

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	LOCATIONS OF CONSTRUCTION
3-13	CONSTRUCTION DETAILS
14-15	TRAFFIC HANDLING PLANS
16-21	SUMMARY OF QUANTITIES
22-37	REVISED AND NEW STANDARD PLANS

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

STATE OF CALIFORNIA **HSSTPG-000C(347)E**
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN BUTTE, COLUSA, EL DORADO, NEVADA,
PLACER, SUTTER, AND YUBA COUNTIES
AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	1	37

LOCATION MAP

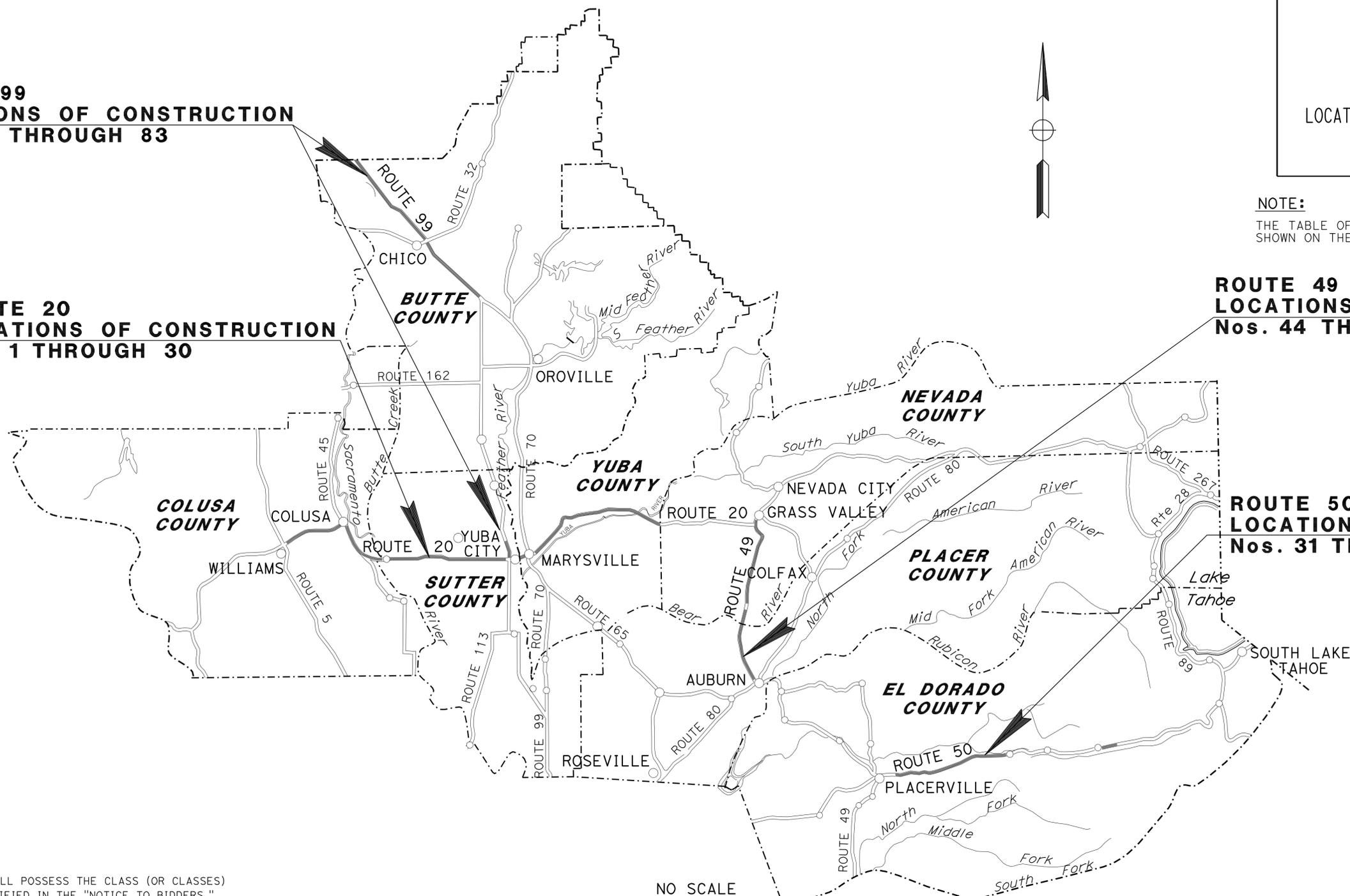
NOTE:
 THE TABLE OF LOCATIONS OF CONSTRUCTION IS SHOWN ON THE LOCATIONS OF CONSTRUCTION SHEET.

ROUTE 99
LOCATIONS OF CONSTRUCTION
Nos. 63 THROUGH 83

ROUTE 20
LOCATIONS OF CONSTRUCTION
Nos. 1 THROUGH 30

ROUTE 49
LOCATIONS OF CONSTRUCTION
Nos. 44 THROUGH 62

ROUTE 50
LOCATIONS OF CONSTRUCTION
Nos. 31 THROUGH 43



NO SCALE

PROJECT MANAGER SAM JORDAN	DESIGN ENGINEER MIKE HAGEN
-------------------------------	-------------------------------

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

Dennis L. Corcoran 6-15-11
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER



June 20, 2011
 PLANS APPROVAL DATE

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

CONTRACT No.	03-OF2104
PROJECT ID	0300020244

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But,Col,ED, Nev,Pla,etc.	20,49, 50,99	Var	2	37

Dennis G. Corcoran 6-15-11
REGISTERED CIVIL ENGINEER DATE

6-20-11
PLANS APPROVAL DATE

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

LOCATIONS OF CONSTRUCTION

Loc	COUNTY	ROUTE	PM	DIRECTION	DESCRIPTION
1	Col	20	28.5	EB	REMOVE MBGR AND INSTALL END TREATMENT
2	Col	20	28.8	EB	ATTACH TO Br No. 15-0084 REFUGE DRAIN (R+ SIDE)
3	Col	20	28.8	WB	ATTACH TO Br No. 15-0084 REFUGE DRAIN (R+ SIDE)
4	Col	20	28.5	WB	REMOVE MBGR AND INSTALL END TREATMENT
5	Sut	20	5.4	EB	REMOVE MBGR AND INSTALL MBGR & END ANCHOR ASSEMBLIES (TYPE SFT)
6	Sut	20	6.3	EB	REMOVE MBGR AND INSTALL END TREATMENT
7	Sut	20	6.5	EB	REMOVE MBGR AND INSTALL END TREATMENTS
8	Sut	20	6.8	EB	REMOVE MBGR AND INSTALL END TREATMENT
9	Sut	20	7.1	EB	REMOVE MBGR AND INSTALL MBGR & END ANCHOR ASSEMBLIES (TYPE SFT)
10	Sut	20	9.7	EB	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE)
11	Sut	20	9.8	EB	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE-TRAILING END)
12	Sut	20	10.5	EB	REMOVE MBGR AND INSTALL END TREATMENTS
13	Sut	20	10.5	WB	REMOVE MBGR AND INSTALL END TREATMENT
14	Sut	20	9.8	WB	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE)
15	Sut	20	7.1	WB	REMOVE MBGR AND INSTALL END TREATMENTS
16	Sut	20	6.8	WB	REMOVE MBGR AND INSTALL END TREATMENTS
17	Sut	20	6.5	WB	REMOVE MBGR AND INSTALL END TREATMENTS
18	Sut	20	6.3	WB	REMOVE MBGR AND INSTALL MBGR & END ANCHOR ASSEMBLIES (TYPE SFT)
19	Sut	20	5.4	WB	REMOVE MBGR AND INSTALL END TREATMENTS
20	Yub	20	13.9	EB	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE)
21	Yub	20	14.0	EB	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE-TRAILING END)
22	Yub	20	15.3	EB	REMOVE MBGR AND INSTALL END TREATMENT
23	Yub	20	16.1	EB	REMOVE MBGR AND INSTALL END TREATMENT (LEFT SIDE)
24	Yub	20	17.7	EB	ATTACH TO Br No. 16-0011 YUBA RIVER (PARKS BAR)
25	Yub	20	18.5	EB	REMOVE MBGR AND INSTALL END TREATMENT
26	Yub	20	19.0	WB	REMOVE MBGR AND INSTALL END TREATMENT
27	Yub	20	18.9	WB	REMOVE MBGR AND INSTALL END TREATMENT
28	Yub	20	16.1	WB	REMOVE MBGR AND INSTALL END TREATMENT
29	Yub	20	14.0	WB	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE)
30	Yub	20	13.9	WB	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE-TRAILING END)
31	ED	50	27.9	EB	REMOVE MBGR AND INSTALL END TREATMENT
32	ED	50	29.1	EB	REMOVE MBGR AND INSTALL END TREATMENT
33	ED	50	30.1	EB	REMOVE MBGR AND INSTALL END TREATMENT
34	ED	50	30.4	EB	REMOVE MBGR AND INSTALL END TREATMENT
35	ED	50	30.8	EB	REMOVE MBGR AND INSTALL END TREATMENT
36	ED	50	31.3	EB	REMOVE MBGR AND INSTALL END TREATMENT
37	ED	50	59.4	WB	ATTACH TO CONCRETE BARRIER
38	ED	50	31.3	WB	ATTACH TO Br No. 25-0042 SLY PARK Rd UC (R+ SIDE)
39	ED	50	28.8	WB	ATTACH TO Br No. 25-0041 SAW MILL UC (R+ SIDE)
40	ED	50	20.3	WB	ATTACH TO Br No. 25-0062 POINT VIEW Dr UC (R+ SIDE)
41	ED	50	19.6	WB	ATTACH TO Br No. 25-0064 SMITH FLAT Rd UC (R+ SIDE)
42	ED	50	19.1	WB	ATTACH TO Br No. 25-0063 SCHNELL SCHOOL Rd (R+ SIDE)
43	ED	50	18.8	WB	ATTACH TO RETAINING WALL
44	Pla	49	4.0	NB	REMOVE MBGR AND INSTALL END TREATMENT
45	Pla	49	4.1	NB	REMOVE MBGR AND INSTALL END TREATMENT
46	Pla	49	5.0	NB	INSTALL CRASH CUSHION (TYPE TAU-II)
47	Pla	49	6.9	NB	REMOVE MBGR AND INSTALL END TREATMENT
48	Pla	49	8.0	NB	ATTACH TO Br No. 19-0020 S FORK DRY CREEK (R+ SIDE)
49	Pla	49	9.4	NB	ATTACH TO Br No. 19-0021 N FORK DRY CREEK (R+ SIDE)
50	Pla	49	9.4	SB	ATTACH TO Br No. 19-0021 N FORK DRY CREEK (R+ SIDE)

Loc	COUNTY	ROUTE	PM	DIRECTION	DESCRIPTION
51	Pla	49	8.1	SB	ATTACH TO Br No. 19-0020 S FORK DRY CREEK (R+ SIDE)
52	Pla	49	7.3	SB	REMOVE MBGR AND INSTALL END TREATMENT
53	Pla	49	6.9	SB	REMOVE MBGR AND INSTALL END TREATMENT
54	Pla	49	6.4	SB	REMOVE MBGR AND INSTALL END TREATMENT
55	Pla	49	5.0	SB	INSTALL CRASH CUSHION (TYPE TAU-II)
56	Nev	49	8.8	NB	REMOVE MBGR AND INSTALL END TREATMENT
57	Nev	49	9.6	NB	REMOVE MBGR AND INSTALL END TREATMENT
58	Nev	49	12.8	NB	REMOVE MBGR AND INSTALL END TREATMENT
59	Nev	49	9.6	SB	REMOVE MBGR AND INSTALL END TREATMENT
60	Nev	49	9.1	SB	REMOVE MBGR AND INSTALL END TREATMENT
61	Nev	49	8.8	SB	REMOVE MBGR AND INSTALL END TREATMENT
62	Nev	49	8.1	SB	REMOVE MBGR AND INSTALL END TREATMENT
63	Sut	99	30.9	NB	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (R+ SIDE)
64	Sut	99	30.9	NB	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (Med SIDE)
65	Sut	99	30.9	SB	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (R+ SIDE)
66	Sut	99	30.9	SB	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (Med SIDE)
67	Bu+	99	26.1	NB	ATTACH TO Br No. 12-0129 NANCE CREEK (R+ SIDE)
68	Bu+	99	27.8	NB	ATTACH TO Br No. 12-0125 SCRUB CREEK (R+ SIDE)
69	Bu+	99	37.2	NB	ATTACH TO Br No. 12-0156 MUD CREEK (R+ SIDE)
70	Bu+	99	44.9	NB	REMOVE MBGR AND INSTALL END TREATMENTS
71	Bu+	99	45.3	NB	REMOVE MBGR AND INSTALL END TREATMENT
72	Bu+	99	45.5	NB	ATTACH TO Br No. 12-0028 PINE CREEK (R+ SIDE)
73	Bu+	99	45.7	NB	ATTACH TO Br No. 12-0029 CAMPBELL CREEK (R+ SIDE)
74	Bu+	99	45.8	NB	REMOVE MBGR AND INSTALL END TREATMENT
75	Bu+	99	45.9	NB	REMOVE MBGR AND INSTALL END TREATMENT
76	Bu+	99	26.1	SB	ATTACH TO Br No. 12-0129 NANCE CREEK (R+ SIDE)
77	Bu+	99	27.8	SB	ATTACH TO Br No. 12-0125 SCRUB CREEK (R+ SIDE)
78	Bu+	99	37.2	SB	ATTACH TO Br No. 12-0156 MUD CREEK (R+ SIDE)
79	Bu+	99	44.9	SB	REMOVE MBGR AND INSTALL END TREATMENT
80	Bu+	99	45.3	SB	REMOVE MBGR AND INSTALL END TREATMENT
81	Bu+	99	45.6	SB	ATTACH TO Br No. 12-0028 PINE CREEK (R+ SIDE)
82	Bu+	99	45.7	SB	ATTACH TO Br No. 12-0029 CAMPBELL CREEK (R+ SIDE)
83	Bu+	99	45.9	SB	REMOVE MBGR AND INSTALL END TREATMENT

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR MIKE HAGEN
 CALCULATED/DESIGNED BY GARY DOSSEY
 DENNIS CORCORAN
 REVISED BY DATE REVISION
 x
 x
 x
 x
 x

LOCATIONS OF CONSTRUCTION LC-1

LAST REVISION | DATE PLOTTED => 19-JUL-2011
 06-14-11
 TIME PLOTTED => 11:09

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	3	37

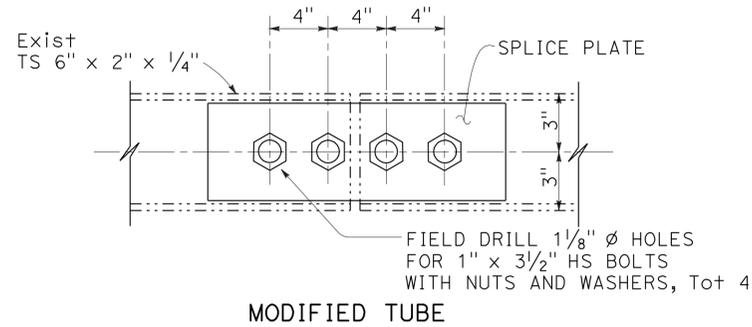
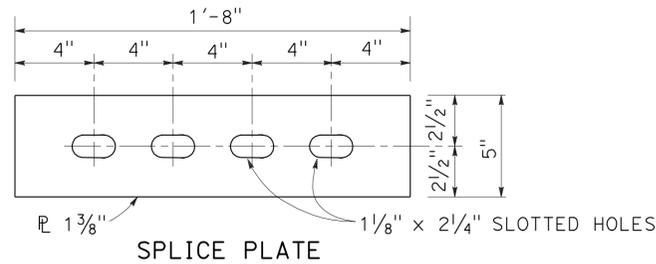
Dennis L. Corcoran 6-15-11
 REGISTERED CIVIL ENGINEER DATE
 6-20-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DENNIS CORCORAN
 No. 59438
 Exp. 12-31-11
 CIVIL
 STATE OF CALIFORNIA

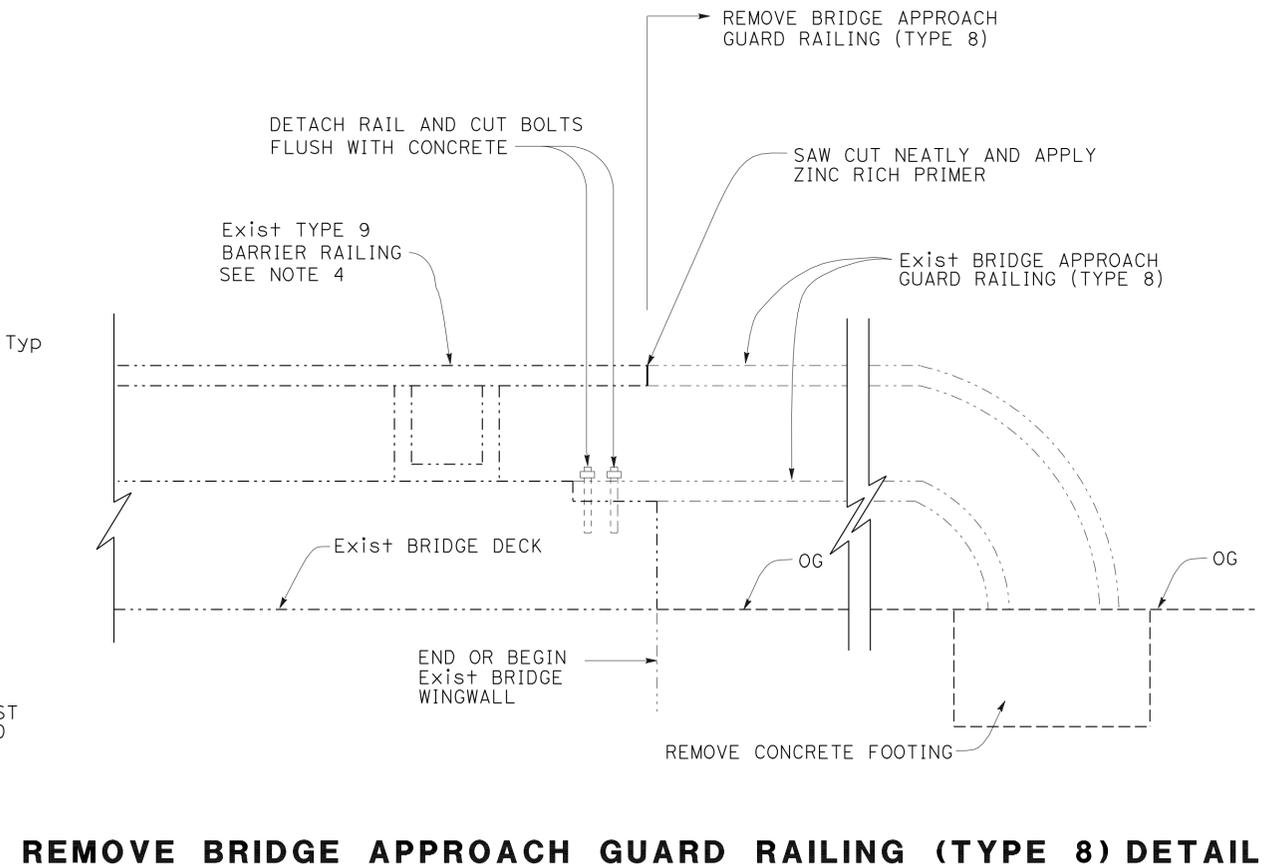
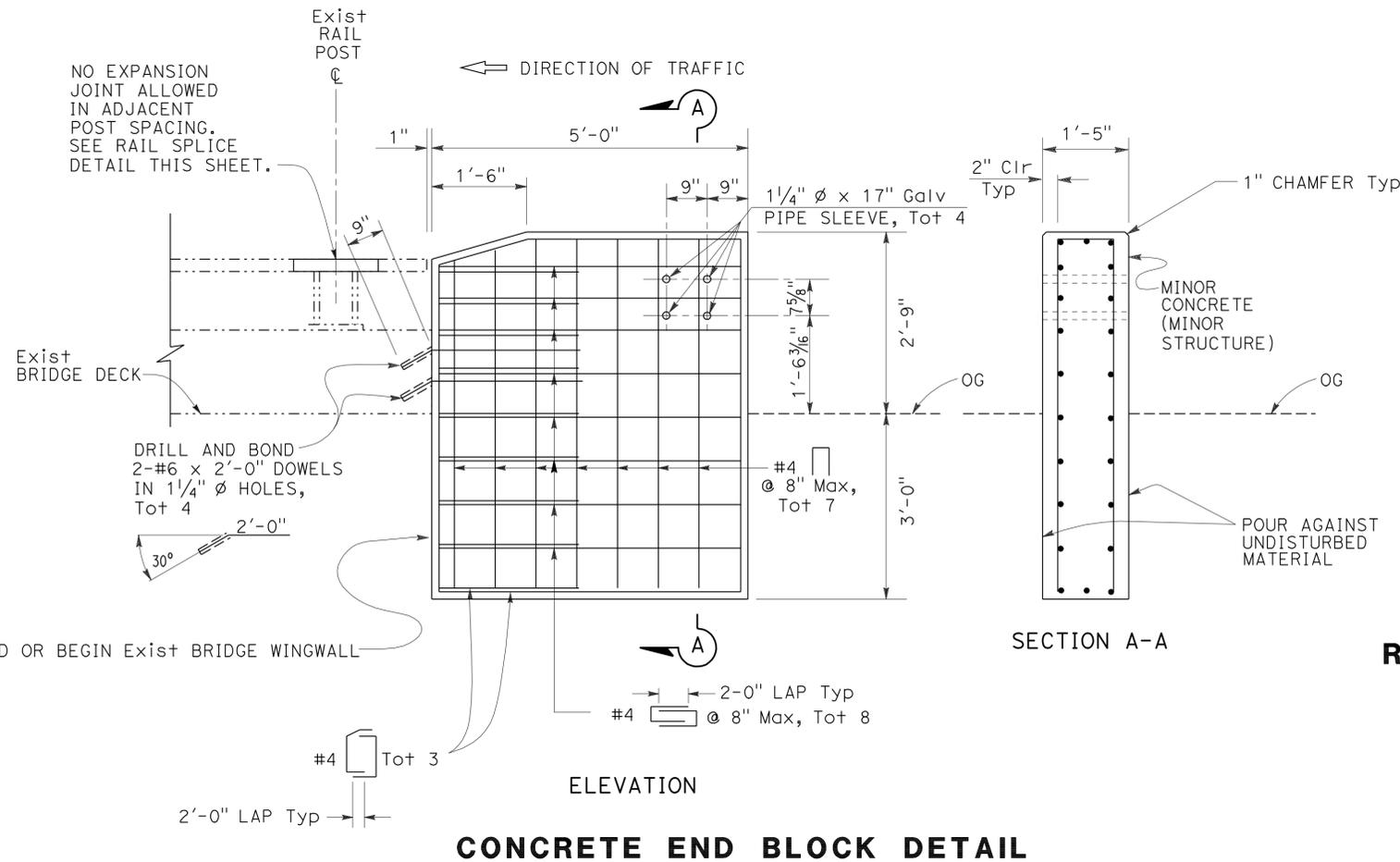
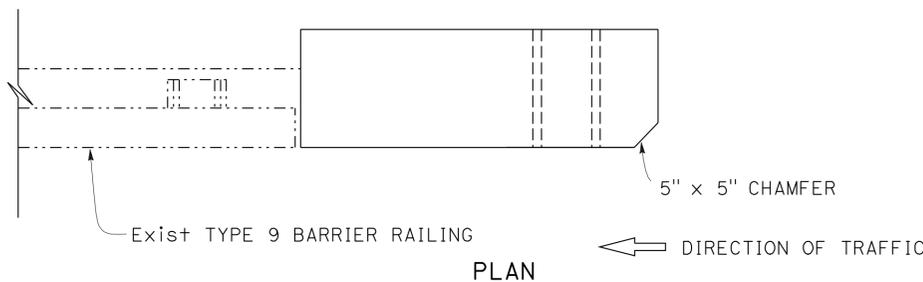
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

- EXISTING UTILITY FACILITY INFORMATION IS INCOMPLETE.
- EXISTING BARRIER DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD BEFORE FABRICATING ANY END CONNECTION TO CONFORM WITH EXISTING CONDITIONS.
- ALL PLATES AND BOLTS SHALL BE GALVANIZED.
- IF RAIL IS NOT CONTINUOUS OVER 2 POSTS, USE RAIL SPLICE DETAIL AT EXISTING EXPANSION JOINT.
- EXTERIOR SPLICE BOLT HOLES SHALL BE STANDARD 1" x 1/8" SLOT SIZE FOR RAIL SPLICE AT POST NO. T4 AND THE CONNECTION TO THE CONCRETE BARRIER OR RAILING. INTERIOR SPLICE BOLT HOLES MAY BE INCREASED UP TO 1 1/8". WASHERS SHALL BE USED WITH SPLICE BOLTS ON BACK SIDE OF RAIL ELEMENT AT POST NO. T4 AND CONNECTION TO THE CONCRETE BARRIER OR RAILING.
- FOR ADDITIONAL INFORMATION, SEE SUMMARY OF QUANTITIES.



RAIL SPLICE DETAIL
SEE NOTE 4



CONSTRUCTION DETAILS
LOCATIONS: 63-66

NO SCALE

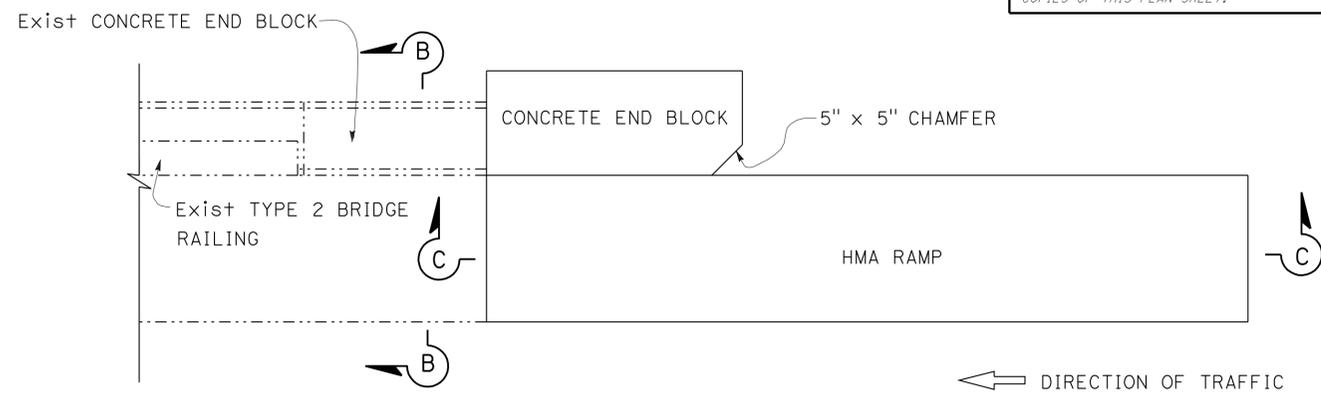
C-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	4	37
<i>Dennis G. Corcoran</i> 6-15-11 REGISTERED CIVIL ENGINEER DATE					
6-20-11				PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

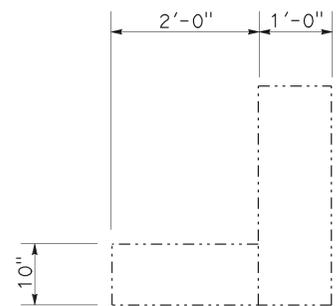
NOTES:

- EXISTING UTILITY FACILITY INFORMATION IS INCOMPLETE.
- EXISTING BARRIER DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD BEFORE FABRICATING ANY END CONNECTION TO CONFORM WITH EXISTING CONDITIONS.
- FOR ADDITIONAL INFORMATION, SEE SUMMARY OF QUANTITIES.

