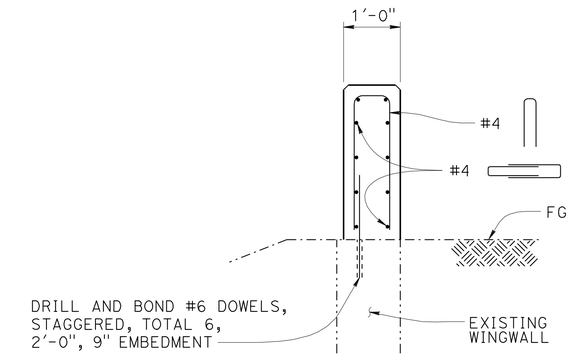


ELEVATION



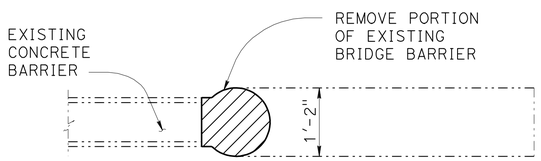
ELEVATION

NO SCALE



SECTION A-A

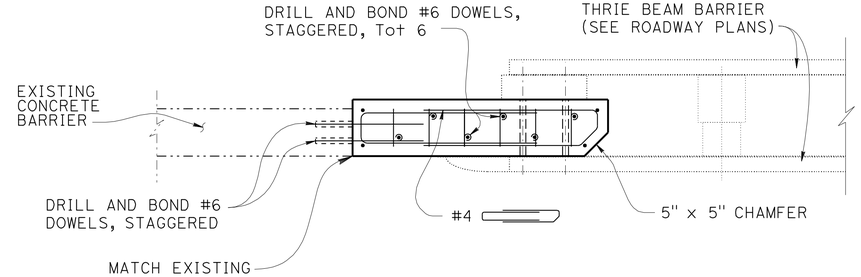
NO SCALE



PLAN

BRIDGE REMOVAL (PORTION)

NO SCALE



PLAN

NO SCALE

LOCATION TABLE OF CONCRETE BARRIER (CASE 2) TRANSITION ANCHOR BLOCK APPLICATION

BRIDGE No.	BRIDGE NAME	ROUTE, POST MILE	DIRECTION	No. OF CONNECTIONS
				LEADING END
35-0044	WEST UNION CREEK	84, 19.93	WB	1

LEGEND

INDICATES EXISTING STRUCTURE.

INDICATES NEW CONSTRUCTION.

BRIDGE REMOVAL (PORTION)

NOTES:

1. FOR LIMITS OF EXCAVATION AND BACKFILL, SEE STANDARD PLANS MAY 2006 A62C, SECTION E-E.
2. EPOXY FILL DRILLED HOLES FOR BOLTS USED TO FASTEN MBGR TO EXISTING END BLOCK, UNLESS HOLES WERE CAST USING PIPE SLEEVES.

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

	BY	CHECKED
DESIGN	N KANEPATHIPILLAI	S VU
DETAILS	B EDWARDS	N KANEPATHIPILLAI
QUANTITIES	D SANDHU	Y SONG

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. VARIES
POST MILE VARIES

CONCRETE BARRIER (CASE 2) TRANSITION ANCHOR BLOCK DETAILS

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 0A8721

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: ~~9-9-09~~ ~~9-10-09~~ ~~9-12-09~~ ~~10/12/09~~ 11/17/09

SHEET 6 OF 6

FILE => 040a8721tbrdt05.dgn

USERNAME => trstrk DATE PLOTTED => 12-MAY-2010 TIME PLOTTED => 16:01