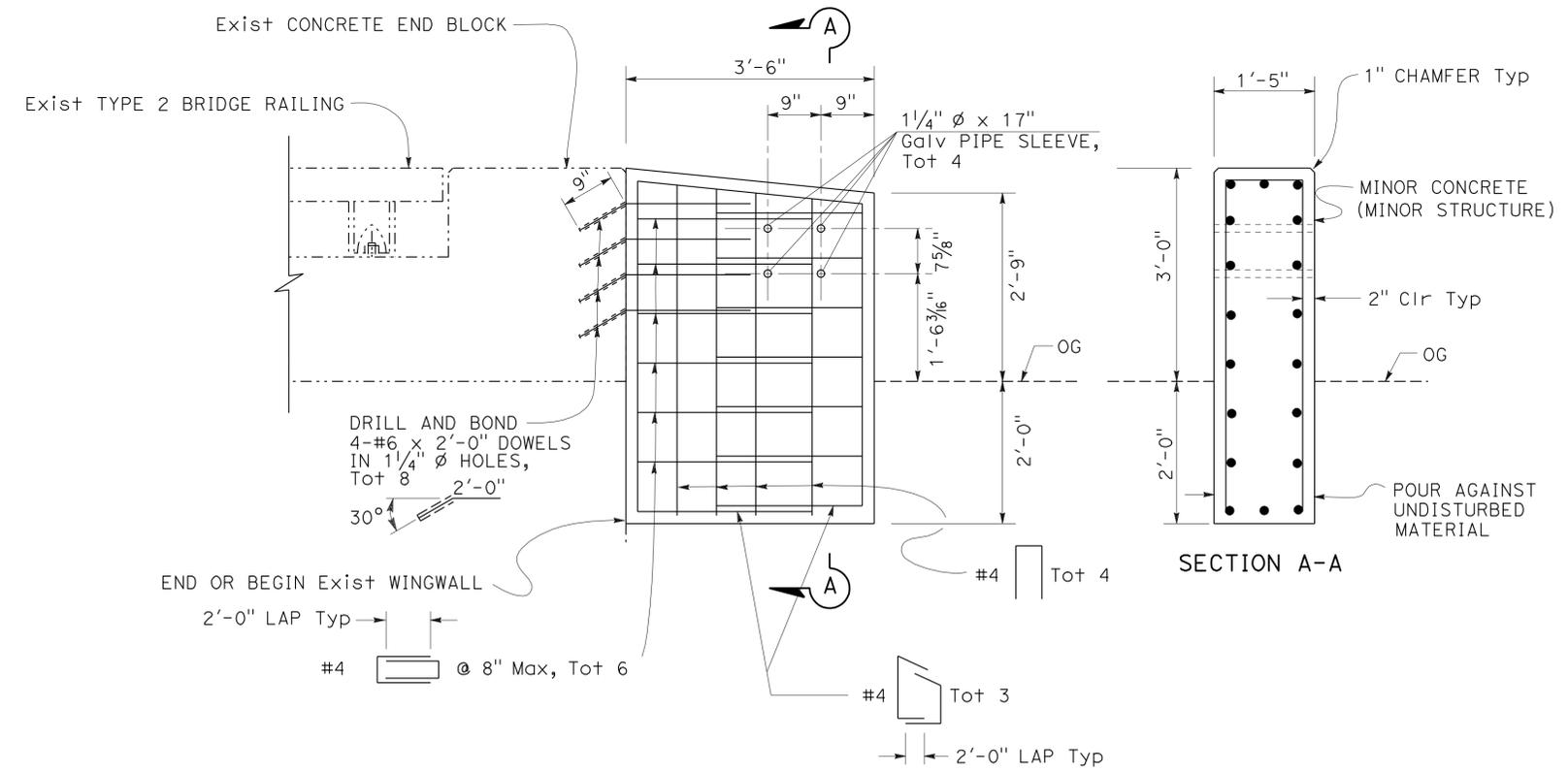
REVISOR	DATE	REVISION
DENNIS CORCORAN		
GARY DOSSEY		
MIKE HAGEN		
TRAFFIC		



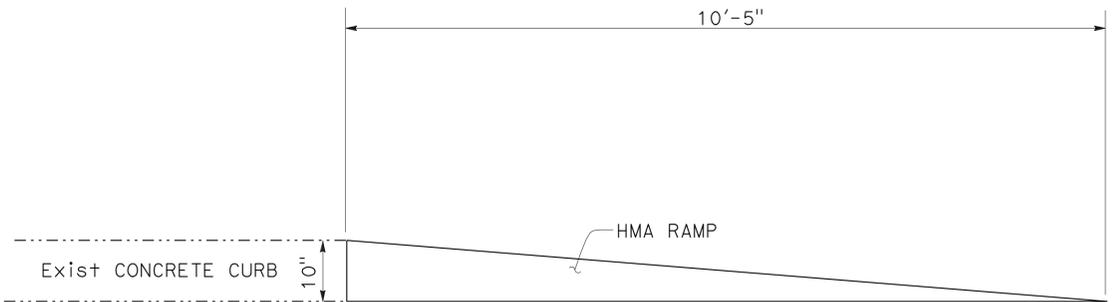
PLAN



SECTION B-B



ELEVATION



SECTION C-C

CONCRETE END BLOCK DETAIL

CONSTRUCTION DETAILS
 LOCATIONS: 10, 11, & 14

NO SCALE

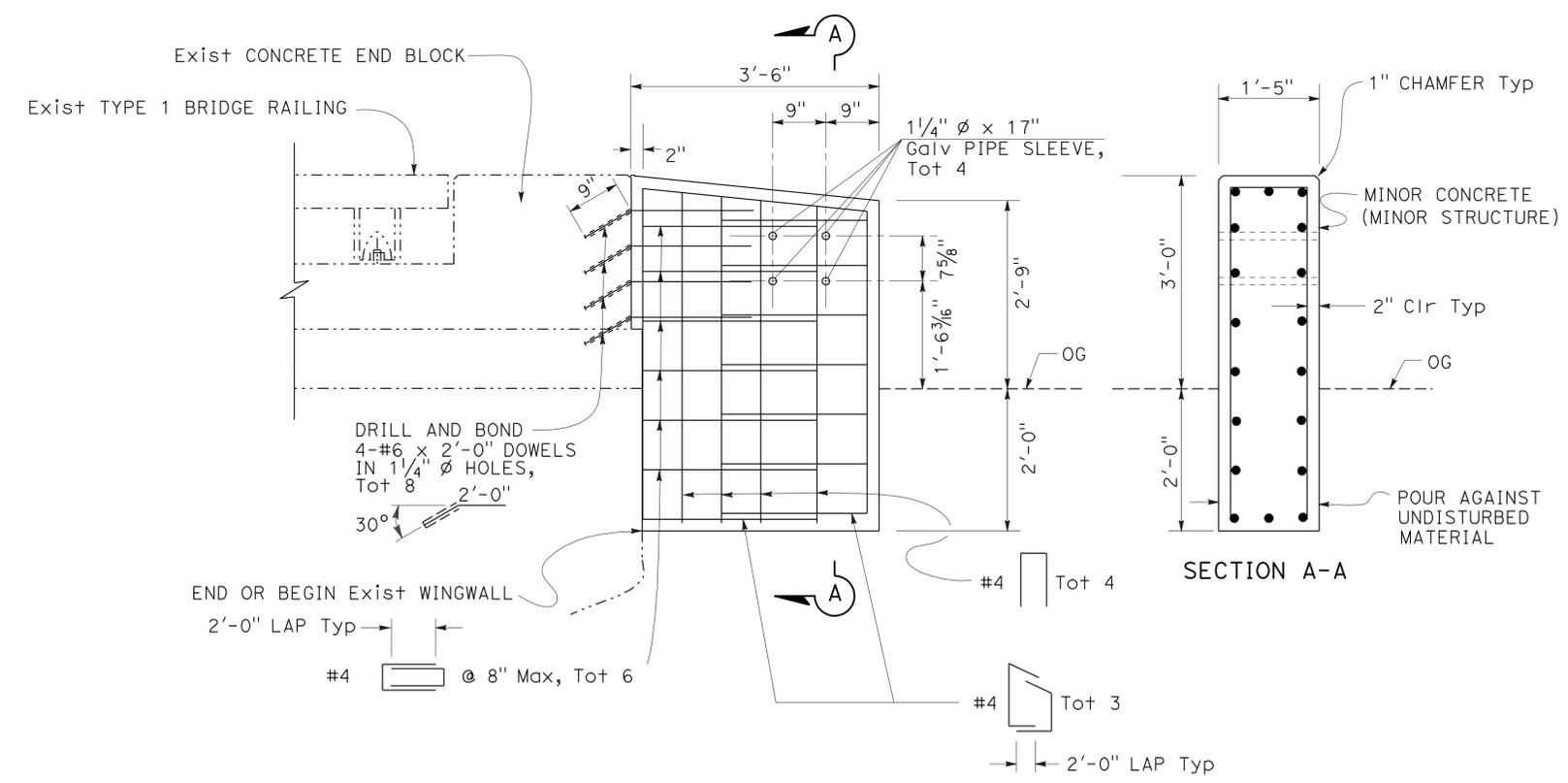
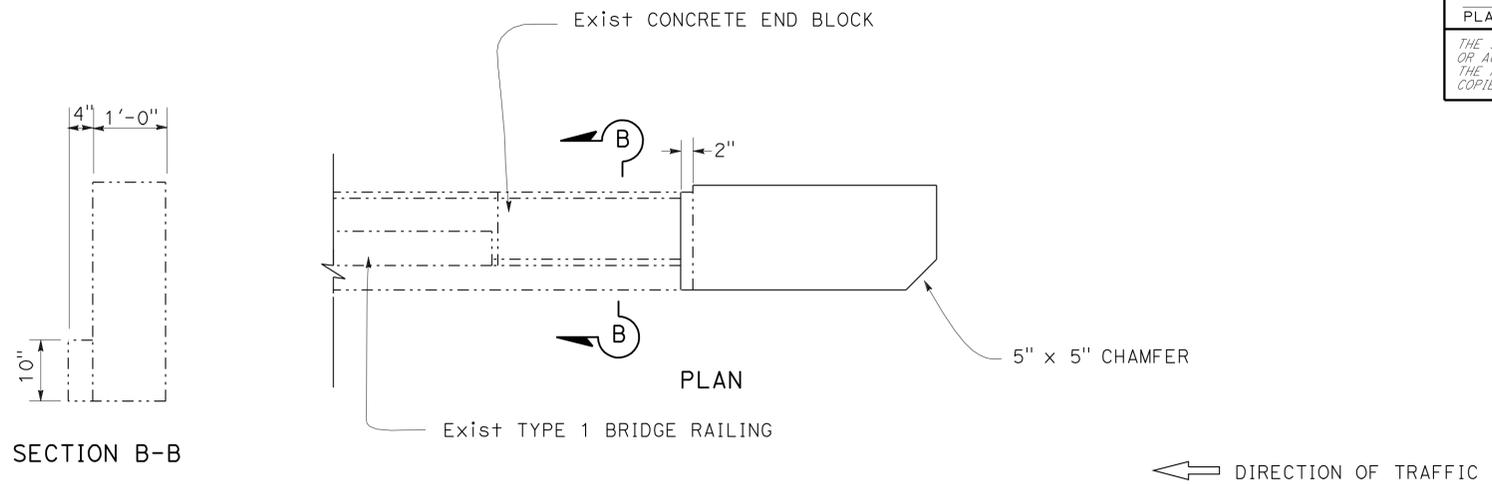
C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR MIKE HAGEN
 CALCULATED/DESIGNED BY CHECKED BY
 DENNIS CORCORAN GARY DOSSEY
 REVISED BY DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20,49, 50,99	Var	5	37

Dennis L. Corcoran 6-15-11
 REGISTERED CIVIL ENGINEER DATE
 6-20-11
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
 REGISTERED PROFESSIONAL ENGINEER
 DENNIS CORCORAN
 No. 59438
 Exp. 12-31-11
 CIVIL
 STATE OF CALIFORNIA

- NOTES:**
- EXISTING UTILITY FACILITY INFORMATION IS INCOMPLETE.
 - EXISTING BARRIER DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD BEFORE FABRICATING ANY END CONNECTION TO CONFORM WITH EXISTING CONDITIONS.
 - FOR ADDITIONAL INFORMATION, SEE SUMMARY OF QUANTITIES.



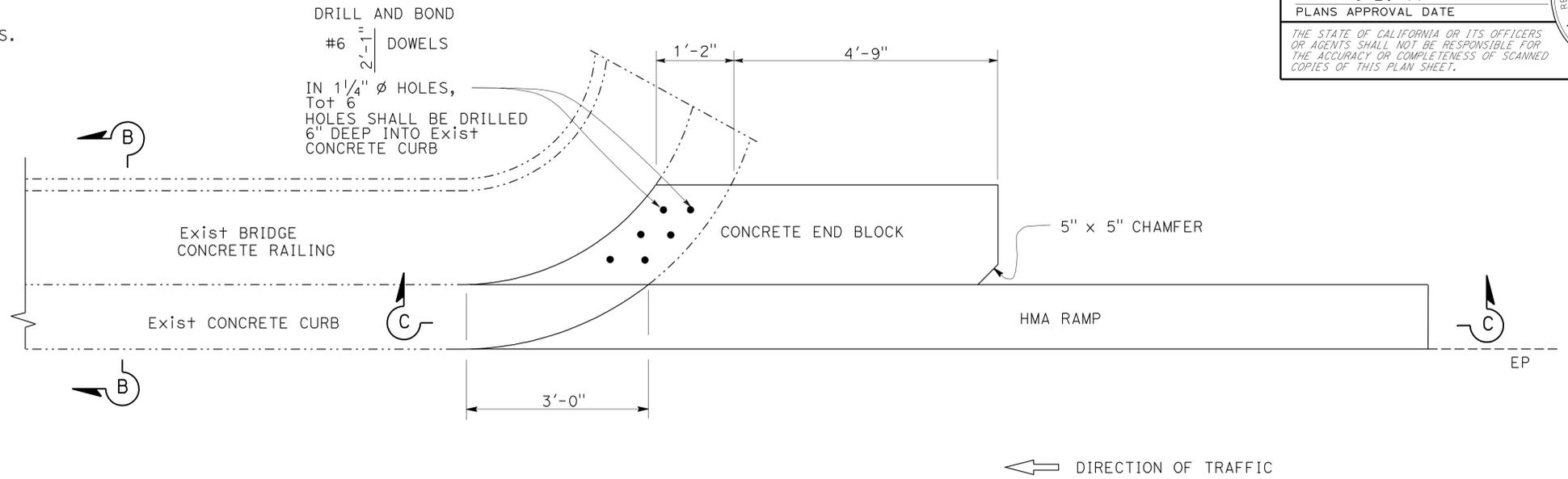
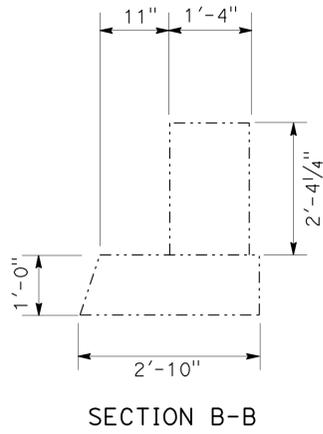
CONCRETE END BLOCK DETAIL

CONSTRUCTION DETAILS
 LOCATIONS: 38, 39, 40, 41, & 42
 NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	8	37
Dennis G. Corcoran			6-15-11	REGISTERED CIVIL ENGINEER DATE	
6-20-11			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
REGISTERED PROFESSIONAL ENGINEER DENNIS CORCORAN No. 59438 Exp. 12-31-11 CIVIL STATE OF CALIFORNIA					

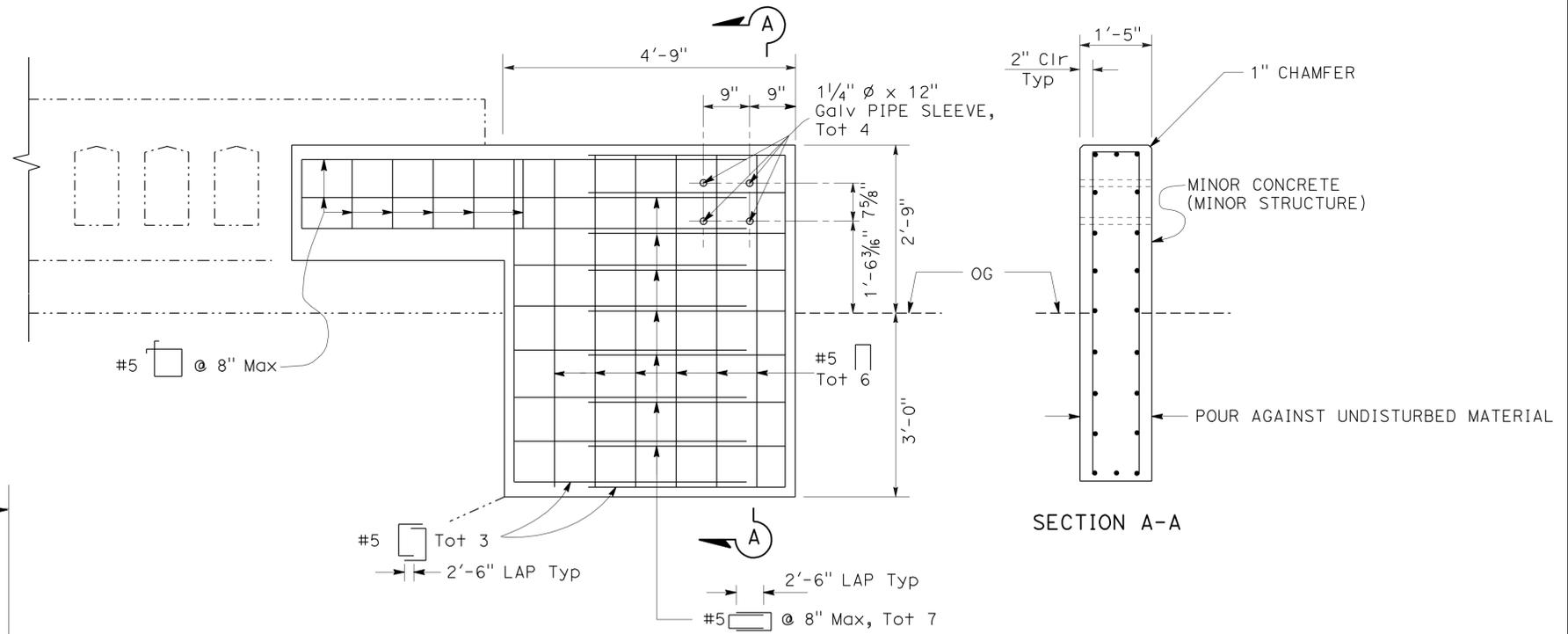
NOTES:

- EXISTING UTILITY FACILITY INFORMATION IS INCOMPLETE.
- EXISTING BARRIER DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD BEFORE FABRICATING ANY END CONNECTION TO CONFORM WITH EXISTING CONDITIONS.
- FOR ADDITIONAL INFORMATION, SEE SUMMARY OF QUANTITIES.



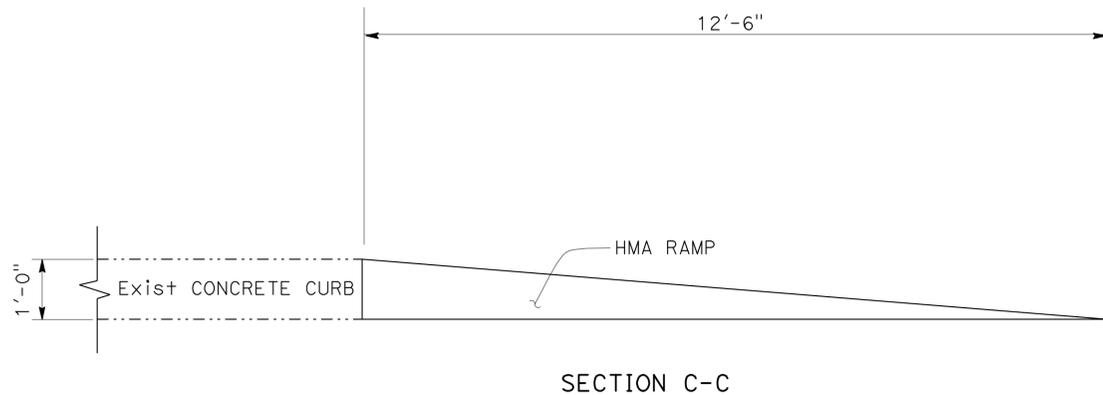
PLAN

← DIRECTION OF TRAFFIC



ELEVATION

CONCRETE END BLOCK DETAIL



SECTION C-C

CONSTRUCTION DETAILS
LOCATIONS: 20, 21, 29, & 30

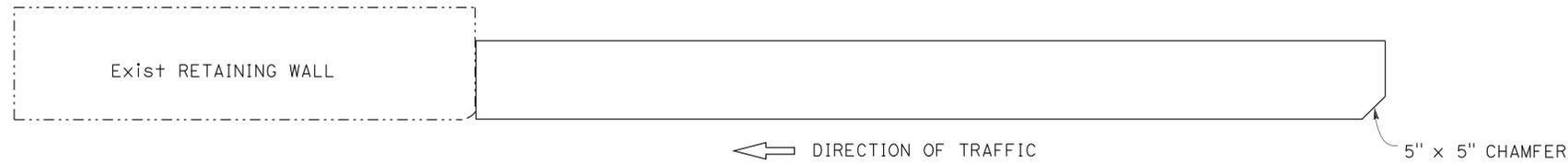
NO SCALE

C-6

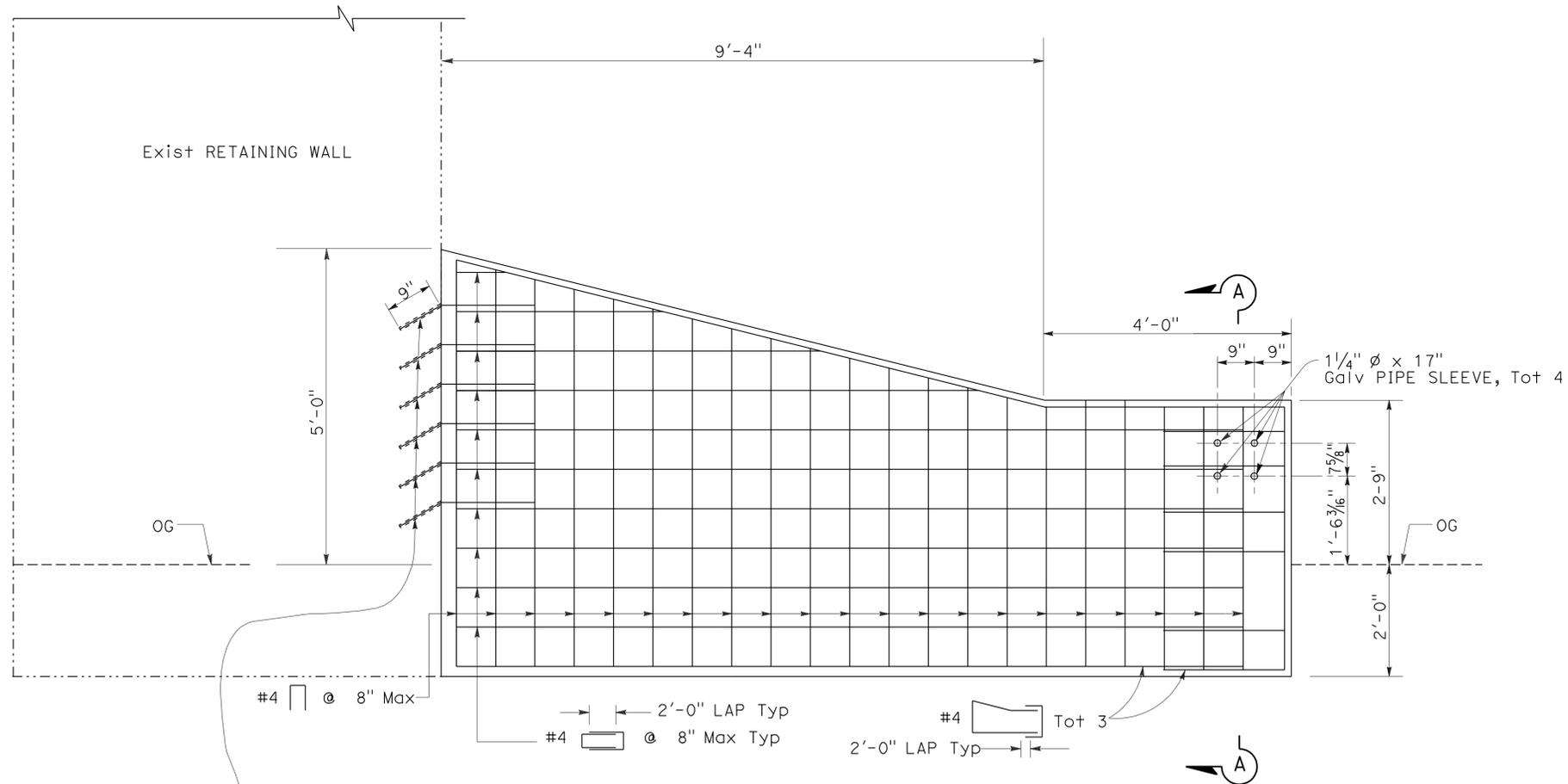
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	9	37
<i>Dennis L. Corcoran</i> REGISTERED CIVIL ENGINEER				6-15-11	DATE
6-20-11 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

NOTES:

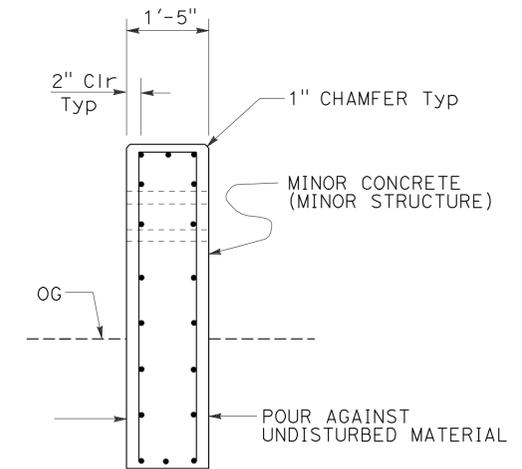
- EXISTING UTILITY FACILITY INFORMATION IS INCOMPLETE.
- FOR ADDITIONAL INFORMATION, SEE SUMMARY OF QUANTITIES.



PLAN



ELEVATION



SECTION A-A

DRILL AND BOND
 6-#6 x 2'-0" DOWELS
 IN 1 1/4" Ø HOLES,
 Tot 12
 2'-0"
 30°

CONCRETE END BLOCK DETAIL

CONSTRUCTION DETAILS

LOCATION: 43

NO SCALE

C-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	TRAFFIC
FUNCTIONAL SUPERVISOR	MIKE HAGEN
CALCULATED/DESIGNED BY	CHECKED BY
DENNIS CORCORAN	GARY DOSSEY
REVISOR	DATE
REVISOR	DATE

NOTE:

1. FOR ADDITIONAL DETAILS, SEE REVISED STANDARD PLAN A77J4.

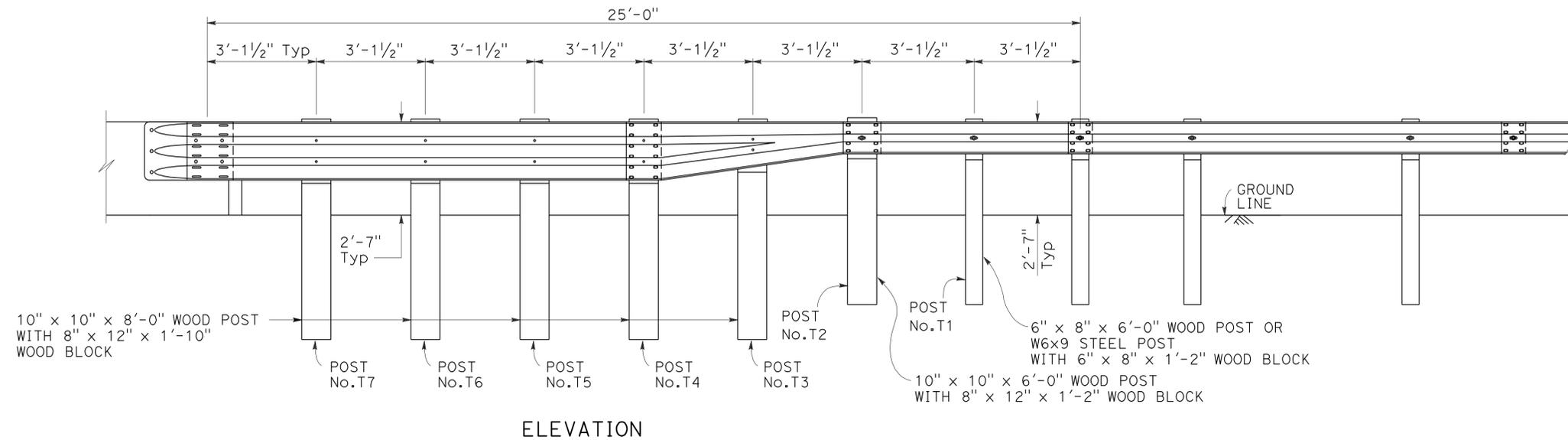
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	10	37

Dennis G. Corcoran 6-15-11
 REGISTERED CIVIL ENGINEER DATE

6-20-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DENNIS CORCORAN
 No. 59438
 Exp. 12-31-11
 CIVIL
 STATE OF CALIFORNIA

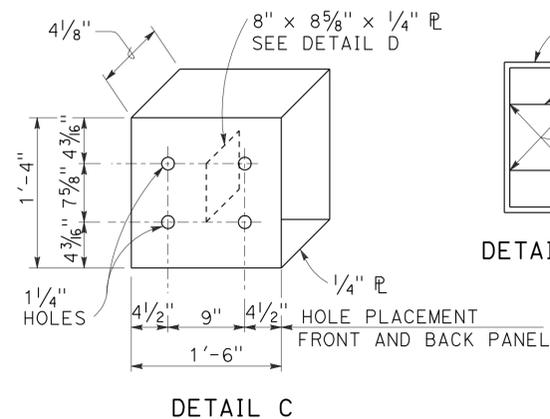
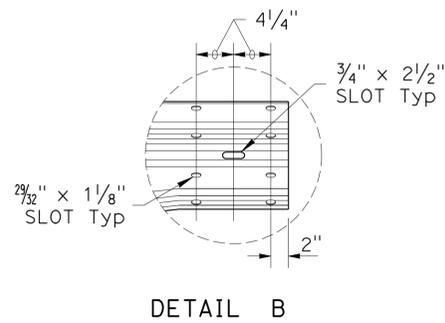
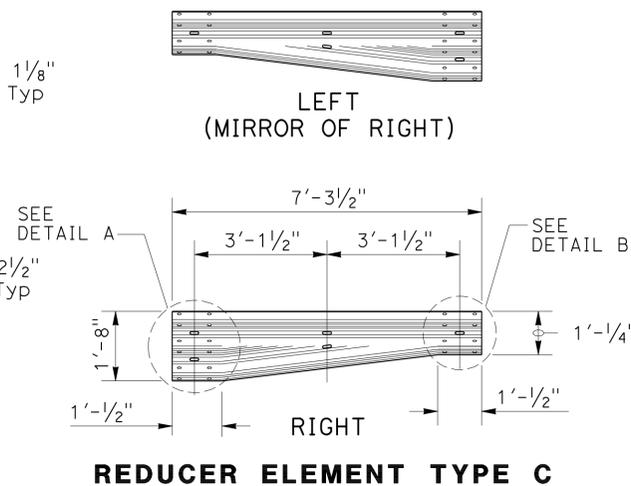
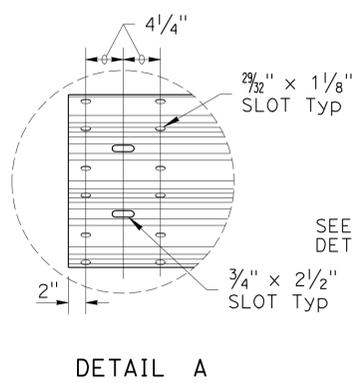
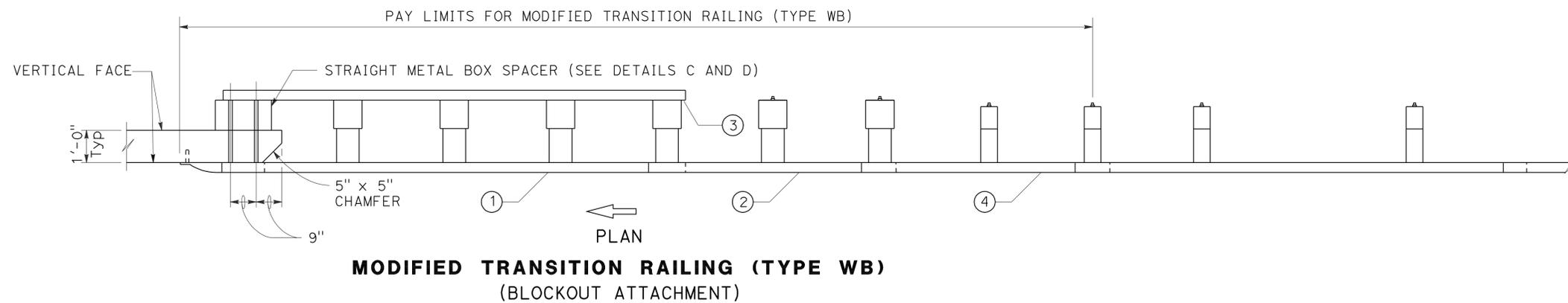
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



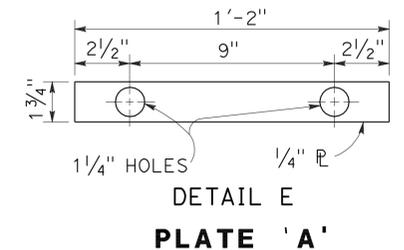
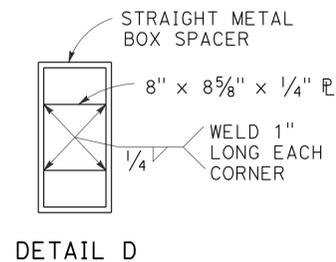
LEGEND

- ① NESTED THRIE BEAM ELEMENTS (ONE 12 GAGE ELEMENT NESTED OVER ONE 10 GAGE ELEMENT).
- ② ONE 10 GAGE REDUCER ELEMENT TYPE C.
- ③ ONE 12 GAGE THRIE BEAM ELEMENT.
- ④ ONE 10 GAGE "W" BEAM RAIL ELEMENT (7'-3/2" LENGTH)

10 GAGE = 0.135" THICK
 12 GAGE = 0.108" THICK



STRAIGHT METAL BOX SPACER



MODIFIED TRANSITION RAILING (TYPE WB)

CONSTRUCTION DETAILS

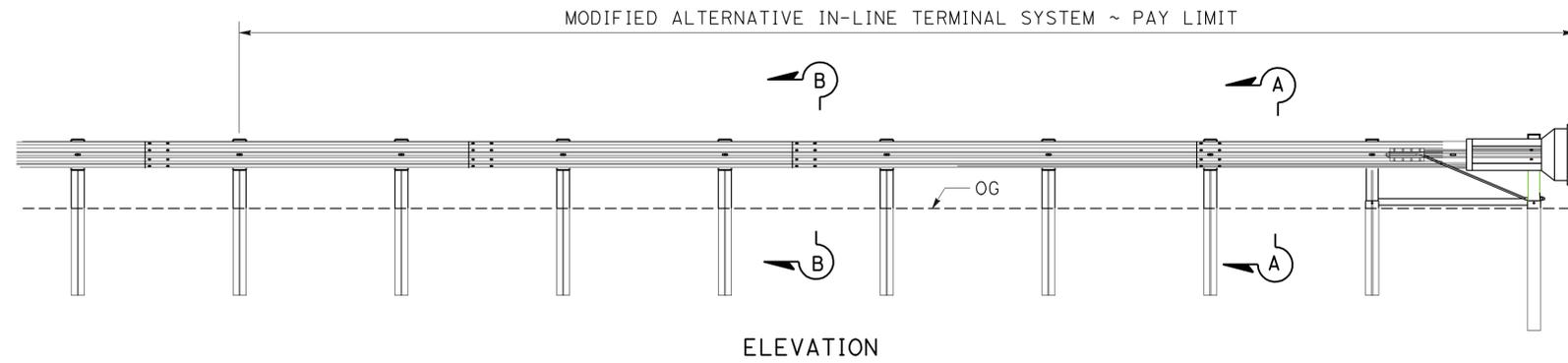
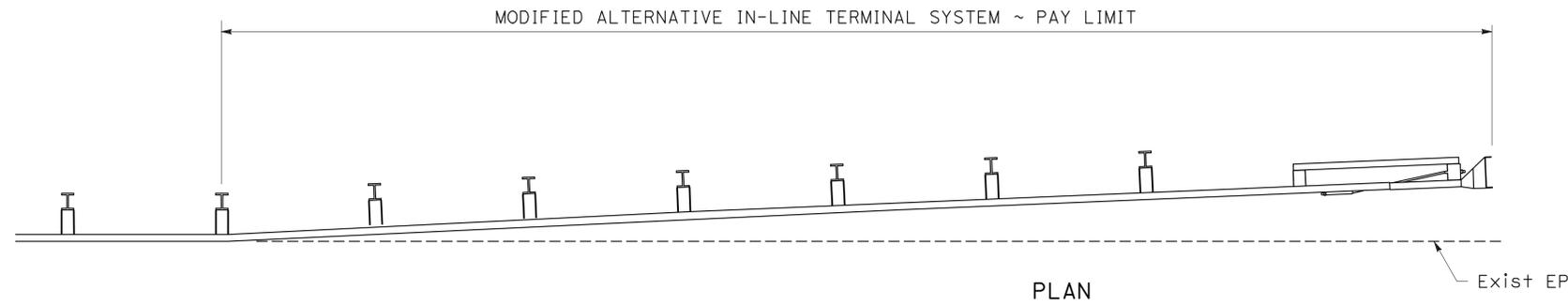
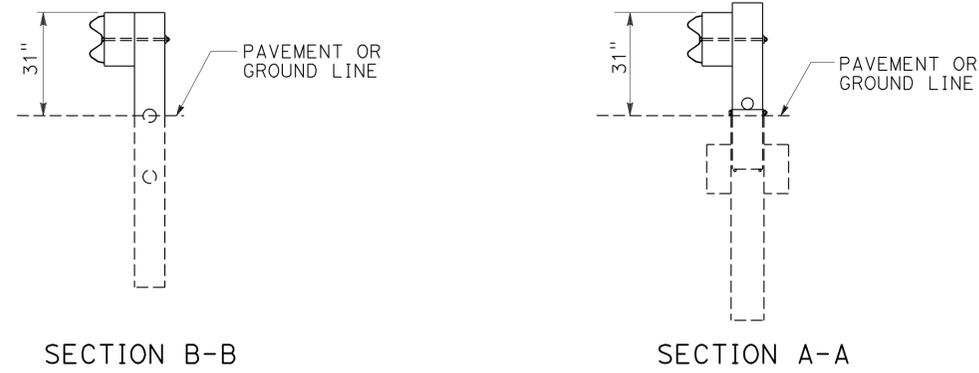
NO SCALE

C-8

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	11	37
<i>Dennis L. Corcoran</i> 6-15-11 REGISTERED CIVIL ENGINEER DATE					
6-20-11				PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE:

1. FOR ADDITIONAL DETAILS, SEE STANDARD PLANS A77L2 AND A77L3.



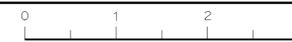
MODIFIED ALTERNATIVE IN-LINE TERMINAL SYSTEM

CONSTRUCTION DETAILS

NO SCALE

C-9

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 TRAFFIC
 FUNCTIONAL SUPERVISOR MIKE HAGEN
 CALCULATED/DESIGNED BY GARY DOSSEY
 REVISOR DENNIS CORCORAN
 DATE REVISED 6-20-11



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR MIKE HAGEN
 CALCULATED/DESIGNED BY CHECKED BY
 DENNIS CORCORAN GARY DOSSEY
 REVISED BY DATE REVISED
 DENNIS CORCORAN

NOTE:
 1. EXISTING UTILITY FACILITY INFORMATION IS INCOMPLETE.

LEGEND:
 ⇨ DIRECTION OF TRAVEL

ABBREVIATION:
 AFTS - ALTERNATIVE FLARED TERMINAL SYSTEM

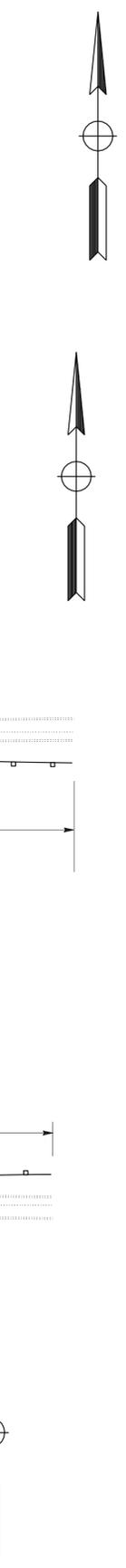
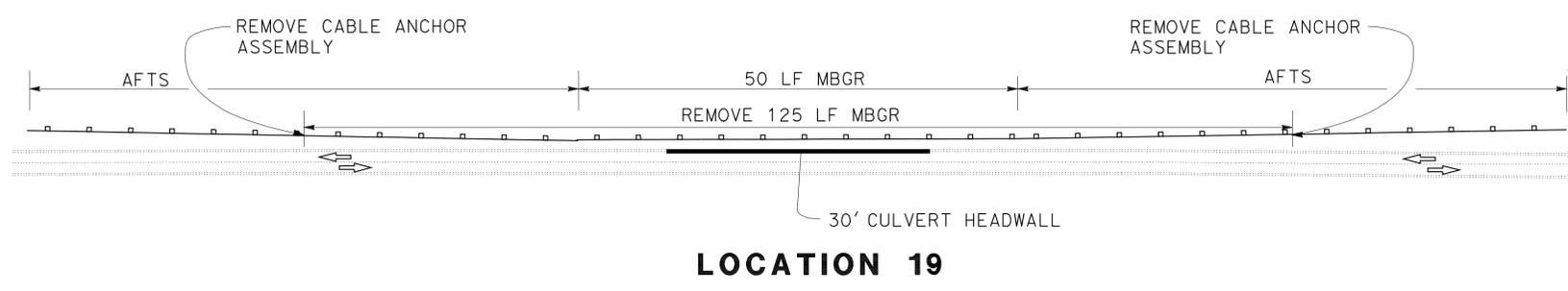
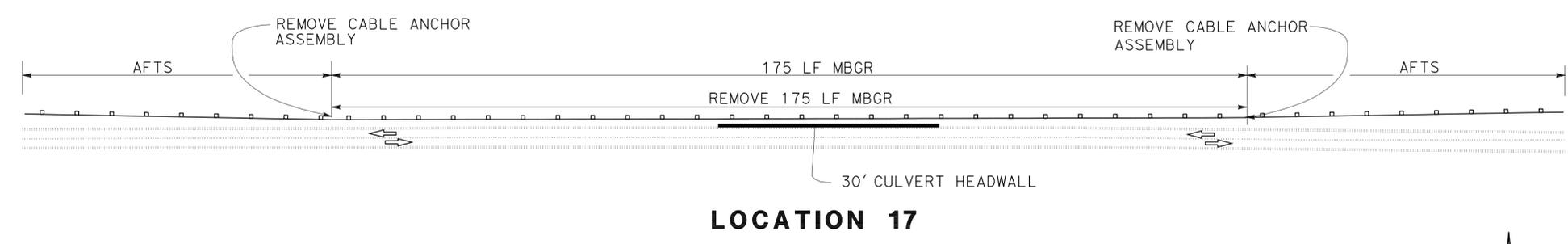
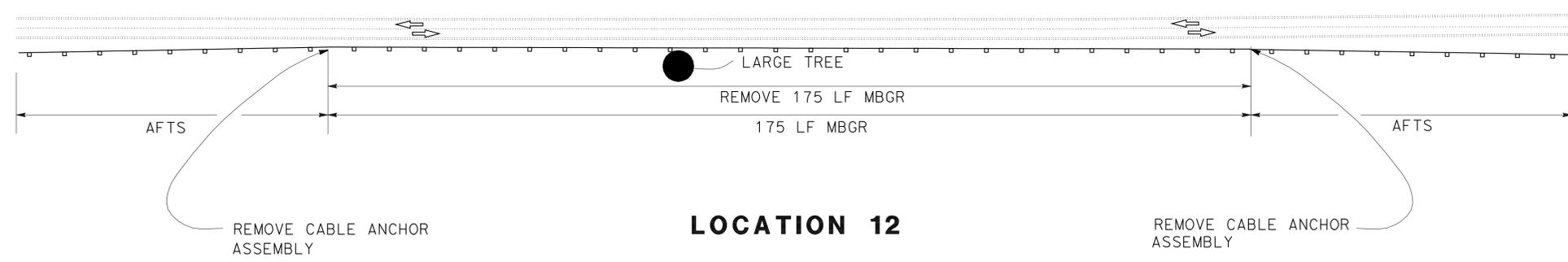
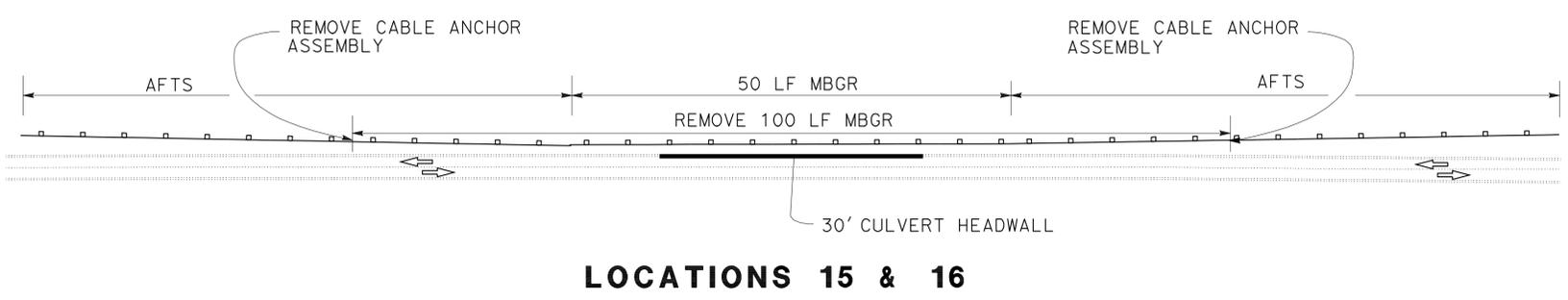
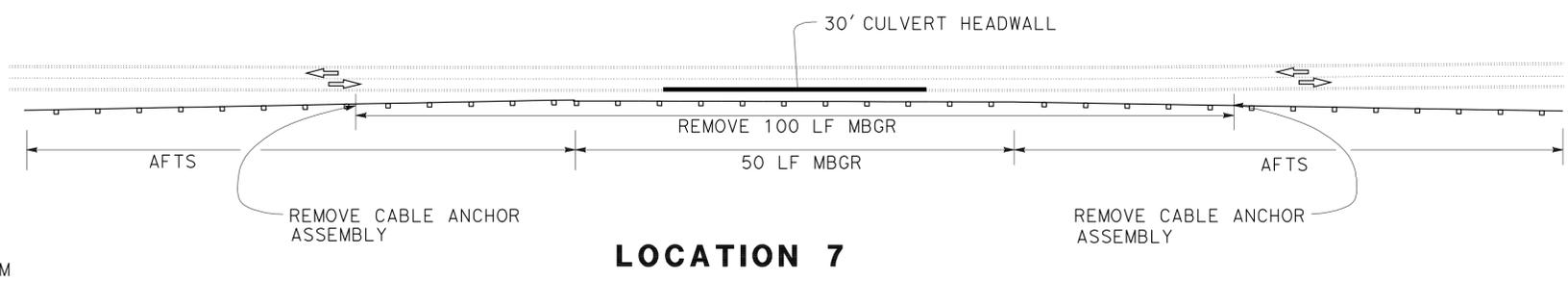
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	12	37

Dennis L. Corcoran 6-15-11
 REGISTERED CIVIL ENGINEER DATE

6-20-11
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
 DENNIS CORCORAN
 No. 59438
 Exp. 12-31-11
 CIVIL
 STATE OF CALIFORNIA



CONSTRUCTION DETAILS
 NO SCALE
C-10

LAST REVISION DATE PLOTTED => 19-JUL-2011 06-14-11 TIME PLOTTED => 11:10

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR MIKE HAGEN
 CALCULATED/DESIGNED BY CHECKED BY
 DENNIS CORCORAN GARY DOSSEY
 REVISED BY DATE REVISED
 TRAFFIC

NOTE:
 1. EXISTING UTILITY FACILITY INFORMATION IS INCOMPLETE.

LEGEND:
 ⇨ DIRECTION OF TRAVEL

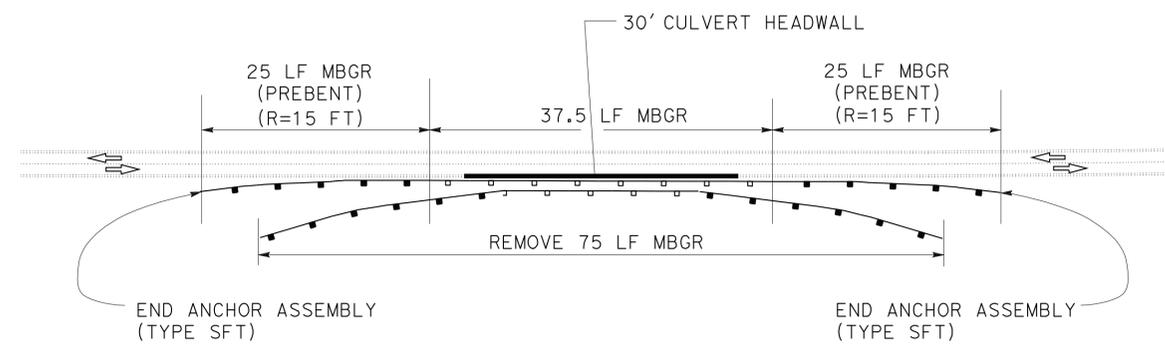
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20,49, 50,99	Var	13	37

Dennis L. Corcoran 6-15-11
 REGISTERED CIVIL ENGINEER DATE

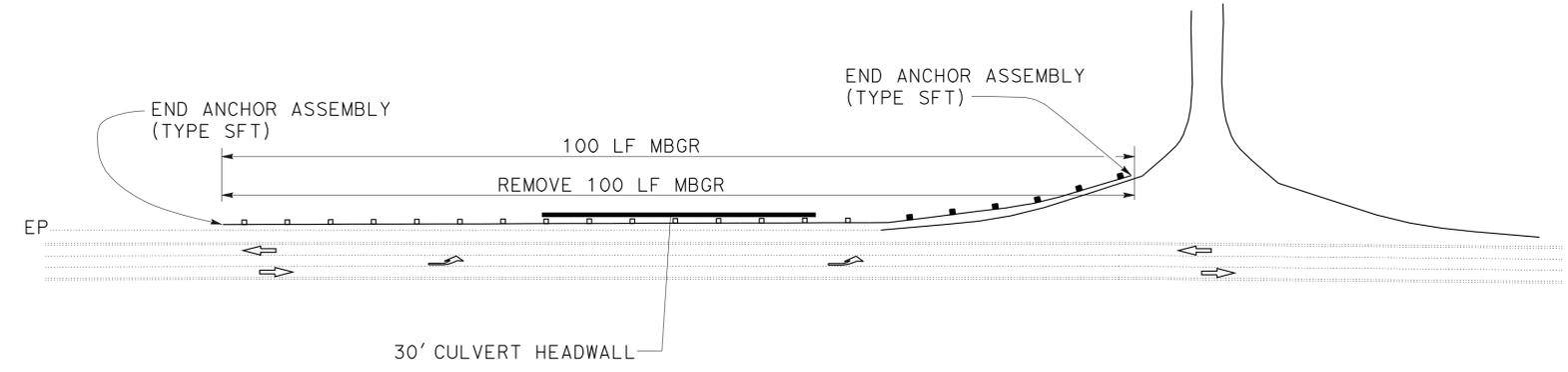
6-20-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DENNIS CORCORAN
 No. 59438
 Exp. 12-31-11
 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.



LOCATIONS 5 & 9



LOCATION 18



CONSTRUCTION DETAILS
 NO SCALE
C-11

LAST REVISION DATE PLOTTED => 19-JUL-2011 06-14-11 TIME PLOTTED => 11:10

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR MIKE HAGEN
 CALCULATED/DESIGNED BY CHUCK COOK
 DENNIS CORCORAN
 REVISOR BY DATE REVISOR
 CHUCK COOK

NOTES:

1. ALL SIGN CODES SHOWN ARE FEDERAL SIGN CODES UNLESS OTHERWISE DESIGNATED AS CALIFORNIA SIGN CODES.
2. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
3. EXISTING UTILITY FACILITY INFORMATION IS INCOMPLETE.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN LETTER	SIGN CODE		SIGN MESSAGE	PANEL SIZE	NUMBER AND SIZE OF POST	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
(A)		C24	SHOULDER WORK AHEAD	48" x 48"	1- 6" x 6"	23
(B)	W21-5bR		RIGHT SHOULDER CLOSED 1000 FT	48" x 48"	1- 6" x 6"	21
(C)		C30A	SHOULDER CLOSED	48" x 48"	1- 6" x 6"	23
(D)	W21-5bL		LEFT SHOULDER CLOSED 1000 FT	48" x 48"	1- 6" x 6"	2
(E)		C14	END ROADWORK	48" x 24"	1- 4" x 6"	16
(F)	G20-2	C14	END ROADWORK	36" x 18"	1- 4" x 4"	14
(G)	G20-1	C23	ROAD WORK AHEAD	48" x 48"	1- 6" x 6"	7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	14	37

Dennis G. Corcoran 6-15-11
 REGISTERED CIVIL ENGINEER DATE

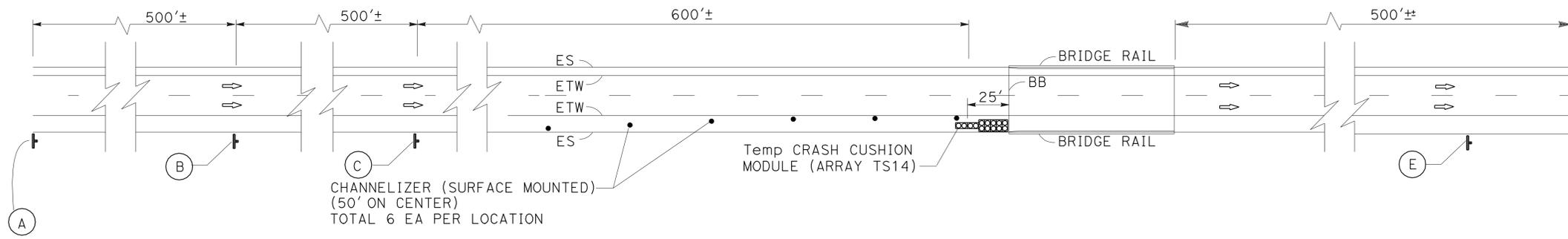
6-20-11
 PLANS APPROVAL DATE

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

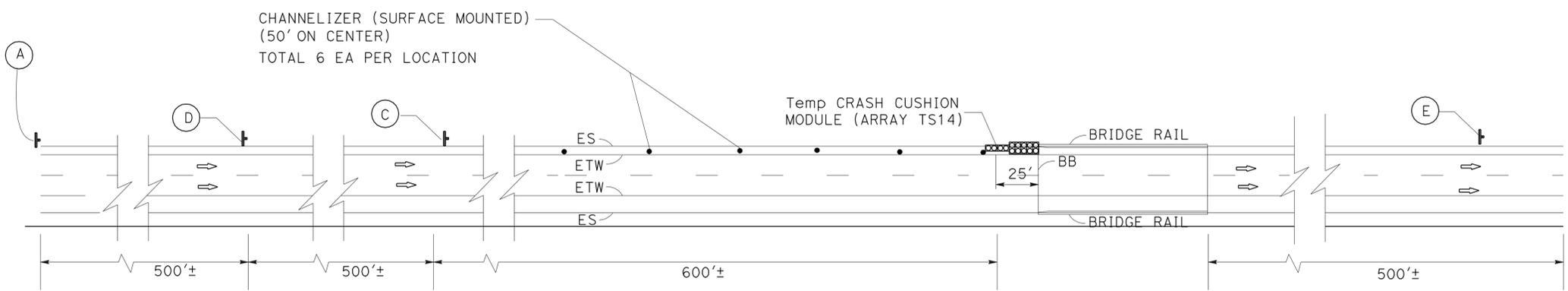
REGISTERED PROFESSIONAL ENGINEER
 DENNIS CORCORAN
 No. 59438
 Exp. 12-31-11
 CIVIL
 STATE OF CALIFORNIA

LEGEND

- (X) CONSTRUCTION AREA SIGN LETTER
- <CA> CALIFORNIA SIGN CODE
- ↑ SIGN - SINGLE POST
- ⇒ DIRECTION OF TRAVEL



LOCATIONS: 38, 39, 40, 41, 42, 43, 63, 65, 69, 72, 73, 78, 81, & 82



LOCATIONS: 64 & 66

TRAFFIC HANDLING PLAN

NO SCALE

TH-1

APPROVED FOR TRAFFIC HANDLING WORK ONLY

LAST REVISION DATE PLOTTED => 19-JUL-2011 06-14-11 TIME PLOTTED => 11:10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	15	37

Dennis G. Corcoran 6-15-11
 REGISTERED CIVIL ENGINEER DATE
 6-20-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DENNIS CORCORAN
 No. 59438
 Exp. 12-31-11
 CIVIL
 STATE OF CALIFORNIA

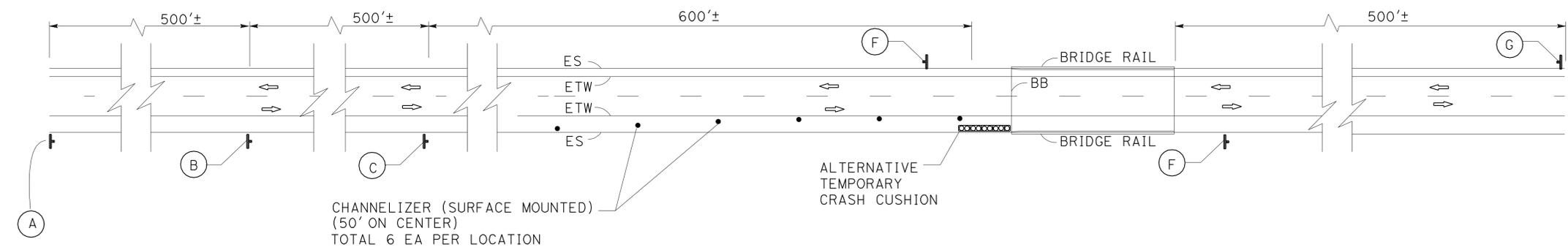
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

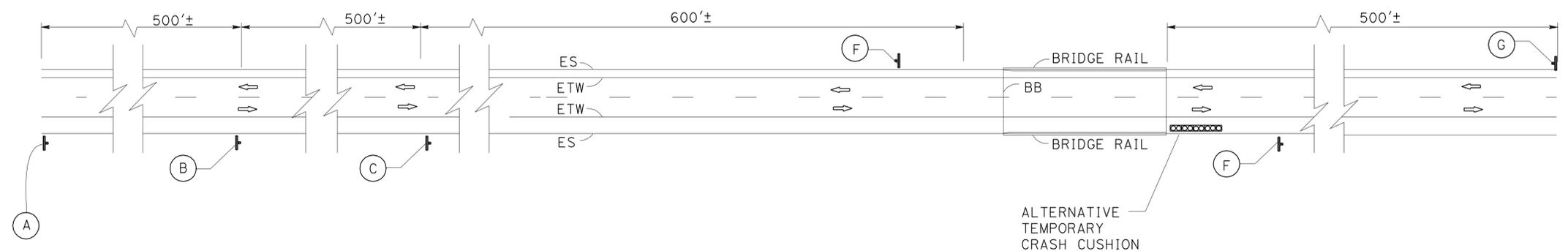
1. ALL SIGN CODES SHOWN ARE FEDERAL SIGN CODES UNLESS OTHERWISE DESIGNATED AS CALIFORNIA SIGN CODES.
2. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
3. EXISTING UTILITY FACILITY INFORMATION IS INCOMPLETE.
4. FOR CONSTRUCTION AREA SIGN QUANTITIES SEE SHEET TH-1.

LEGEND

- (X) CONSTRUCTION AREA SIGN LETTER
- <CA> CALIFORNIA SIGN CODE
- ↑ SIGN - SINGLE POST
- ⇒ DIRECTION OF TRAVEL



LOCATIONS: 10, 14, 20, & 29 (APPROACH END)



LOCATIONS: 11, 21, & 30 (TRAILING END)

TRAFFIC HANDLING PLAN

NO SCALE

TH-2

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans	MIKE HAGEN	DENNIS CORCORAN	
	CHECKED BY	CHUCK COOK	
	DESIGNED BY		

LAST REVISION | DATE PLOTTED => 19-JUL-2011
 06-14-11 TIME PLOTTED => 11:10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But,Col,ED, Nev,Pla,etc.	20,49, 50,99	Var	16	37

Dennis G. Corcoran 6-15-11
REGISTERED CIVIL ENGINEER DATE

6-20-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENNIS CORCORAN
No. 59438
Exp. 12-31-11
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.

RAILINGS

LOCATION	DESCRIPTION	DIRECTION	"C" SHEET No.	(N)				MBGR LAYOUT	MBGR	DOUBLE MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	MODIFIED TRANSITION RAILING (TYPE WB)	RAIL TENSIONING ASSEMBLY	NOTCHED RECYCLED PLASTIC BLOCK	TERMINAL SYSTEM (TYPE CAT)	TERMINAL SYSTEM (TYPE CAT) BACKUP	END CAP (TYPE TC)	END ANCHOR ASSEMBLY (TYPE SFT)	ALTERNATIVE IN-LINE TERMINAL SYSTEM	MODIFIED ALTERNATIVE IN-LINE TERMINAL SYSTEM	ALTERNATIVE FLARED TERMINAL SYSTEM
				REMOVE MBGR	REMOVE BRIDGE APPROACH RAILING (TYPE 8)	REMOVE CAA	REMOVE STEEL ANCHOR POST ASSEMBLY														
1	REMOVE MBGR AND INSTALL END TREATMENT	EB		50.0				11A											1		
2	ATTACH TO Br No. 15-0084 REFUGE DRAIN (R+ SIDE)	EB		62.5				12A			1					1			1		
3	ATTACH TO Br No. 15-0084 REFUGE DRAIN (R+ SIDE)	WB		62.5				12A			1					1			1		
4	REMOVE MBGR AND INSTALL END TREATMENT	WB		50.0				11A											1		
5	REMOVE MBGR AND INSTALL MBGR & END ANCHOR ASSEMBLIES (TYPE SFT)	EB	C-11	75.0					87.5								2				
6	REMOVE MBGR AND INSTALL END TREATMENT	EB		100.0				11A	100.0								1		1		
7	REMOVE MBGR AND INSTALL END TREATMENTS	EB	C-10	100.0		2		11B	50.0								1				2
8	REMOVE MBGR AND INSTALL END TREATMENT	EB		125.0				11B	100.0								1				1
9	REMOVE MBGR AND INSTALL MBGR & END ANCHOR ASSEMBLIES (TYPE SFT)	EB	C-11	75.0					87.5								2				
10	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE)	EB	C-2	62.5				12A			1					1			1		
11	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE-TRAILING END)	EB	C-2	62.5		1		12A			1					1			1		
12	REMOVE MBGR AND INSTALL END TREATMENTS	EB	C-10	175.0		2		11B	175.0												2
13	REMOVE MBGR AND INSTALL END TREATMENT	WB		100.0				11B	75.0								1				1
14	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE)	WB	C-2	62.5				12A			1					1			1		
15	REMOVE MBGR AND INSTALL END TREATMENTS	WB	C-10	100.0		2		11B	50.0												2
16	REMOVE MBGR AND INSTALL END TREATMENTS	WB	C-10	100.0		2		11B	50.0												2
17	REMOVE MBGR AND INSTALL END TREATMENTS	WB	C-10	175.0		2		11B	175.0												2
18	REMOVE MBGR AND INSTALL MBGR & END ANCHOR ASSEMBLIES (TYPE SFT)	WB	C-11	100.0					100.0								2				
19	REMOVE MBGR AND INSTALL END TREATMENTS	WB	C-10	125.0				11B	50.0												2
20	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE)	EB	C-6	125.0				12B	87.5		1					1					1
21	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE-TRAILING END)	EB	C-6	80.0				12B	25.0		1					1					1
22	REMOVE MBGR AND INSTALL END TREATMENT	EB		12.5		1		11B													1
23	REMOVE MBGR AND INSTALL END TREATMENT (LEFT SIDE)	EB		12.5		1		11A											1		
24	ATTACH TO Br No. 16-0011 YUBA RIVER (PARKS BAR)	EB		125.0				12B	75.0		1					1					1
25	REMOVE MBGR AND INSTALL END TREATMENT	EB		37.5				11C	125.0												
26	REMOVE MBGR AND INSTALL END TREATMENT	WB		50.0		1		11A											1		
27	REMOVE MBGR AND INSTALL END TREATMENT	WB		125.0		1		11C	150.0								1				
28	REMOVE MBGR AND INSTALL END TREATMENT	WB		50.0				11A											1		
29	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE)	WB	C-6	150.0		1		12A	75.0		1					1			1		
30	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE-TRAILING END)	WB	C-6	125.0				12A	75.0		1					1			1		
31	REMOVE MBGR AND INSTALL END TREATMENT	EB		75.0				16A	25.0								1		1		
32	REMOVE MBGR AND INSTALL END TREATMENT	EB		50.0				11A											1		
33	REMOVE MBGR AND INSTALL END TREATMENT	EB		50.0				11A											1		
34	REMOVE MBGR AND INSTALL END TREATMENT	EB		75.0				16A	25.0								1		1		
35	REMOVE MBGR AND INSTALL END TREATMENT	EB		50.0				11A											1		
36	REMOVE MBGR AND INSTALL END TREATMENT	EB		50.0				11A											1		
37	ATTACH TO CONCRETE BARRIER	WB		62.5				12A			1								1		
38	ATTACH TO Br No. 25-0042 SLY PARK Rd UC (R+ SIDE)	WB	C-3	62.5				12A			1								1		
39	ATTACH TO Br No. 25-0041 SAW MILL UC (R+ SIDE)	WB	C-3	62.5		1		12A			1								1		
SUBTOTAL SHEET Q-1				3,192.5		17			1,762.5		13					13	12	22		18	

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

SUMMARY OF QUANTITIES

Q-1



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But,Col,ED, Nev,Pla,etc.	20,49, 50,99	Var	17	37

Dennis G. Corcoran 6-15-11
REGISTERED CIVIL ENGINEER DATE

6-20-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENNIS CORCORAN
No. 59438
Exp. 12-31-11
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.

RAILINGS

LOCATION	DESCRIPTION	DIRECTION	"C" SHEET No.	REMOVE MBGR		REMOVE BRIDGE APPROACH RAILING (TYPE 8)	(N)	(N)	(N)	(N)	MBGR	DOUBLE MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	MODIFIED TRANSITION RAILING (TYPE WB)	RAIL TENSIONING ASSEMBLY	NOTCHED RECYCLED PLASTIC BLOCKS	TERMINAL SYSTEM (TYPE CAT)	TERMINAL SYSTEM (TYPE CAT) BACKUP	END CAP (TYPE TC)	END ANCHOR ASSEMBLY (TYPE SFT)	ALTERNATIVE IN-LINE TERMINAL SYSTEM	MODIFIED ALTERNATIVE IN-LINE TERMINAL SYSTEM	ALTERNATIVE FLARED TERMINAL SYSTEM	
				LF	EA																			LF
40	ATTACH TO Br No. 25-0062 POINT VIEW Dr UC (R+ SIDE)	WB	C-3	62.5						12A			1						1					
41	ATTACH TO Br No. 25-0064 SMITH FLAT Rd UC (R+ SIDE)	WB	C-3	62.5						12A			1						1					
42	ATTACH TO Br No. 25-0063 SCHNELL SCHOOL Rd (R+ SIDE)	WB	C-3, 8, & 9	62.5						12A				1					1					
43	ATTACH TO RETAINING WALL	WB	C-7	62.5						12C	25.0		1						1					
44	REMOVE MBGR AND INSTALL END TREATMENT	NB		50.0						11A												1		
45	REMOVE MBGR AND INSTALL END TREATMENT	NB		50.0			1			11A												1		
46	INSTALL CRASH CUSHION (TYPE TAU-II)	NB				50.0																		
47	REMOVE MBGR AND INSTALL END TREATMENT	NB		50.0			1			11A												1		
48	ATTACH TO Br No. 19-0020 S FORK DRY CREEK (R+ SIDE)	NB		62.5						12A			1						1			1		
49	ATTACH TO Br No. 19-0021 N FORK DRY CREEK (R+ SIDE)	NB		62.5						12A			1						1			1		
50	ATTACH TO Br No. 19-0021 N FORK DRY CREEK (R+ SIDE)	SB		62.5						12A			1						1			1		
51	ATTACH TO Br No. 19-0020 S FORK DRY CREEK (R+ SIDE)	SB		62.5						12A			1						1			1		
52	REMOVE MBGR AND INSTALL END TREATMENT	SB		50.0						11A												1		
53	REMOVE MBGR AND INSTALL END TREATMENT	SB		50.0						11A												1		
54	REMOVE MBGR AND INSTALL END TREATMENT	SB		100.0						11B	75.0									1				1
55	INSTALL CRASH CUSHION (TYPE TAU-II)	SB				25.0																		
56	REMOVE MBGR AND INSTALL END TREATMENT	NB		50.0						11A												1		
57	REMOVE MBGR AND INSTALL END TREATMENT	NB		50.0						11B														1
58	REMOVE MBGR AND INSTALL END TREATMENT	NB		50.0						11A												1		
59	REMOVE MBGR AND INSTALL END TREATMENT	SB		50.0						11A												1		
60	REMOVE MBGR AND INSTALL END TREATMENT	SB		50.0						11A												1		
61	REMOVE MBGR AND INSTALL END TREATMENT	SB		50.0						11A												1		
62	REMOVE MBGR AND INSTALL END TREATMENT	SB		50.0			1			11A												1		
63	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (R+ SIDE)	NB	C-1			50.0		1	1	12A	25.0		1				1	1	1			1		
64	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (Med SIDE)	NB	C-1			100.0		1	1	12E	25.0	175.0	1		1		1	1	1			1		
65	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (R+ SIDE)	SB	C-1			50.0		1	1	12A	25.0		1						1			1		
66	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (Med SIDE)	SB	C-1			100.0		1	1	12E	25.0	175.0	1		1		1	1	1			1		
67	ATTACH TO Br No. 12-0129 NANCE CREEK (R+ SIDE)	NB		62.5						12A			1						1					
68	ATTACH TO Br No. 12-0125 SCRUB CREEK (R+ SIDE)	NB		62.5						12A			1						1					
69	ATTACH TO Br No. 12-0156 MUD CREEK (R+ SIDE)	NB	C-5	62.5						12A			1						1			1		
70	REMOVE MBGR AND INSTALL END TREATMENTS	NB		200.0						11B	125.0													2
71	REMOVE MBGR AND INSTALL END TREATMENT	NB		200.0						11A	175.0										1	1		
72	ATTACH TO Br No. 12-0028 PINE CREEK (R+ SIDE)	NB	C-4	62.5						12A			1						1			1		
73	ATTACH TO Br No. 12-0029 CAMPBELL CREEK (R+ SIDE)	NB	C-4	62.5						12A			1						1			1		
SUBTOTAL SHEET Q-2				1,912.5	375.0	3	4	4		500.0	350.0	16	1	2			2	2	17	2	23	1	4	

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

SUMMARY OF QUANTITIES

Q-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But,Col,ED, Nev,Pla,etc.	20,49, 50,99	Var	19	37

Dennis L. Corcoran 6-15-11
 REGISTERED CIVIL ENGINEER DATE

6-20-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DENNIS CORCORAN
 No. 59438
 Exp. 12-31-11
 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.

MINOR CONCRETE (MINOR STRUCTURE)

LOCATION	DESCRIPTION	DIRECTION	"C" SHEET No.	MINOR CONCRETE (MINOR STRUCTURE)
				CY
10	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE)	EB	C-2	1.1
11	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE-TRAILING END)	EB	C-2	1.1
14	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE)	WB	C-2	1.1
20	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE)	EB	C-6	1.7
21	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE-TRAILING END)	EB	C-6	1.7
29	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE)	WB	C-6	1.7
30	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE-TRAILING END)	WB	C-6	1.7
38	ATTACH TO Br No. 25-0042 SLY PARK Rd UC (R+ SIDE)	WB	C-3	1.1
39	ATTACH TO Br No. 25-0041 SAW MILL UC (R+ SIDE)	WB	C-3	1.1
40	ATTACH TO Br No. 25-0062 POINT VIEW Dr UC (R+ SIDE)	WB	C-3	1.1
41	ATTACH TO Br No. 25-0064 SMITH FLAT Rd UC (R+ SIDE)	WB	C-3	1.1
42	ATTACH TO Br No. 25-0063 SCHNELL SCHOOL Rd UC (R+ SIDE)	WB	C-3	1.1
43	ATTACH TO RETAINING WALL	WB	C-7	3.9
63	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (R+ SIDE)	NB	C-1	1.5
64	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (Med SIDE)	NB	C-1	1.5
65	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (R+ SIDE)	SB	C-1	1.5
66	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (Med SIDE)	SB	C-1	1.5
69	ATTACH TO Br No. 12-0156 MUD CREEK (R+ SIDE)	NB	C-5	1.1
72	ATTACH TO Br No. 12-0028 PINE CREEK (R+ SIDE)	NB	C-4	1.1
73	ATTACH TO Br No. 12-0029 CAMPBELL CREEK (R+ SIDE)	NB	C-4	1.1
78	ATTACH TO Br No. 12-0156 MUD CREEK (R+ SIDE)	SB	C-5	1.1
81	ATTACH TO Br No. 12-0028 PINE CREEK (R+ SIDE)	SB	C-4	1.1
82	ATTACH TO Br No. 12-0029 CAMPBELL CREEK (R+ SIDE)	SB	C-4	1.1
TOTAL				32.1

SUMMARY OF QUANTITIES
Q-4



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	20	37

Dennis G. Corcoran 6-15-11
 REGISTERED CIVIL ENGINEER DATE

6-20-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DENNIS CORCORAN
 No. 59438
 Exp. 12-31-11
 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.

ASPHALT CONCRETE

LOCATION	DESCRIPTION	DIRECTION	"C" SHEET No.	REMOVE AC DIKE		PLACE HMA DIKE (TYPE C)		PLACE HMA DIKE (TYPE E)		PLACE HMA DIKE (TYPE F)		HMA RAMP (N)		MINOR HMA	
				LF	LF	LF	LF	LF	LF	LF	TON				
10	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE)	EB	C-2	25								10.5	0.7		
11	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE-TRAILING END)	EB	C-2									10.5	0.7		
14	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE)	WB	C-2									10.5	0.7		
20	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE)	EB	C-6									12.5	0.8		
21	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE-TRAILING END)	EB	C-6									12.5	0.8		
29	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE)	WB	C-6									12.5	0.8		
30	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE-TRAILING END)	WB	C-6									12.5	0.8		
39	ATTACH TO Br No. 25-0041 SAW MILL UC (R+ SIDE)	WB	C-4	50	75					25				1.0	
*42	ATTACH TO Br No. 25-0063 SCHNELL SCHOOL Rd (R+ SIDE)	WB	C-4,9,10	510		510								14.6	
49	ATTACH TO Br No. 19-0021 N. FORK DRY CREEK (R+ SIDE)	NB		100	75					25				1.0	
51	ATTACH TO Br No. 19-0020 S. FORK DRY CREEK (R+ SIDE)	SB		100	75					25				1.0	
63	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (R+ SIDE)	NB	C-1	100	100									0.9	
65	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (R+ SIDE)	SB	C-1	100	100									0.9	
**67	ATTACH TO Br No. 12-0129 NANCE CREEK (R+ SIDE)	NB			75									0.7	
69	ATTACH TO Br No. 12-0156 MUD CREEK (R+ SIDE)	NB	C-5	100	100									0.9	
TOTAL				1085	600	510	75	81.5	26.3						

* THE AC DIKE REMOVAL AND HMA DIKE (TYPE E) PLACEMENT WILL BEGIN AFTER THE EXISITNG OVERSIDE DRAIN.
 ** THE HMA DIKE (TYPE C) PLACEMENT WILL BEGIN AFTER THE EXISITNG OVERSIDE DRAIN.
 (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

OBJECT MARKER (TYPE L-1)

LOCATION	DESCRIPTION	DIRECTION	"C" SHEET No.	QUANTITY	
				EA	
5	REMOVE MBGR AND INSTALL MBGR & END ANCHOR ASSEMBLIES (TYPE SFT)	EB		1	
7	REMOVE MBGR AND INSTALL END TREATMENTS	EB		1	
8	REMOVE MBGR AND INSTALL END TREATMENT	EB		1	
9	REMOVE MBGR AND INSTALL MBGR & END ANCHOR ASSEMBLIES (TYPE SFT)	EB		1	
12	REMOVE MBGR AND INSTALL END TREATMENTS	WB		1	
13	REMOVE MBGR AND INSTALL END TREATMENT	WB		1	
15	REMOVE MBGR AND INSTALL END TREATMENTS	WB		1	
16	REMOVE MBGR AND INSTALL END TREATMENTS	WB		1	
17	REMOVE MBGR AND INSTALL END TREATMENTS	WB		1	
18	REMOVE MBGR AND INSTALL MBGR & END ANCHOR ASSEMBLIES (TYPE SFT)	WB		1	
19	REMOVE MBGR AND INSTALL END TREATMENTS	WB		1	
20	ATTACH TO Br No. 16-0010 (R+ SIDE)	EB	C-6	1	
21	ATTACH TO Br No. 16-0010 (R+ SIDE-TRAILING END)	EB	C-6	1	
22	REMOVE MBGR AND INSTALL END TREATMENT	EB		1	
24	ATTACH TO Br No. 16-0011 YUBA RIVER (PARKS BAR)	EB		1	
25	REMOVE MBGR AND INSTALL END TREATMENT	EB		1	
27	REMOVE MBGR AND INSTALL END TREATMENT	WB		1	
43	ATTACH TO RETAINING WALL	WB	C-7	1	
54	REMOVE MBGR AND INSTALL END TREATMENT	SB		1	
57	REMOVE MBGR AND INSTALL END TREATMENT	NB		1	
64	ATTACH TO Br No. 18-0033 (Med SIDE)	NB		1	
66	ATTACH TO Br No. 18-0033 (Med SIDE)	SB		1	
70	REMOVE MBGR AND INSTALL END TREATMENTS	NB		1	
74	REMOVE MBGR AND INSTALL END TREATMENT	NB		1	
75	REMOVE MBGR AND INSTALL END TREATMENT	NB		1	
79	REMOVE MBGR AND INSTALL END TREATMENT	SB		1	
80	REMOVE MBGR AND INSTALL END TREATMENT	SB		1	
83	REMOVE MBGR AND INSTALL END TREATMENT	SB		1	
TOTAL					28

SUMMARY OF QUANTITIES

Q-5

TEMPORARY TRAFFIC CONTROL

LOCATION	DESCRIPTION	DIRECTION	"C" SHEET No.	ALTERNATIVE TEMPORARY CRASH CUSHION		
				EA	EA	EA
10	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE)	EB	C-2	1		6
11	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE-TRAILING END)	EB	C-2	1		
14	ATTACH TO Br No. 18-0003 WADSWORTH CANAL (R+ SIDE)	WB	C-2	1		6
20	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE)	EB	C-6	1		6
21	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE-TRAILING END)	EB	C-6	1		
29	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE)	WB	C-6	1		6
30	ATTACH TO Br No. 16-0010 DRY CREEK (R+ SIDE-TRAILING END)	WB	C-6	1		
38	ATTACH TO Br No. 25-0042 SLY PARK Rd UC (R+ SIDE)	WB	C-3		14	6
39	ATTACH TO Br No. 25-0041 SAW MILL UC (R+ SIDE)	WB	C-3		14	6
40	ATTACH TO Br No. 25-0062 POINT VIEW Dr UC (R+ SIDE)	WB	C-3		14	6
41	ATTACH TO Br No. 25-0064 SMITH FLAT Rd UC (R+ SIDE)	WB	C-3		14	6
42	ATTACH TO Br No. 25-0063 SCHNELL SCHOOL Rd (R+ SIDE)	WB	C-3		14	6
43	ATTACH TO RETAINING WALL	NB	C-7		14	6
63	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (R+ SIDE)	NB	C-1		14	6
64	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (Med SIDE)	NB	C-1		14	6
65	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (R+ SIDE)	SB	C-1		14	6
66	ATTACH TO Br No. 18-0033 BUTTE HOUSE Rd UC (Med SIDE)	SB	C-1		14	6
69	ATTACH TO Br No. 12-0156 MUD CREEK (R+ SIDE)	NB	C-5		14	6
72	ATTACH TO Br No. 12-0028 PINE CREEK (R+ SIDE)	NB	C-4		14	6
73	ATTACH TO Br No. 12-0029 CAMPBELL CREEK (R+ SIDE)	NB	C-4		14	6
78	ATTACH TO Br No. 12-0156 MUD CREEK (R+ SIDE)	SB	C-5		14	6
81	ATTACH TO Br No. 12-0028 PINE CREEK (R+ SIDE)	SB	C-4		14	6
82	ATTACH TO Br No. 12-0029 CAMPBELL CREEK (R+ SIDE)	SB	C-4		14	6
TOTAL				7	224	120

CRASH CUSHIONS

LOCATION	DESCRIPTION	DIRECTION	CRASH CUSHION (TYPE TAU-II)
			EA
46	INSTALL CRASH CUSHION (TYPE TAU-II)	NB	1
55	INSTALL CRASH CUSHION (TYPE TAU-II)	SB	1
TOTAL			2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20,49, 50,99	Var	21	37

Dennis G. Corcoran 6-15-11
 REGISTERED CIVIL ENGINEER DATE

6-20-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DENNIS CORCORAN
 No. 59438
 Exp. 12-31-11
 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.

SUMMARY OF QUANTITIES

Q-6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	22	37

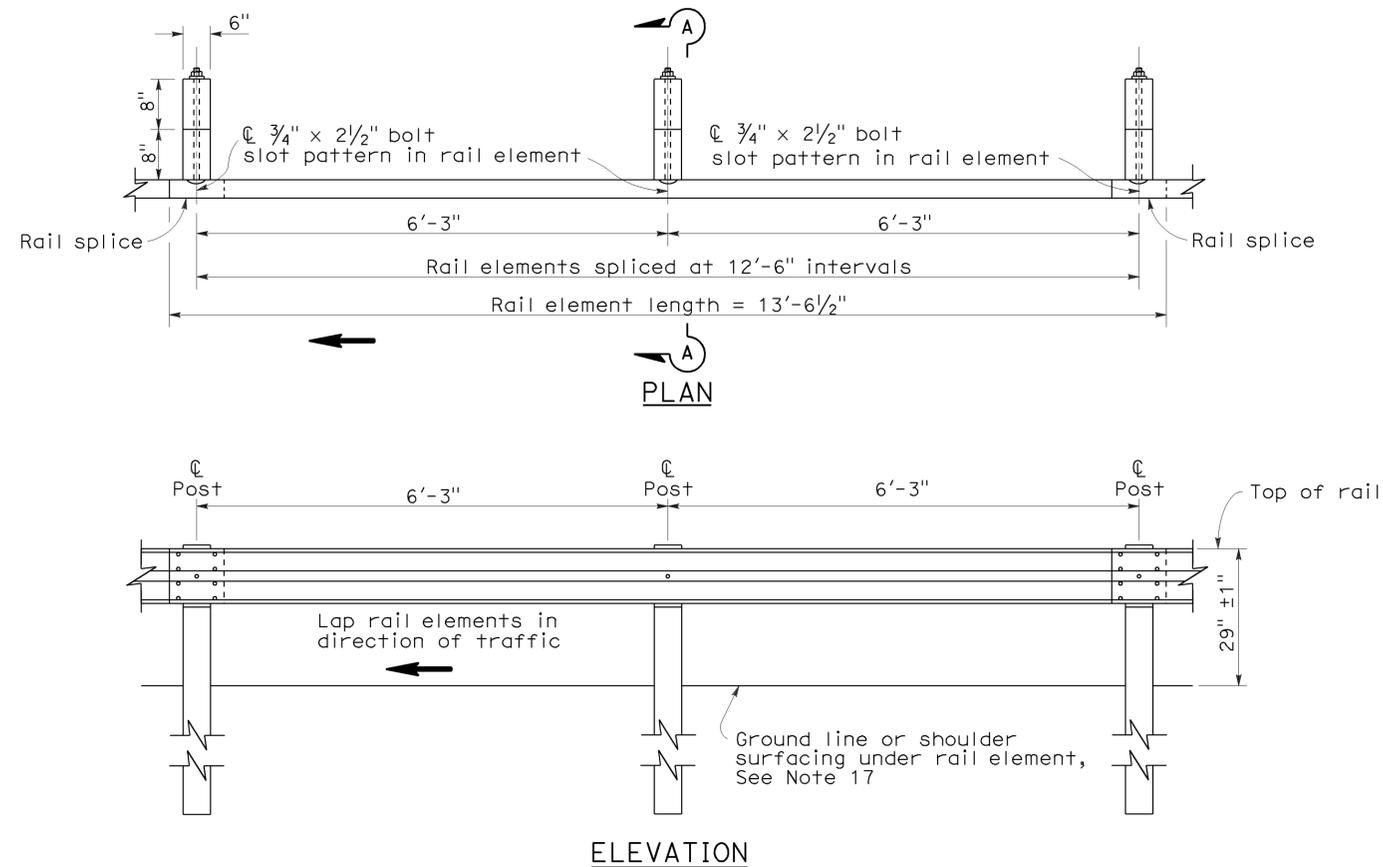
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

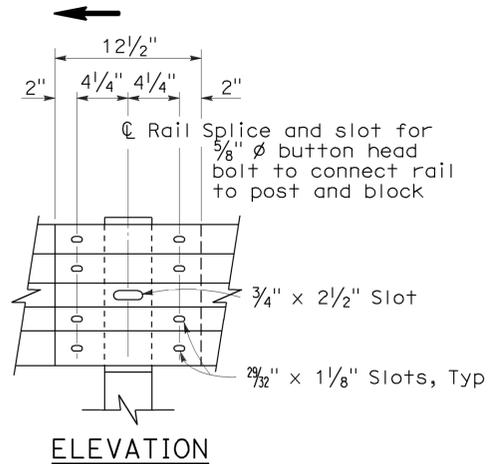
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 6-20-11

2006 REVISED STANDARD PLAN RSP A77A1

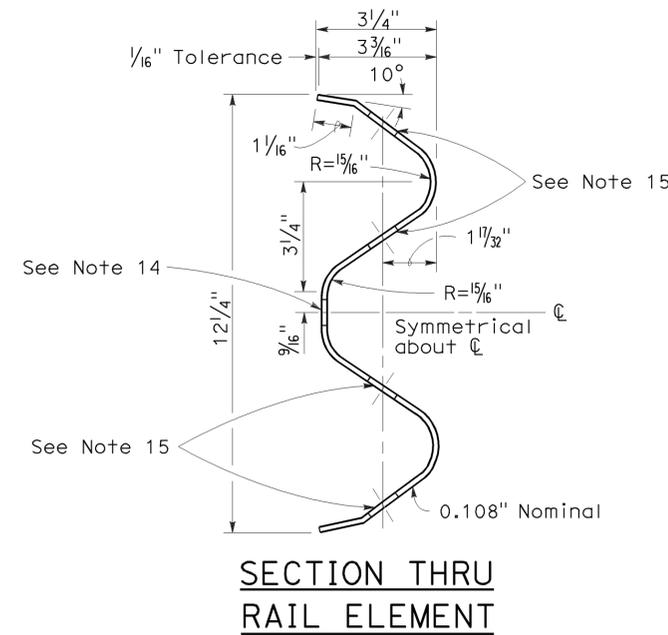


METAL BEAM GUARD RAILING WITH WOOD POST AND BLOCKS

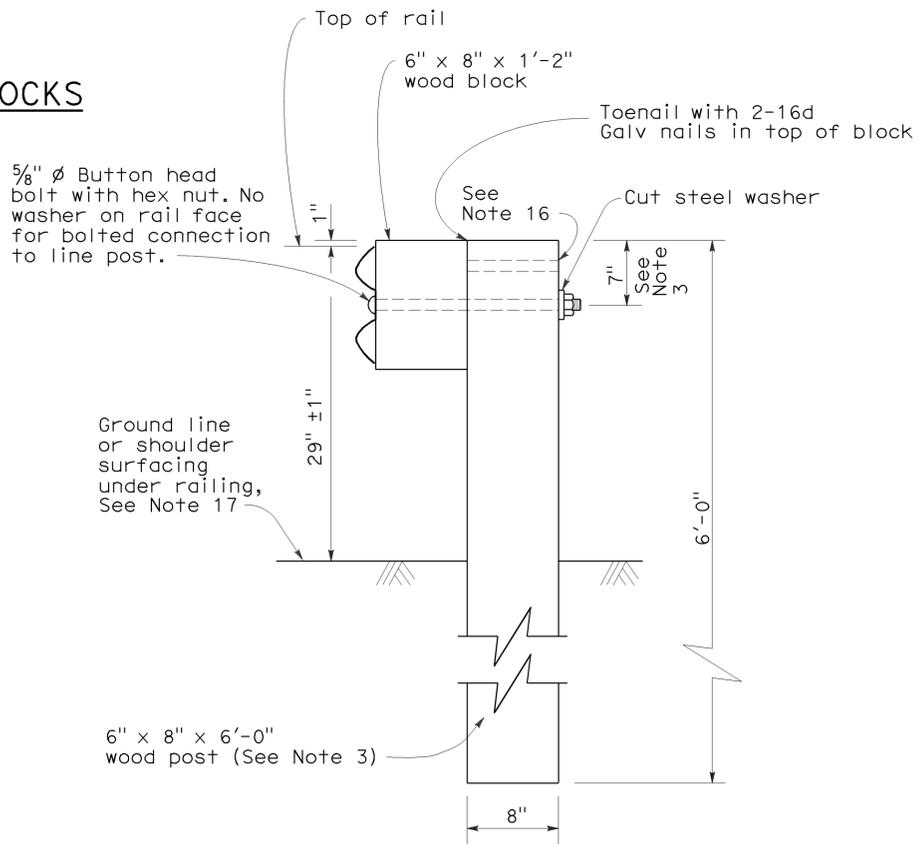


RAIL ELEMENT SPLICE DETAIL

- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{23}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



**SECTION A-A
TYPICAL WOOD LINE
POST INSTALLATION**

See Note 4

NOTES:

- For details of steel post installations, see Standard Plan A77A2.
- For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
- For details of wood posts and wood blocks used to construct guard railing, see Standard Plan A77C1.
- For additional installation details, see Standard Plan A77C3.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
- For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
- For details of guard railing transition to bridge railing, see Standard Plan A77J4.
- For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
- For guard railing connection details to abutments and walls, see Standard Plan A77J3.
- Direction of adjacent traffic indicated by \rightarrow .
- For typical guard railing delineation and dike positioning details, see Standard Plan A77C4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Standard Plan A77C1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

NO SCALE

RSP A77A1 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A1
DATED MAY 1, 2006 - PAGE 41 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77A1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Plg, etc.	20, 49, 50, 99	Var	23	37

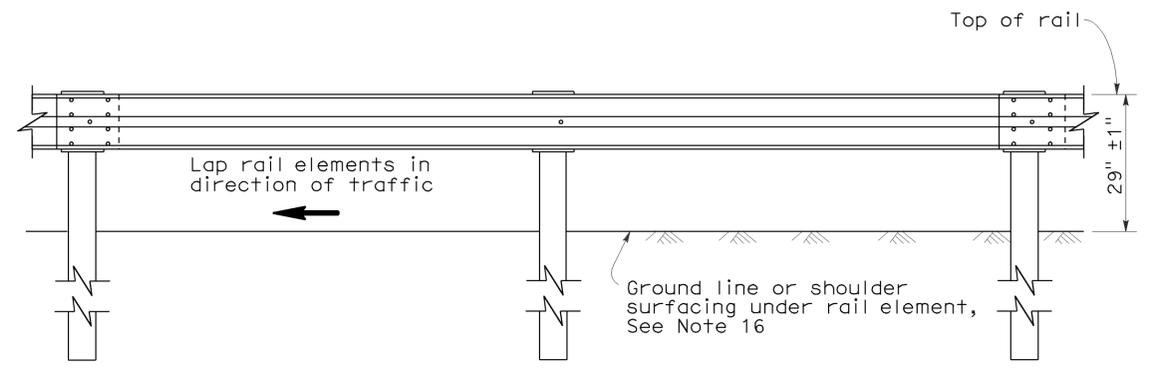
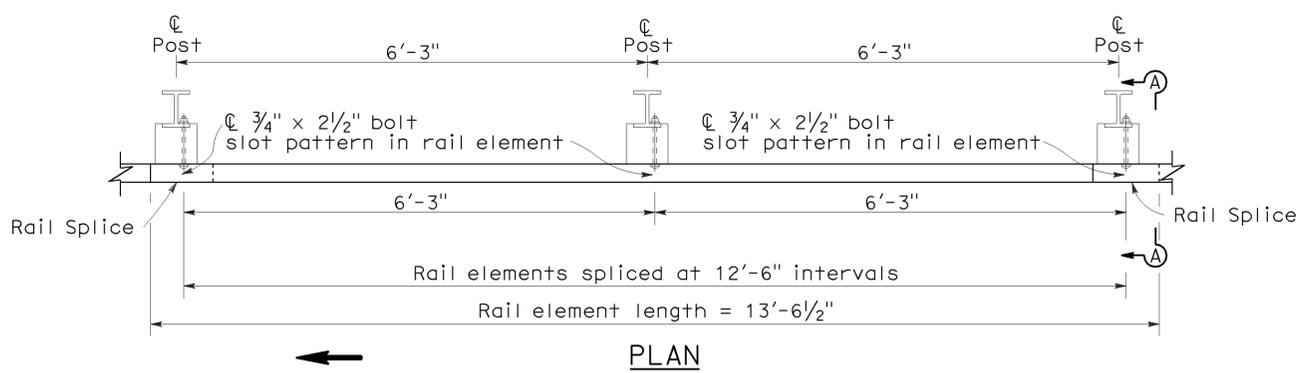
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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

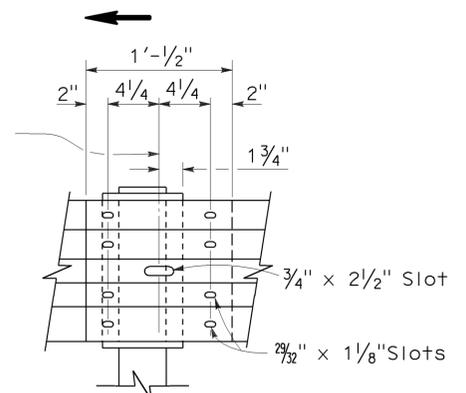
To accompany plans dated 6-20-11

2006 REVISED STANDARD PLAN RSP A77A2



METAL BEAM GUARD RAILING WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS

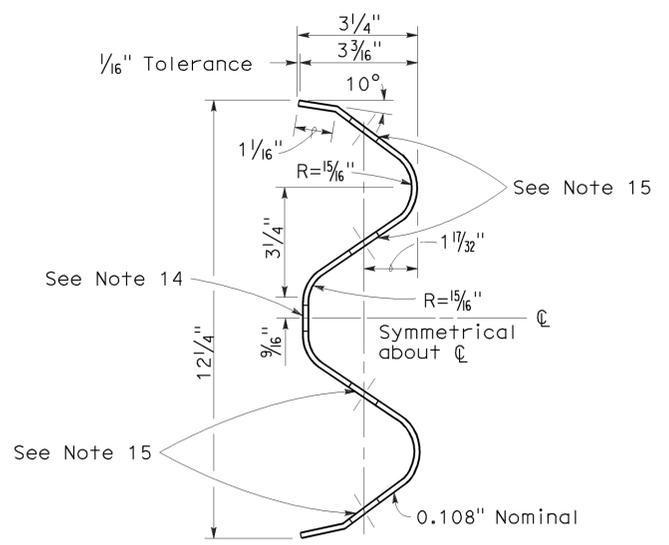
☉ Rail Splice and slot for 5/8" ø button head bolt to connect rail to post and block



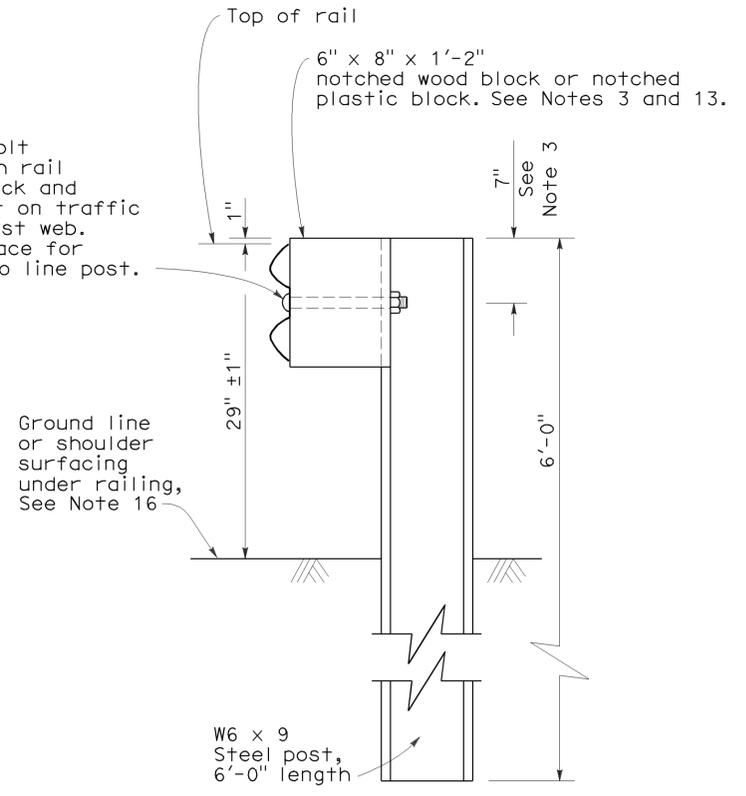
ELEVATION RAIL ELEMENT SPLICE DETAIL

- a) Connect the overlapped end of the rail elements with 5/8" ø x 1 3/8" button head oval shoulder splice bolts inserted into the 2 7/32" x 1 1/8" slots and bolted together with 5/8" ø recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- b) The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- c) Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.

5/8" ø Button head bolt with hex nut. Attach rail element to wood block and steel post with bolt on traffic approach side of post web. No washer on rail face for bolted connection to line post.



SECTION THRU RAIL ELEMENT



SECTION A-A TYPICAL STEEL LINE POST INSTALLATION
See Note 4

NOTES:

1. For details of wood post installations, see Standard Plan A77A1.
2. For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
3. For details of steel posts and notched wood blocks used to construct guard railing, see Standard Plan A77C2.
4. For additional installation details, see Standard Plan A77C3.
5. Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
6. For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
7. For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
8. For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
9. For details of guard railing transition to bridge railing, see Standard Plan A77J4.
10. For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
11. For dike positioning and guard railing delineation details, see Standard Plan A77C4.
12. Direction of adjacent traffic indicated by →.
13. Notched face of block faces steel post.
14. Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
15. Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
16. Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)

NO SCALE

RSP A77A2 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A2 DATED MAY 1, 2006 - PAGE 42 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77A2

To accompany plans dated 6-20-11

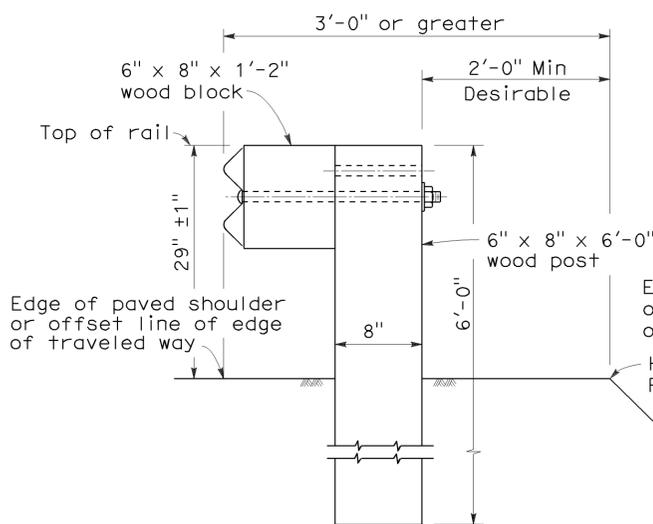
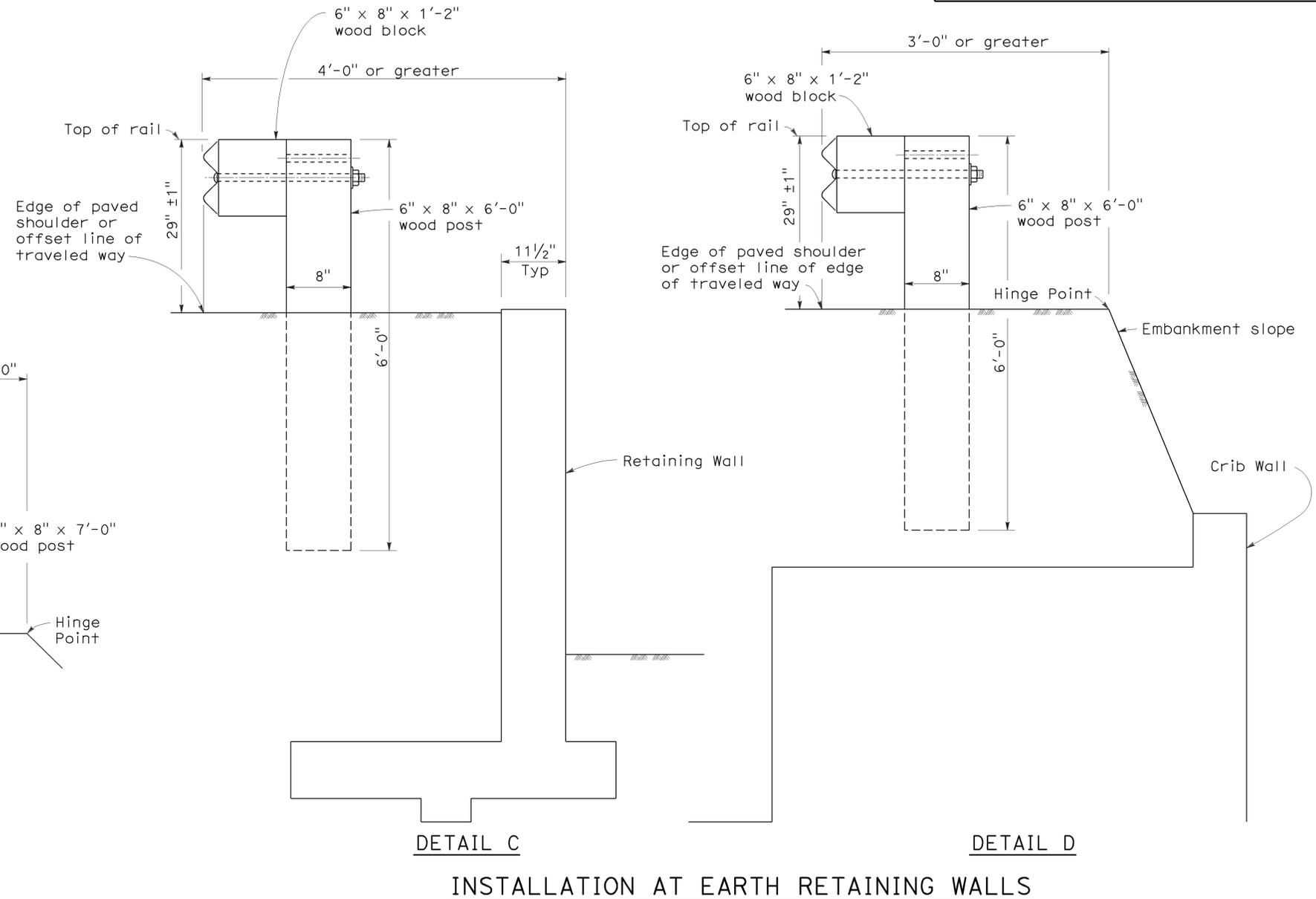
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Plq, etc.	20, 49, 50, 99	Var	24	37

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

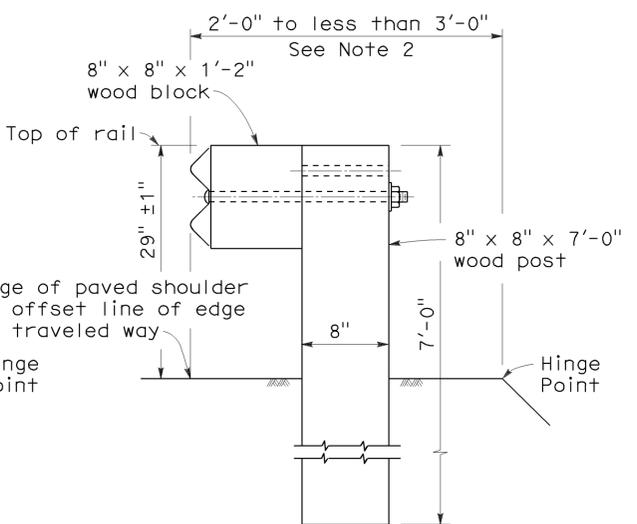
May 20, 2011
PLANS APPROVAL DATE

Randell D. Hiatt
No. C50200
Exp. 6-30-11
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.



DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT

DETAIL C
INSTALLATION AT EARTH RETAINING WALLS

DETAIL D

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 9 steel post, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 9 steel post, 7'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Standard Plans A77A1 and A77A2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-0", see the Project Plans for special details.
3. For dike positioning with guard railing installations, see Standard Plan A77C4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77C3 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77C3
DATED MAY 1, 2006 - PAGE 46 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C3

2006 REVISED STANDARD PLAN RSP A77C3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Plq, etc.	20, 49, 50, 99	Var	25	37

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

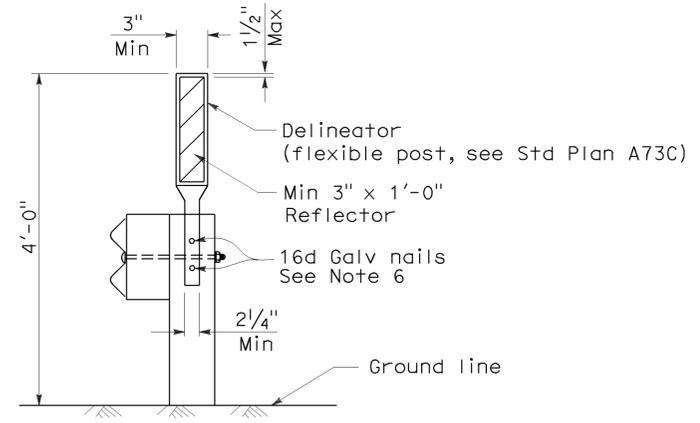
May 20, 2011
PLANS APPROVAL DATE

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

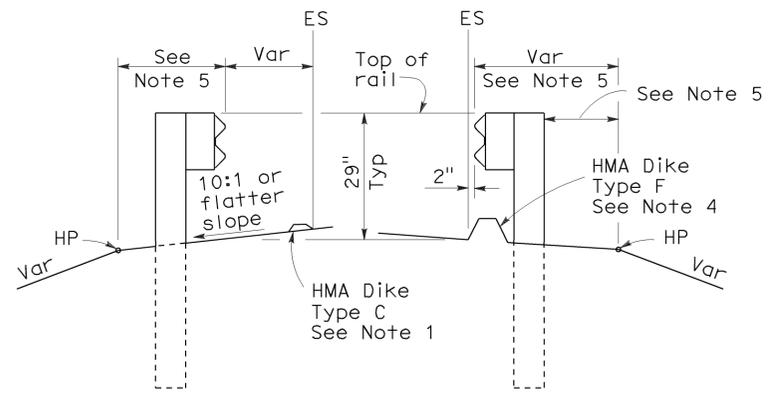
To accompany plans dated 6-20-11

NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Standard Plans A87A and A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.
6. For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.



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 MAY 20, 2011 SUPERSEDES RSP A77C4 DATED JUNE 6, 2008 AND STANDARD PLAN A77C4 DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But, Col, ED, Nev, Plq, etc.	20, 49, 50, 99	Var	26	37

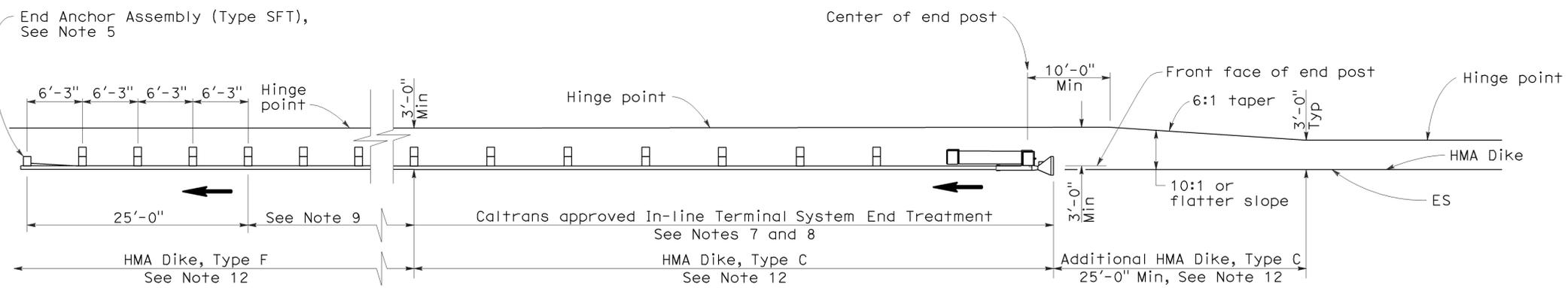
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

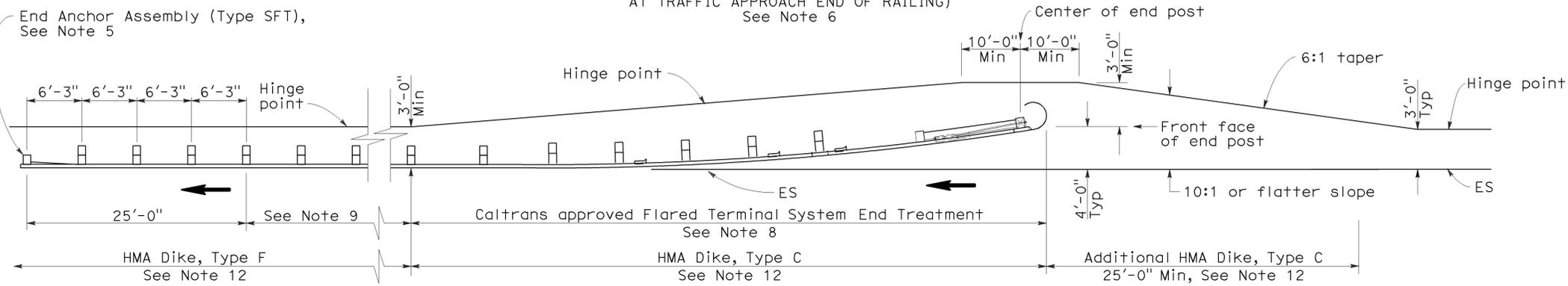
To accompany plans dated 6-20-11

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



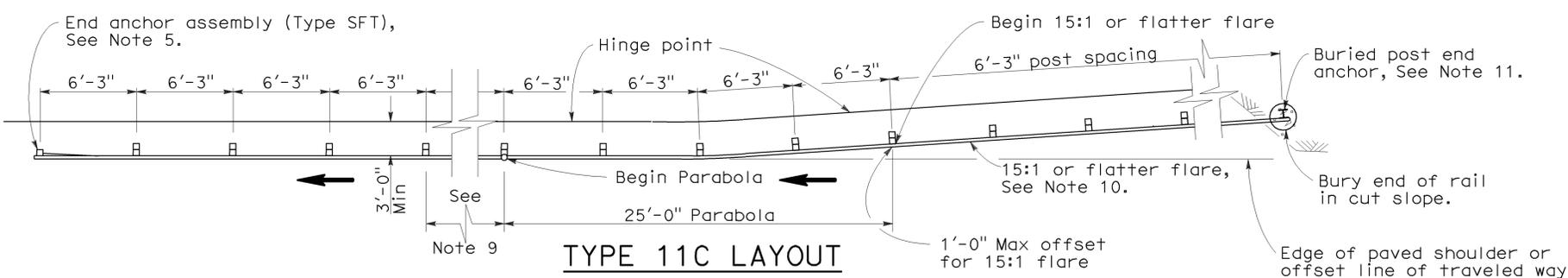
TYPE 11A LAYOUT

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



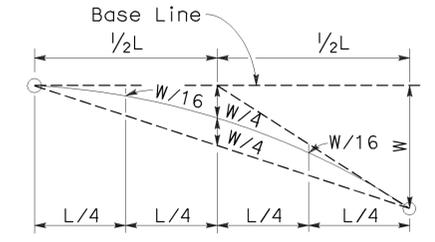
TYPE 11B LAYOUT

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

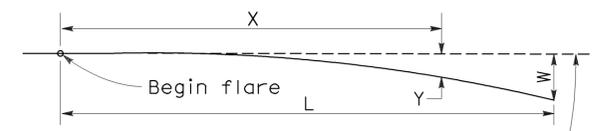


TYPE 11C LAYOUT

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



TYPICAL PARABOLIC LAYOUT

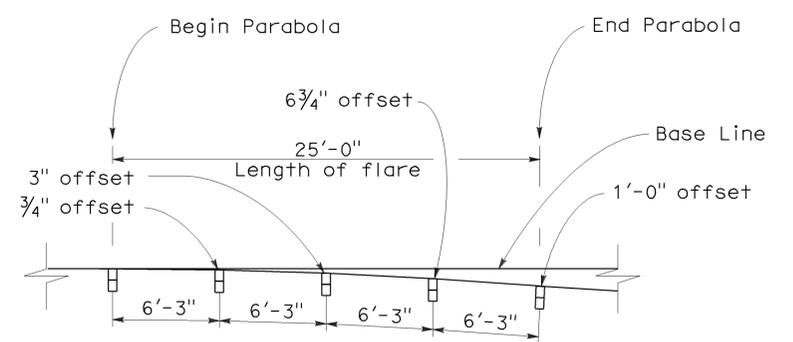


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

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

PARABOLIC FLARE OFFSETS



TYPICAL FLARE OFFSETS FOR 1 FOOT MAX END OFFSET

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR EMBANKMENTS
NO SCALE

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

REVISED STANDARD PLAN RSP A77E1

2006 REVISED STANDARD PLAN RSP A77E1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But, Col, ED, Nev, Plg, etc.	20, 49, 50, 99	Var	27	37

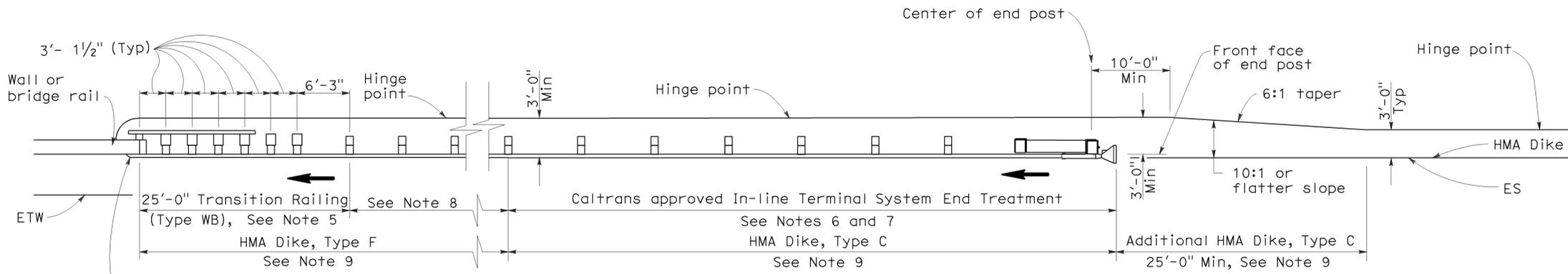
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

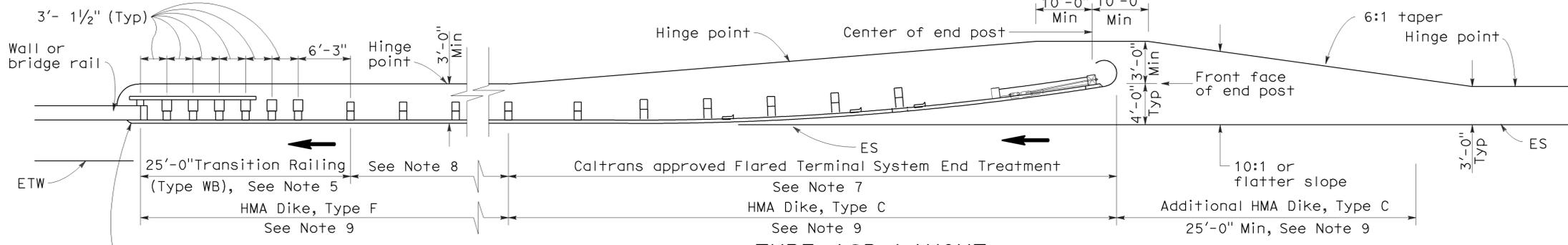
To accompany plans dated 6-20-11

2006 REVISED STANDARD PLAN RSP A77F1



TYPE 12A LAYOUT

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



TYPE 12B LAYOUT

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

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.

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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77F1

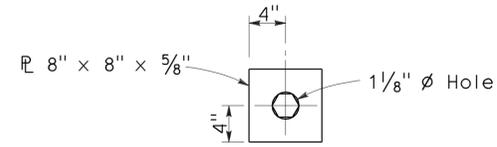
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	28	37

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

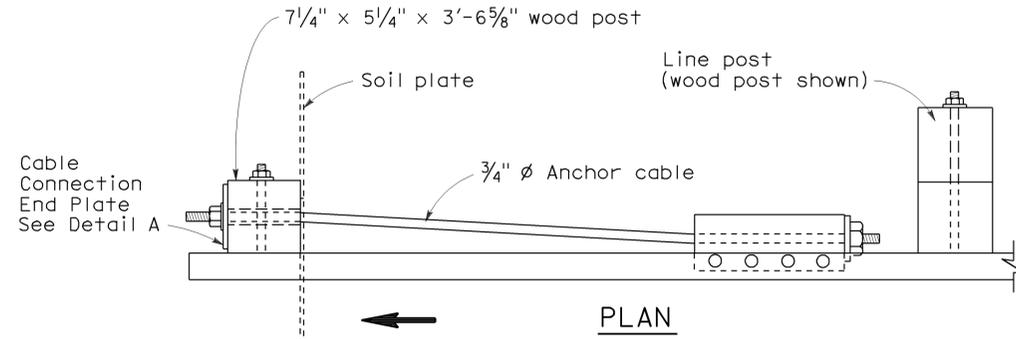
May 20, 2011
PLANS APPROVAL DATE

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

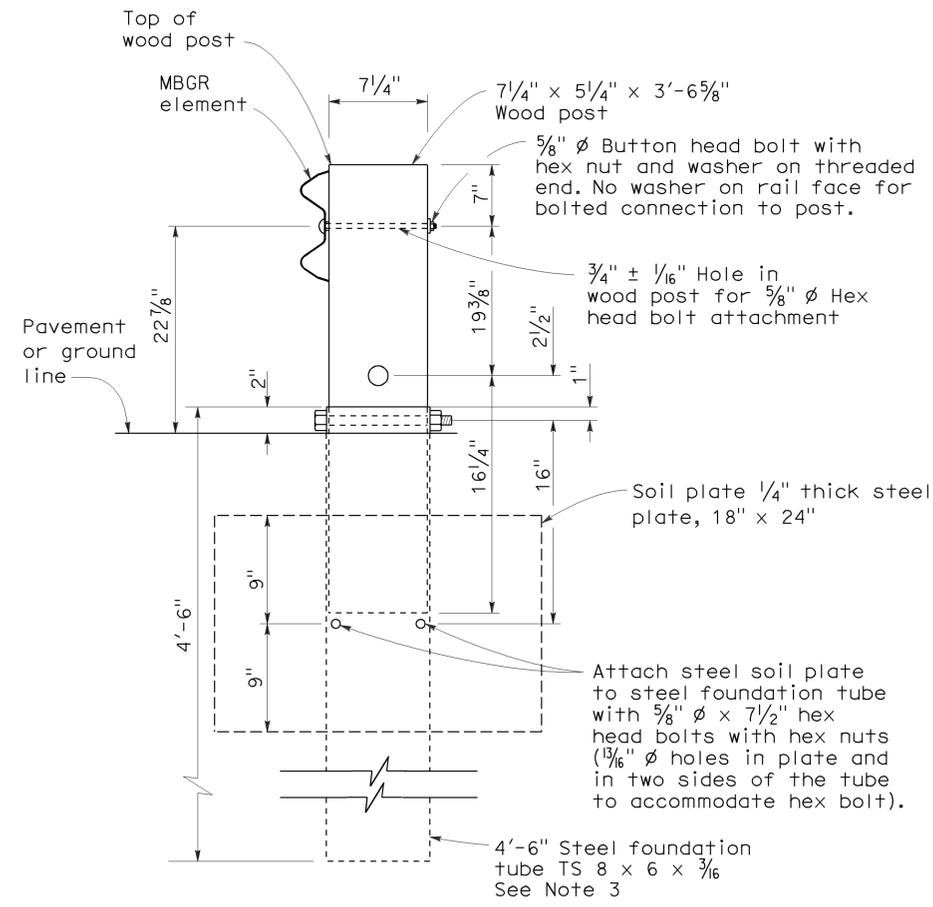
To accompany plans dated 6-20-11



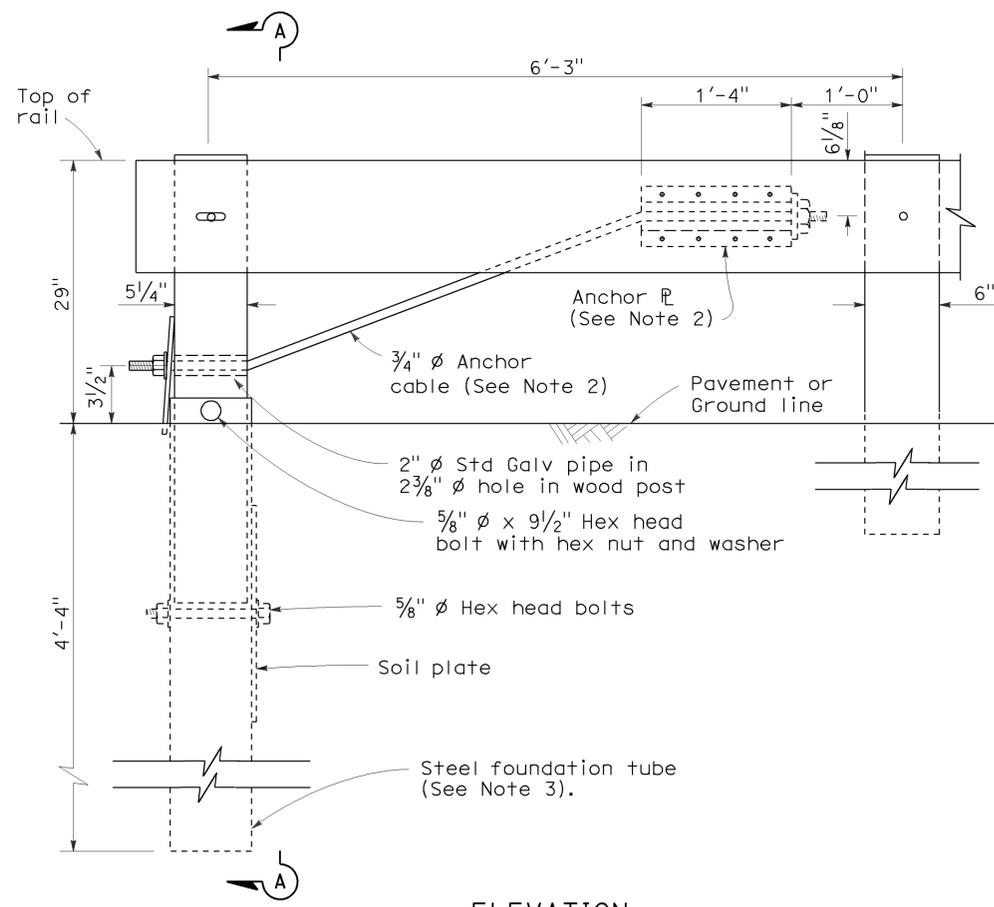
DETAIL A
CABLE CONNECTION
END PLATE



PLAN



SECTION A-A



ELEVATION
END ANCHOR
ASSEMBLY (TYPE SFT)
See Note 1

NOTES:

1. See the A77E, A77F and A77G series of Standard Plans for typical use of End Anchor Assembly (Type SFT).
2. For details of the anchor plate and 3/4" cable, see Standard Plan A77H3.
3. A 6'-0" length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" diameter hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
4. Direction of traffic indicated by →.
5. Install line post, steel foundation tube and soil plate in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL RAILING
END ANCHOR ASSEMBLY
(TYPE SFT)

NO SCALE

RSP A77H1 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77H1
DATED MAY 1, 2006 - PAGE 67 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77H1

2006 REVISED STANDARD PLAN RSP A77H1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Pla, etc.	20, 49, 50, 99	Var	29	37

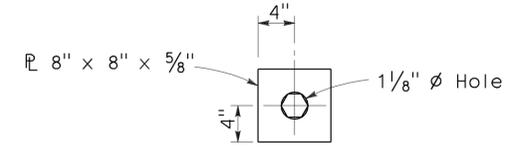
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

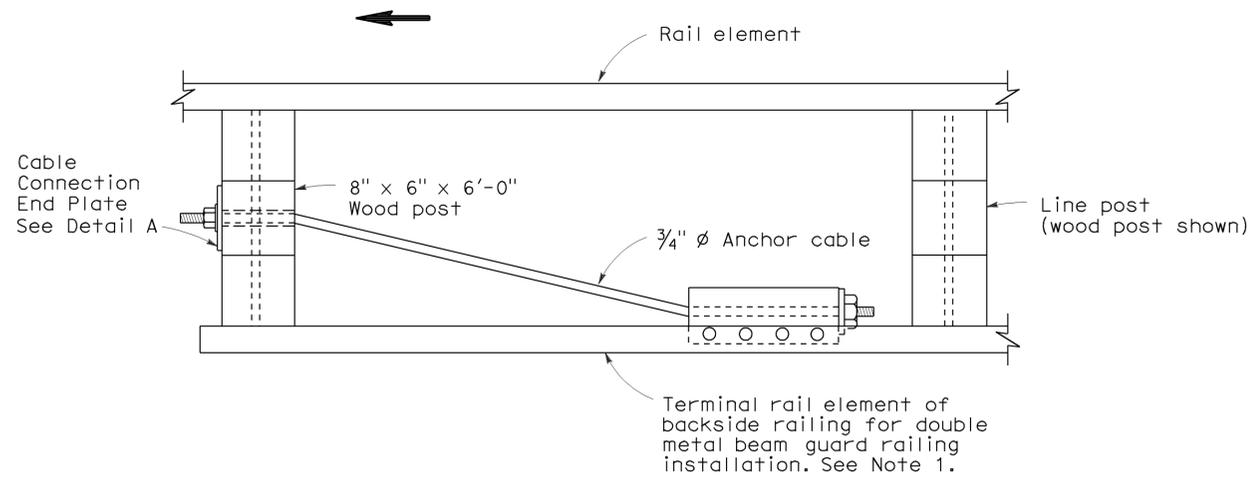
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

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.

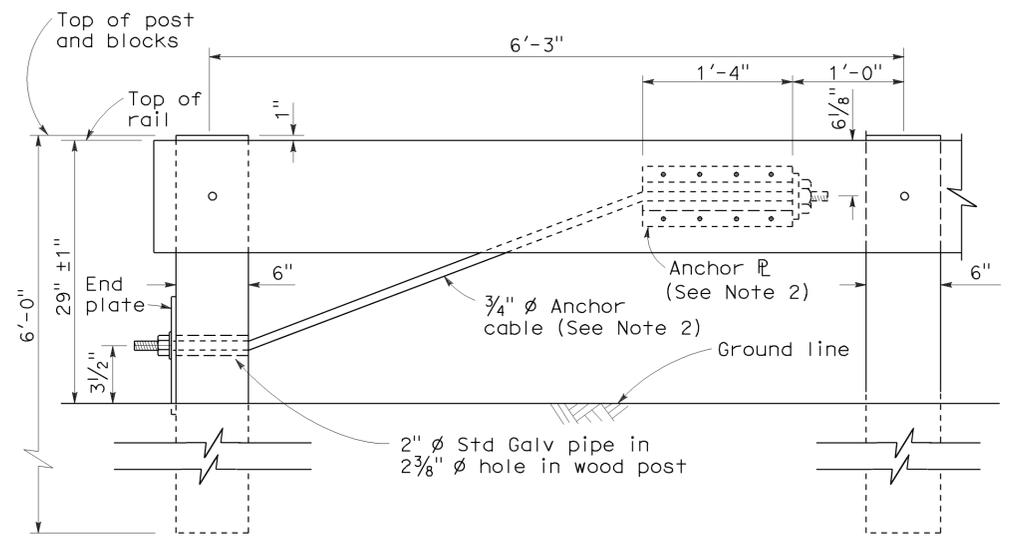
To accompany plans dated 6-20-11



DETAIL A
CABLE CONNECTION
END PLATE



PLAN



ELEVATION
RAIL TENSIONING
ASSEMBLY
See Note 1

NOTES:

1. See Standard Plan A77F3 and Standard Plan A77G1 for typical use of rail tensioning assembly.
2. For details of the anchor plate and 3/4 inch cable, see Standard Plan A77H3.
3. Direction of traffic indicated by →.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL RAILING
RAIL TENSIONING ASSEMBLY

NO SCALE

RSP A77H2 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77H2
DATED MAY 1, 2006 - PAGE 68 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77H2

2006 REVISED STANDARD PLAN RSP A77H2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Plg, etc.	20, 49, 50, 99	Var	30	37

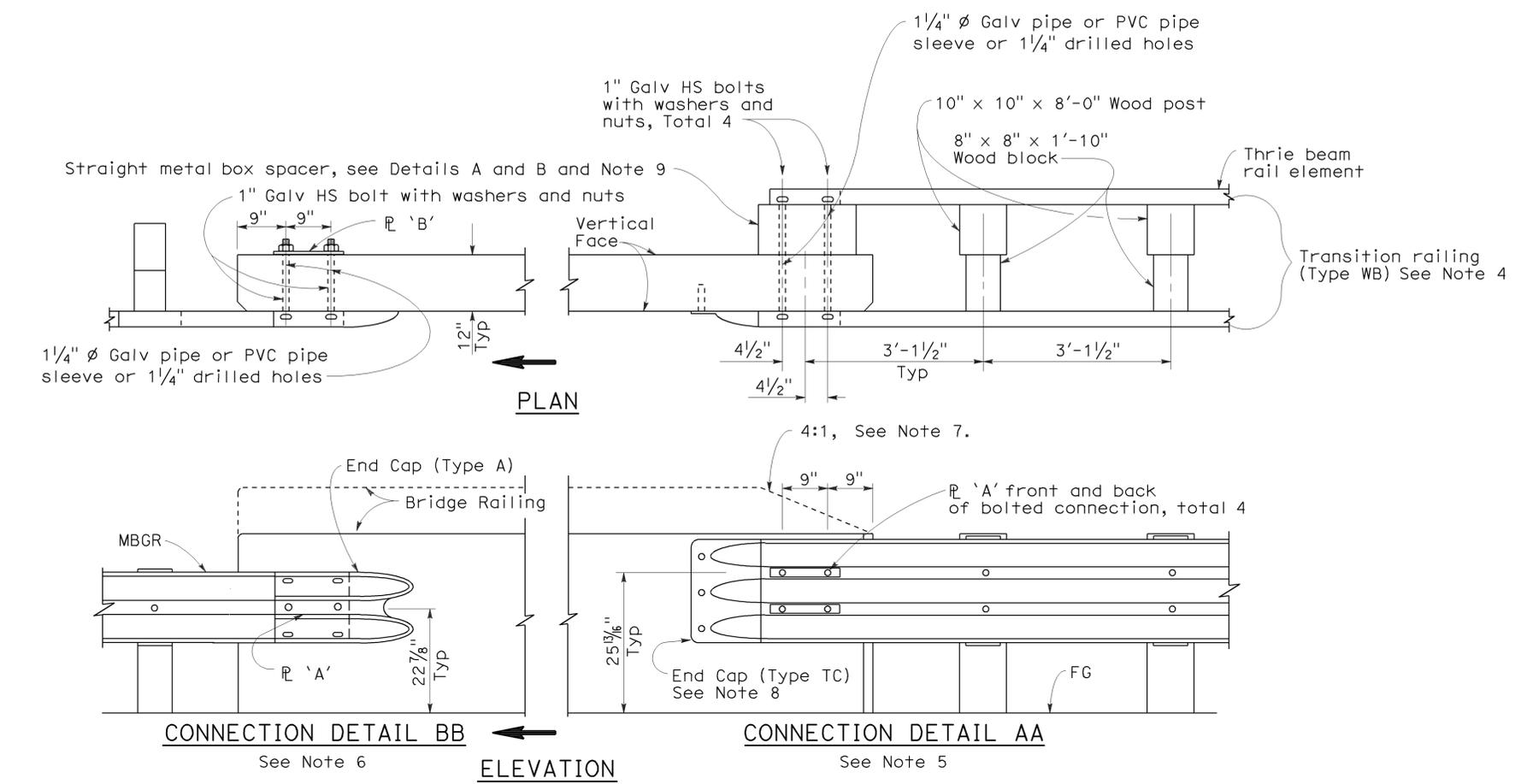
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

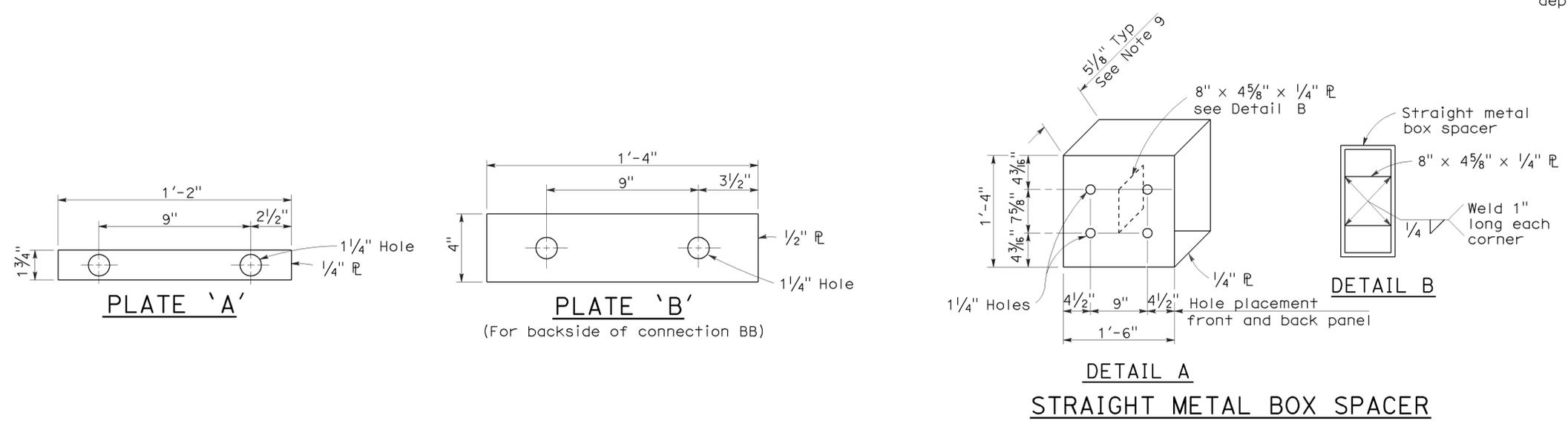
To accompany plans dated 6-20-11



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 \rightarrow .
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.

GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK



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

NO SCALE

RSP A77J1 DATED MAY 20, 2011 SUPERSEDES RSP A77J1 DATED JUNE 6, 2008 AND 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
03	But, Col, ED, Nev, Plg, etc.	20, 49, 50, 99	Var	31	37

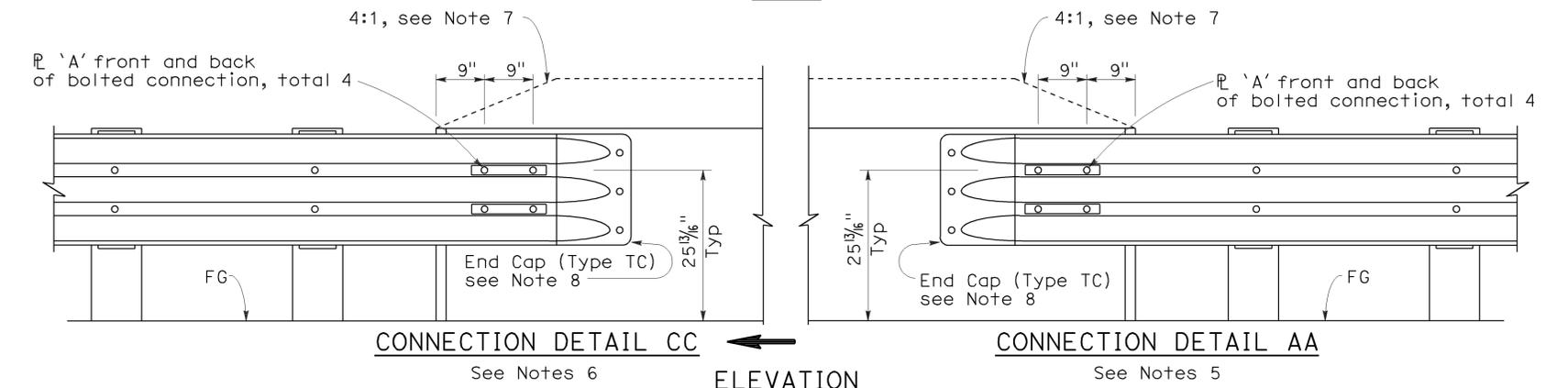
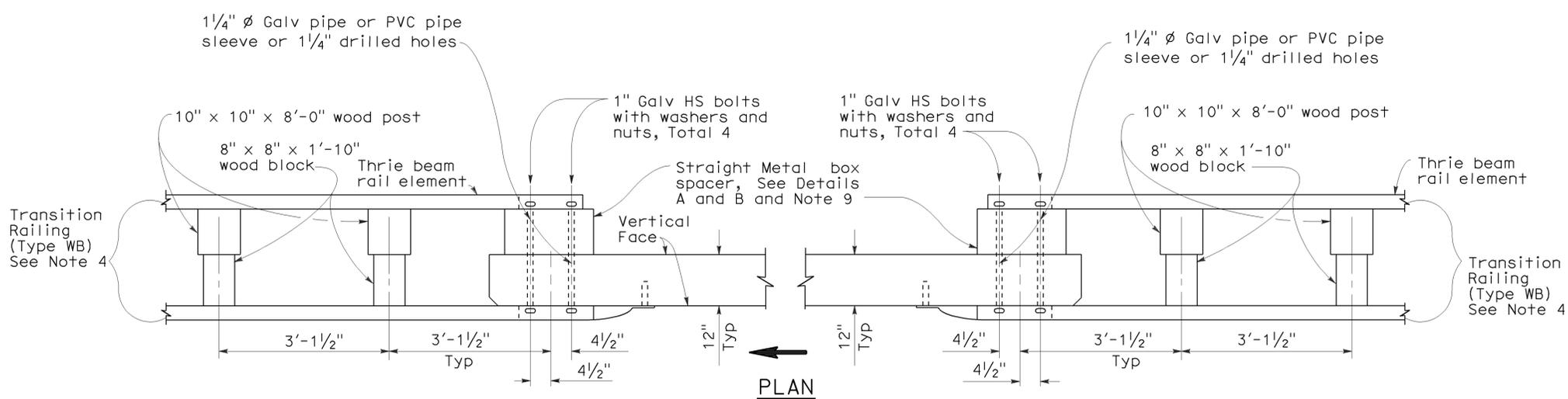
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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

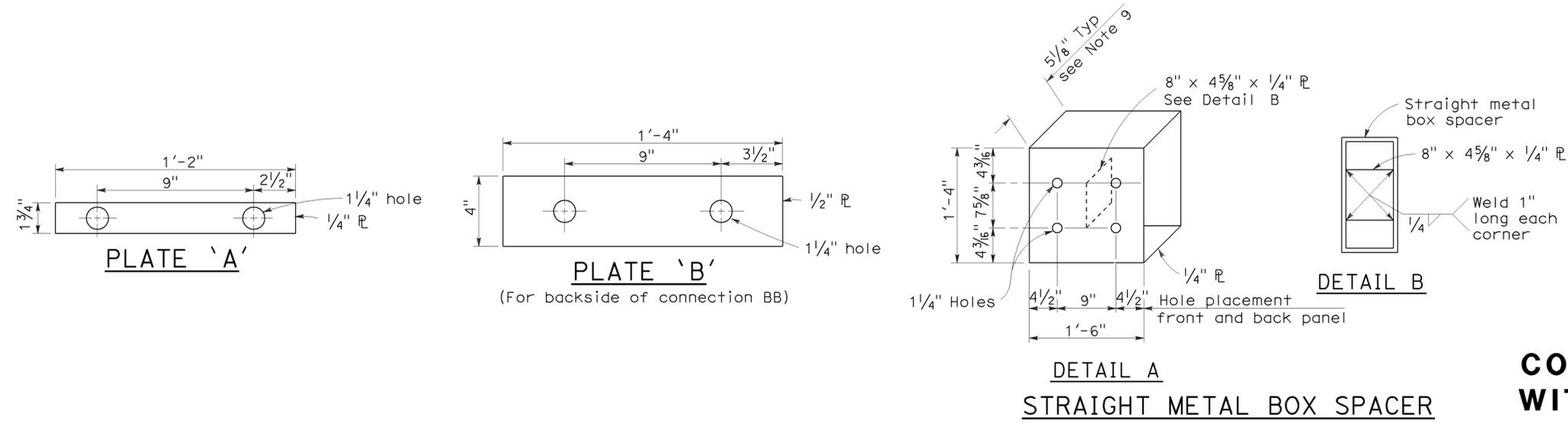
To accompany plans dated 6-20-11



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by \rightarrow .
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.



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

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

REVISED STANDARD PLAN RSP A77J2

2006 REVISED STANDARD PLAN RSP A77J2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Plg, etc.	20, 49, 50, 99	Var	32	37

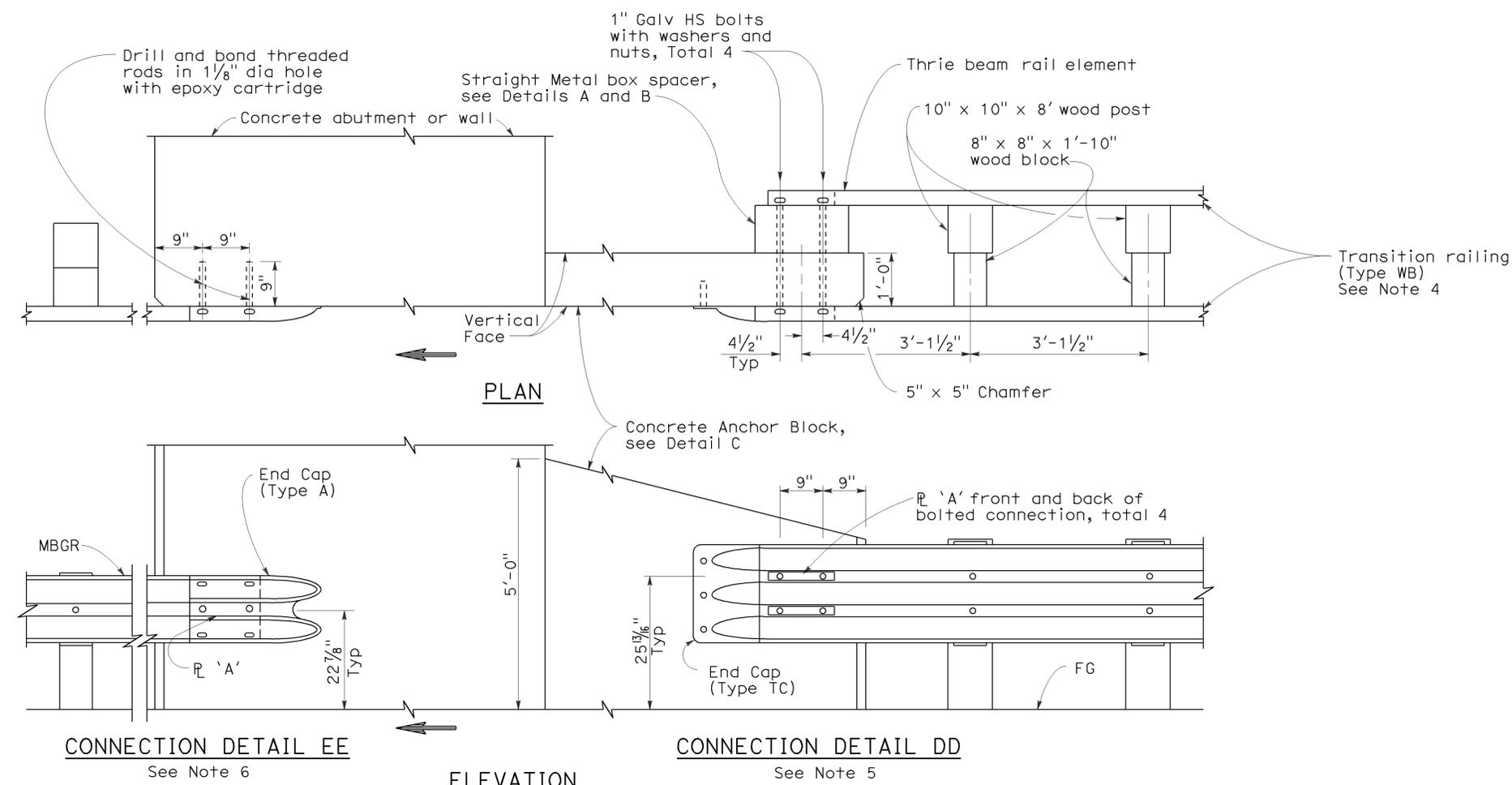
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

Randell D. Hiatt
No. C50200
Exp. 6-30-11
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.

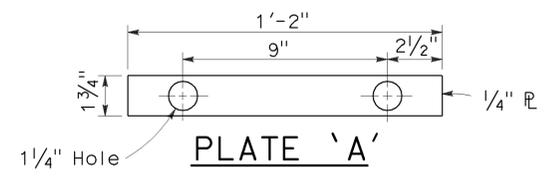
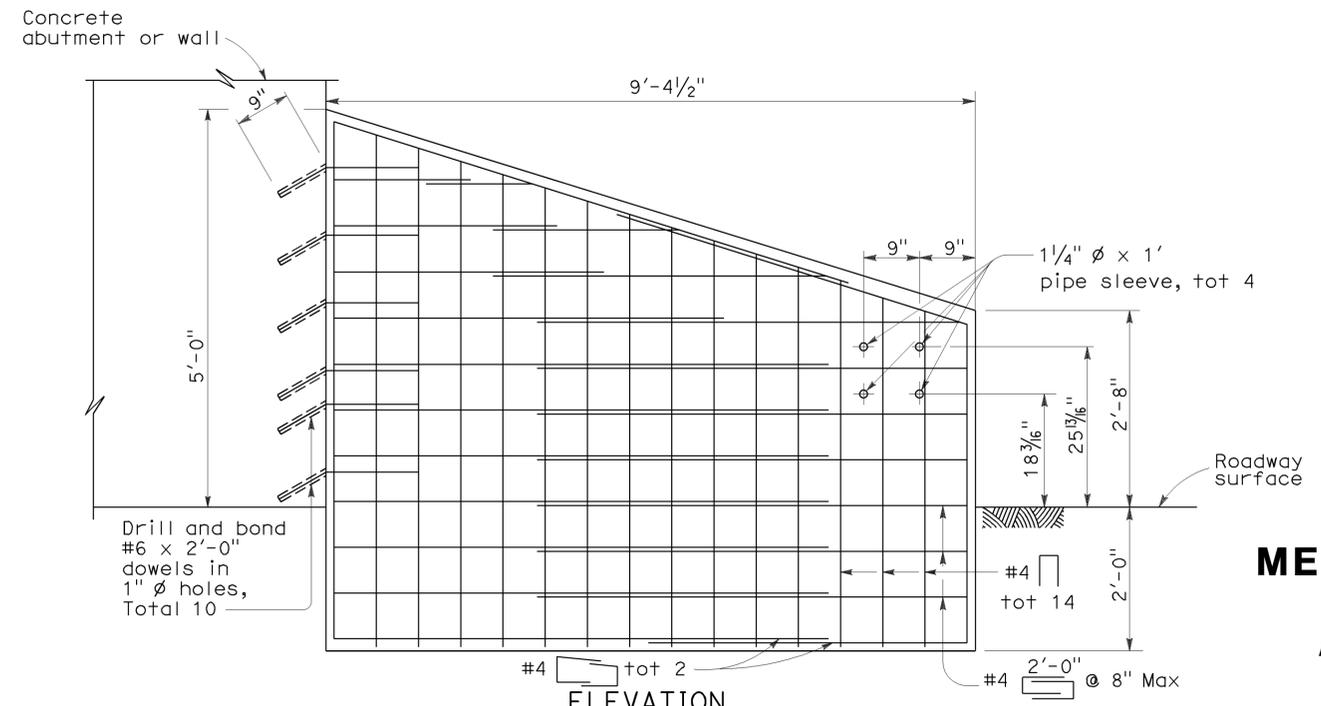
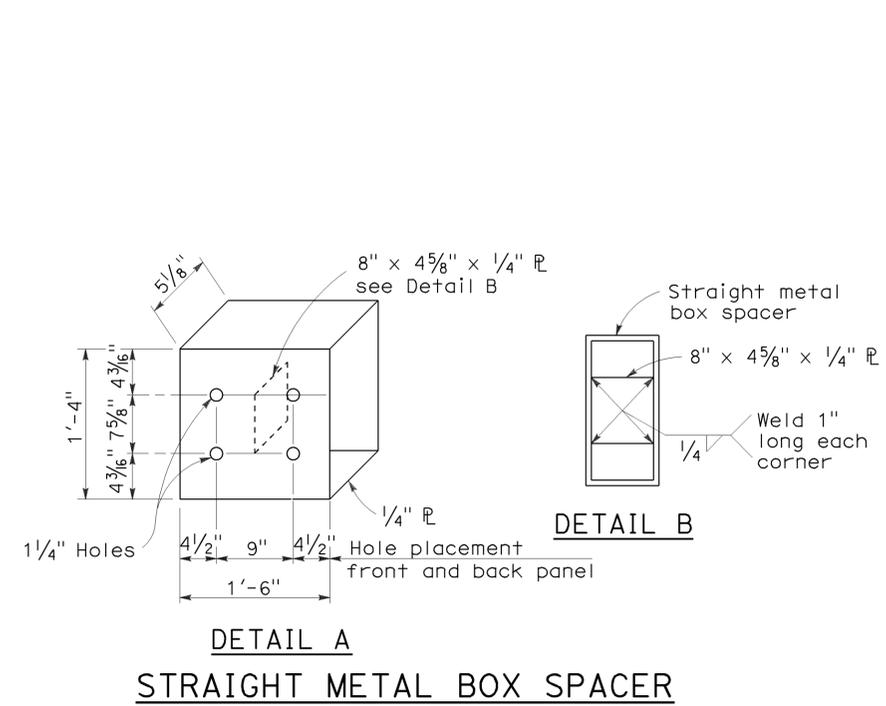
To accompany plans dated 6-20-11



NOTES:

1. These connection details apply to abutments and walls.
2. Additional details of posts, blocks and hardware are shown on Standard Plans 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 anchor block.
5. For typical use of Connection Details DD, See Layout Types 12A and 12B on Standard Plan A77F1 and Layout Types 12C and 12D on Standard Plan A77F2.
6. For typical use of Connection Detail EE, see Layout Type 12D on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.

GUARD RAILING CONNECTION TO ABUTMENT OR WALL



METAL BEAM GUARD RAILING CONNECTIONS TO ABUTMENTS AND WALLS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

ANCHOR BLOCK FOR TRANSITION RAILING CONNECTION

RSP A77J3 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77J3 DATED MAY 1, 2006 - PAGE 74 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J3

2006 REVISED STANDARD PLAN RSP A77J3

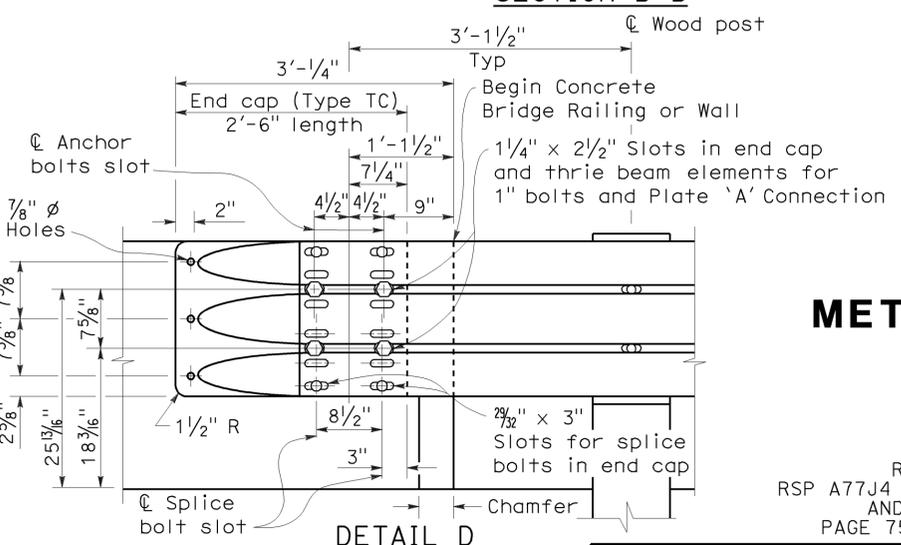
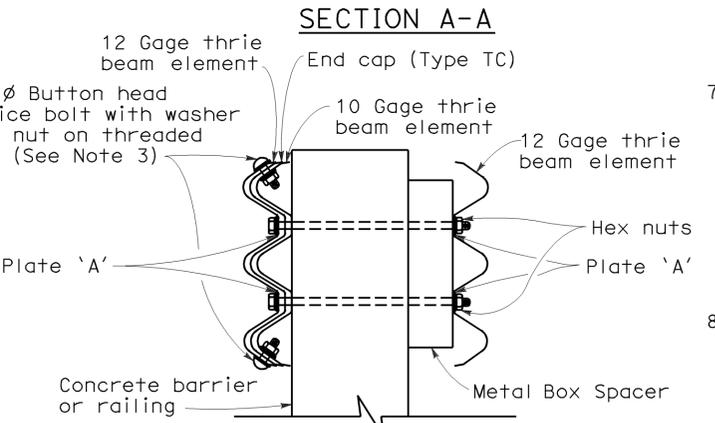
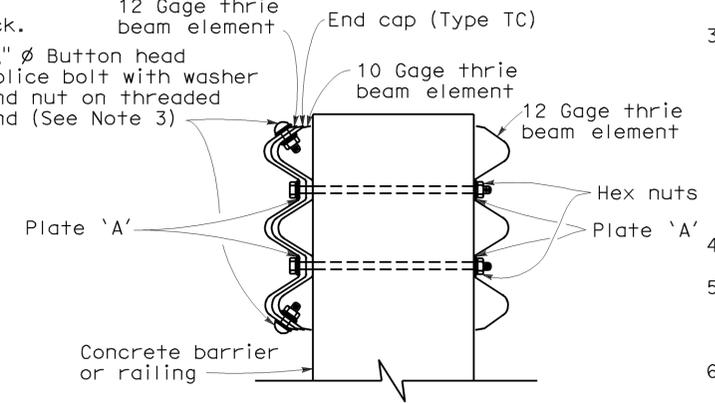
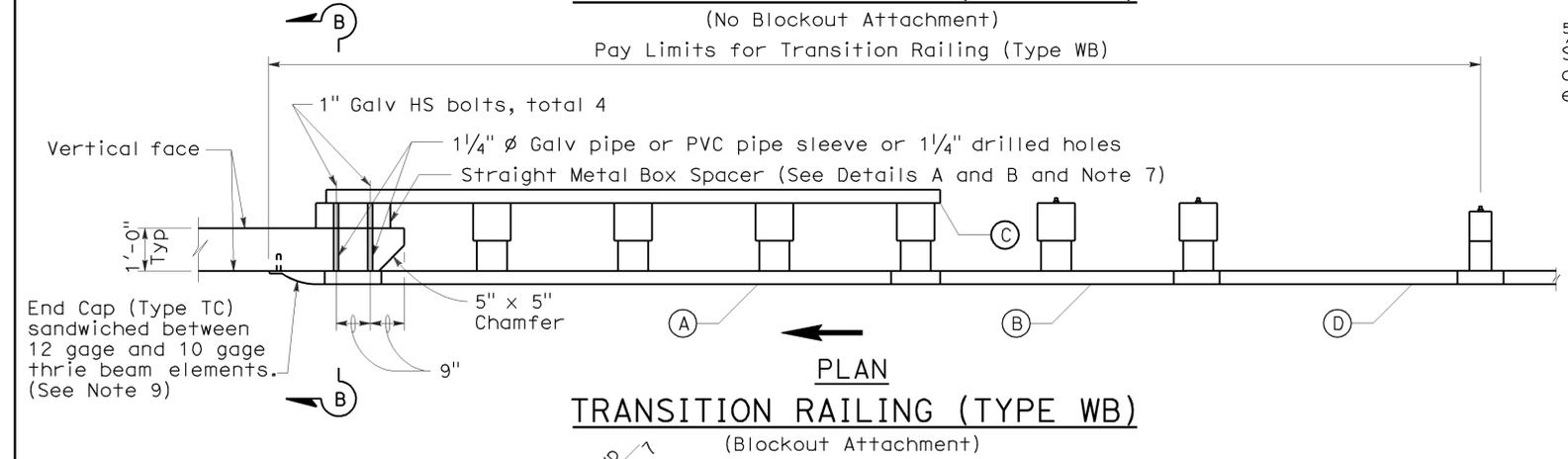
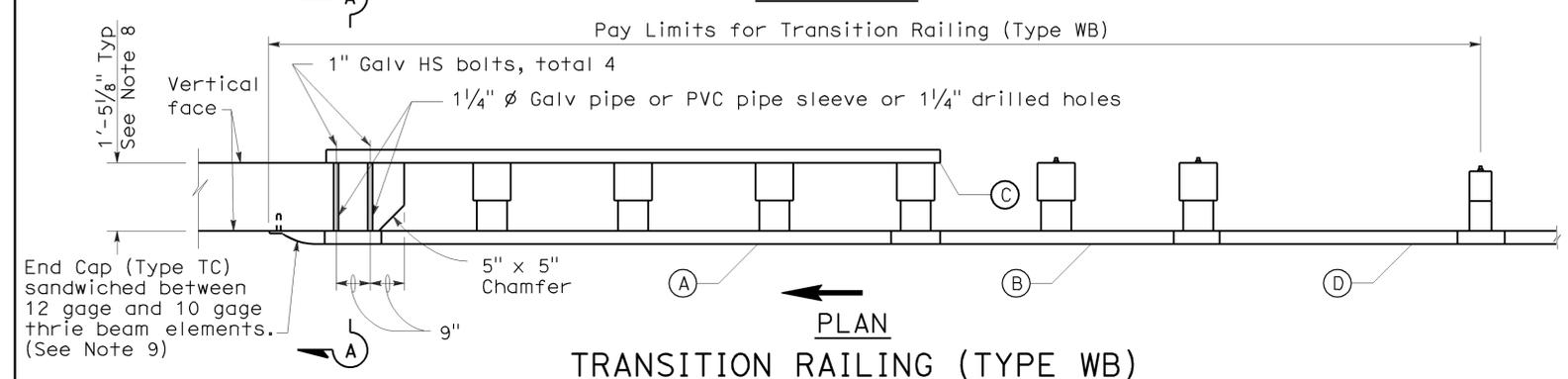
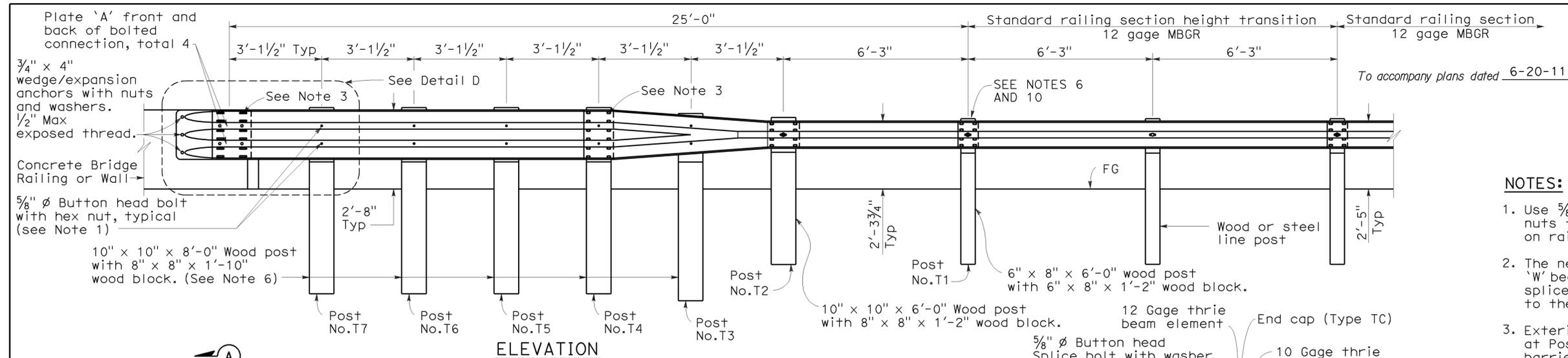
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Plq, etc.	20,49, 50,99	Var	33	37

To accompany plans dated 6-20-11

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

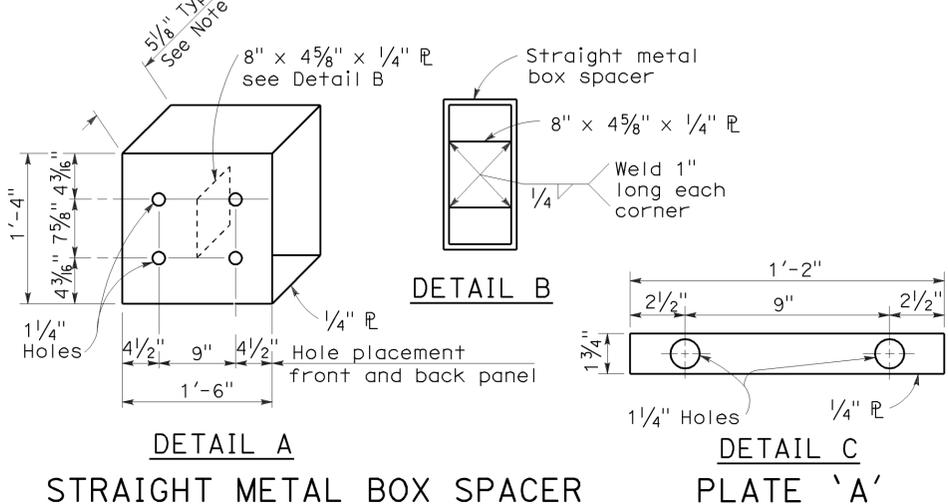
May 20, 2011
PLANS APPROVAL DATE

No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA



- NOTES:**
- Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 - The nested rail elements, end cap, and "W" beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 - Exterior splice bolt holes for rail element splices at Post No. T4 and the connection to the concrete barrier or railing shall be the standard 7/32" x 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1/4" ϕ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No. T4 and the connection to the concrete barrier or railing.
 - Direction of adjacent traffic indicated by \rightarrow .
 - The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
 - Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing with height transition ratio of 120:1 or an approved Caltrans end treatment attached to Post No. T1.
 - The depth of the metal box spacer varies from the 5/8" to 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 17/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1/2", metal plates similar to Plate 'A' are to be used as spacers.
 - Where the width of the concrete railing or wall is greater than 17/8", wood blocks are to be used to fill the space created between the backside of Posts No. T4 through No. T7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 - End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.
 - Conform standard railing section height to 2'-3 3/4" at Post No. T1 using height transition ratio of 120:1.

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



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TRANSITION RAILING
(TYPE WB)**

NO SCALE

RSP A77J4 DATED MAY 20, 2011 SUPERSEDES
RSP A77J4 DATED JUNE 5, 2009, RSP A77J4 DATED JUNE 6, 2008
AND STANDARD PLAN A77J4 DATED MAY 1, 2006 -
PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J4

2006 REVISED STANDARD PLAN RSP A77J4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But, Col, ED, Nev, Plg, etc.	20, 49, 50, 99	Var	34	37

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

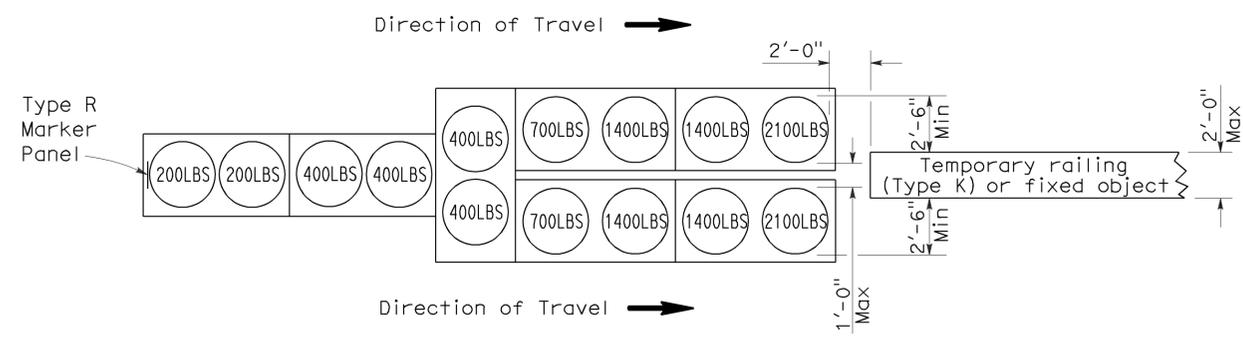
June 6, 2008
PLANS APPROVAL DATE

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

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

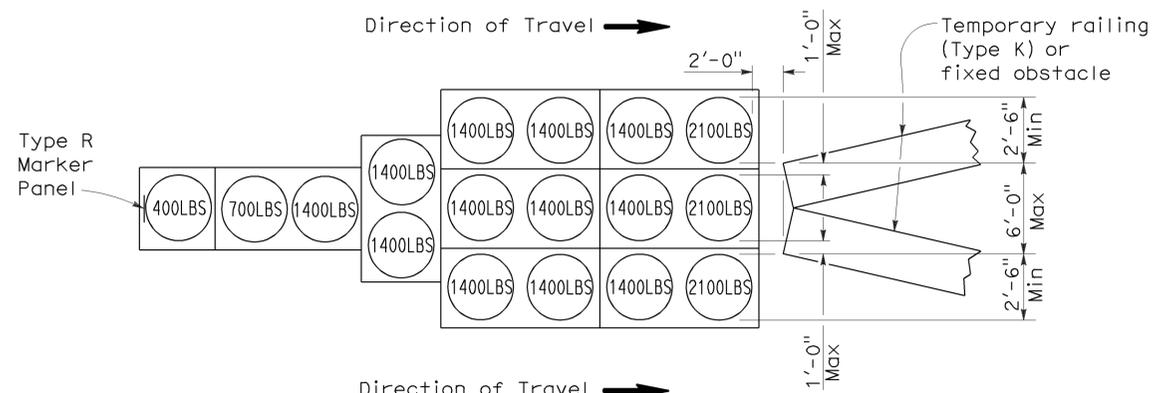
To accompany plans dated 6-20-11

2006 REVISED STANDARD PLAN RSP T1A



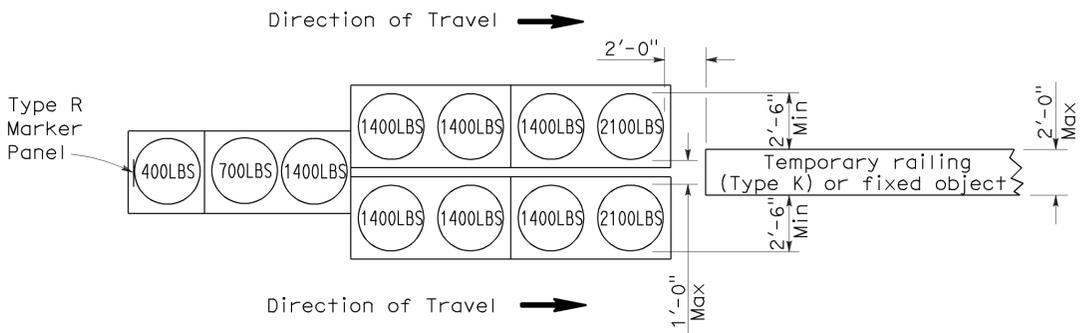
ARRAY 'TU14'

Approach speed 45 mph or more



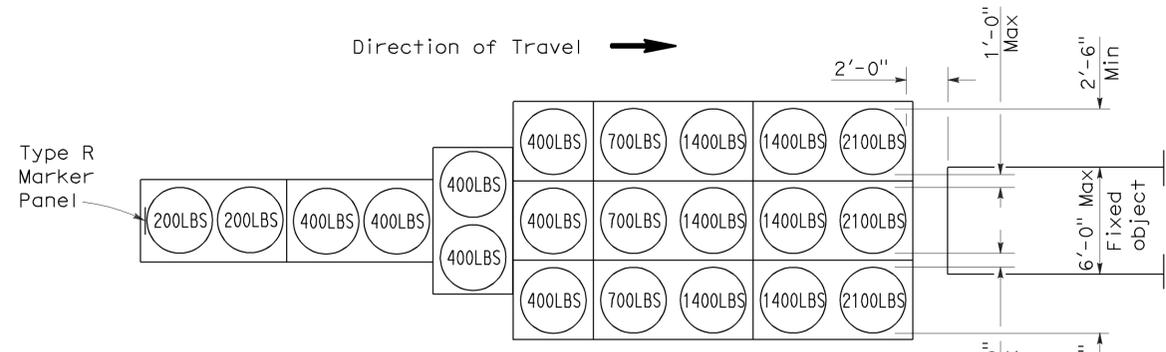
ARRAY 'TU17'

Approach speed less than 45 mph



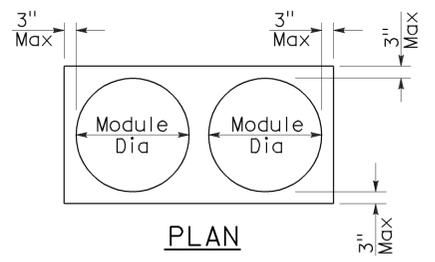
ARRAY 'TU11'

Approach speed less than 45 mph

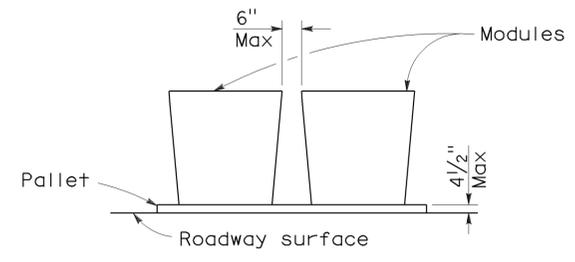


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But, Col, ED, Nev, Plg, etc.	20, 49, 50, 99	Var	35	37

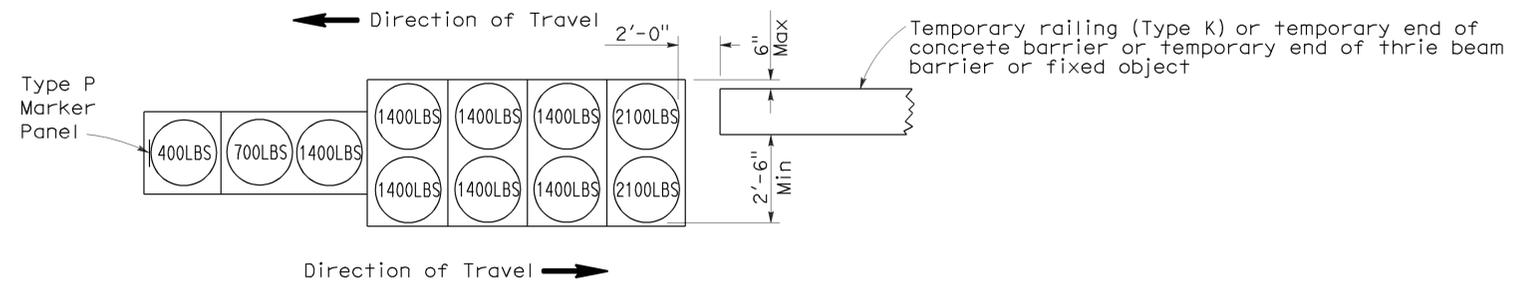
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

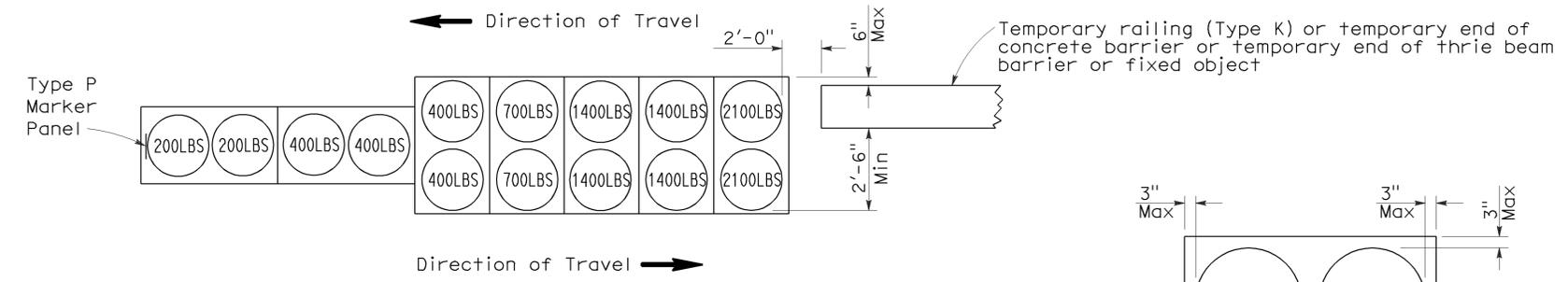
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 6-20-11



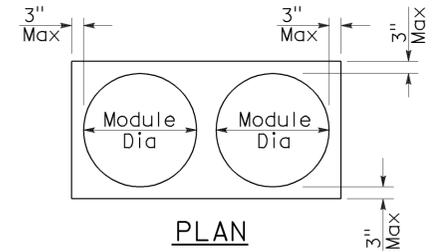
ARRAY 'TB11'

Approach speed less than 45 mph

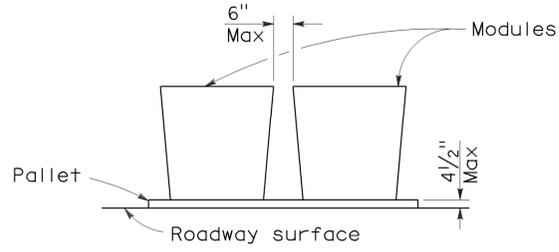


ARRAY 'TB14'

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

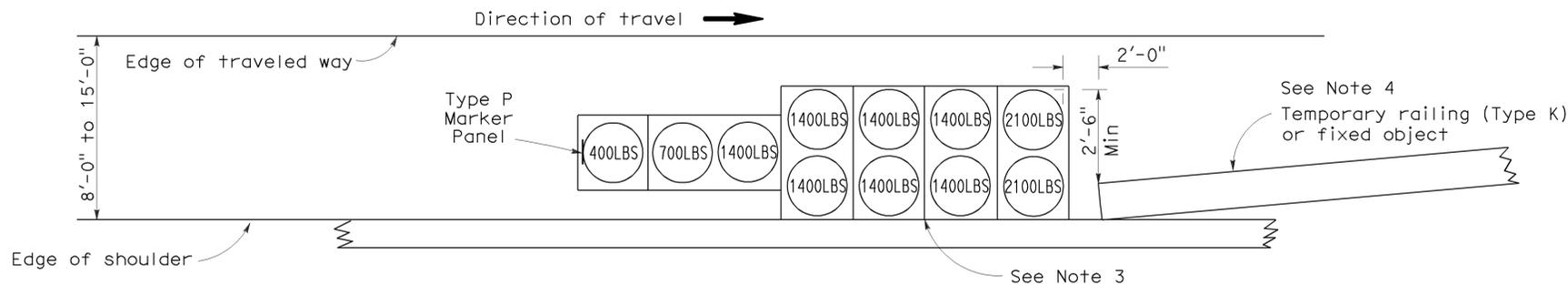
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But, Col, ED, Nev, Plq, etc.	20, 49, 50, 99	Var	36	37

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

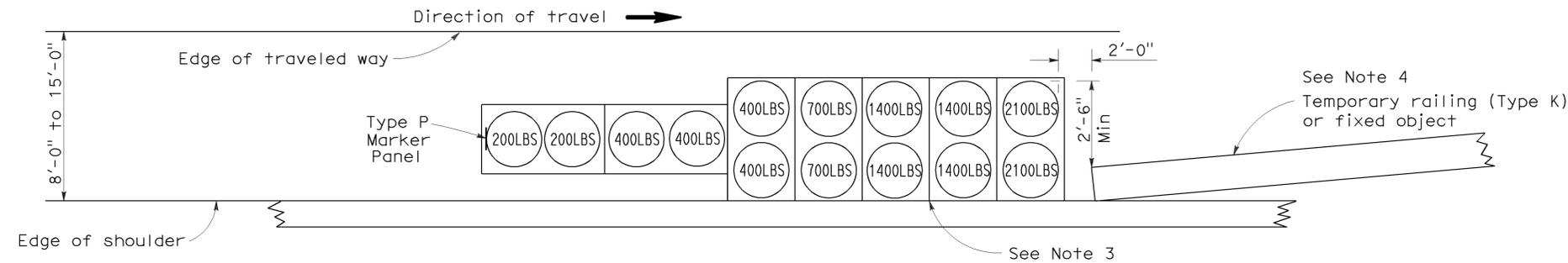
June 6, 2008
PLANS APPROVAL DATE

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

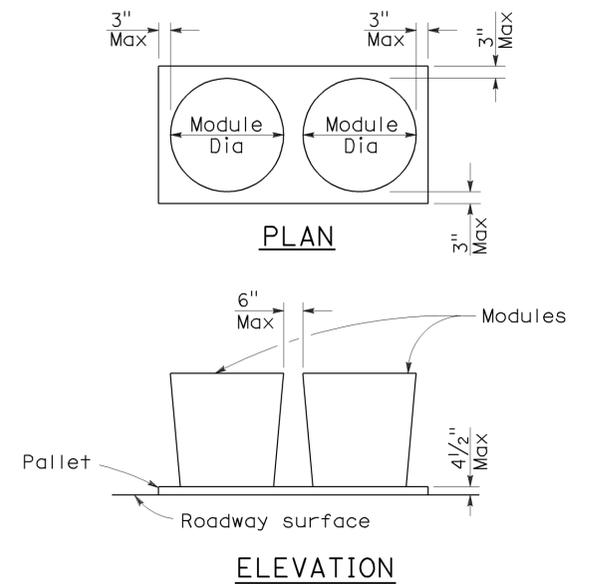
To accompany plans dated 6-20-11



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



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



CRASH CUSHION PALLET DETAIL
See Note 11

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**

NO SCALE
RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP T2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But, Col, ED, Nev, Plg, etc.	20, 49, 50, 99	Var	37	37

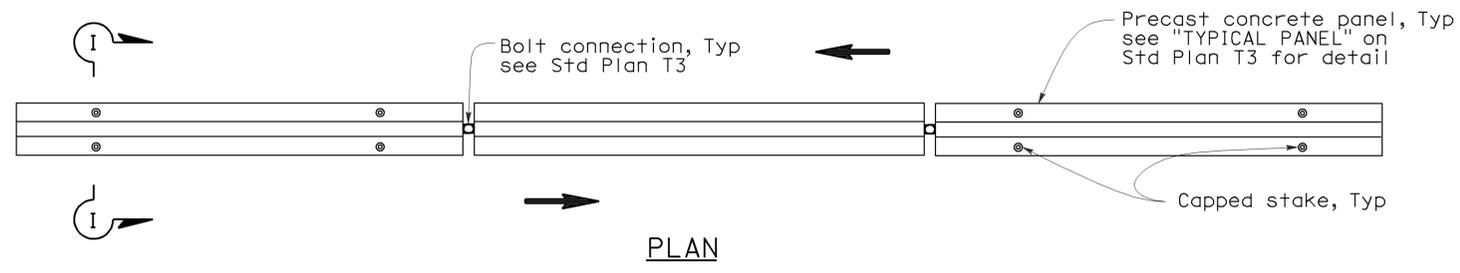
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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

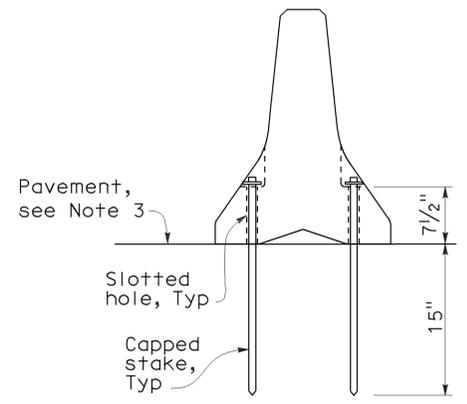
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 6-20-11



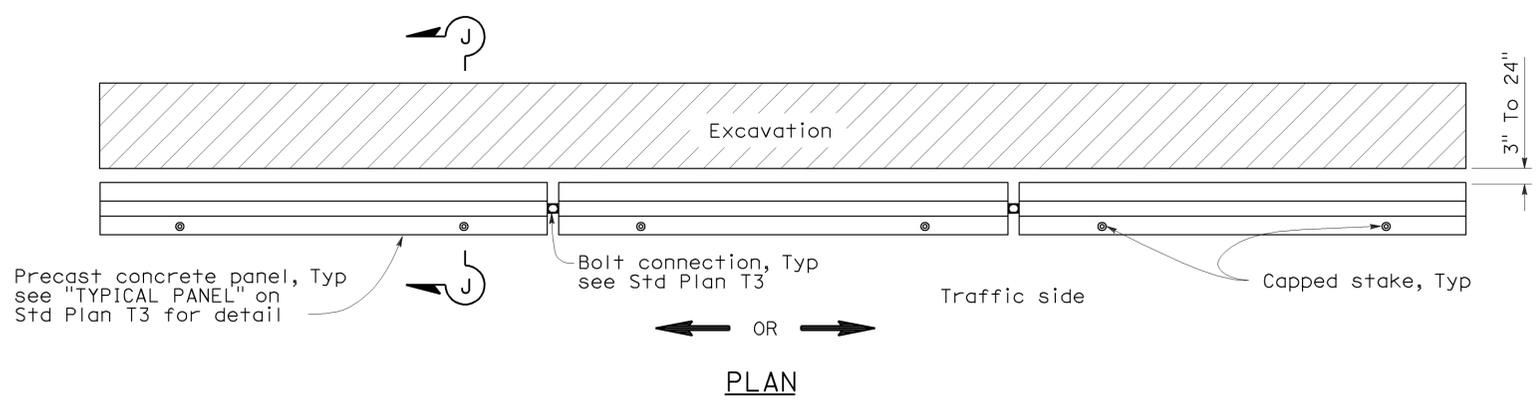
RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC

See Note 1



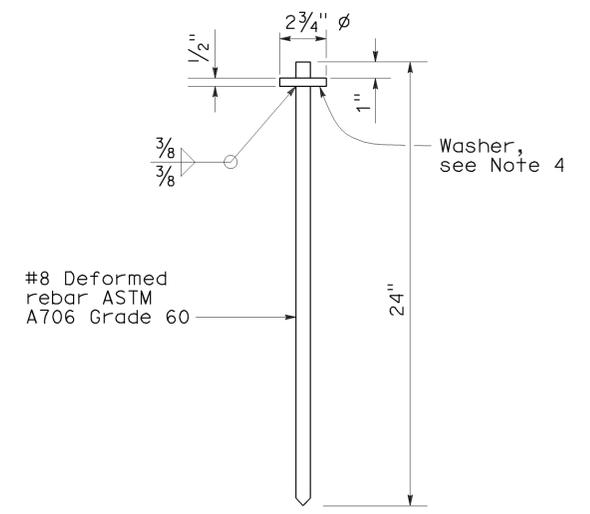
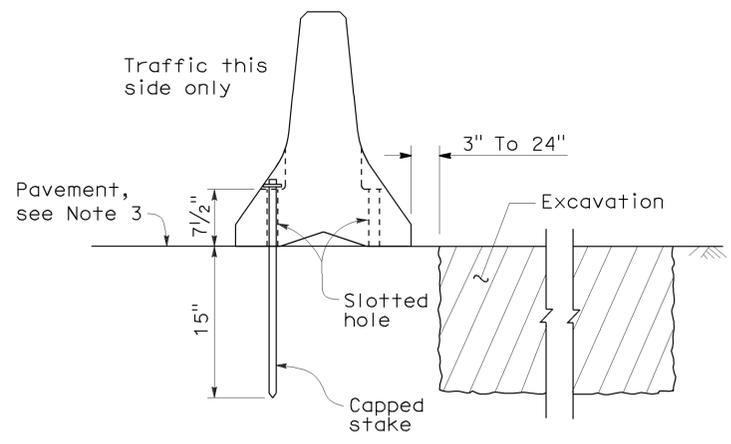
NOTES:

1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of an excavation on highways, use two capped stakes per panel along the traffic side.
3. Staked Type K Temporary Railing must be supported by at least 4" thick concrete, hot mix asphalt or existing asphalt concrete pavement.
4. The minimum yield strength for the washer must be 60,000 psi.
5. Direction of adjacent traffic indicated by \Rightarrow .



RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION

See Note 2



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY RAILING
(TYPE K)**

NO SCALE

NSP T3A DATED MAY 20, 2011 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T3A